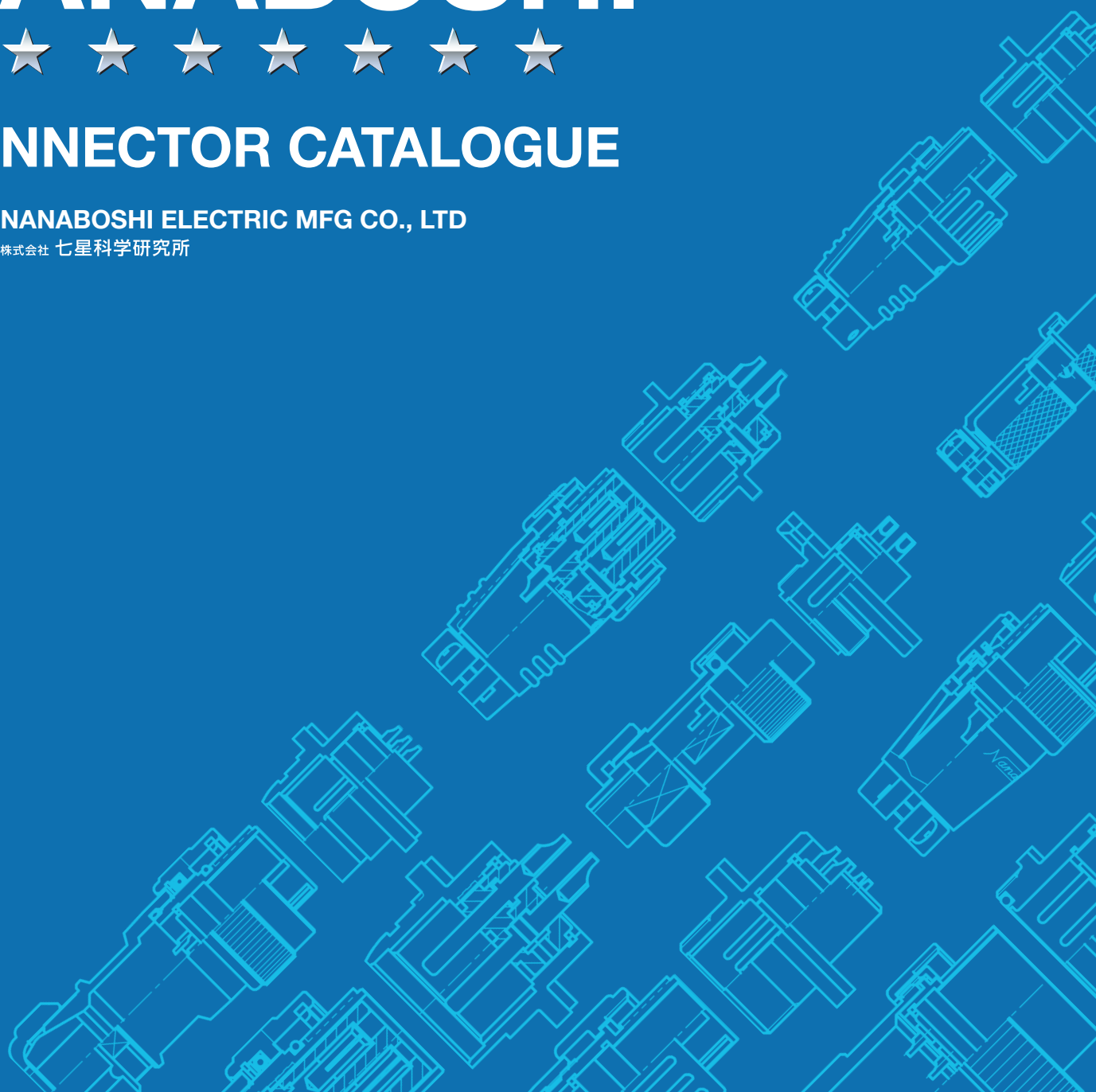
NANABOSHI

CONNECTOR CATALOGUE

NANABOSHI ELECTRIC MFG CO., LTD
株式会社 七星科学研究所



Foreword

The communication network system that supports advanced information society sees rapidly advancing technological innovation and electronic equipment such as computers and automated equipment that play the central role in the network system show remarkable advancement. In response to an increasing speed and capacity of information communication, electrical connections have come to play a more important role and become more complicated and sophisticated such as seen in unitization of equipment. Make them compact in orderly manner, control safety and build smooth flow of information; these are the roles of connectors. Since its establishment in 1943, Nanaboshi Electric Mfg. has been a reliable partner of users and promoted an expansion of product lineup, not to mention quality control. We put our capability and resources in supporting ever developing information society to further advance technological innovation.

Creed

With Our Whole Heart

Management Policy

To ensure eternal prosperity of Nanaboshi Electric Mfg., preserve the global environment and contribute to the development of society, we have set up the following as our management policy:

1.Create reliable products with customers' heart kept in our mind.
2.Keep creativity and value the spirit of inquiry to develop products that are appreciated by customers.
3.Maintain the spirit of better, faster and more reliable to cultivate our creativity and originality.
4.Keep our hearts connected and turn over a new leaf each day to create a worthwhile work environment.
5.Value global resources and energy and never lose our attention to environment in developing and making products.

LLOYD'S REGISTER・LRQA
ISO 9001・ISO 14001
MS JAB CM016

Certified:
Tokyo: Nakano Head Office
Saitama: Sayama Factory

Advantages of using connectors

Safety ▶ Connectors provide reliable electrical connection.
Connectors ensure proper wiring.

Operability ▶ Connectors are repetitively detachable and attachable.
Connectors make equipment-to-equipment connection easy.

Economy ▶ Connectors enable the unitization of devices.
Connectors facilitate maintenance and inspection.
Connectors shorten work time.

Please read prior to use.

The information contained in this catalog is subject to change without notice for the purpose of product improvement.
The drawings and photos that appear in the catalog show only the representative products in the applicable product category. When you require more information, please contact us.

Note: The dimensions shown in the catalog are standard dimensions. For details, please contact us and request necessary specifications and drawings.

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Products

		Water proof	RoHS
NCS	8		●
NJC	26		●
NR	40		●
NET	48		●
NWPC	58	●	●
NJW	76	●	●
NAW	94	●	●
NRW	104	●	●
NEW	114	●	●
NT	122	●	●

● : Supported

Technical Data

A List of Standards Acquired (UL・CSA Standards, TÜV Standard) 127
Explanation of Terms (Shell size, limit operating voltage, etc.) 131
Installation Dimensions 132
AWG Conversion Table 135
Parallel Pipe Thread Conversion Table 135

Wire connecting methods, wire stripping dimensions and weight can be found in our website.

【CE Marking】

The CE Marking applies to finished products and devices to indicate that they comply with the European safety standards. This CE Marking is not applicable to connectors that are electrical & mechanical components.

【EU RoHS】

The compliance of EU RoHS subject ten substances
(mercury , lead , hexavalentchrome , cadmium , PBB ,PBDE , DEHP , BBP , DBP , DIBP)
enacted from July 2019 will correspond from production in July 2018.

【RoHS Directive】

The RoHS Directive has been established by the EU (European Union) with an objective to protect human health and define collection and treatment of electrical and electronic equipment that does not affect environment by unifying laws and regulations concerning the restriction of use of harmful substances in electrical and electronic equipment among EU member countries.
The Chinese version RoHS Directive that has come into force in the People's Republic of China covers the same substances as the EU-RoHS Directive but there are some differences such as the obligation of indication of information about contained substances.
Our RoHS Directive compliant product types are those that are compliant with the EU-RoHS Directive, but not with the Chinese version RoHS Directive.

Precautions

1.When Selecting Connectors

(1) Select a connector that meets your voltage and current requirements.
(2) Select a connector that is suitable for the method of use, place of use and operating environment.
(3) Select a connector that has a socket contact incorporated on the power supply side.
(4) Select a waterproof cable packing that is suitable for the finishing OD of the cable to use.
(The waterproof connector is waterproofed when coupled.)
(5) Select a cable of structure that does not damage the close contact with the cable packing ID part when the cable clamp (clamp nut) is tightened.

2.When Installing Connectors

(1) Prior to starting connection work, be sure to read and understand the "wire connecting method."
(2) Do not heat the contact more than necessary.
(3) Never modify the connector. A modified connector may lose its intended performance.
(4) Do not use the connector in such a way that undue force is applied to the connections.
(5) Show the precautions listed in the following "3. When Using Connectors "in instruction manuals of associated equipment as needed.
(6) Install connectors so that they will not suffer undue loading by the weight of cables.

3.When Using Connectors

(1) Be sure to use the connector within its rated capacity.
(2) Never insert or extract the connector when energized. Such a practice is very dangerous.
(3) Never insert or extract the connector with wet hands. Such a practice is very dangerous.
(4) When coupling the connector, always check the guide position and never apply undue force.
(5) Insert and extract the connector straight.
(6) Do not use the connector with damaged insulator or cover.
(7) Do not use the connector with deformed or damaged contact.
(8) Do not insert a foreign matter or a pin contact having a different OD into the socket contact.
(9) The connectors are constructed with projecting or exposed threads. When handling the connectors, exercise caution so that your hands will not be cut by them.
(10) When the connector is not coupled, use a cap to protect its contact.
(11) When inserting or extracting the connector, do not turn the connector body.
(12) Do not apply undue force to the connector.
(13) Our products have no compatibility with other maker's products.
The guarntee is not applicable to any trouble incurred by connecting our products with other maker's products.

4.When Ordering Connectors

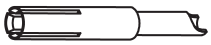
(1) When a quality assurance program exists that is specific to a particular industrial field where connectors are to be used, or when connectors are to be used in advanced applications such as nuclear power control systems, aerospace equipment, submarine relay and medical life support instruments, equipment and systems, please consult with us in advance.

When using products listed in this catalog, follow the laws and regulations that apply to your purposes of use of connectors.

Shapes and Combination of Connectors

Contact shapes

・There are two types of contacts incorporated into a connector male shape and female shape.

Pin (male shape) contact		M (e.g. : PM , RM , AdM)
Socket (female shape) contact		F (e.g. : PF , RF , AdF)

〈 S Type 〉 A group of plugs with socket (female) contact incorporated and receptacles and adapters that couple with them.

Shape

- Plugs with socket (female) contact incorporated ····· P , PF , LP , LPF , GP , GPF , SP , SPF , PFK
- Receptacles with pin (male) contact incorporated ····· R , RM , R kaku , CRM , RBM , RBP
- Adapters with pin (male) contact incorporated ····· Ad , AdM , Ad(F) , Ad(F)M , AdMK , Ad(F)MK , GAd , GAdM , GAd(F)M

〈 G Type 〉 A group of plugs with pin (male) contact incorporated and receptacles and adapters that couple with them.

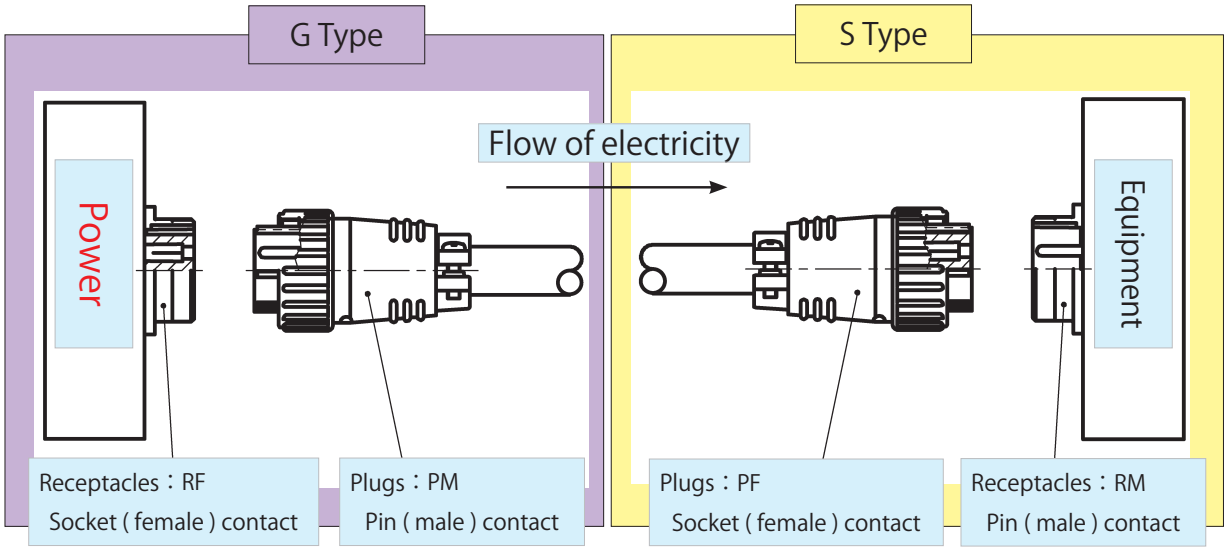
Shape

- Plugs with pin (male) contact incorporated ····· PM , LPM , GPM , SPM , PMK
- Receptacles with socket (female) contact incorporated ····· RF , RF kaku, CRF , RBF
- Adapters with socket (female) contact incorporated ····· AdF , AdF(F) , Ad(F)F , AdFK , Ad(F)FK , GAdF , GAd(F)F

＊ The S Type of [NCS] and [NWPC] Series in all shapes of PF, RM, AdM, etc. is indicated simply by P, R, Ad, etc. with the contact shape symbol omitted.
(Plugs : PF → P , Receptacles : RM → R , Adapters : AdM → Ad , Adapters with flange : AdM(F) → Ad(F))

＊ Only with [NCS] and [NWPC] Series, the adapters with flange are designated by the contact symbol placed before (F).
Example: AdF(F)

※ Caution: The S Type and the G Type cannot be coupled.



Inserting or pulling out the connector in conduction is very dangerous.Be sure to turn off the power in advance.

The pin contact type has an exposed electrode. If it is used on the [power supply] side, it may cause electric shock or short-circuit accidents.
To prevent such accidents, use the socket contact type on the [power supply] side and the pin contact type on the [equipment] side.

Product Lineup

Non-waterproof
RoHS

Most standard connectors in Nanaboshi products
Safety standard certified products available

P 8

Non-waterproof
RoHS

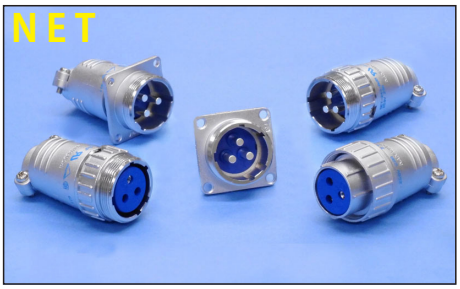
JIS C 5432 compliant connectors
Safety standard certified products available

P 26

Non-waterproof
RoHS
Quick lock

Quick lock type of NJC Series
Safety standard certified products available

P 40



Non-waterproof
RoHS

safety standard certified power connectors

P 48

Waterproof
RoHS

Waterproof connectors based on NCS Series
Safety standard certified products available

P 58

Waterproof
RoHS

Waterproof connectors based on NJC Series
Safety standard certified products available

P 76

Waterproof
RoHS
Quick lock

Metallic quick lock waterproof connectors
Safety standard certified products available

P 94

Waterproof
RoHS
Quick lock

Resin quick lock waterproof connectors
Safety standard certified products available

P 104

Waterproof
RoHS
Quick lock

safety standard certified waterproof connectors

P 114

Waterproof
RoHS

Waterproof & oilproof connectors for machine tools

P 122

MEMO

NCS Series

Non-waterproof

RoHS

Safety standard certified products available

Overview

- Basic type of round metal connectors.
- Representative series that has proven performance in various indoor manufacturing equipment over a long period of time.
- High resistance to starting current and load current, enabling these connectors active in various manufacturing equipment.

Feature

RoHS	RoHS Directive compliant
Waterproof	Non
Lock method	Thread lock
Features of mechanism/ material	○ Simple structure, easy handling and robust. ○ Ten shell sizes and many connector shapes available for a wide variety of applications.
Standards	○ < CSA NRTL/C > standard certified connectors available. (CSA : C22.2 No.182.3 UL : 1977) Note: The specifications of safety standard certified connectors are slightly different from those of standard products. For the rated voltage, current and cable conductor cross sectional area, refer to A List of Standards Acquired (p.129).
Cable termination	Soldering

Characteristics

Insulation resistance , Withstand voltage , Contact resistance p.10

The pin contact type has an exposed electrode. If it is used on the [power supply] side, it may cause electric shock or short-circuit accidents. To prevent such accidents, use the socket contact type on the [power supply] side and the pin contact type on the [equipment] side.

【 When inserting or extracting the connector, do not turn the connector body. 】

NCS Series

Product No. designation

NCS - 25 ■ - P M

① ② ③ ④ ⑤ ⑥ ⑦

① Series designation
② Shell size
③ Number of contacts
④ Shell shape
⑤ Contact shape < Pin (male) contact : M , Socket (female) contact : F >
The S Type of NCS Series in all shapes of PF, RM, AdM, etc. is indicated simply by P, R, Ad, etc. with the contact shape symbol omitted.
⑥ Additional symbol (-CH) 《 Required only for Shell size 16 》
⑦ Safty standard specification(< CSA NRTL/C >)
《 Required only when safty standard is to be specified. 》 For applicable products, see p.129.

Cable termination : Soldering

Material and Finish

	Material	Finish
Shell	Zinc alloy or brass (partially aluminum alloy)	Chrome plating Special treatment Tin-cobalt plating (Shell size 16 only)
Insulator	Synthetic resin	—
Contact	Copper alloy	Shell size 14 , 16 , 25 , 30 : Nickel plating Shell size 40 , 44 , 50 , 54 , 60 , 64 : Silver plating Shell size 30 (Number of contacts 7H , 13) : Gold plating

Temperature tolerance level

-40℃ to +120℃

Exclusive tools (optional) : Contact wrench, soldering iron tip set

The contacts of rated current 80 A or over are constructed for removal from the insulator.
For soldering, remove the contact with a contact wrench.

《 Types of contact wrenches 》

80A Contact Wrench

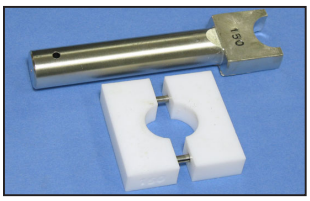
Used for:
NCS・NWPC-502 / 542
NCS・NWPC-503 / 543
NCS・NWPC-604 / 644

150A Contact Wrench

Used for:
NCS・NWPC-602 / 642
NCS・NWPC-603 / 643

【 80A Contact Wrench、150A Contact Wrench 】
One tool is usable for installation and removal of a male and female contact.

《 Soldering iron tip set 》



Usable soldering iron 200 W
Iron tip inserting diameter φ16 mm or over
Iron tip temperature setting 420℃ to 450℃

Set name ＊ A set of iron tip and heat insulator.

For 80A contact → SS80-KB
For 150A contact → SS150-KB

They are also available individually.

For 80A contact
【 Iron tip → SS80-K 】 【 Heat insulator → SS80-B 】
For 150A contact
【 Iron tip → SS150-K 】 【 Heat insulator → SS150-B 】

NCS Series Characteristics

Number of contacts

Shell size	Contact	Insulation resistance (M Ω) S Type	Insulation resistance (M Ω) G Type	Contact resistance (m Ω) S Type	Contact resistance (m Ω) G Type	Withstand voltage (V r.m.s.) S Type	Withstand voltage (V r.m.s.) G Type
14	1	DC 500V 2,000 min.	—	3 max.	—	1,000	—
	2						
16	1	DC 500V 2,000 min.	—	3 max.	—	1,000	—
	2		DC 500V 2,000 min.		3 max.		1,000
	3						
	4		—		—		—
25	2	DC 1,000V 2,000 min.	DC 1,000V 2,000 min.	3 max.	3 max.	2,000	2,000
	3						
	4						
	5					1,800	1,800
	6						
	7						
	8		—		—		—
30	2	DC 1,000V 2,000 min.	DC 1,000V 2,000 min.	3 max.	3 max.	2,000	2,000
	3						
	4						
	5					1,800	1,800
	6		DC 500V 2,000 min.				
	7		—		—		—
	8		DC 1,000V 2,000 min.		3 max.		1,800
	7H	DC 500V 2,000 min.	—		—	1,500	—
	13						
40 (S Type) 44 (G Type)	2	DC 1,000V 2,000 min.	DC 1,000V 2,000 min.	3 max.	3 max.	2,500	2,500
	3						
	4						
	5					2,000	2,000
	6						
	8						
	10					1,800	1,800
	12						
	16						
	20						

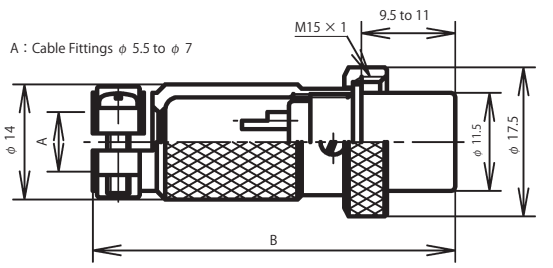
Number of contacts

Shell size	Contact	Insulation resistance (M Ω) S Type	Insulation resistance (M Ω) G Type	Contact resistance (m Ω) S Type	Contact resistance (m Ω) G Type	Withstand voltage (V r.m.s.) S Type	Withstand voltage (V r.m.s.) G Type
50 (S Type) 54 (G Type)	2	DC 1,000V 5,000 min.	DC 1,000V 5,000 min.	1 max.	1 max.	3,000	3,000
	3						
	4	DC 1,000V 2,000 min.	DC 1,000V 2,000 min.	3 max.	3 max.	2,500	2,500
	8					2,000	2,000
	10						
	15						
	25					1,800	1,800
60	2	DC1,000V 5,000 min.	—	1 max.	—	3,000	—
	3						
	4						
	10	DC 1,000V 2,000 min.	DC 1,000V 2,000 min.	3 max.	3 max.	2,500	2,000
	15						
	30					1,800	1,500
	32						
	40		—		—		—
64	2	—	DC 1,000V 5,000 min.	—	1 max.	—	3,000
	3						
	4						

■ includes safety standard certified products.

S Type

【Power supply side】< Socket (female) contact used >



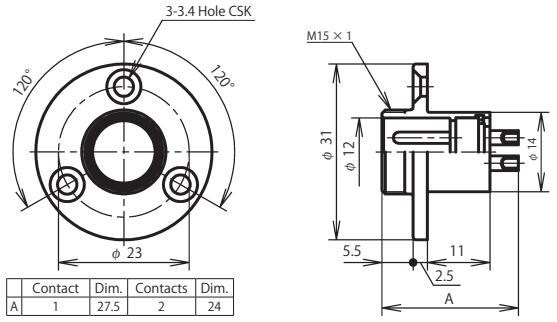
	Contact	Dim.	Contacts	Dim.
B	1	41	2	42.5

NCS-14 ■ -P

Plug

Coupled

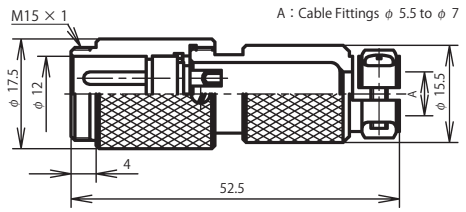
【Power receiving side】< Pin (male) contact used >



	Contact	Dim.	Contacts	Dim.
A	1	27.5	2	24

NCS-14 ■ -R

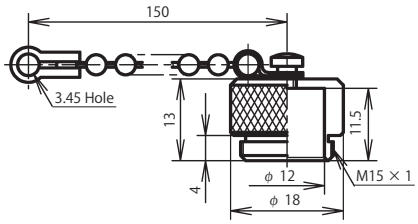
Receptacle



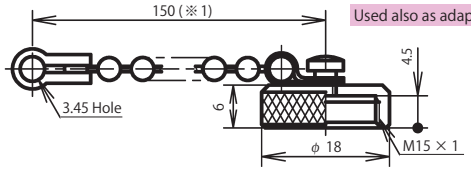
NCS-14 ■ -Ad

Adapter

Accessory



Plug cap : NCS-14-PCa



(※1) Length 70 mm also available. (Example : NCS-14-RCa L70)

Receptacle cap : NCS-14-RCa

■ indicates the number of contacts. The conductor cross sectional area is less than the following value.

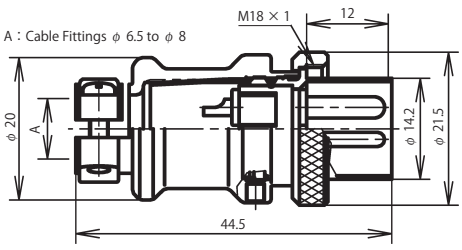
Shell size	Number of Contacts	1	2
14	Contact arrangement <When viewed from the pin (male) contact coupling side>	●	1 ● ● 2
	Safety standard	—	
	Rating	125V 5A	
	Limit operating voltage (Note-1)	200V	
	Withstand voltage (V r.m.s.)	1,000	
	Wire size (㎟)	0.75	

Note-1 : For the limit operating voltage, see p.131.

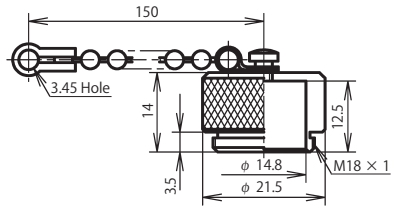
NCS Series Shell Size 16

G Type

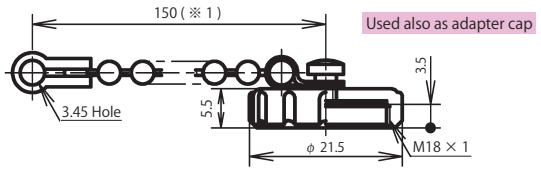
【Power receiving side】< Pin (male) contact used >



NCS-16 ■ -PM-CH



Plug cap : NCS-16-PCa



(※ 1) Length 50,70 mm also available. (Example : NCS-16-RCa L70)

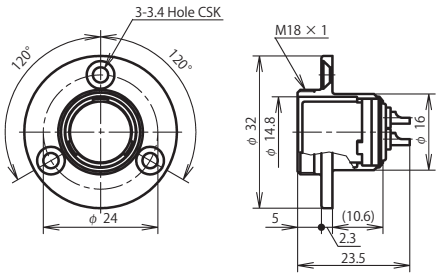
Receptacle cap : NCS-16-RCa

Plug / Accessory

Coupled

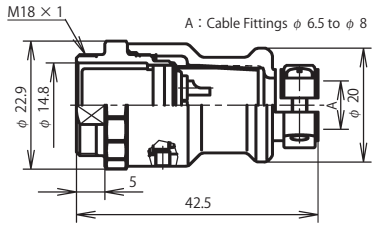
【Power supply side】< Socket (female) contact used >

Receptacle

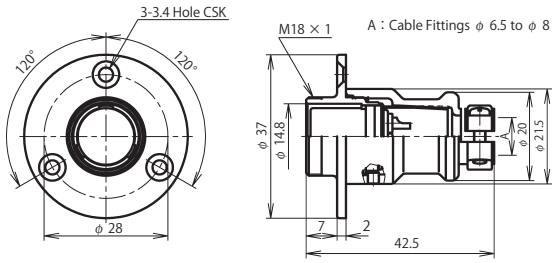


NCS-16 ■ -RF-CH

Adapter



NCS-16 ■ -AdF-CH



NCS-16 ■ -AdF(F)-CH

"-CH" is an additional symbol of renewed products. They are interchangeable with products before renewal.

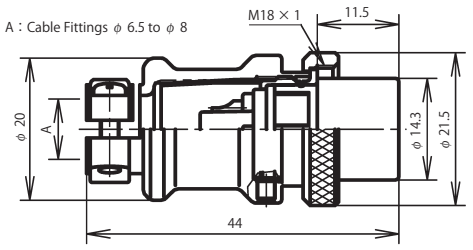
■ indicates the number of contacts. The conductor cross sectional area is less than the following value.

Shell size	Number of Contacts	2	3
16	Contact arrangement <When viewed from the pin (male) contact coupling side>		
	Safety standard	—	
	Rating	125V 5A	
	Limit operating voltage (Note-1)	200V	
	Withstand voltage (V r.m.s.)	1,000	
	Wire size (㎟)	0.75	

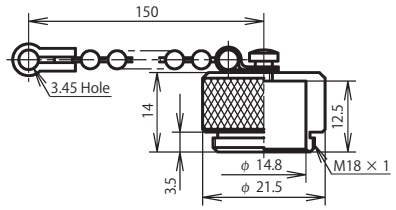
Note-1 : For the limit operating voltage, see p.131.

S Type

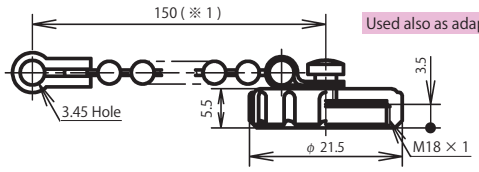
【Power supply side】< Socket (female) contact used >



NCS-16 ■ -P-CH



Plug cap : NCS-16-PCa

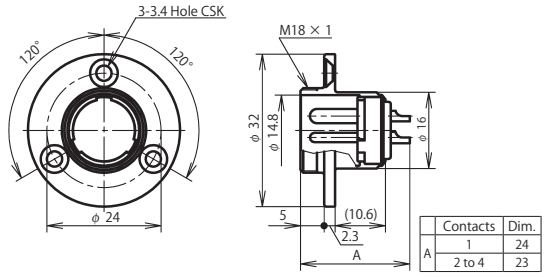


(※ 1) Length 50,70 mm also available. (Example : NCS-16-RCa L70)

Receptacle cap : NCS-16-RCa

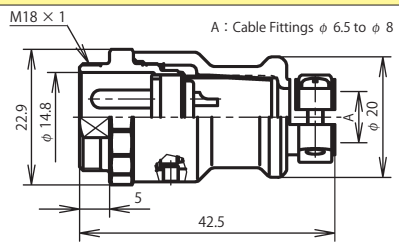
Plug — Coupled → Receptacle

【Power receiving side】< Pin (male) contact used >

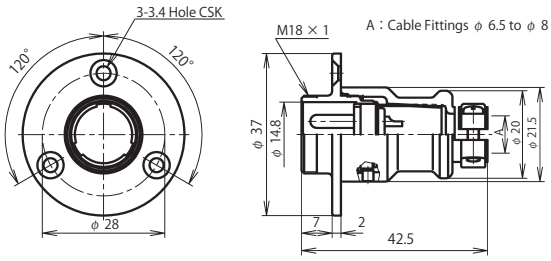


	Contacts	Dim.
A	1	24
	2 to 4	23

NCS-16 ■ -R-CH



NCS-16 ■ -Ad-CH

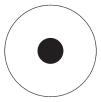
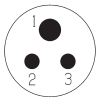


NCS-16 ■ -Ad(F)-CH

Adapter

"-CH" is an additional symbol of renewed products. They are interchangeable with products before renewal.

■ indicates the number of contacts. The conductor cross sectional area is less than the following value.

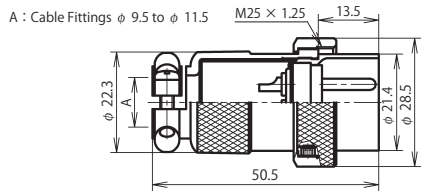
Shell size	Number of Contacts	1	2	3	4
16	Contact arrangement <When viewed from the pin (male) contact coupling side>				
	Safety standard	—			
	Rating	125V 10A	125V 5A		
	Limit operating voltage (Note-1)	200V			
	Withstand voltage (V r.m.s.)	1,000			
	Wire size (㎟)	1.25	0.75		

Note-1 : For the limit operating voltage, see p.131.

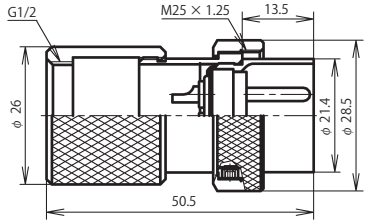
NCS Series Shell Size 25

G Type

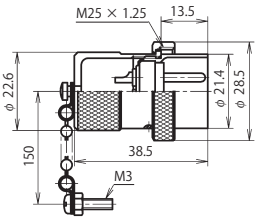
【Power receiving side】< Pin (male) contact used >



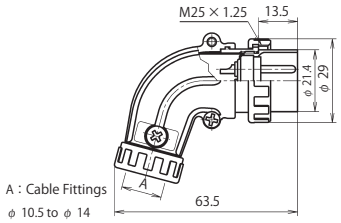
NCS-25 ■ -PM



NCS-25 ■ -GPM 1/2 (Note)

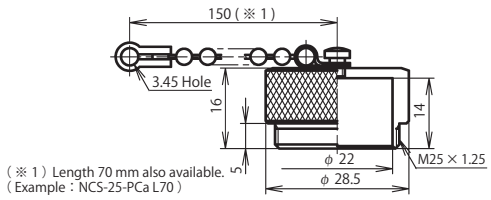


NCS-25 ■ -SPM



NCS-25 ■ -LPM

Plug

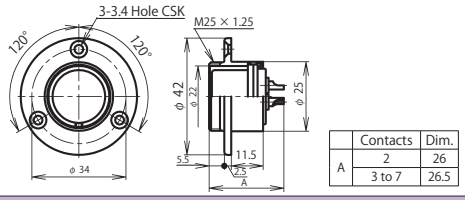


Plug cap : NCS-25-PCa

Accessory

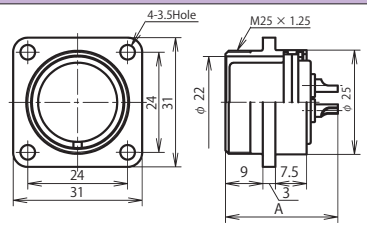
Coupled

【Power supply side】< Socket (female) contact used >



	Contacts	Dim.
A	2	26
	3 to 7	26.5

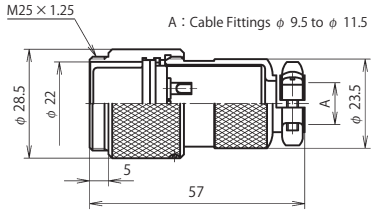
NCS-25 ■ -RF



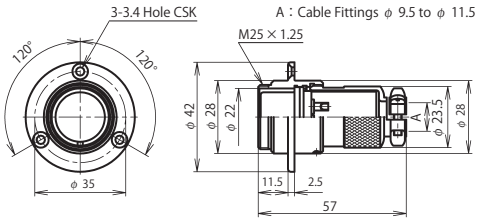
	Contacts	Dim.
A	2	26
	3 to 7	27

NCS-25 ■ -RF kaku

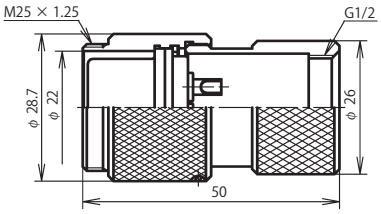
Receptacle



NCS-25 ■ -AdF



NCS-25 ■ -AdF(F)

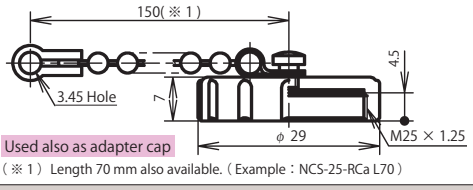


NCS-25 ■ -GAdF1/2 (Note)

Adapter

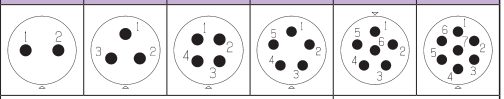
Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

Accessory



Receptacle cap : NCS-25-RCa

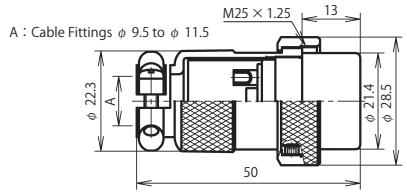
■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on p.129.

Shell size	Number of Contacts	2	3	4	5	6	7
25	Contact arrangement <When viewed from the pin (male) contact coupling side>						
	Safety standard (Note-1)	—				CSA NRTL/C	
	Rating	250V 10A				250V 5A	
	Limit operating voltage (Note-2)	400V				300V	
	Withstand voltage (V r.m.s.)	2,000			1,800		
	Wire size (㎟)	2			1.25		

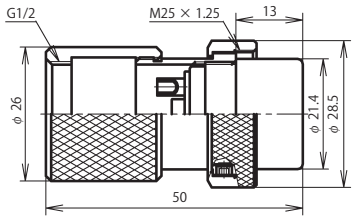
Note-1 : Specified separately. For safety standards, see p.129. (The rated voltage of standard certified products is 265 V.) Note-2 : For the limit operating voltage, see p.131.

S Type

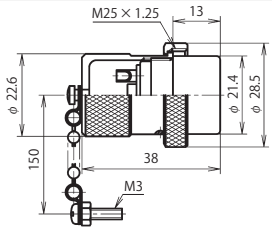
【Power supply side】< Socket (female) contact used >



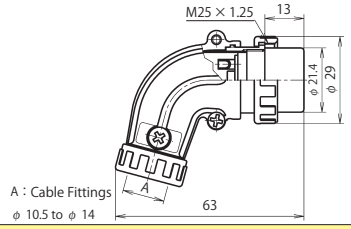
NCS-25 ■ -P



NCS-25 ■ -GP 1/2 (Note)

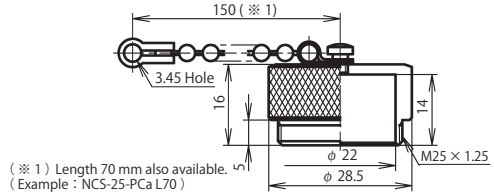


NCS-25 ■ -SP

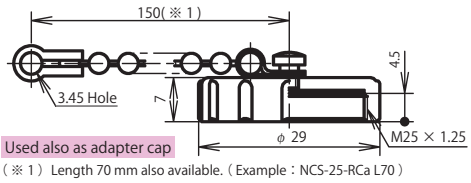


NCS-25 ■ -LP

Plug



Plug cap : NCS-25-PCa



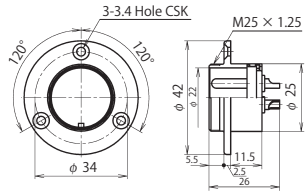
Receptacle cap : NCS-25-RCa

Accessory

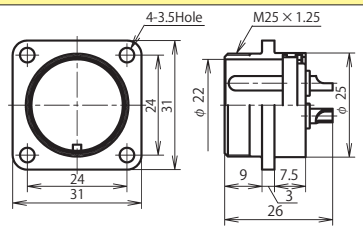
Coupled

Receptacle

【Power receiving side】< Pin (male) contact used >

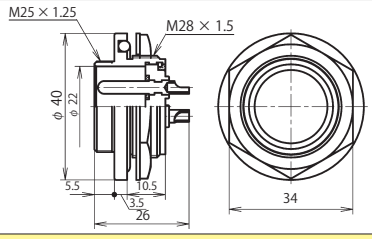


NCS-25 ■ -R

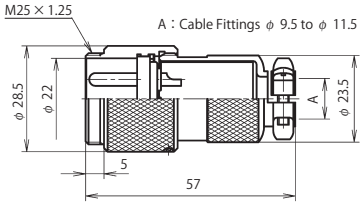


NCS-25 ■ -R kaku

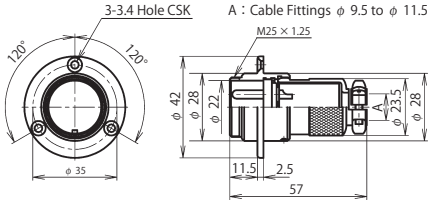
Adapter



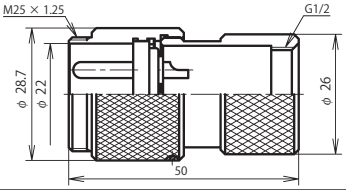
NCS-25 ■ -RBP



NCS-25 ■ -Ad



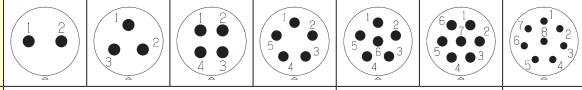
NCS-25 ■ -Ad(F)



NCS-25 ■ -GAd1/2 (Note)

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. P.135

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on p.129.

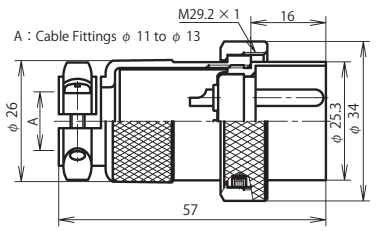
Shell size	Number of Contacts	2	3	4	5	6	7	8
25	Contact arrangement <When viewed from the pin (male) contact coupling side>							
	Safety standard (Note-1)	—				CSA NRTL/C		—
	Rating	250V 10A						250V 5A
	Limit operating voltage (Note-2)	400V				300V		
	Withstand voltage (V r.m.s.)	2,000			1,800			
	Wire size (㎟)	2						1.25

Note-1 : Specified separately. For safety standards, see p.129. (The rated voltage of standard certified products is 265 V.) Note-2 : For the limit operating voltage, see p.131.

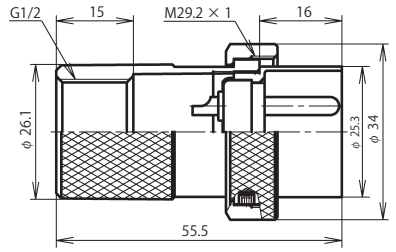
NCS Series Shell Size 30

G Type

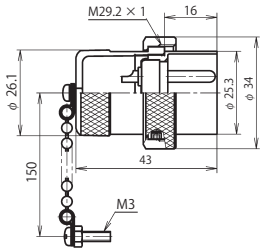
【Power receiving side】< Pin (male) contact used >



NCS-30 ■ -PM



NCS-30 ■ -GPM 1/2 (Note)



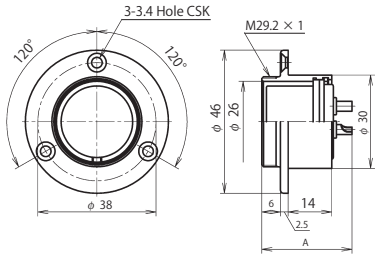
NCS-30 ■ -SPM

Plug

Coupled

【Power supply side】< Socket (female) contact used >

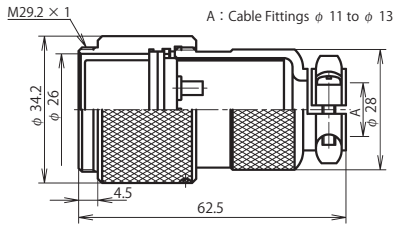
Receptacle



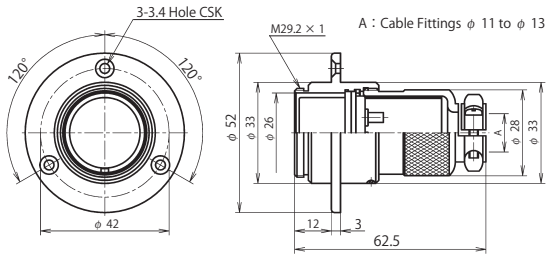
	Contacts	Dim.
A	2 to 5 , 8	29
	6	30

NCS-30 ■ -RF

Adapter

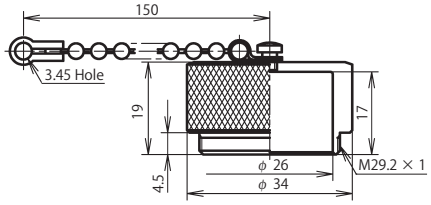


NCS-30 ■ -AdF



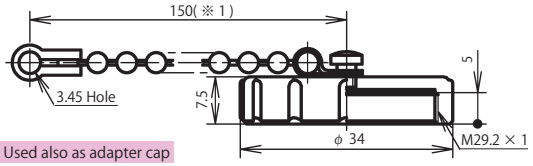
NCS-30 ■ -AdF(F)

Accessory



Plug cap : NCS-30-PCa

Accessory



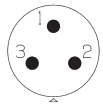
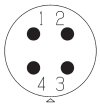
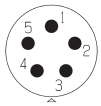
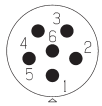
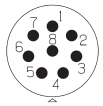
Used also as adapter cap

(※ 1) Length 70 mm also available. (Example : NCS-30-RCa L70)

Receptacle cap : NCS-30-RCa

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

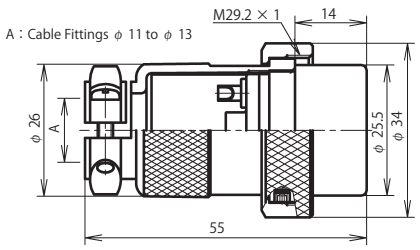
■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on p.129.

Shell size	Number of Contacts	2	3	4	5	6	8
30	Contact arrangement <When viewed from the pin (male) contact coupling side>						
	Safety standard (Note-1)	—	CSA NRTL/C	—			CSA NRTL/C
	Rating	250V 15A				250V 10A	250V 5A
	Limit operating voltage (Note-2)	400V				—	300V
	Withstand voltage (V r.m.s.)	2,000			1,800		
	Wire size (㎟)	2					1.25

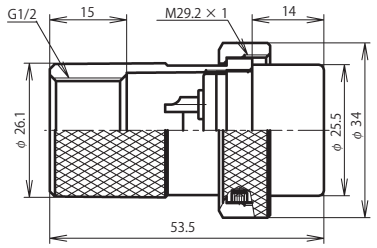
Note-1 : Specified separately. For safety standards, see p.129. (The rated voltage of standard certified products is 265 V.) Note-2 : For the limit operating voltage, see p.131.

S Type

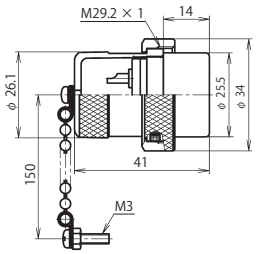
【Power supply side】< Socket (female) contact used >



NCS-30 ■ -P



NCS-30 ■ -GP1/2 (Note)



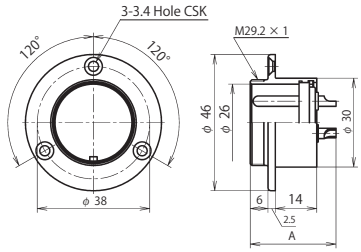
NCS-30 ■ -SP

Plug

Coupled

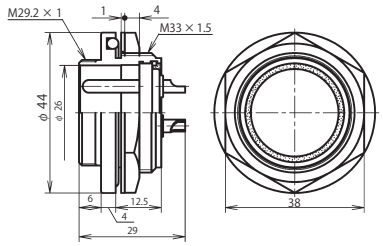
【Power receiving side】< Pin (male) contact used >

Receptacle



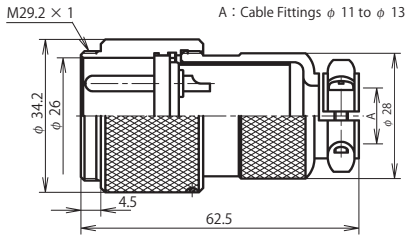
	Contacts	Dim.
A	2 to 7	29
	7H , 8 , 13	28.5

NCS-30 ■ -R

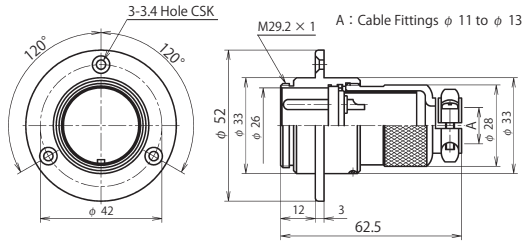


NCS-30 ■ -RBP

Adapter



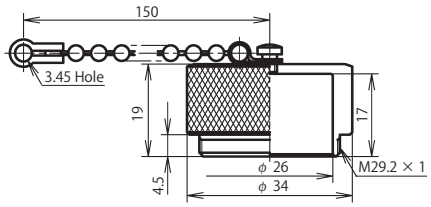
NCS-30 ■ -Ad



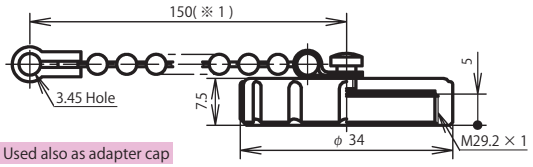
NCS-30 ■ -Ad(F)

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

Accessory



Plug cap : NCS-30-PCa



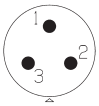
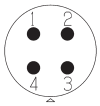
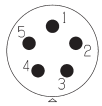
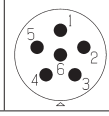
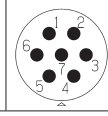
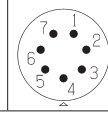
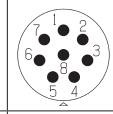
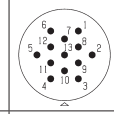
Used also as adapter cap

(※ 1) Length 70 mm also available. (Example : NCS-30-RCa L70)

Receptacle cap : NCS-30-RCa

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on p.129.

[ ] : Gold plating contact

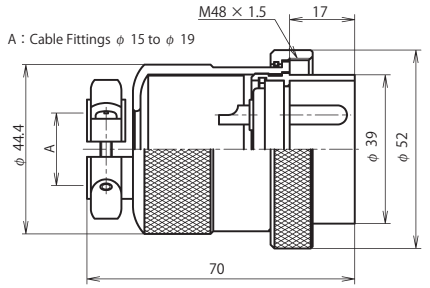
Shell size	Number of Contacts	2	3	4	5	6	7	7H	8	13
30	Contact arrangement <When viewed from the pin (male) contact coupling side>									
	Safety standard (Note-1)	—	CSA NRTL/C	—					CSA NRTL/C	—
	Rating	250V 15A						250V[7A]	250V10A	250V[5A]
	Limit operating voltage (Note-2)	400V						—	300V	—
	Withstand voltage (V r.m.s.)	2,000			1,800			1,500	1,800	1,500
	Wire size (㎟)	3.5	2					1.25	2	1.25

Note-1 : Specified separately. For safetyas standards, see p.129. (The rated voltage of standard certified products is 265 V.) Note-2 : For the limit operating voltage, see p.131.

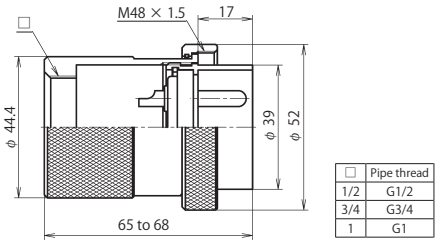
NCS Series Shell Size 44

G Type

【Power receiving side】< Pin (male) contact used >

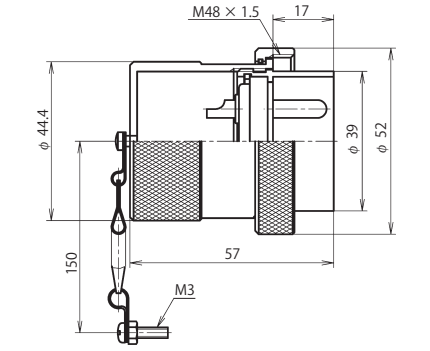


NCS-44 ■ -PM



□	Pipe thread
1/2	G1/2
3/4	G3/4
1	G1

NCS-44 ■ -GPM □ (Note)



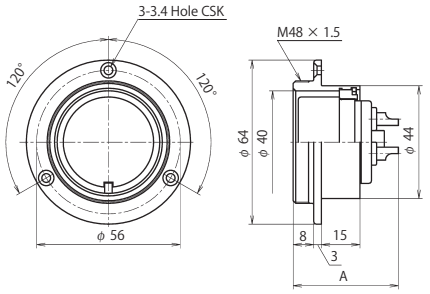
NCS-44 ■ -SPM

Plug

Coupled

【Power supply side】< Socket (female) contact used >

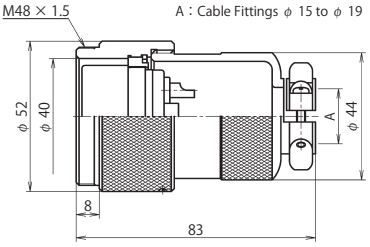
Receptacle



	Contacts	Dim.
A	2 to 4	41
	5 to 8	39.5
	10 to 16	37.5
	20	36

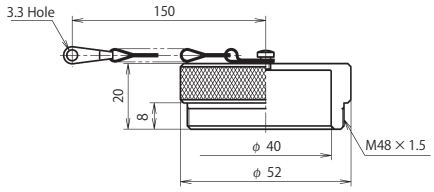
NCS-44 ■ -RF

Adapter

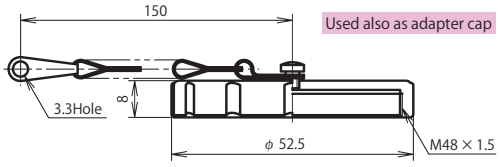


NCS-44 ■ -AdF

Accessory



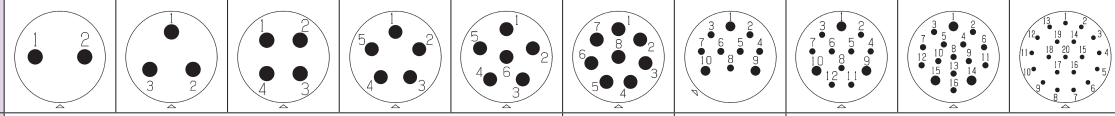
Plug cap : NCS-44-PCa



Receptacle cap : NCS-44-RCa

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on p.129.

Shell size	Number of Contacts	2	3	4	5	6	8	10	12	16	20
44	Contact arrangement <When viewed from the pin (male) contact coupling side>										
	Safety standard (Note-1)	—					CSA NRTL/C	—	CSA NRTL/C		
	Rating	250V 30A			250V 20A			250V 3pcs=10A 7pcs= 5A	250V 3pcs=10A 9pcs= 5A	250V 3pcs=10A 13pcs= 5A	250V 5A
	Limit operating voltage (Note-2)	500V			400V			300V			
	Withstand voltage (V r.m.s.)	2,500			2,000			1,800			
	Wire size (㎟)	5.5						3pcs=2 7pcs=1.25	3pcs=2 9pcs=1.25	3pcs=2 13pcs=1.25	1.25

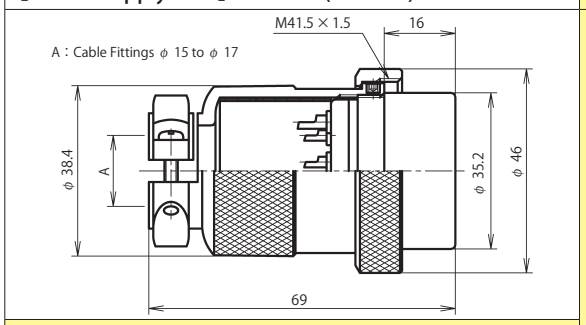
Note-1 : Specified separately. For safety standards, see p.129. (The rated voltage of standard certified products is 265 V.) Note-2 : For the limit operating voltage, see p.131.

S Type

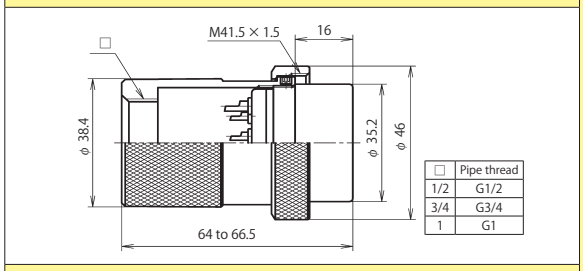
【Power supply side】< Socket (female) contact used >

【Power receiving side】< Pin (male) contact used >

Plug

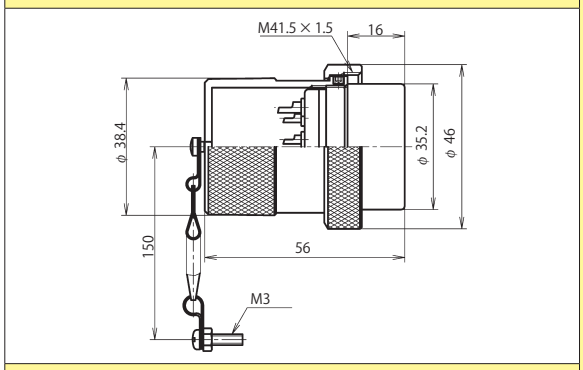


NCS-40 ■ -P



□	Pipe thread
1/2	G1/2
3/4	G3/4
1	G1

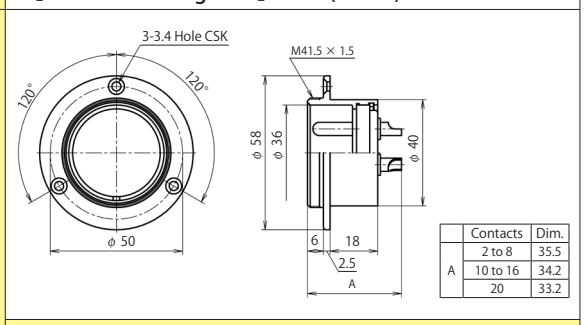
NCS-40 ■ -GP □ (Note)



NCS-40 ■ -SP

Coupled

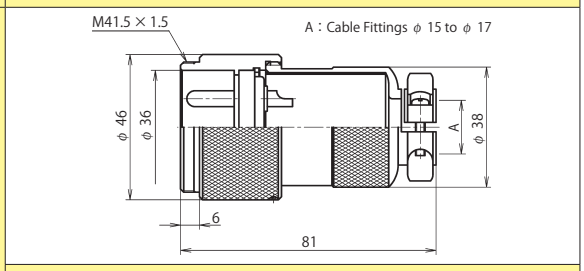
Receptacle



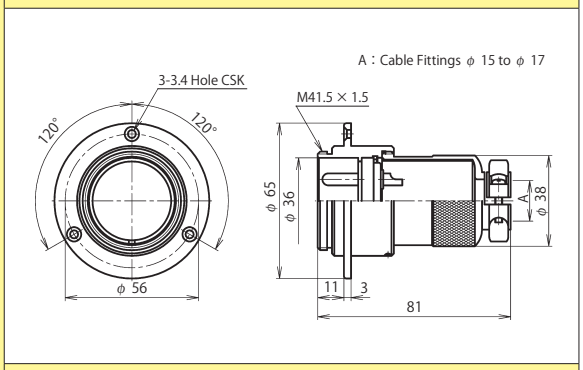
	Contacts	Dim.
A	2 to 8	35.5
	10 to 16	34.2
	20	33.2

NCS-40 ■ -R

Adapter

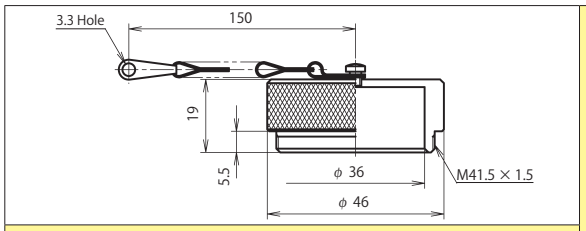


NCS-40 ■ -Ad



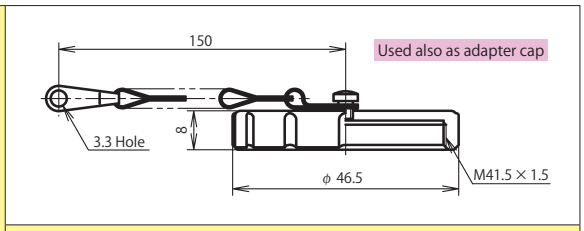
NCS-40 ■ -Ad(F)

Accessory



Plug cap : NCS-40-PCa

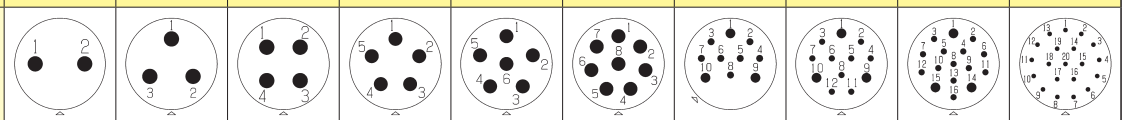
Accessory



Receptacle cap : NCS-40-RCa

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on p.129.

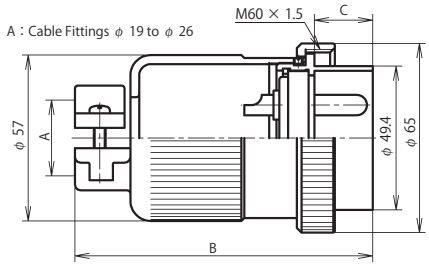
Shell size	Number of Contacts	2	3	4	5	6	8	10	12	16	20
40	Contact arrangement <When viewed from the pin (male) contact coupling side>										
	Safety standard (Note-1)	—					CSA NRTL/C	—	CSA NRTL/C		
	Rating	250V 30A			250V 20A			250V 3pcs=10A 7pcs= 5A	250V 3pcs=10A 9pcs= 5A	250V 3pcs=10A 13pcs= 5A	250V 5A
	Limit operating voltage (Note-2)	500V			400V			300V			
	Withstand voltage (V r.m.s.)	2,500			2,000			1,800			
	Wire size (㎟)	5.5						3pcs=2 7pcs=1.25	3pcs=2 9pcs=1.25	3pcs=2 13pcs=1.25	1.25

Note-1 : Specified separately. For safety standards, see p.129. (The rated voltage of standard certified products is 265 V.) Note-2 : For the limit operating voltage, see p.131.

NCS Series Shell Size 54

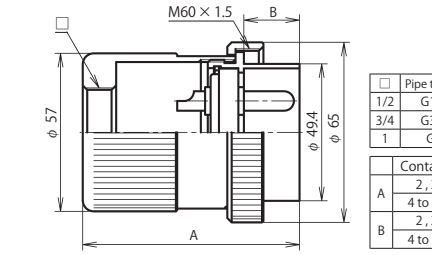
G Type

【Power receiving side】< Pin (male) contact used >



	Contacts	Dim.
B	2 , 3	112
	4 to 25	102
C	2 , 3	30
	4 to 25	20

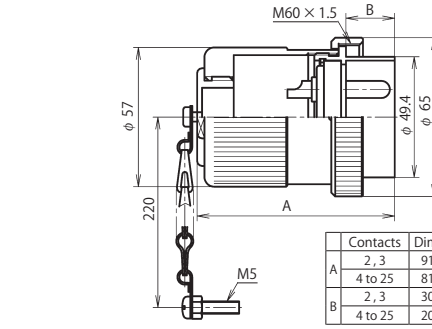
NCS-54 ■ -PM



□	Pipe thread
1/2	G1/2
3/4	G3/4
1	G1

	Contacts	Dim.
A	2 , 3	88 to 91
	4 to 25	78 to 81
B	2 , 3	30
	4 to 25	20

NCS-54 ■ -GPM □ (Note)



	Contacts	Dim.
A	2 , 3	91
	4 to 25	81
B	2 , 3	30
	4 to 25	20

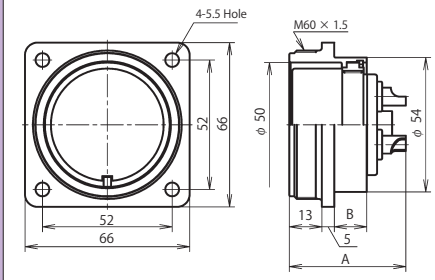
NCS-54 ■ -SPM

Plug

Coupled

【Power supply side】< Socket (female) contact used >

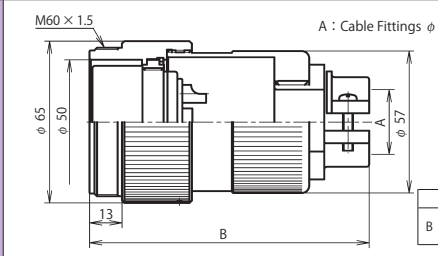
Receptacle



	Contacts	Dim.
A	2 , 3	54
	4	46.5
	8	41
	10	42
	15 , 25	43
B	2 , 3	23
	4 to 25	13

NCS-54 ■ -RF

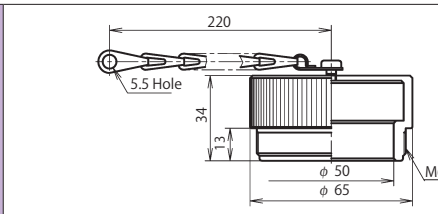
Adapter



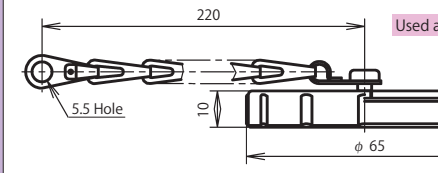
	Contacts	Dim.
B	2 , 3	122
	4 to 25	112

NCS-54 ■ -AdF

Accessory



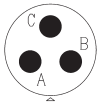
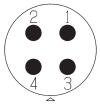
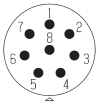
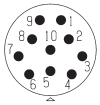
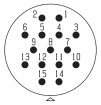
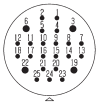
Plug cap : NCS-54-PCa



Receptacle cap : NCS-54-RCa

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

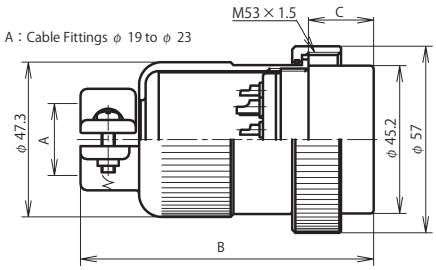
■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on p.129.

Shell size	Number of Contacts	2	3	4	8	10	15	25
54	Contact arrangement <When viewed from the pin (male) contact coupling side>							
	Safety standard (Note-1)	—					CSA NRTL/C	
	Rating	500V 80A		250V 50A	250V 25A	250V 20A	250V 15A	250V 4pcs=15A 21pcs= 5A
	Limit operating voltage (Note-2)	600V		500V	400V	300V		
	Withstand voltage (V r.m.s.)	3,000		2,500	2,000			1,800
	Wire size (㎟)	30		14	3.5			4pcs=3.5 21pcs=2

Note-1 : Specified separately. For safety standards, see p.129. (The rated voltage of standard certified products is 265 V.) Note-2 : For the limit operating voltage, see p.131.

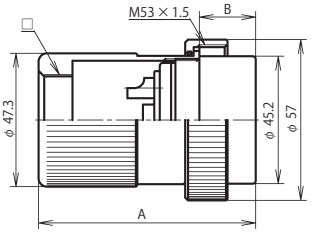
S Type

【Power supply side】< Socket (female) contact used >



	Contacts	Dim.
B	2 , 3	100
	4 to 25	90
C	2 , 3	30
	4 to 25	20

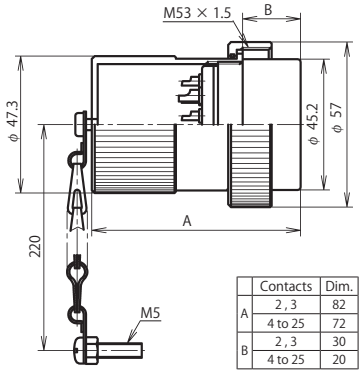
NCS-50 ■ -P



□	Pipe thread
1/2	G1/2
3/4	G3/4
1	G1

	Contacts	Dim.
A	2 , 3	87 to 90
	4 to 25	77 to 80
B	2 , 3	30
	4 to 25	20

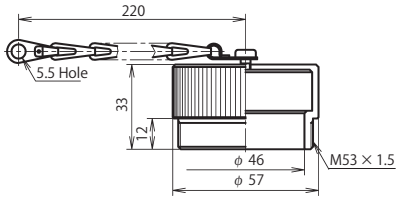
NCS-50 ■ -GP □ (Note)



	Contacts	Dim.
A	2 , 3	82
	4 to 25	72
B	2 , 3	30
	4 to 25	20

NCS-50 ■ -SP

Plug



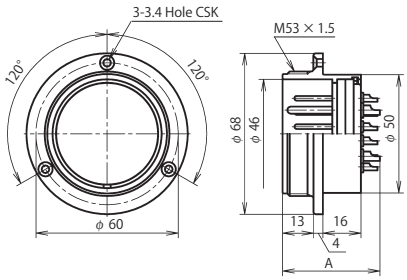
Plug cap : NCS-50-PCa

Accessory

Coupled

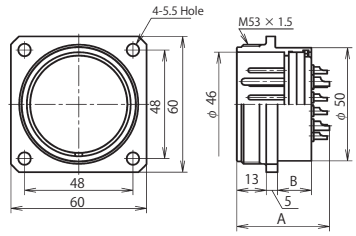
【Power receiving side】< Pin (male) contact used >

Receptacle



	Contacts	Dim.
A	4	45
	8 , 10	42
	15 , 25	41

NCS-50 ■ -R — Number of contacts 4 to 25 (Number of contacts 2 & 3 not available.)



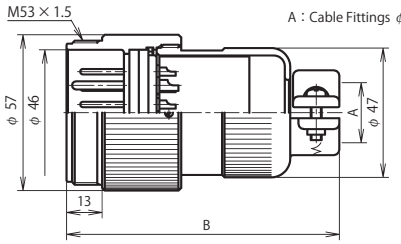
	Contacts	Dim.
A	2 , 3	54
	4	45
	8 , 10	42
	15 , 25	41
B	2 , 3	24
	4 to 25	15

The number of contacts 2 & 3 come with the [square flange] only. When both types of [round flange] and [square flange] exist, the shape symbol is "R kaku" for identification.

NCS-50 ■ -R — Number of contacts 2 , 3

NCS-50 ■ -R kaku — Number of contacts 4 to 25

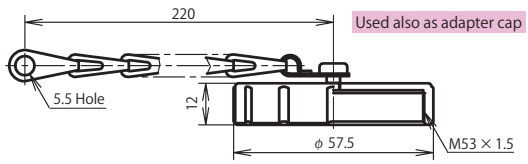
Adapter



	Contacts	Dim.
B	2 , 3	109
	4 to 25	100

NCS-50 ■ -Ad

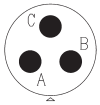
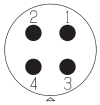
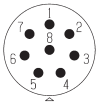
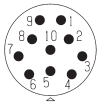
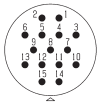
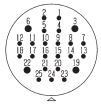
Accessory



Receptacle cap : NCS-50-RCa

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on p.129.

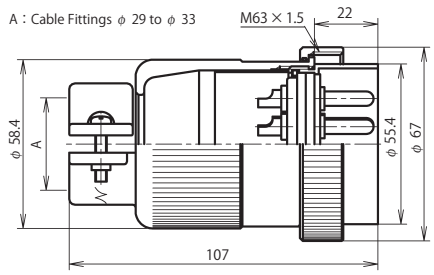
Shell size	Number of Contacts	2	3	4	8	10	15	25
50	Contact arrangement <When viewed from the pin (male) contact coupling side>							
	Safety standard (Note-1)	—					CSA NRTL/C	
	Rating	500V 80A		250V 50A	250V 25A	250V 20A	250V 15A	250V 4pcs=15A 21pcs= 5A
	Limit operating voltage (Note-2)	600V		500V	400V	300V		
	Withstand voltage (V r.m.s.)	3,000		2,500	2,000			1,800
	Wire size (㎟)	30		14	3.5			4pcs=3.5 21pcs=2

Note-1 : Specified separately. For safety standards, see p.129. (The rated voltage of standard certified products is 265 V.) Note-2 : For the limit operating voltage, see p.131.

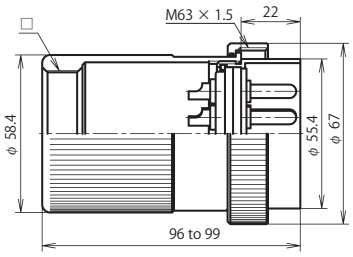
NCS Series Shell Size 60

G Type

【Power receiving side】< Pin (male) contact used >

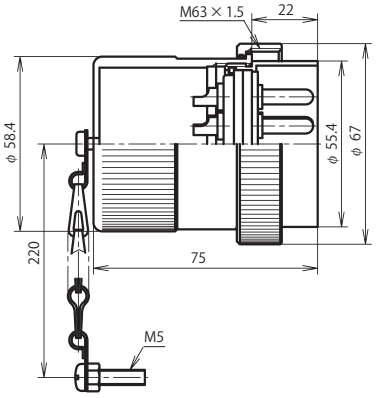


NCS-60 ■ -PM



□	Pipe thread
1	G1
1 1/4	G1 1/4
1 1/2	G1 1/2

NCS-60 ■ -GPM □ (Note)



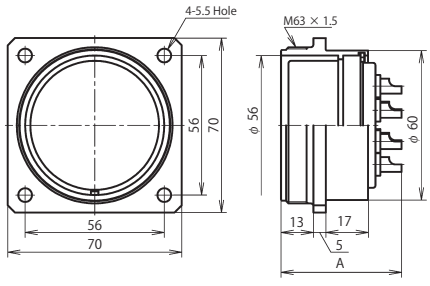
NCS-60 ■ -SPM

Plug

Coupled

【Power supply side】< Socket (female) contact used >

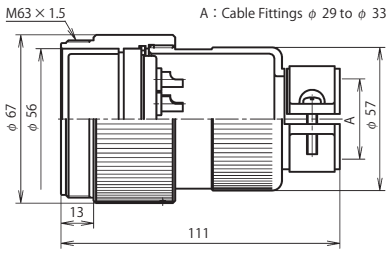
Receptacle



	Contacts	Dim.
A	10	48.5
	15 , 32	45
	30	44

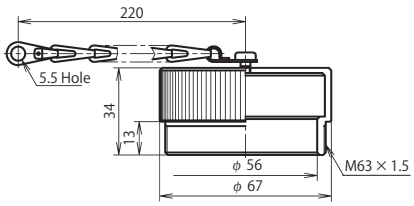
NCS-60 ■ -RF

Adapter

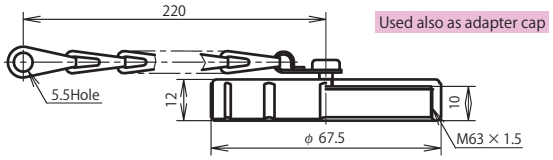


NCS-60 ■ -AdF

Accessory



Plug cap : NCS-60-PCa

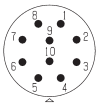
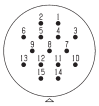


Receptacle cap : NCS-60-RCa

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

2-, 3- and 4-core types are available in Shell size 64.

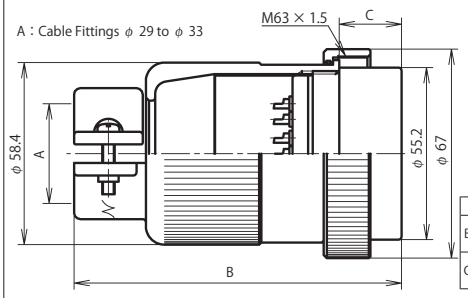
■ indicates the number of contacts. The conductor cross sectional area is less than the following value.

Shell size	Number of Contacts	10	15	30	32
60	Contact arrangement <When viewed from the pin (male) contact coupling side>				
	Safety standard	—			
	Rating	250V 30A	250V 15A	250V 5A	250V 3pcs=15A 29pcs=5A
	Limit operating voltage (Note-1)	300V			
	Withstand voltage (V r.m.s.)	2,000		1,500	
	Wire size (㎟)	8	3.5	2	3pcs=3.5 29pcs=2

Note-1 : For the limit operating voltage, see p.131.

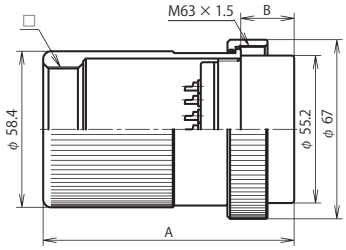
S Type

【Power supply side】< Socket (female) contact used >



	Contacts	Dim.
B	2 to 4	115
	10 to 40	105
C	2 to 4	30
	10 to 40	20

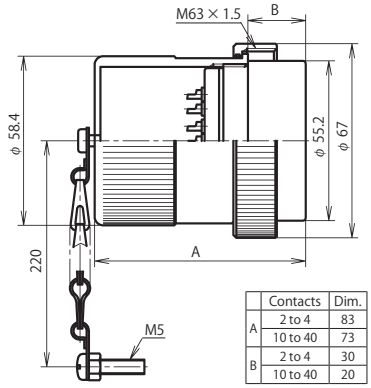
NCS-60 ■ -P



□	Pipe thread
1	G1
1 1/4	G1 1/4
1 1/2	G1 1/2

	Contacts	Dim.
A	2 to 4	104 to 107
	10 to 40	94 to 97
B	2 to 4	30
	10 to 40	20

NCS-60 ■ -GP □ (Note)



	Contacts	Dim.
A	2 to 4	83
	10 to 40	73
B	2 to 4	30
	10 to 40	20

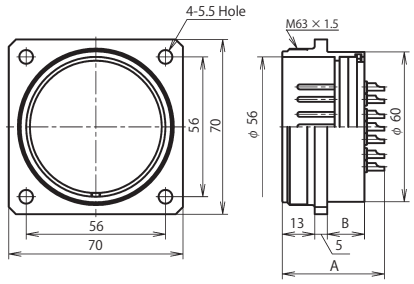
NCS-60 ■ -SP

Plug

Coupled

Receptacle

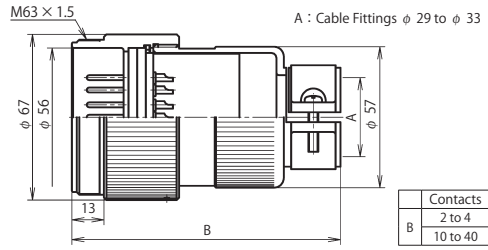
【Power receiving side】< Pin (male) contact used >



	Contacts	Dim.
A	2 , 3	56
	4	54
	10	43
	15 , 32	41
	30 , 40	40
B	2 to 4	24
	10 to 40	15

NCS-60 ■ -R

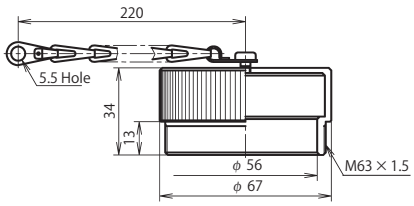
Adapter



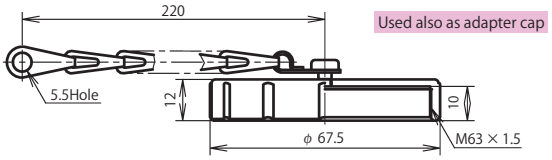
	Contacts	Dim.
B	2 to 4	118
	10 to 40	109

NCS-60 ■ -Ad

Accessory



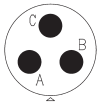
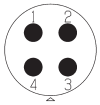
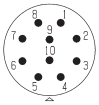
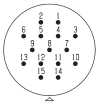
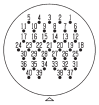
Plug cap : NCS-60-PCa



Receptacle cap : NCS-60-RCa

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

■ indicates the number of contacts. The conductor cross sectional area is less than the following value.

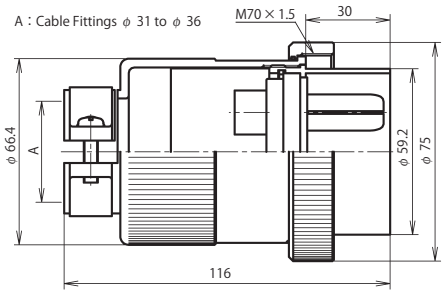
Shell size	Number of Contacts	2	3	4	10	15	30	32	40
60	Contact arrangement <When viewed from the pin (male) contact coupling side>								
	Safety standard	—							
	Rating	500V 150A		500V 80A	250V 30A	250V 15A	250V 5A	250V 3pcs=15A 29pcs=5A	250V 5A
	Limit operating voltage (Note-1)	600V			300V				
	Withstand voltage (V r.m.s.)	3,000			2,500		1,800		
	Wire size (㎟)	50		30	8	3.5	2	3pcs=3.5 29pcs=2	2

Note-1 : For the limit operating voltage, see p.131.

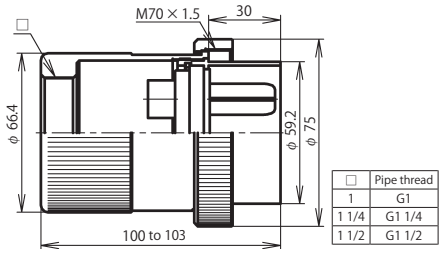
NCS Series Shell Size 64

G Type

【Power receiving side】< Pin (male) contact used >

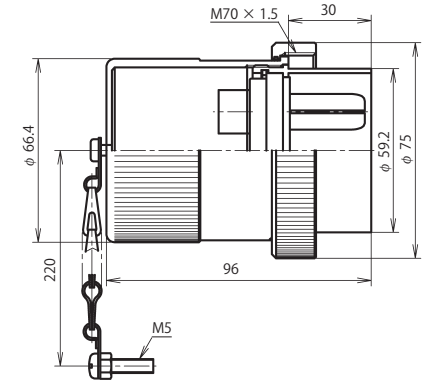


NCS-64 ■ -PM



□	Pipe thread
1	G1
1 1/4	G1 1/4
1 1/2	G1 1/2

NCS-64 ■ -GPM □ (Note)



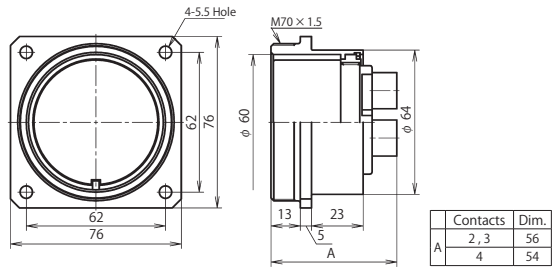
NCS-64 ■ -SPM

Plug

Coupled

【Power supply side】< Socket (female) contact used >

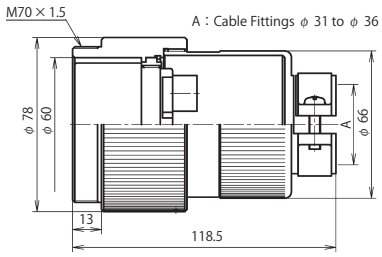
Receptacle



	Contacts	Dim.
A	2 , 3	56
	4	54

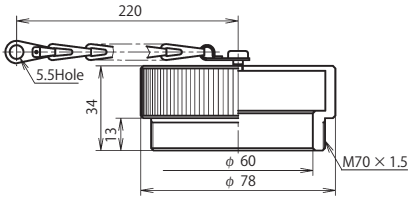
NCS-64 ■ -RF

Adapter

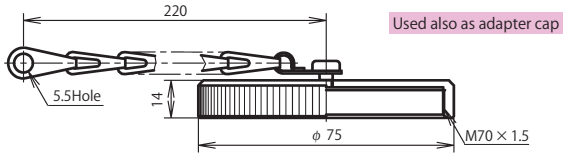


NCS-64 ■ -AdF

Accessory



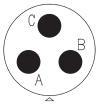
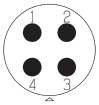
Plug cap : NCS-64-PCa



Receptacle cap : NCS-64-RCa

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

■ indicates the number of contacts. The conductor cross sectional area is less than the following value.

Shell size	Number of Contacts	2	3	4
64	Contact arrangement <When viewed from the pin (male) contact coupling side>			
	Safety standard	—		
	Rating	500V 150A		500V 80A
	Limit operating voltage (Note-1)	600V		
	Withstand voltage (V r.m.s.)	3,000		
	Wire size (mm²)	50		30

Note-1 : For the limit operating voltage, see p.131.

MEMO

NJC Series

Non-waterproof

RoHS

Safety standard certified products available

Overview

- Connectors designed in accordance with JIS C 5432.
- A large selection of products with a large number of derivatives added.
- A variety of products certified by safety standards having proven performance in a wide range of applications including semiconductor equipment and various measuring instruments.

Feature

RoHS	RoHS Directive compliant
Waterproof	Non
Lock method	Thread lock
Features of mechanism/ material	○ Die cast shell with zinc alloy or aluminum alloy. ○ Smooth coupling thanks to employment of 5-key system guide. ○ Installation in a small space enabled by use of the L za.
Standards	○ JIS C 5432 compliant connectors available. ○ UL・CSA standard certified connectors available.（UL : UL1977　CSA : C22.2 No.182.3） ○ Safety standard certified connectors available. (EN61984 compliant, TÜV certified) Note: The specifications of safety standard certified products are slightly different from those of standard products. For the rated voltage, current and cable conductor cross sectional area, refer to A List of Standards Acquired (pp.127 and 130).
Cable termination	Soldering

Characteristics

Insulation resistance , Withstand voltage , Contact resistance　p.38

The pin contact type has an exposed electrode. If it is used on the [power supply] side, it may cause electric shock or short-circuit accidents. To prevent such accidents, use the socket contact type on the [power supply] side and the pin contact type on the [equipment] side.

NJC Series

Product No. designation

NJC - 20 ■ - P M __ __

① ② ③ ④ ⑤ ⑥ ⑦

① Series designation
② Shell size
③ Number of contacts
④ Shell shape
⑤ Contact shape < Pin (male) contact : M , Socket (female) contact : F >
⑥ Guide position change symbol (X , Y , Z) 《 Required only when changing the guide position 》
⑦ Safety standard specification (< UL・CSA > , < TUV >)
《 Required only when safety standard is to be specified. 》For applicable products, see pp.127 and 130.

《Option》

・When using a plural number of same products at the same time, the guide position can be changed in order to prevent mis-insertion.
(For applicable products, see below.)
Product name example : NJC-2010-PFX
Guide position change symbol (X, Y, Z) in the red character part.

Cable termination : Soldering

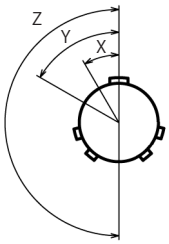
Material and Finish

	Material	Finish
Shell	Shell size 16 , 20 , 24 : Zinc alloy (Partially aluminum alloy) Shell size 28 , 32 : Aluminum alloy	Crape chrome plating Special treatment
Insulator	Synthetic resin	—
Contact	Copper alloy	Silver plating Gold plating

To change the guide position (Following number of contacts only)

Shell size	Number of Contacts	Guide Position Symbol		
		X	Y	Z
16	＊ 3	30°	60°	180°
	＊ 5	45°	90°	315°
20	＊ 7	30°	—	—
	＊ 10	45°	90°	315°
	12		95°	190°
24	＊ 10	45°	90°	315°
	14			
	＊ 16			
28	＊ 16	45°	90°	315°
	＊ 24			

＊ UL・CSA products supported also.



An image of guide position change

< When viewed from the pin (male) contact side coupling face >

Operating temperature range

Shell size	Number of Contacts	Operating temperature range
20	2 , 3 , 4 , 5	-40℃ to +100℃
24		
32	3 , 4	
16	3 , 5	-25℃ to +85℃
20	7 , 10 , 12	
24	10 , 14 , 16	
28	16 , 24	
16	8	-25℃ to +60℃
20	14	
24	21 , 24	
28	31 , 37	
32	8 , 10 , 12	

Upper limit of ambient temperature at rated current

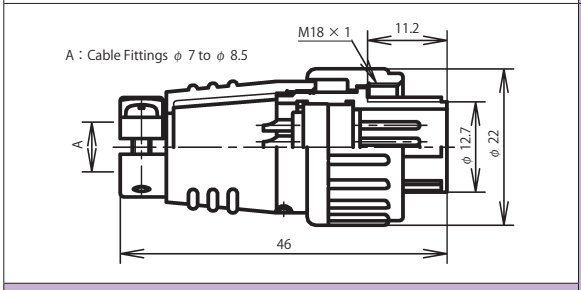
TÜV products only

	Number of Contacts			
Shell size	2	3	4	5
20	+80℃	+80℃	+75℃	—
24	+70℃	+70℃	+80℃	+80℃
32	—	+70℃	+70℃	—

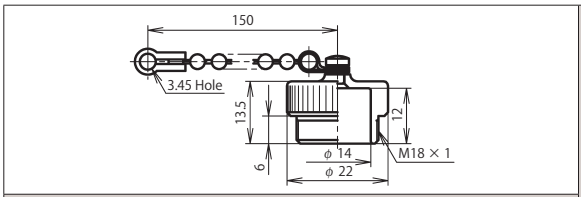
(**Note**) Max.ambient temp. at rated current
(Based on TÜV certification test results)

G Type

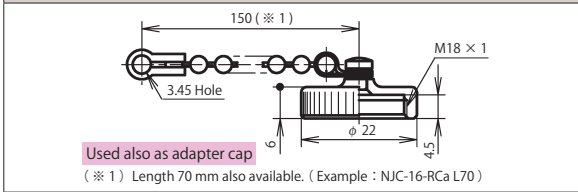
【Power receiving side】< Pin (male) contact used >



NJC-16 ■ -PM



Plug cap : NJC-16-PCa



Used also as adapter cap

(※ 1) Length 70 mm also available. (Example : NJC-16-RCa L70)

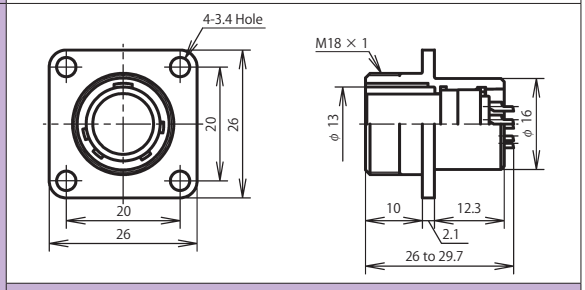
Receptacle cap : NJC-16-RCa

Plug | Accessory

Coupled

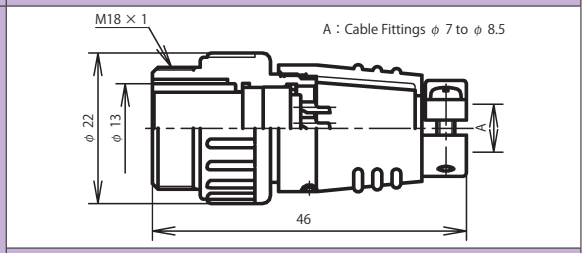
【Power supply side】< Socket (female) contact used >

Receptacle

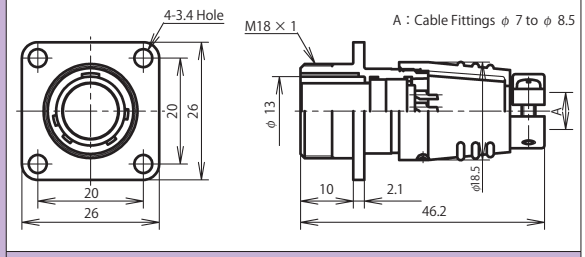


NJC-16 ■ -RF

Adapter

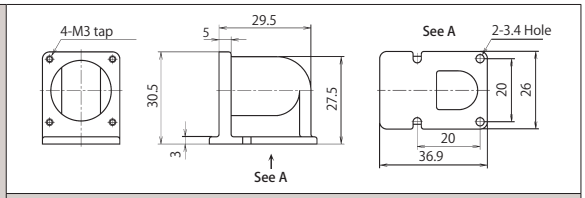


NJC-16 ■ -AdF



NJC-16 ■ -Ad(F)F

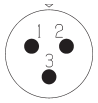
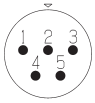
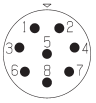
Accessory



NJC-16-L za

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on p.127.

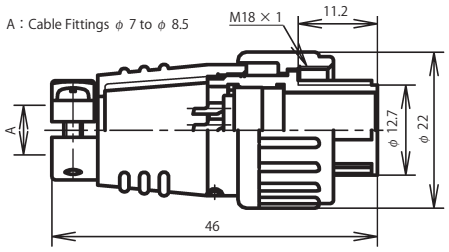
[ ] : Gold plating contact

Shell size	Number of Contacts	3	5	8
16	Contact arrangement <When viewed from the pin (male) contact coupling side>			
	Safety standard (Note-1)	UL・CSA		—
	Rating (Allowable current for signals)	125V		—
		10A	5A	[3A]
	Withstand voltage (V r.m.s.)	1,500	1,000	500
	Wire size (㎟)	1.25	0.5	0.3
	Remarks	—		For signals

Note-1 : Specified separately. "Specified as a set of UL and CSA". For safety standards, see p.127.

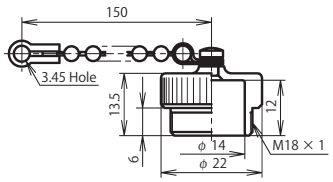
S Type

【Power supply side】< Socket (female) contact used >

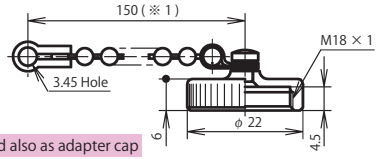


NJC-16 ■ -PF

Plug



Plug cap : NJC-16-PCa



Used also as adapter cap

(※ 1) Length 70 mm also available. (Example : NJC-16-RCa L70)

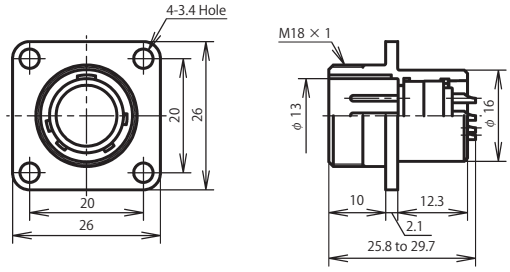
Receptacle cap : NJC-16-RCa

Accessory

Coupled

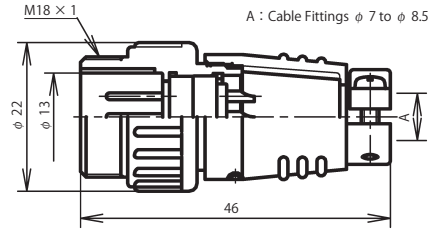
【Power receiving side】< Pin (male) contact used >

Receptacle

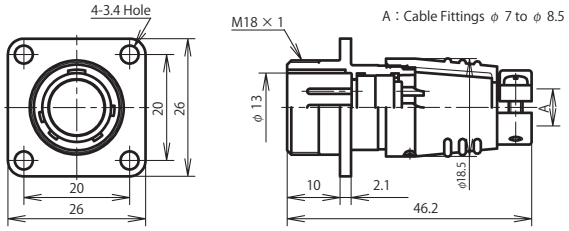


NJC-16 ■ -RM

Adapter

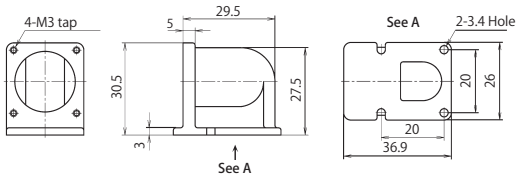


NJC-16 ■ -AdM



NJC-16 ■ -Ad(F)M

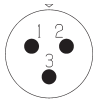
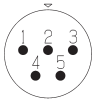
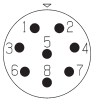
Accessory



NJC-16-L za

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on p.127.

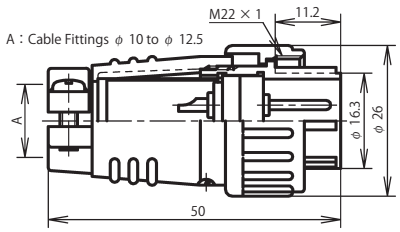
[ ] : Gold plating contact

Shell size	Number of Contacts	3	5	8
16	Contact arrangement <When viewed from the pin (male) contact coupling side>			
	Safety standard (Note-1)	UL・CSA		—
	Rating (Allowable current for signals)	125V		—
		10A	5A	[3A]
	Withstand voltage (V r.m.s.)	1,500	1,000	500
	Wire size (㎟)	1.25	0.5	0.3
	Remarks	—		For signals

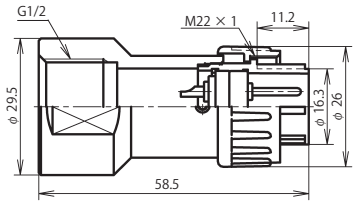
Note-1 : Specified separately. "Specified as a set of UL and CSA". For safety standards, see p.127.

G Type

【Power receiving side】< Pin (male) contact used >



NJC-20 ■ -PM



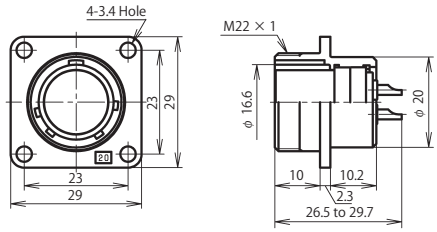
NJC-20 ■ -GPM1/2 (Note)

Plug

Coupled

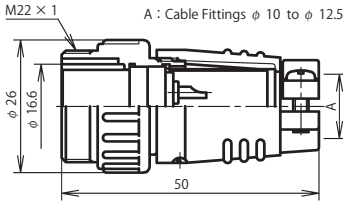
【Power supply side】< Socket (female) contact used >

Receptacle

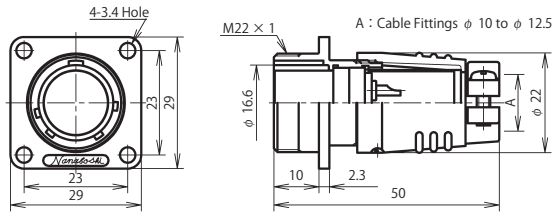


NJC-20 ■ -RF

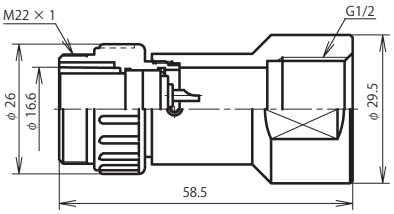
Adapter



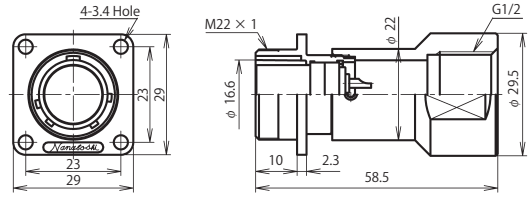
NJC-20 ■ -AdF



NJC-20 ■ -Ad(F)F

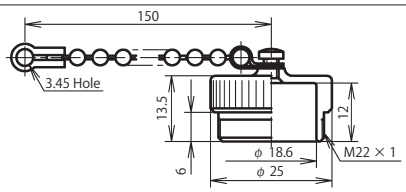


NJC-20 ■ -GAdF1/2 (Note)

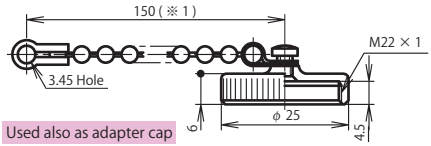


NJC-20 ■ -GAd(F)F1/2 (Note)

Accessory



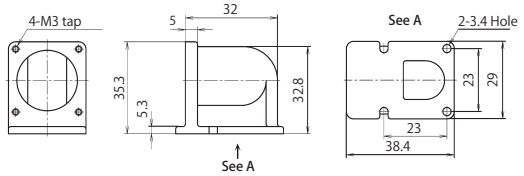
Plug cap : NJC-20-PCa



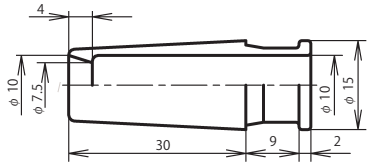
Used also as adapter cap

(※ 1) Length 70 mm also available. (Example : NJC-20-RCa L70)

Receptacle cap : NJC-20-RCa



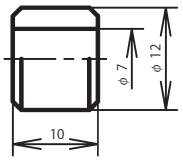
NJC-20-L za



Cable bushing : NJC-20-CB

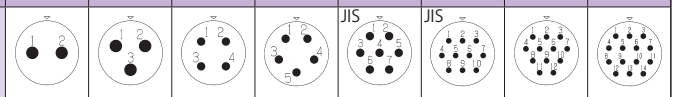
Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

Accessory



Cable bushing : CBAS-12-7

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on pp.127 and 130.

Shell size	Number of Contacts	2	3	4	5	7	10	12	14
20	Contact arrangement <When viewed from the pin (male) contact coupling side>					JIS	JIS		
	Safety standard (Note-1)	UL・CSA / TÜV	UL・CSA / TÜV	UL・CSA / TÜV	UL・CSA				—
	Rating	250V							—
	(Allowable current for signals)	15A		10A			5A		[3A]
	Withstand voltage (V r.m.s.)	1,500				1,000			500
	Wire size (㎟)	2		1.25			0.5		0.3
	Remarks	—							For signals

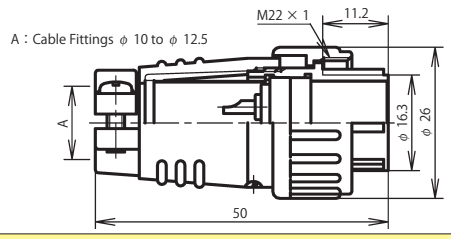
Note-1 : Specified separately. Selection of either "specified as a set of UL and CSA" or "TÜV specified." For safety standards, see pp.127 and 130.

JIS mark refers to JIS C 5432 compliant products.

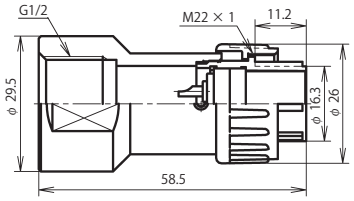
[ ] : Gold plating contact

S Type

【Power supply side】< Socket (female) contact used >



NJC-20 ■ -PF



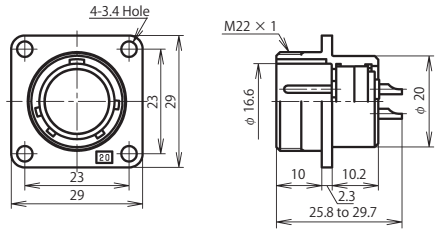
NJC-20 ■ -GPF1/2 (Note)

Plug

Coupled

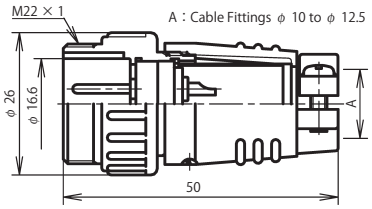
【Power receiving side】< Pin (male) contact used >

Receptacle

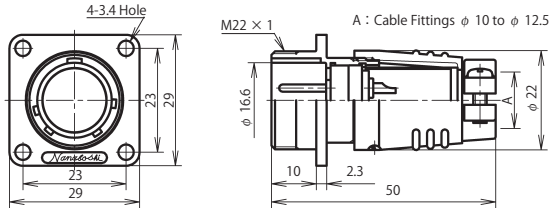


NJC-20 ■ -RM

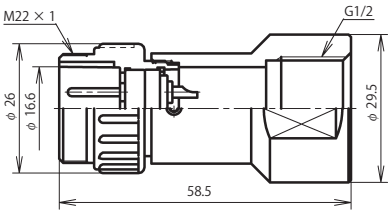
Adapter



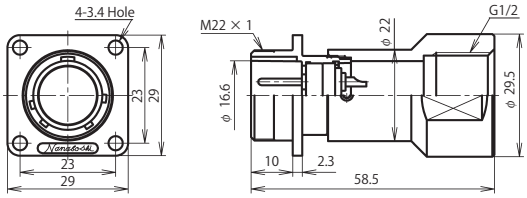
NJC-20 ■ -AdM



NJC-20 ■ -Ad(F)M

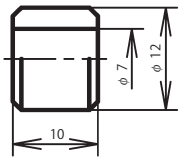


NJC-20 ■ -GAdM1/2 (Note)



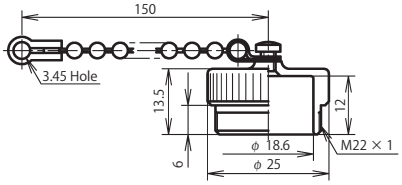
NJC-20 ■ -GAd(F)M1/2 (Note)

Accessory

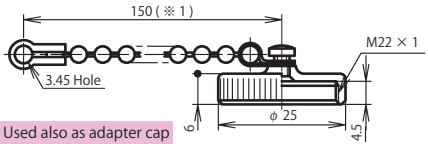


Cable bushing : CBAS-12-7

Accessory



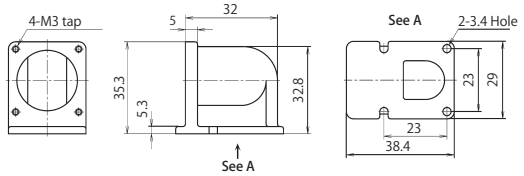
Plug cap : NJC-20-PCa



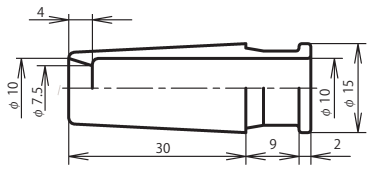
Used also as adapter cap

(※ 1) Length 70 mm also available. (Example : NJC-20-RCa L70)

Receptacle cap : NJC-20-RCa



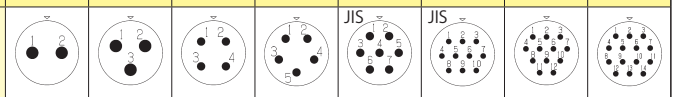
NJC-20-L za



Cable bushing : NJC-20-CB

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on pp.127 and 130.

Shell size	Number of Contacts	2	3	4	5	7	10	12	14
20	Contact arrangement <When viewed from the pin (male) contact coupling side>					JIS	JIS		
	Safety standard (Note-1)	UL・CSA TÜV	UL・CSA TÜV	UL・CSA TÜV	UL・CSA				—
	Rating	250V							—
	(Allowable current for signals)	15A		10A			5A		[3A]
	Withstand voltage (V r.m.s.)	1,500				1,000			500
	Wire size (㎟)	2		1.25			0.5		0.3
	Remarks	—							For signals

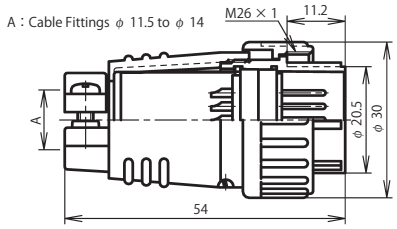
Note-1 : Specified separately. Selection of either "specified as a set of UL and CSA" or "TÜV specified." For safety standards, see pp.127 and 130.

JIS mark refers to JIS C 5432 compliant products.

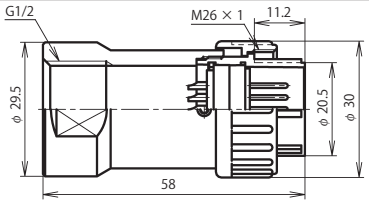
[ ] : Gold plating contact

G Type

【Power receiving side】< Pin (male) contact used >

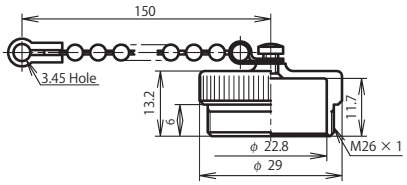


NJC-24 ■ -PM

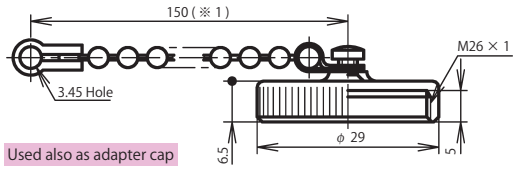


NJC-24 ■ -GPM1/2 (Note)

Plug



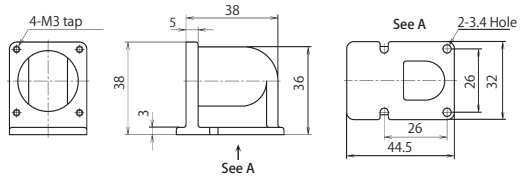
Plug cap : NJC-24-PCa



Used also as adapter cap

(※ 1) Length 50,70 mm also available. (Example : NJC-24-RCa L70)

Receptacle cap : NJC-24-RCa



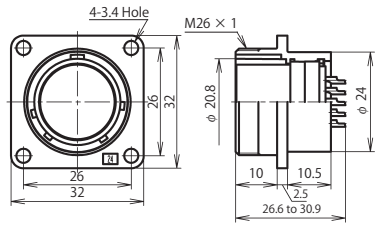
NJC-24-L za

Accessory

Coupled

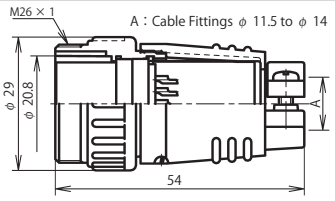
Receptacle

【Power supply side】< Socket (female) contact used >

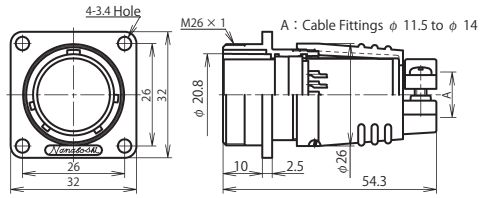


NJC-24 ■ -RF

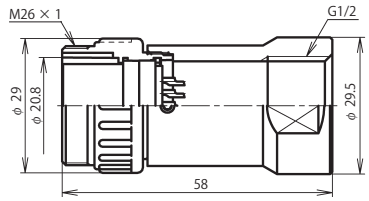
Adapter



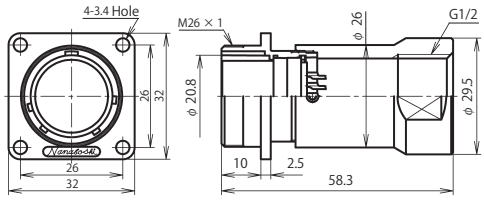
NJC-24 ■ -AdF



NJC-24 ■ -Ad(F)F



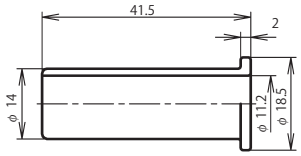
NJC-24 ■ -GAdF1/2 (Note)



NJC-24 ■ -GAd(F)F1/2 (Note)

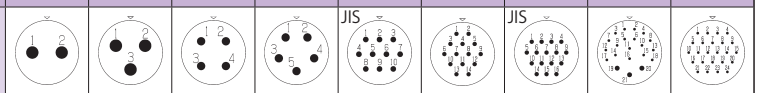
Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

Accessory



Cable bushing : NJC-24-CB

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on pp.127 and 130.

Shell size	Number of Contacts	2	3	4	5	10	14	16	21	24
24	Contact arrangement <When viewed from the pin (male) contact coupling side>					JIS		JIS		
	Safety standard (Note-1)	UL・CSA TÜV	UL・CSA TÜV	UL・CSA TÜV	UL・CSA TÜV	UL・CSA			—	
	Rating (Allowable current for signals)	250V							—	
		20A		15A		10A	5A		3pcs=6A [18pcs=3A]	[3A]
	Withstand voltage (V r.m.s.)	1,500				1,000			500	
	Wire size (㎟)	3.5		2		1.25	0.5		3pcs= 0.75 18pcs= 0.3	0.3
	Remarks	—							For signals	

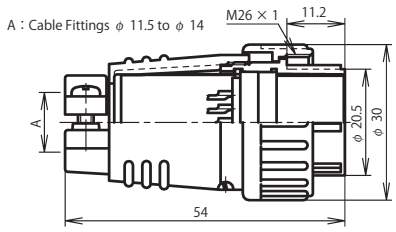
Note-1 : Specified separately. Selection of either "specified as a set of UL and CSA" or "TÜV specified." For safety standards, see pp.127 and 130.

JIS mark refers to JIS C 5432 compliant products.
[ ] : Gold plating contact

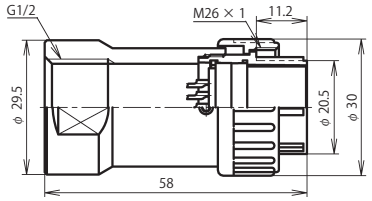
S Type

【Power supply side】< Socket (female) contact used >

Plug

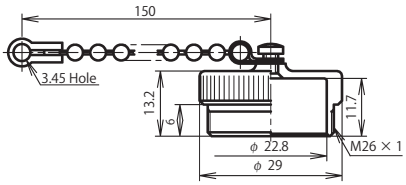


NJC-24 ■ -PF

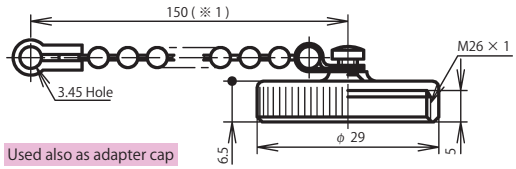


NJC-24 ■ -GPF1/2 (Note)

Accessory



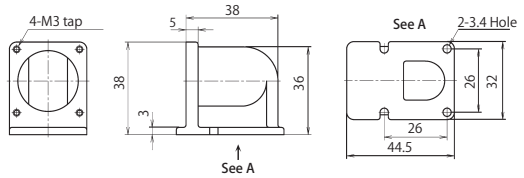
Plug cap : NJC-24-PCa



Used also as adapter cap

(※ 1) Length 50,70 mm also available. (Example : NJC-24-RCa L70)

Receptacle cap : NJC-24-RCa

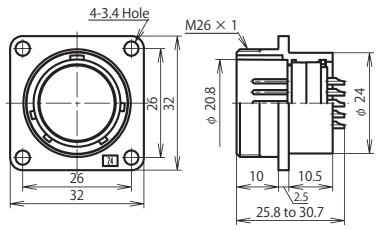


NJC-24-L za

Coupled

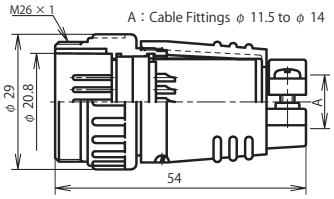
【Power receiving side】< Pin (male) contact used >

Receptacle

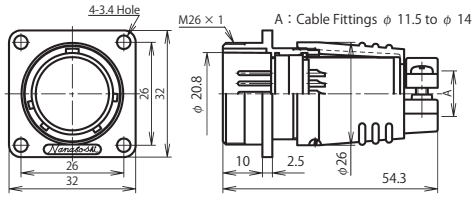


NJC-24 ■ -RM

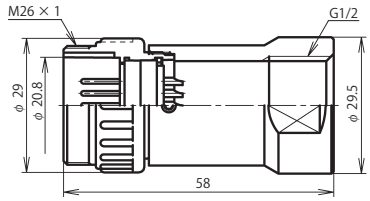
Adapter



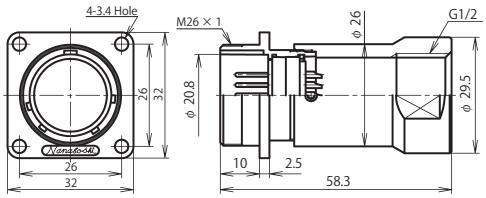
NJC-24 ■ -AdM



NJC-24 ■ -Ad(F)M

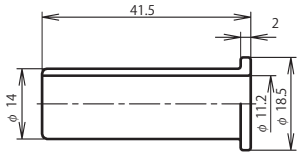


NJC-24 ■ -GAdM1/2 (Note)



NJC-24 ■ -GAd(F)M1/2 (Note)

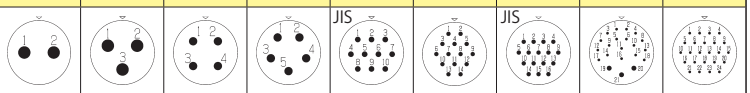
Accessory



Cable bushing : NJC-24-CB

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on pp.127 and 130.

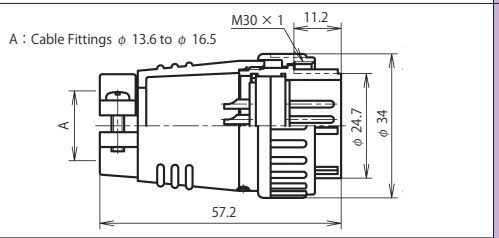
Shell size	Number of Contacts	2	3	4	5	10	14	16	21	24
24	Contact arrangement <When viewed from the pin (male) contact coupling side>					JIS		JIS		
	Safety standard (Note-1)	UL・CSA TÜV	UL・CSA TÜV	UL・CSA TÜV	UL・CSA TÜV	UL・CSA			—	
	Rating (Allowable current for signals)	250V							—	
		20A		15A		10A	5A		3pcs=6A [18pcs=3A]	[3A]
	Withstand voltage (V r.m.s.)	1,500				1,000			500	
	Wire size (㎟)	3.5		2		1.25	0.5		3pcs= 0.75 18pcs= 0.3	0.3
	Remarks	—							For signals	

Note-1 : Specified separately. Selection of either "specified as a set of UL and CSA" or "TÜV specified." For safety standards, see pp.127 and 130.

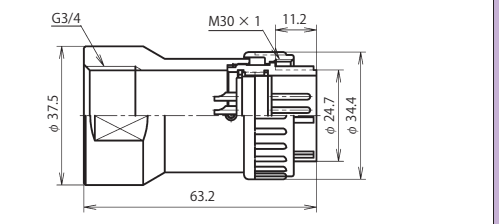
JIS mark refers to JIS C 5432 compliant products.
[ ] : Gold plating contact

G Type

【Power receiving side】< Pin (male) contact used >

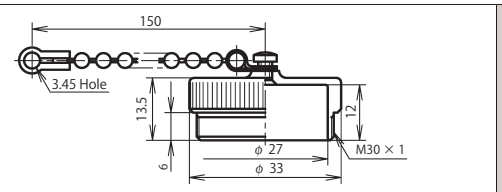


NJC-28 ■ -PM

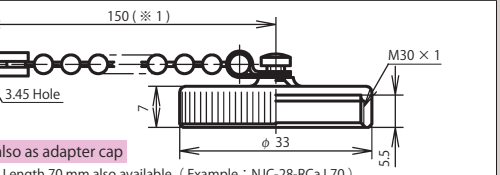


NJC-28 ■ -GPM3/4 (Note)

Plug



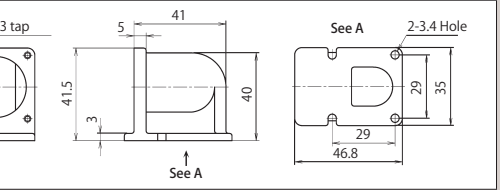
Plug cap : NJC-28-PCa



Used also as adapter cap

(※ 1) Length 70 mm also available. (Example : NJC-28-RCa L70)

Receptacle cap : NJC-28-RCa



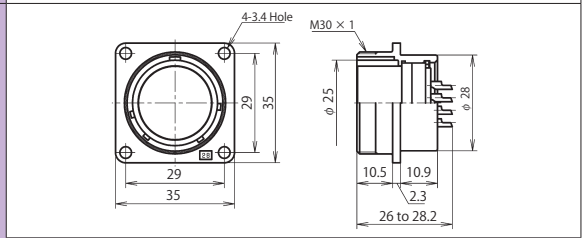
NJC-28-L za

Accessory

Coupled

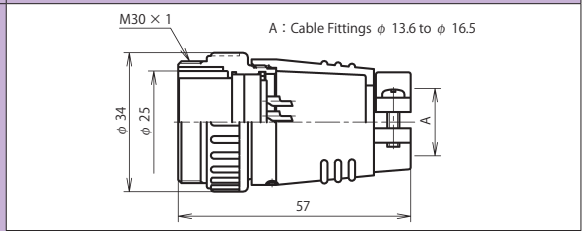
【Power supply side】< Socket (female) contact used >

Receptacle

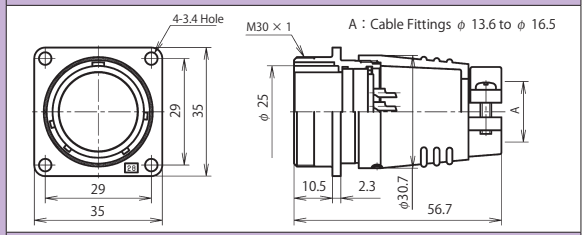


NJC-28 ■ -RF

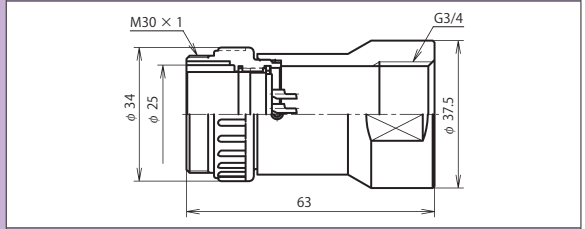
Adapter



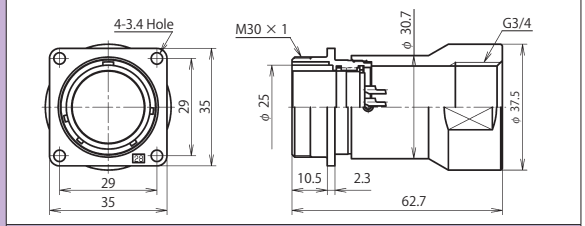
NJC-28 ■ -AdF



NJC-28 ■ -Ad(F)F



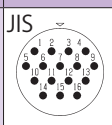
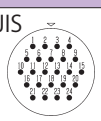
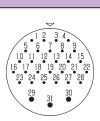
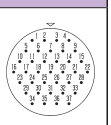
NJC-28 ■ -GAdF3/4 (Note)



NJC-28 ■ -GAd(F)F3/4 (Note)

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on p.127.

Shell size	Number of Contacts	16	24	31	37
28	Contact arrangement <When viewed from the pin (male) contact coupling side>	JIS 	JIS 		
	Safety standard (Note-1)	UL・CSA		—	
	Rating (Allowable current for signals)	250V		—	
		10A	5A	3pcs=6A [28pcs=3A]	[3A]
	Withstand voltage (V r.m.s.)	1,000		500	
	Wire size (㎟)	1.25	0.5	3pcs=0.75 28pcs=0.3	0.3
	Remarks	—		For signals	

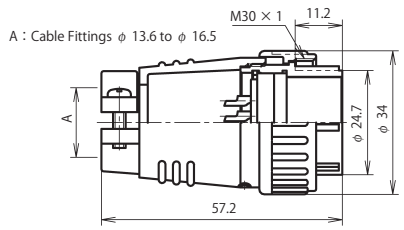
JIS mark refers to JIS C 5432 compliant products.

[ ] : Gold plating contact

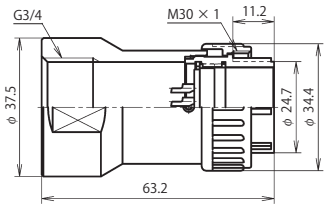
Note-1 : Specified separately. "Specified as a set of UL and CSA". For safety standards, see p.127.

S Type

【Power supply side】< Socket (female) contact used >

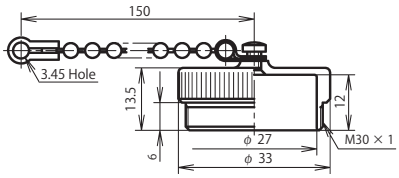


NJC-28 ■ -PF

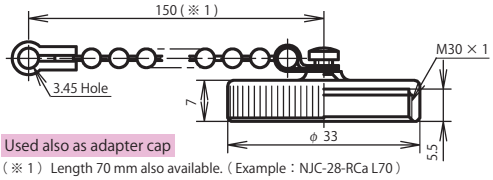


NJC-28 ■ -GPF3/4 (Note)

Plug



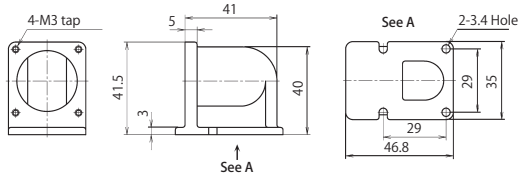
Plug cap : NJC-28-PCa



Used also as adapter cap

(※ 1) Length 70 mm also available. (Example : NJC-28-RCa L70)

Receptacle cap : NJC-28-RCa



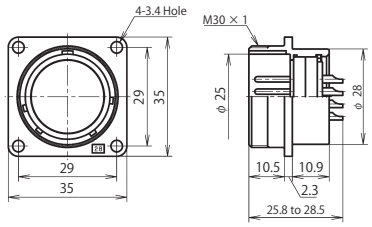
NJC-28-L za

Accessory

Coupled

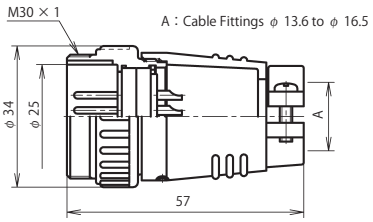
【Power receiving side】< Pin (male) contact used >

Receptacle

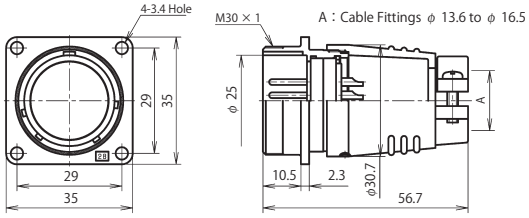


NJC-28 ■ -RM

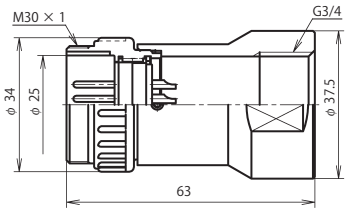
Adapter



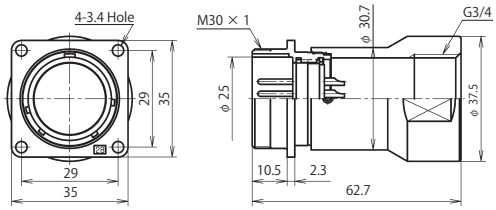
NJC-28 ■ -AdM



NJC-28 ■ -Ad(F)M



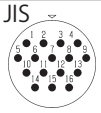
NJC-28 ■ -GAdM3/4 (Note)



NJC-28 ■ -GAd(F)M3/4 (Note)

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on p.127.

Shell size	Number of Contacts	16	24	31	37
28	Contact arrangement <When viewed from the pin (male) contact coupling side>	JIS 	JIS		
	Safety standard (Note-1)	UL・CSA		—	
	Rating (Allowable current for signals)	250V		—	
		10A	5A	3pcs=6A [28pcs=3A]	[3A]
	Withstand voltage (V r.m.s.)	1,000		500	
	Wire size (㎟)	1.25	0.5	3pcs=0.75 28pcs=0.3	0.3
	Remarks	—		For signals	

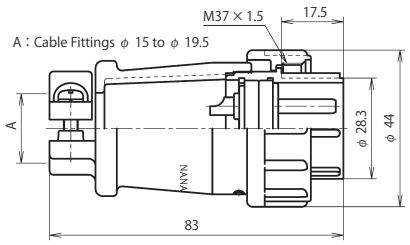
JIS mark refers to JIS C 5432 compliant products.

[ ] : Gold plating contact

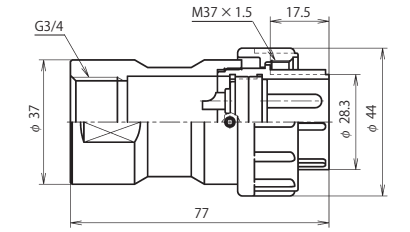
Note-1 : Specified separately. "Specified as a set of UL and CSA". For safety standards, see p.127.

G Type

【Power receiving side】< Pin (male) contact used >

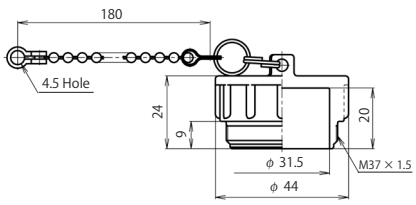


NJC-32 ■ -PM

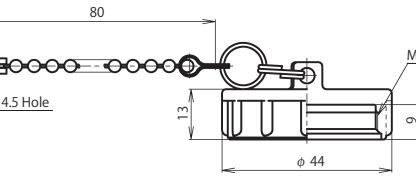


NJC-32 ■ -GPM3/4 (Note)

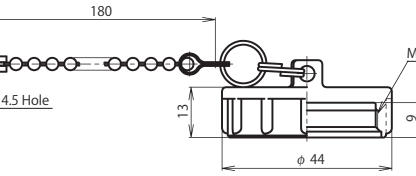
Plug



Plug cap : NJC-32-PCa



Receptacle cap : NJC-32-RCa



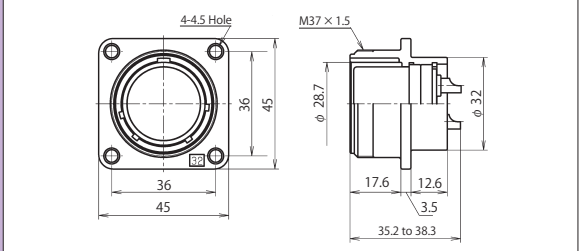
Adapter cap : NJC-32-AdCa

Accessory

Coupled

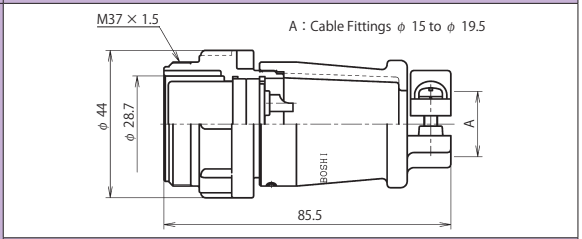
【Power supply side】< Socket (female) contact used >

Receptacle

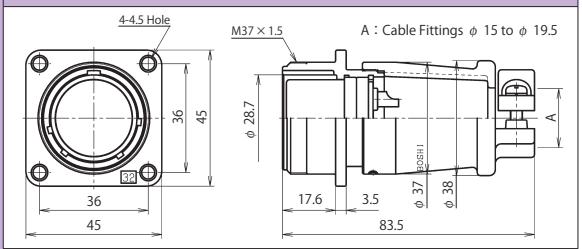


NJC-32 ■ -RF

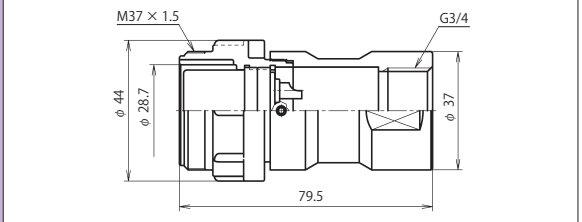
Adapter



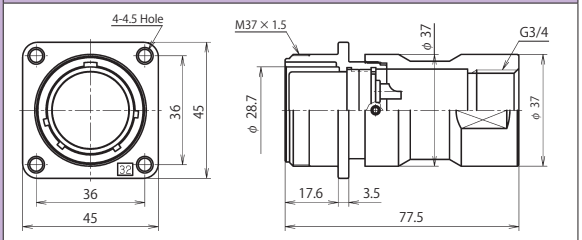
NJC-32 ■ -AdF



NJC-32 ■ -Ad(F)F



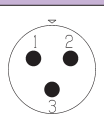
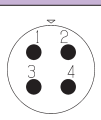
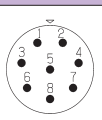
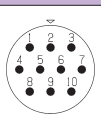
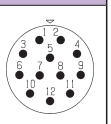
NJC-32 ■ -GAdF3/4 (Note)



NJC-32 ■ -GAd(F)F3/4 (Note)

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on pp.127 and 130.

Shell size	Number of Contacts	3	4	8	10	12
32	Contact arrangement <When viewed from the pin (male) contact coupling side>					
	Safety standard (Note-1)	UL・CSA / TÜV	UL・CSA / TÜV	UL・CSA		
	Rating	250V 30A		250V 10A		
	Withstand voltage (V r.m.s.)	2,000		1,500		
	Wire size (㎟)	5.5 , 6		2		

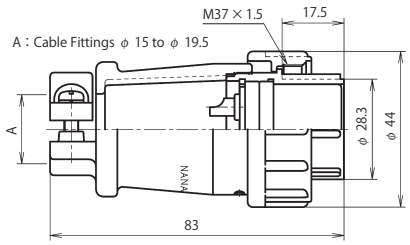
Note-1 : Specified separately. Selection of either "specified as a set of UL and CSA" or "TÜV specified." For safety standards, see pp.127 and 130.

【Power supply side】< Socket (female) contact used >

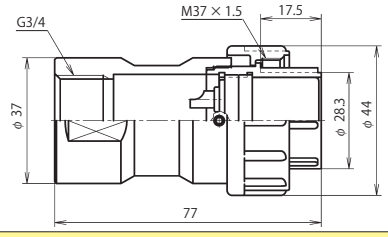
S Type

【Power receiving side】< Pin (male) contact used >

Plug

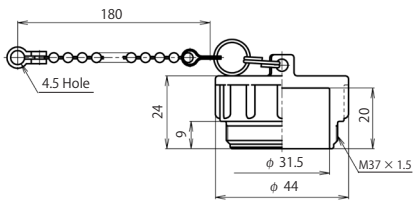


NJC-32 ■ -PF

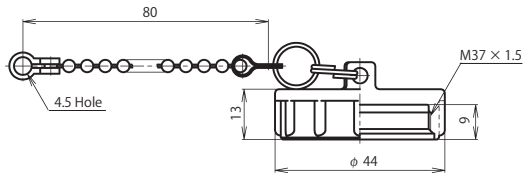


NJC-32 ■ -GPF3/4 (Note)

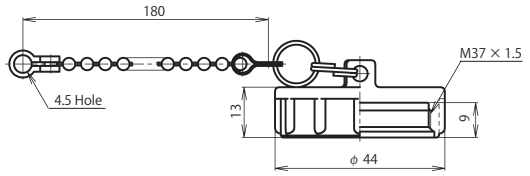
Accessory



Plug cap : NJC-32-PCa



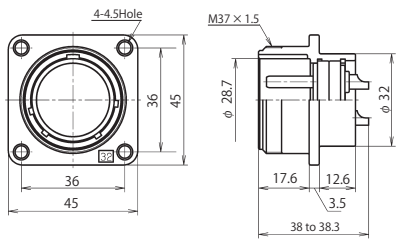
Receptacle cap : NJC-32-RCa



Adapter cap : NJC-32-AdCa

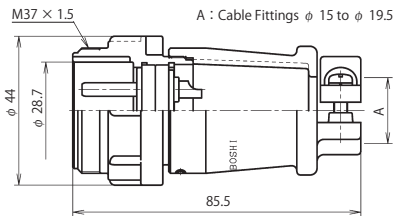
Coupled

Receptacle

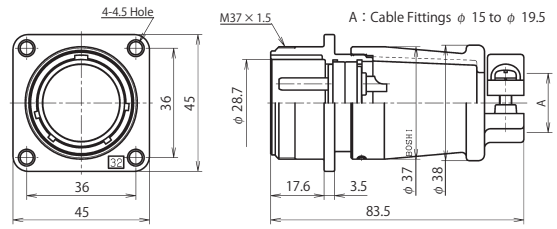


NJC-32 ■ -RM

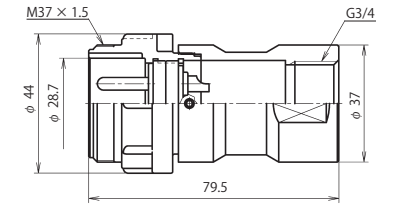
Adapter



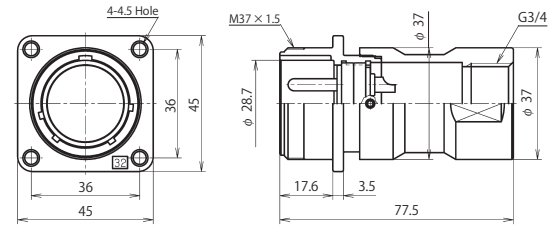
NJC-32 ■ -AdM



NJC-32 ■ -Ad(F)M



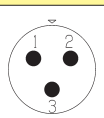
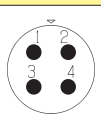
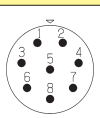
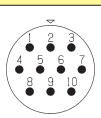
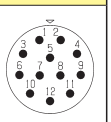
NJC-32 ■ -GAdM3/4 (Note)



NJC-32 ■ -GAd(F)M3/4 (Note)

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on pp.127 and 130.

Shell size	Number of Contacts	3	4	8	10	12
32	Contact arrangement <When viewed from the pin (male) contact coupling side>					
	Safety standard (Note-1)	UL・CSA / TÜV	UL・CSA / TÜV	UL・CSA		
	Rating	250V 30A		250V 10A		
	Withstand voltage (V r.m.s.)	2,000		1,500		
	Wire size (㎟)	5.5 , 6		2		

Note-1 : Specified separately. Selection of either "specified as a set of UL and CSA" or "TÜV specified." For safety standards, see pp.127 and 130.

NJC Series Characteristics

Number of contacts

Shell size	Contact	Insulation resistance (M Ω)			Contact resistance (m Ω)			Withstand voltage (V r.m.s.)		
		Normal products	Safety standard		Normal products	Safety standard		Normal products	Safety standard	
			UL・CSA	TÜV		UL・CSA	TÜV		UL・CSA	TÜV
16	3	DC 500V 2,000 min.		—	3 max.		—	1,500		—
	5	DC 500V 1,000 min.			5 max.			1,000		
	8	DC 250V 1,000 min.	—		5 max.	—		500	—	
20	2	DC 500V 2,000 min.			3 max.			1,500		
	3									
	4									
	5	DC 500V 2,000 min.		—	3 max.		—	1,500		—
	7							1,000		
	10	DC 500V 1,000 min.			5 max.					
	12									
	14	DC 250V 1,000 min.	—		5 max.	—		500	—	
24	2	DC 500V 5,000 min.	DC 500V 2,000 min.		3 max.			1,500		
	3									
	4									
	5									
	10	DC 500V 2,000 min.		—	3 max.		—	1,000		—
	14	DC 500V 1,000 min.			5 max.					
	16									
	21	DC 250V 1,000 min.	—		5 max.	—		500	—	
	24									
28	16	DC 500V 2,000 min.		—	3 max.		—	1,000		—
	24	DC 500V 1,000 min.			5 max.					
	31	DC 250V 1,000 min.	—		5 max.	—		500	—	
	37									
32	3	DC 500V 2,000 min.			3 max.			2,000		
	4									
	8	DC 500V 2,000 min.		—	3 max.		—	1,500		—
	10									
	12									

MEMO

NR Series

Non-waterproof

RoHS

Quick lock

Safety standard certified products available

N
R

Overview

- Connectors created by evolving NJC Series to the quick lock system.
- Suitable for use in portable equipment and for handling in small spaces.

Feature

RoHS	RoHS Directive compliant
Waterproof	Non
Lock method	Quick lock
Features of mechanism/ material	○ Die cast shell with zinc alloy. ○ Smooth coupling thanks to employment of 5-key system guide. ○ Installation in a small space enabled by use of the L za.
Standards	○ UL・CSA standard certified connectors available. (UL : UL1977 CSA : C22.2 No.182.3) ○ Safety standard certified connectors available. (EN61984 compliant, TÜV certified) Note: The specifications of safety standard certified products are slightly different from those of standard products. For the rated voltage, current and cable conductor cross sectional area, refer to A List of Standards Acquired (pp.127 and 130).
Cable termination	Soldering

Characteristics

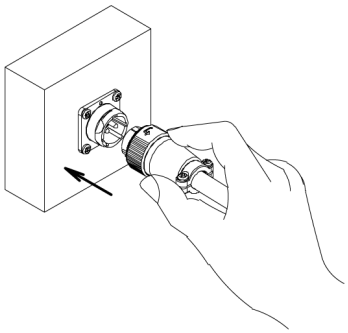
Insulation resistance , Withstand voltage , Contact resistance p.46

The pin contact type has an exposed electrode. If it is used on the [power supply] side, it may cause electric shock or short-circuit accidents. To prevent such accidents, use the socket contact type on the [power supply] side and the pin contact type on the [equipment] side.

Insertion

Align the plug and the guide of the mating connector (receptacle/adapter) and push in straight.

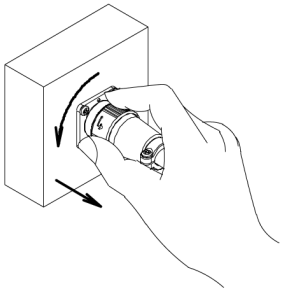
Caution: When inserting, do not turn the coupling nut.



Extraction

With the coupling nut turned CCW 45 degrees in the arrow direction, extract the connector.

Caution: When extracting, do not turn the end bell.



NR Series

Product No. designation

NR - 24 ■ - P M __ __

① ② ③ ④ ⑤ ⑥ ⑦

① Series designation
② Shell size
③ Number of contacts
④ Shell shape
⑤ Contact shape < Pin (male) contact : M , Socket (female) contact : F >
⑥ Guide position change symbol (X , Y , Z) 《 Required only when changing the guide position 》
⑦ Safty standard specification (< UL・CSA > , < TUV >)
《 Required only when safety standard is to be specified. 》For applicable products, see pp. 127 and 130.

《Option》

・When using a plural number of same products at the same time, the guide position can be changed in order to prevent mis-insertion.
(For applicable products, see below.)
Product name example : NR-2010-PFX
Guide position change symbol (X, Y, Z) in the red character part.

Cable termination : Soldering

N
R

Material and Finish

	Material	Finish
Shell	Zinc alloy (Partially aluminum alloy)	Crape chrome plating
Insulator	Synthetic resin	—
Contact	Copper alloy	Silver plating Gold plating

Operating temperature range

Shell size	Number of Contacts	Operating temperature range
20	2 , 3 , 4 , 5	-40℃ to +100℃
24	2 , 3 , 4 , 5	
20	7 , 10 , 12	-25℃ to +85℃
24	10 , 14 , 16	
20	14	-25℃ to +60℃
24	21 , 24	

To change the guide position (Following number of contacts only)

Shell size	Number of Contacts	Guide Position Symbol		
		X	Y	Z
20	7	30°	—	—
	＊ 10	45°	90°	315°
	12		95°	190°
24	＊ 10	45°	90°	315°
	＊ 14			
	＊ 16			

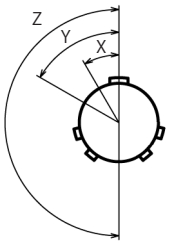
＊ UL・CSA products supported also.

Upper limit of ambient temperature at rated current

TÜV products only

	Number of Contacts			
Shell size	2	3	4	5
20	+80℃	+80℃	+75℃	—
24	+70℃	+70℃	+80℃	+80℃

(**Note**) Max.ambient temp. at rated current
(Based on TÜV certification test results)

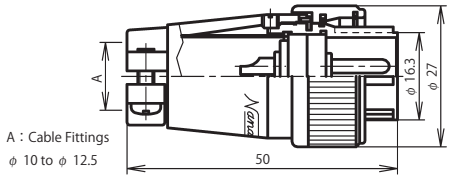


An image of guide position change

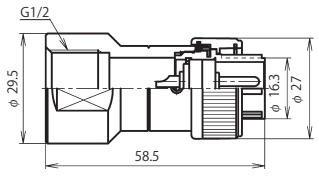
< When viewed from the pin (male) contact side coupling face >

G Type

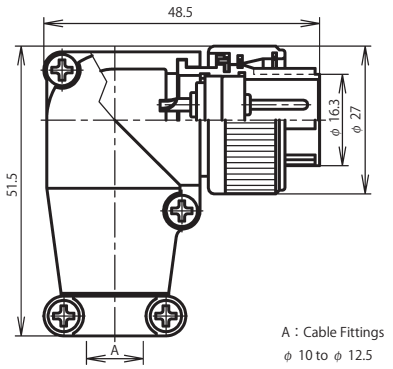
【Power receiving side】< Pin (male) contact used >



NR-20 ■ -PM



NR-20 ■ -GPM1/2 (Note)



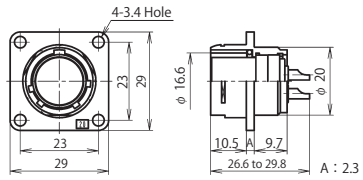
NR-20 ■ -LPM

Plug

Coupled

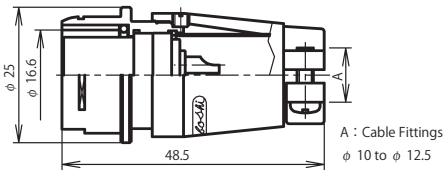
【Power supply side】< Socket (female) contact used >

Receptacle

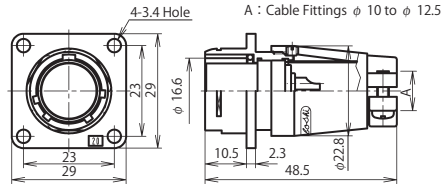


NR-20 ■ -RF

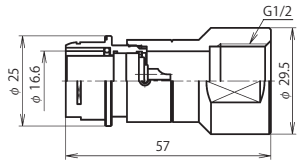
Adapter



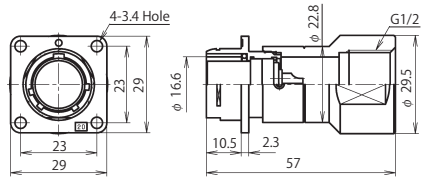
NR-20 ■ -AdF



NR-20 ■ -Ad(F)F

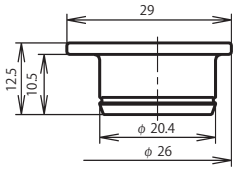


NR-20 ■ -GAdF1/2 (Note)

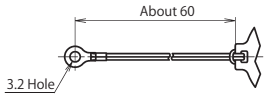


NR-20 ■ -GAd(F)F1/2 (Note)

Accessory

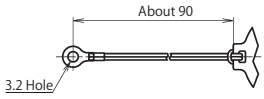


Plug cap : NR-20-PCa・1



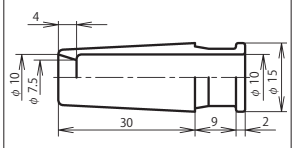
For receptacle

Rope for cap L60



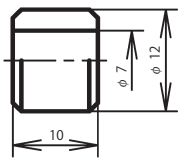
For plug , adapter

Rope for cap L90



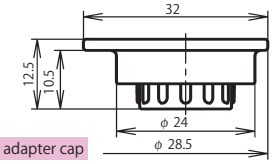
Used commonly for NJC, NR

Cable bushing : NJC-20-CB



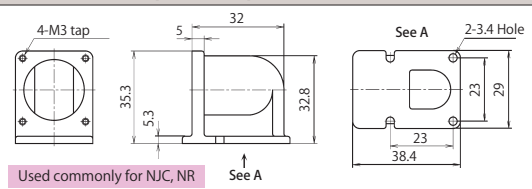
Cable bushing : CBAS-12-7

Accessory



Used also as adapter cap

Receptacle cap : NR-20-RCa・1



Used commonly for NJC, NR

NJC-20-L za

■ indicates the number of contacts.

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on pp.127 and 130.

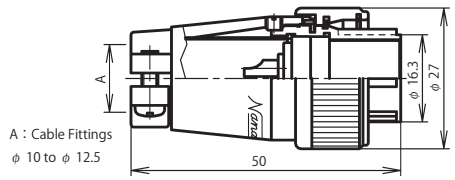
[ ] : Gold plating contact

Shell size	Number of Contacts	2	3	4	5	7	10	12	14
20	Contact arrangement <When viewed from the pin (male) contact coupling side>								
	Safety standard (Note-1)	UL・CSA TÜV	UL・CSA TÜV	UL・CSA TÜV	UL・CSA				—
	Rating (Allowable current for signals)	250V							—
		15A		10A			5A		[3A]
	Withstand voltage (V r.m.s.)	1,500				1,000			500
	Wire size (㎟)	2		1.25			0.5		0.3
	Remarks	—							For signals

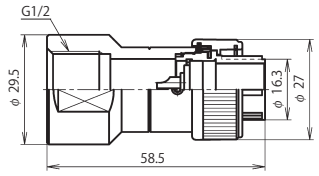
Note-1 : Specified separately. Selection of either "specified as a set of UL and CSA" or "TÜV specified." For safty standards, see pp.127 and 130.

S Type

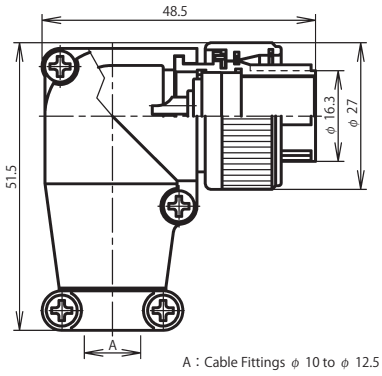
【Power supply side】< Socket (female) contact used >



NR-20 ■ -PF



NR-20 ■ -GPF1/2 (Note)



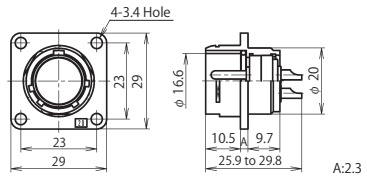
NR-20 ■ -LPF

Plug

Coupled

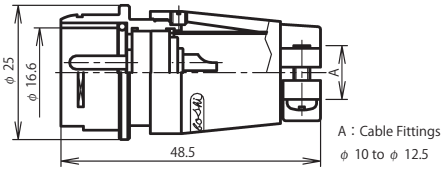
【Power receiving side】< Pin (male) contact used >

Receptacle

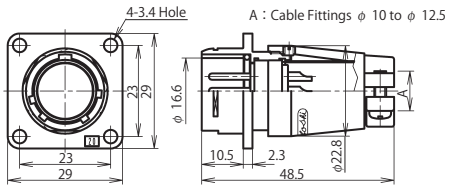


NR-20 ■ -RM

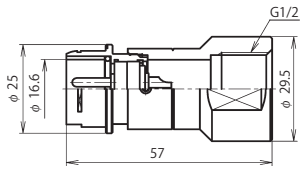
Adapter



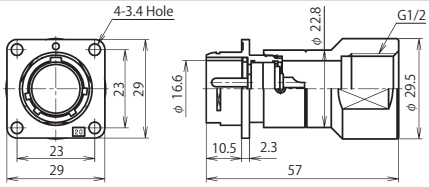
NR-20 ■ -AdM



NR-20 ■ -Ad(F)M

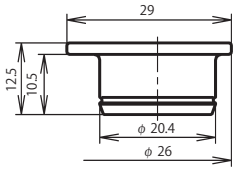


NR-20 ■ -GAdM1/2 (Note)

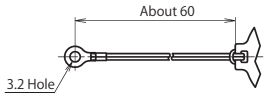


NR-20 ■ -GAd(F)M1/2 (Note)

Accessory

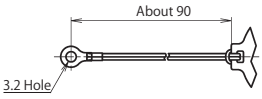


Plug cap : NR-20-PCa・1



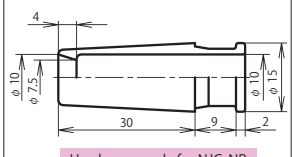
For receptacle

Rope for cap L60



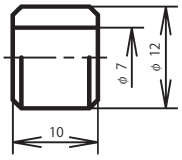
For plug , adapter

Rope for cap L90



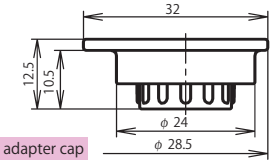
Used commonly for NJC, NR

Cable bushing : NJC-20-CB



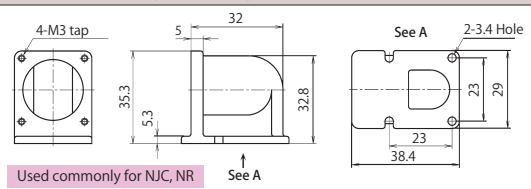
Cable bushing : CBAS-12-7

Accessory



Used also as adapter cap

Receptacle cap : NR-20-RCa・1



NJC-20-L za

■ indicates the number of contacts.

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on pp.127 and 130.

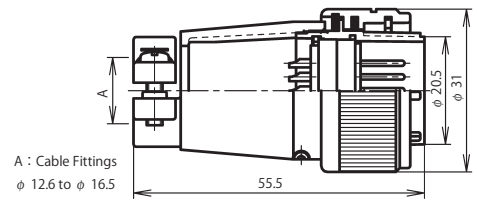
[ ] : Gold plating contact

Shell size	Number of Contacts	2	3	4	5	7	10	12	14
20	Contact arrangement <When viewed from the pin (male) contact coupling side>								
	Safety standard (Note-1)	UL・CSA TÜV	UL・CSA TÜV	UL・CSA TÜV	UL・CSA				—
	Rating	250V							—
	(Allowable current for signals)	15A		10A			5A		[3A]
	Withstand voltage (V r.m.s.)	1,500				1,000			500
	Wire size (㎟)	2		1.25			0.5		0.3
	Remarks	—							For signals

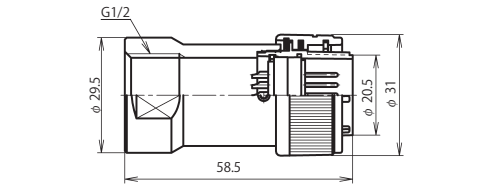
Note-1 : Specified separately. Selection of either "specified as a set of UL and CSA" or "TÜV specified." For safty standards, see pp.127 and 130.

G Type

【Power receiving side】< Pin (male) contact used >

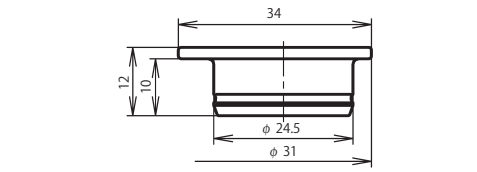


NR-24 ■ -PM □

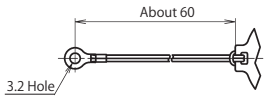


NR-24 ■ -GPM1/2 (Note)

Plug

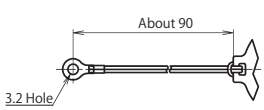


Plug cap : NR-24-PCa・1



For receptacle

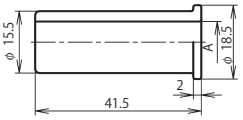
Rope for cap L60



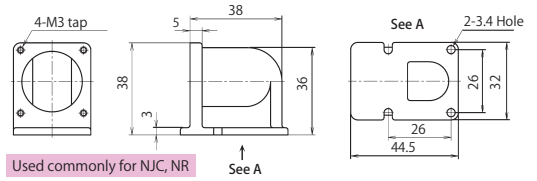
For plug , adapter

Rope for cap L90

designation	A
NR-24-CB9	φ 8.0 to φ 10.0
NR-24-CB11	φ 10.1 to φ 12.5



Cable bushing : NR-24-CB



NJC-24-L za

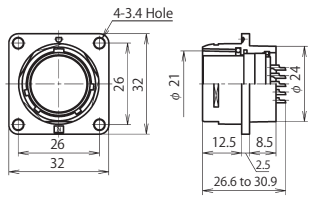
Accessory

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

Coupled

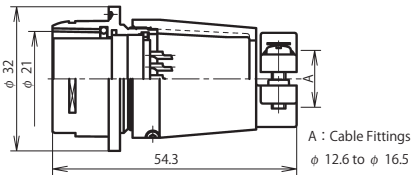
【Power supply side】< Socket (female) contact used >

Receptacle

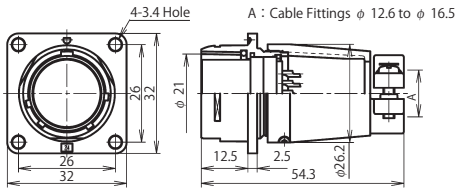


NR-24 ■ -RF

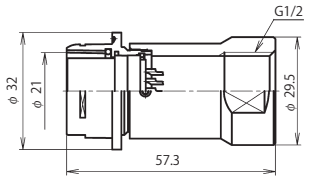
Adapter



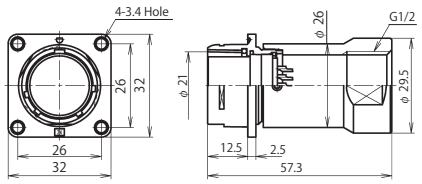
NR-24 ■ -AdF



NR-24 ■ -Ad(F)F

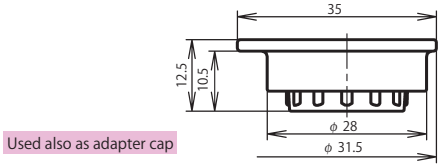


NR-24 ■ -GAdF1/2 (Note)



NR-24 ■ -GAd(F)F1/2 (Note)

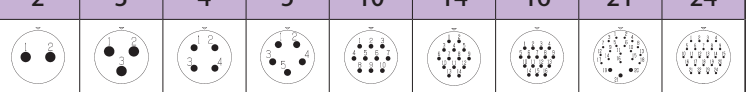
Accessory



Receptacle cap : NR-24-RCa・1

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However,for safety standard certified products, use a cable having a value shown on pp.127 and 130.

[ ] : Gold plating contact

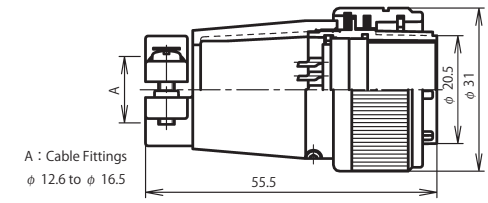
Shell size	Number of Contacts	2	3	4	5	10	14	16	21	24
24	Contact arrangement <When viewed from the pin (male) contact coupling side>									
	Safety standard (Note-1)	UL・CSA TÜV	UL・CSA TÜV	UL・CSA TÜV	UL・CSA TÜV	UL・CSA			—	
	Rating (Allowable current for signals)	250V							—	
		20A		15A		10A	5A		3pcs=6A [18pcs=3A]	[3A]
	Withstand voltage (V r.m.s.)	1,500				1,000			500	
	Wire size (㎟)	3.5		2		1.25	0.5		3pcs=0.75 18pcs=0.3	0.3
	Remarks	—							For signals	

Note-1 : Specified separately. Selection of either "specified as a set of UL and CSA" or "TÜV specified." For safty standards, see pp.127 and 130.

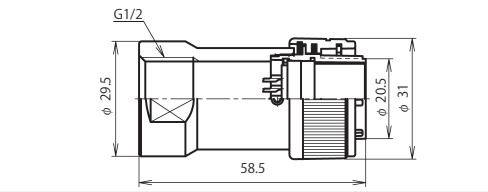
【Power supply side】< Socket (female) contact used >

S Type

【Power receiving side】< Pin (male) contact used >



NR-24 ■ -PF

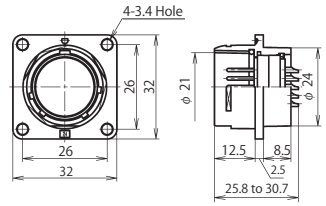


NR-24 ■ -GPF1/2 (Note)

Plug

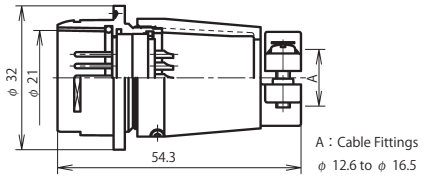
Coupled

Receptacle

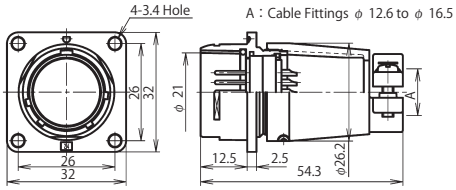


NR-24 ■ -RM

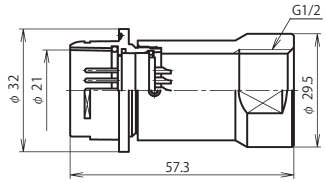
Adapter



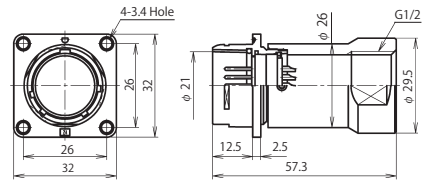
NR-24 ■ -AdM



NR-24 ■ -Ad(F)M

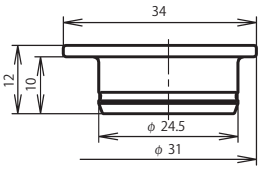


NR-24 ■ -GAdM1/2 (Note)

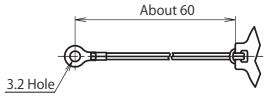


NR-24 ■ -GAd(F)M1/2 (Note)

Accessory

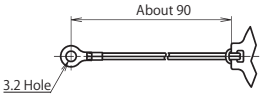


Plug cap : NR-24-PCa・1



For receptacle

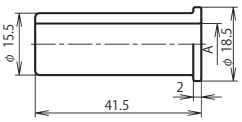
Rope for cap L60



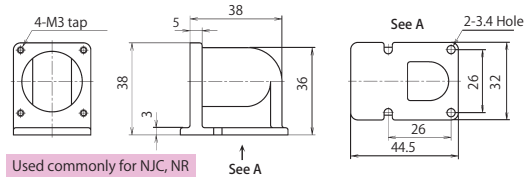
For plug , adapter

Rope for cap L90

designation	A
NR-24-CB9	φ 8.0 to φ 10.0
NR-24-CB11	φ 10.1 to φ 12.5

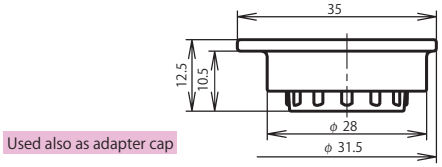


Cable bushing : NR-24-CB



NJC-24-L za

Accessory

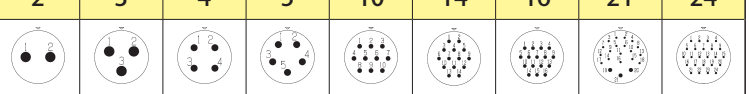


Receptacle cap : NR-24-RCa・1

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on pp.127 and 130.

[ ] : Gold plating contact

Shell size	Number of Contacts	2	3	4	5	10	14	16	21	24
24	Contact arrangement <When viewed from the pin (male) contact coupling side>									
	Safety standard (Note-1)	UL・CSA TÜV	UL・CSA TÜV	UL・CSA TÜV	UL・CSA TÜV	UL・CSA			—	
	Rating (Allowable current for signals)	250V							—	
		20A		15A		10A	5A		3pcs=6A [18pcs=3A]	[3A]
	Withstand voltage (V r.m.s.)	1,500				1,000			500	
	Wire size (㎟)	3.5		2		1.25	0.5		3pcs=0.75 18pcs=0.3	0.3
	Remarks	—							For signals	

Note-1 : Specified separately. Selection of either "specified as a set of UL and CSA" or "TÜV specified." For safty standards, see pp.127 and 130.

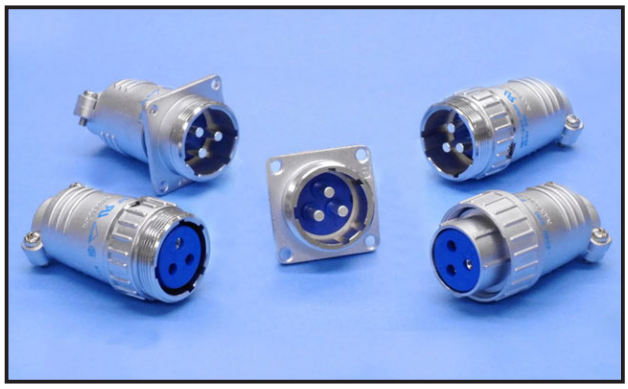
Number of contacts

Shell size	Contact	Insulation resistance (M Ω)			Contact resistance (m Ω)			Withstand voltage (V r.m.s.)		
		Normal products	Safety standard		Normal products	Safety standard		Normal products	Safety standard	
			UL・CSA	TÜV		UL・CSA	TÜV		UL・CSA	TÜV
20	2	DC 500V 2,000 min.			3 max.			1,500		
	3									
	4									
	5	DC 500V 2,000 min.		—	3 max.		—	1,500		—
	7							1,000		
	10	DC 500V 1,000 min.			5 max.					
	12									
	14	DC 250V 1,000 min.	—		5 max.	—		500	—	
24	2	DC 500V 5,000 min.		DC 500V 2,000 min.	3 max.			1,500		
	3									
	4									
	5									
	10	DC 500V 2,000 min.		—	3 max.		—	1,000		—
	14	DC 500V 1,000 min.			5 max.					
	16									
	21	DC 250V 1,000 min.	—		5 max.	—		500	—	
	24									

NR

MEMO

NET Series



Non-waterproof

RoHS

Safety standard certified products available

NET

Overview

- Power connectors compliant with safety standards and also certified by UL・CSA standards.
- Used in a wide variety of FA equipment and semiconductor equipment.

Feature

RoHS	RoHS Directive compliant
Waterproof	Non
Lock method	Thread lock
Features of mechanism/ material	○ Protection circuit structure：Ground contact of sequence structure (prioritized contact) that connects with metal shells. ○ Installation in a small space enabled by use of the L za.
Standards	○ Safety standard certified connectors available. (EN61984 compliant , TÜV certified) ○ UL・CSA standard certified connectors available.（UL : UL1977　CSA : C22.2 No.182.3 ）
Cable termination	Soldering

Characteristics

Number of contacts

Shell size	Contact	Insulation resistance (M Ω)	Contact resistance (m Ω)	Withstand voltage (V r.m.s.)
20	3	DC 500V　2,000 min.	3 max.	1,500
24	3 4	DC 500V　2,000 min.	3 max.	1,500
28	4 8	DC 500V　2,000 min.	3 max.	1,500
32	3 4	DC 500V　2,000 min.	3 max.	2,000

The pin contact type has an exposed electrode. If it is used on the [power supply] side, it may cause electric shock or short-circuit accidents. To prevent such accidents, use the socket contact type on the [power supply] side and the pin contact type on the [equipment] side.

NET Series

Product No. designation

NET - 24 ■ - P M

① ② ③ ④ ⑤

① Series designation
② Shell size
③ Number of contacts
④ Shell shape
⑤ Contact shape < Pin (male) contact : M , Socket (female) contact : F >

All connectors are UL・CSA , TÜV certified. Not necessary to specify a standard by a product name. For safety standards, see pp.127 and 130.

Cable termination : Soldering

Material and Finish

	Material	Finish
Shell	Shell size 20 , 24 : Zinc alloy Shell size 28 , 32 : Aluminum alloy	Crape chrome plating
Insulator	Synthetic resin	—
Contact	Copper alloy	Silver plating

Operating temperature range

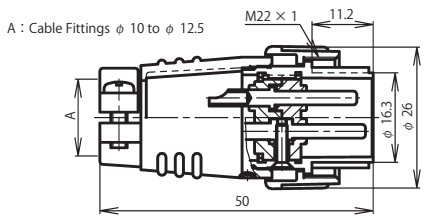
Shell size	Number of Contacts	Operating temperature range	Upper limit of ambient temperature at rated current (Note)
20	3	-25℃ to +85℃	+80℃
24	3	-40℃ to +100℃	+70℃
	4		+80℃
28	4		+70℃
	8		+93℃
32	3		+70℃
	4		

(**Note**) Max.ambient temp. at rated current
(Based on TÜV certification test results)

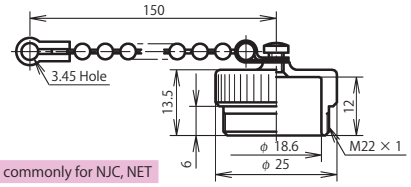
NET

G Type

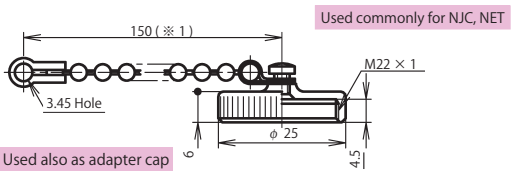
【Power receiving side】< Pin (male) contact used >



NET-20 ■ -PM

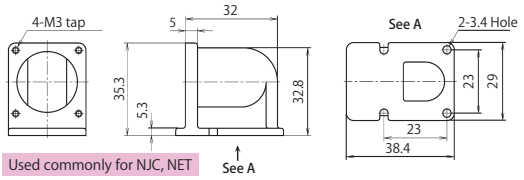


Plug cap : NJC-20-PCa



(※ 1) Length 70 mm also available. (Example : NJC-20-RCa L70)

Receptacle cap : NJC-20-RCa



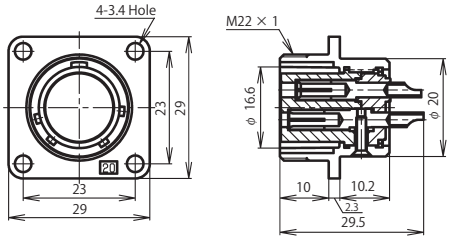
NJC-20-L za

Plug | Accessory

Coupled

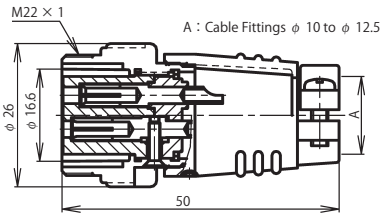
【Power supply side】< Socket (female) contact used >

Receptacle

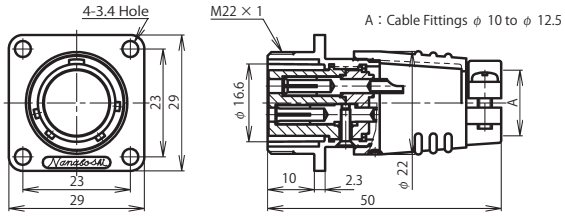


NET-20 ■ -RF

Adapter

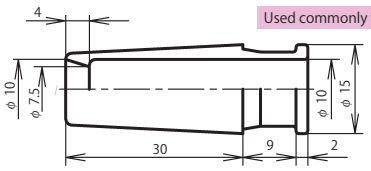


NET-20 ■ -AdF

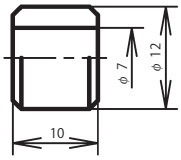


NET-20 ■ -Ad(F)F

Accessory

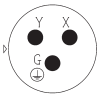


Cable bushing : NJC-20-CB



Cable bushing : CBAS-12-7

■ indicates the number of contacts.

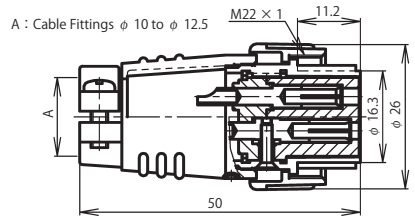
Shell size	Number of Contacts	3
20	Contact arrangement <When viewed from the pin (male) contact coupling side>	
	Safety standard (Note-1)	UL・CSA , TÜV
	Rating	250V
		15A
	Withstand voltage (V r.m.s.)	1,500
	Wire size AWG	#14

The cable to use should have a conductor cross sectional area shown in the left-side table.

Note-1 : All connectors are UL・CSA , TÜV certified. Not necessary to specify a standard by a product name. For safety standards, see pp.127 and 130.

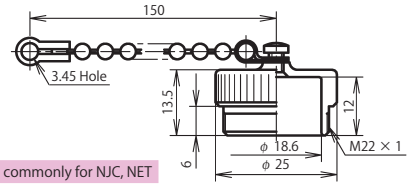
S Type

【Power supply side】< Socket (female) contact used >



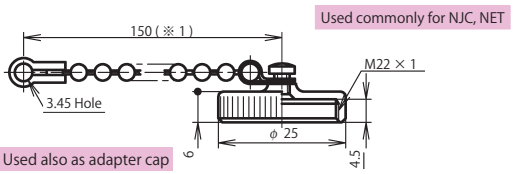
NET-20 ■ -PF

Plug



Used commonly for NJC, NET

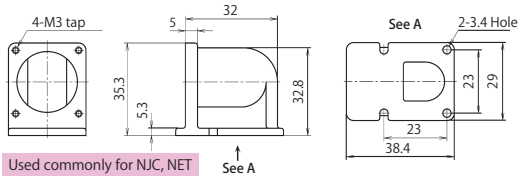
Plug cap : NJC-20-PCa



Used also as adapter cap

(※ 1) Length 70 mm also available. (Example : NJC-20-RCa L70)

Receptacle cap : NJC-20-RCa



Used commonly for NJC, NET

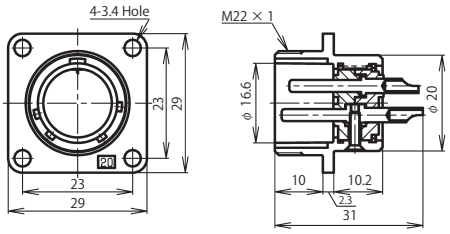
NJC-20-L za

Accessory

Coupled

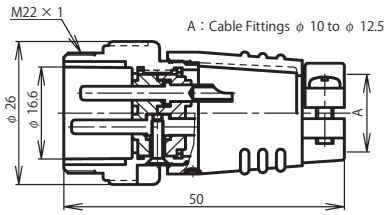
【Power receiving side】< Pin (male) contact used >

Receptacle

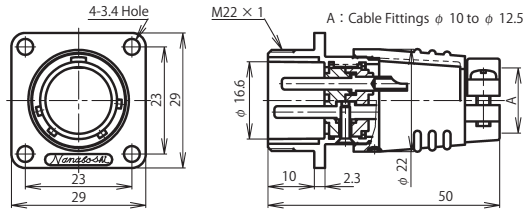


NET-20 ■ -RM

Adapter

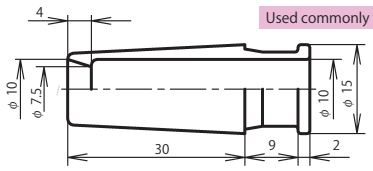


NET-20 ■ -AdM

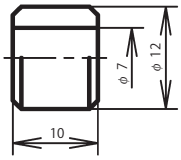


NET-20 ■ -Ad(F)M

Accessory

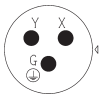


Cable bushing : NJC-20-CB



Cable bushing : CBAS-12-7

■ indicates the number of contacts.

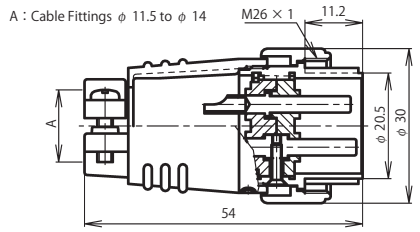
Shell size	Number of Contacts	3
20	Contact arrangement <When viewed from the pin (male) contact coupling side>	
	Safety standard (Note-1)	UL・CSA , TÜV
	Rating	250V
		15A
	Withstand voltage (V r.m.s.)	1,500
	Wire size AWG	#14

The cable to use should have a conductor cross sectional area shown in the left-side table.

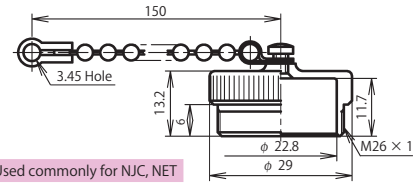
Note-1 : All connectors are UL・CSA , TÜV certified. Not necessary to specify a standard by a product name. For safety standards, see pp.127 and 130.

G Type

【Power receiving side】< Pin (male) contact used >

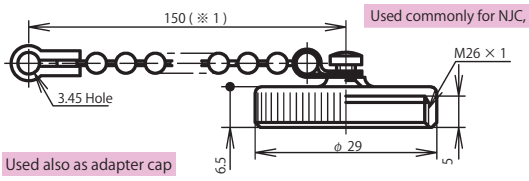


NET-24 ■ -PM



Used commonly for NJC, NET

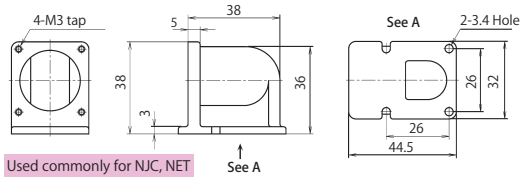
Plug cap : NJC-24-PCa



Used also as adapter cap

(※ 1) Length 50,70 mm also available. (Example : NJC-24-RCa L70)

Receptacle cap : NJC-24-RCa



Used commonly for NJC, NET

NJC-24-L za

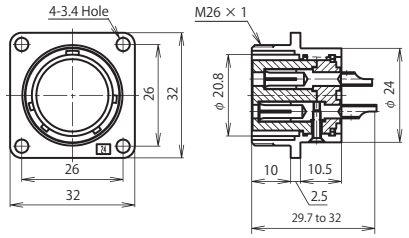
Plug

Accessory

Coupled

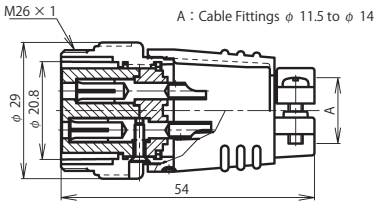
【Power supply side】< Socket (female) contact used >

Receptacle

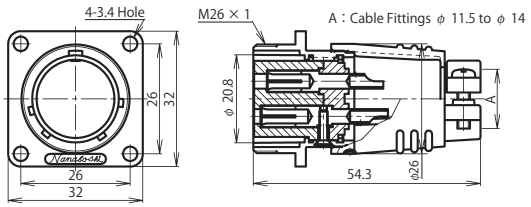


NET-24 ■ -RF

Adapter

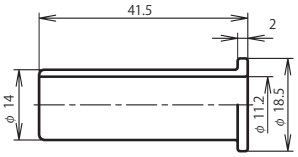


NET-24 ■ -AdF



NET-24 ■ -Ad(F)F

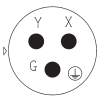
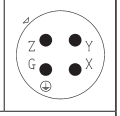
Accessory



Used commonly for NJC, NET

Cable bushing : NJC-24-CB

■ indicates the number of contacts.

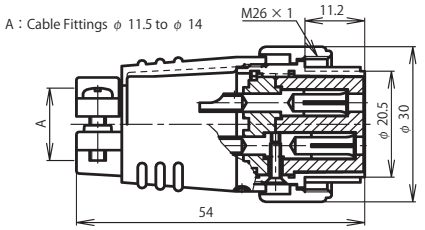
Shell size	Number of Contacts	3	4
24	Contact arrangement <When viewed from the pin (male) contact coupling side>		
	Safety standard (Note-1)	UL・CSA , TÜV	
	Rating	250V	
		20A	15A
	Withstand voltage (V r.m.s.)	1,500	
	Wire size AWG	#12	#14

The cable to use should have a conductor cross sectional area shown in the left-side table.

Note-1 : All connectors are UL・CSA , TÜV certified. Not necessary to specify a standard by a product name. For safety standards, see pp.127 and 130.

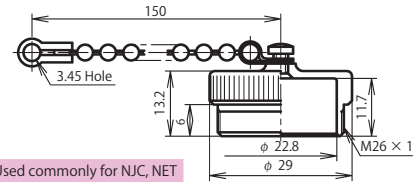
S Type

【Power supply side】< Socket (female) contact used >



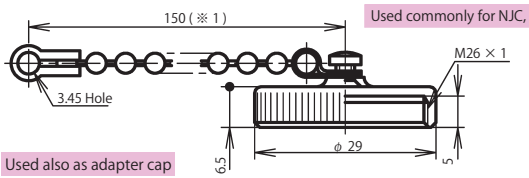
NET-24 ■ -PF

Plug



Used commonly for NJC, NET

Plug cap : NJC-24-PCa

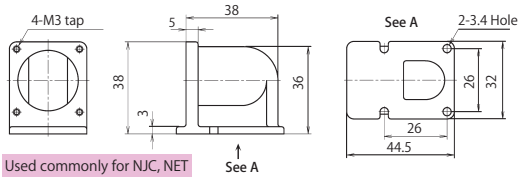


Used commonly for NJC, NET

Used also as adapter cap

(※ 1) Length 50,70 mm also available. (Example : NJC-24-RCa L70)

Receptacle cap : NJC-24-RCa



Used commonly for NJC, NET

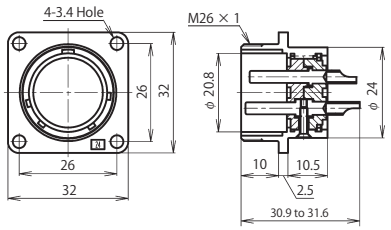
NJC-24-L za

Accessory

Coupled

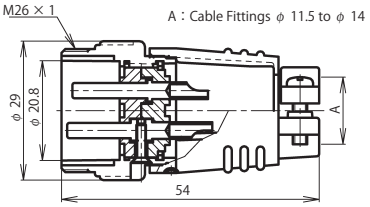
【Power receiving side】< Pin (male) contact used >

Receptacle

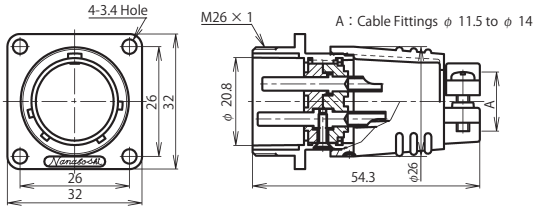


NET-24 ■ -RM

Adapter

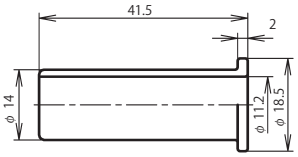


NET-24 ■ -AdM



NET-24 ■ -Ad(F)M

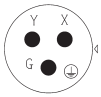
Accessory



Used commonly for NJC, NET

Cable bushing : NJC-24-CB

■ indicates the number of contacts.

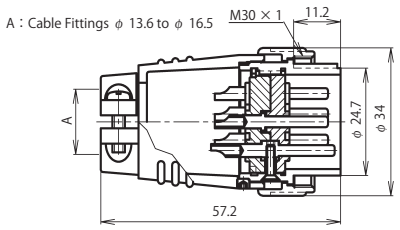
Shell size	Number of Contacts	3	4
24	Contact arrangement <When viewed from the pin (male) contact coupling side>		
	Safety standard (Note-1)	UL・CSA , TÜV	
	Rating	250V	
		20A	15A
	Withstand voltage (V r.m.s.)	1,500	
	Wire size AWG	#12	#14

The cable to use should have a conductor cross sectional area shown in the left-side table.

Note-1 : All connectors are UL・CSA , TÜV certified. Not necessary to specify a standard by a product name. For safety standards, see pp.127 and 130.

G Type

【Power receiving side】< Pin (male) contact used >



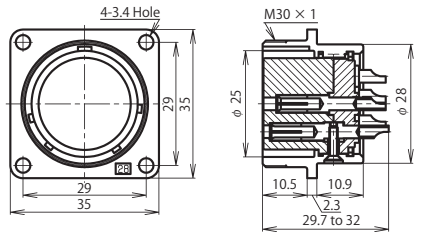
NET-28 ■ -PM

Plug

Coupled

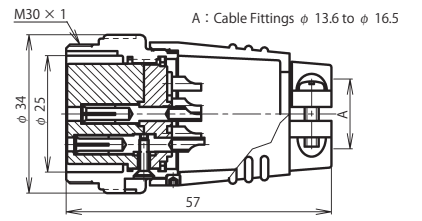
【Power supply side】< Socket (female) contact used >

Receptacle

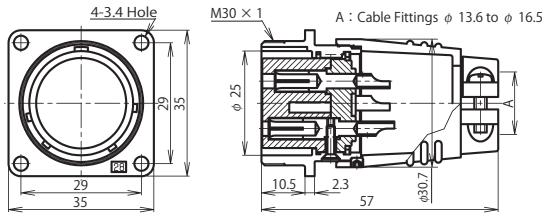


NET-28 ■ -RF

Adapter

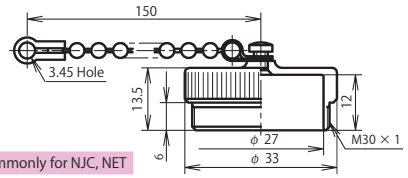


NET-28 ■ -AdF

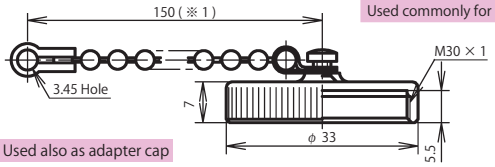


NET-28 ■ -Ad(F)F

Accessory

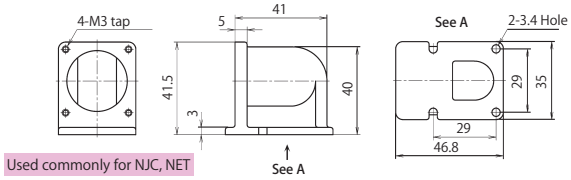


Plug cap : NJC-28-PCa



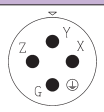
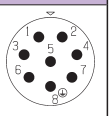
(※ 1) Length 70 mm also available. (Example : NJC-28-RCa L70)

Receptacle cap : NJC-28-RCa



NJC-28-L za

■ indicates the number of contacts.

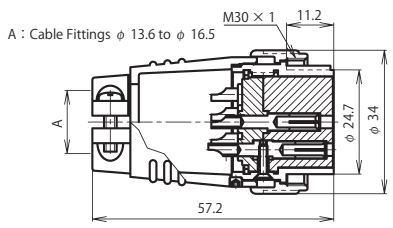
Shell size	Number of Contacts	4	8
28	Contact arrangement <When viewed from the pin (male) contact coupling side>		
	Safety standard (Note-1)	UL・CSA , TÜV	
	Rating	250V	
		20A	15A
	Withstand voltage (V r.m.s.)	1,500	
	Wire size AWG	#12	#14

The cable to use should have a conductor cross sectional area shown in the left-side table.

Note-1 : All connectors are UL・CSA , TÜV certified. Not necessary to specify a standard by a product name. For safety standards, see pp.127 and 130.

S Type

【Power supply side】< Socket (female) contact used >



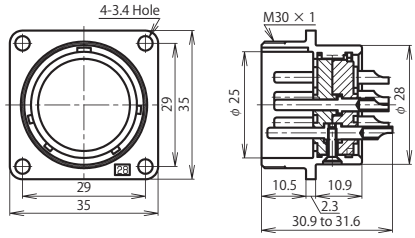
NET-28 ■ -PF

Plug

Coupled

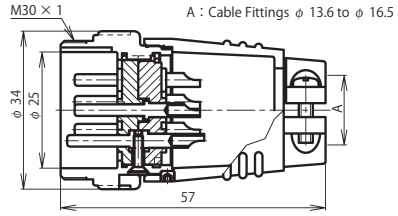
【Power receiving side】< Pin (male) contact used >

Receptacle

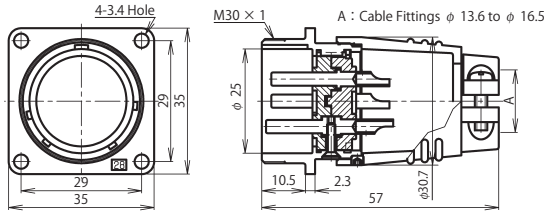


NET-28 ■ -RM

Adapter

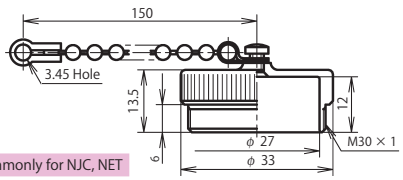


NET-28 ■ -AdM



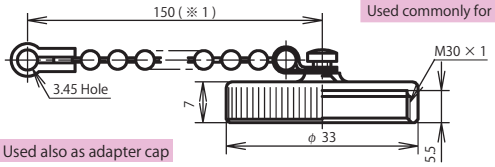
NET-28 ■ -Ad(F)M

Accessory



Used commonly for NJC, NET

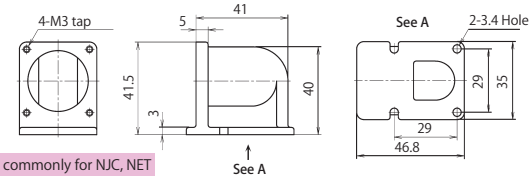
Plug cap : NJC-28-PCa



Used also as adapter cap

(※ 1) Length 70 mm also available. (Example : NJC-28-RCa L70)

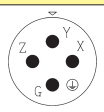
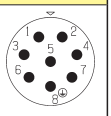
Receptacle cap : NJC-28-RCa



Used commonly for NJC, NET

NJC-28-L za

■ indicates the number of contacts.

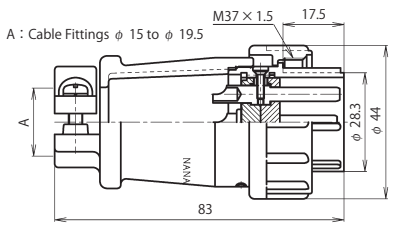
Shell size	Number of Contacts	4	8
28	Contact arrangement <When viewed from the pin (male) contact coupling side>		
	Safety standard (Note-1)	UL・CSA , TÜV	
	Rating	250V	
		20A	15A
	Withstand voltage (V r.m.s.)	1,500	
	Wire size AWG	#12	#14

The cable to use should have a conductor cross sectional area shown in the left-side table.

Note-1 : All connectors are UL・CSA , TÜV certified. Not necessary to specify a standard by a product name. For safety standards, see pp.127 and 130.

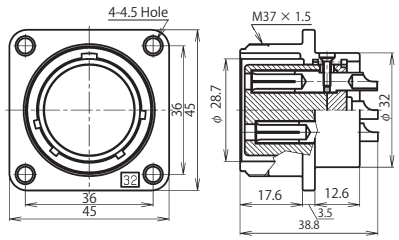
G Type

【Power receiving side】< Pin (male) contact used >

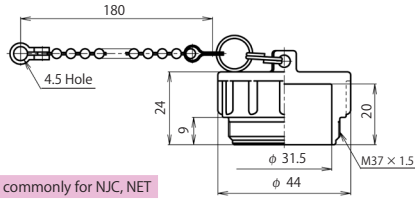


NET-32 ■ -PM

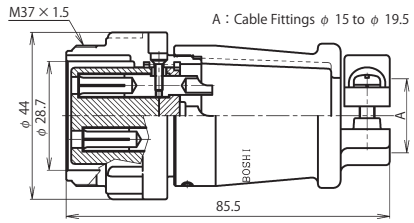
【Power supply side】< Socket (female) contact used >



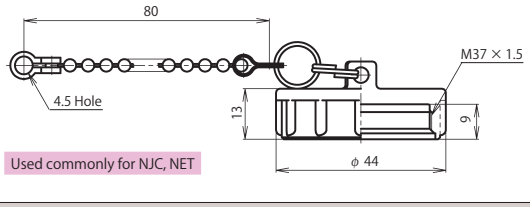
NET-32 ■ -RF



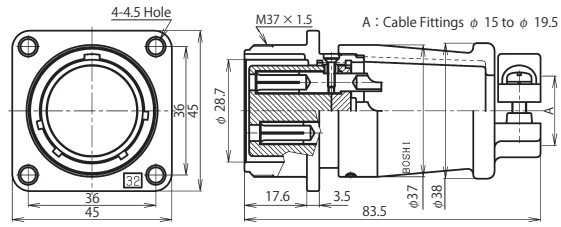
Plug cap : NJC-32-PCa



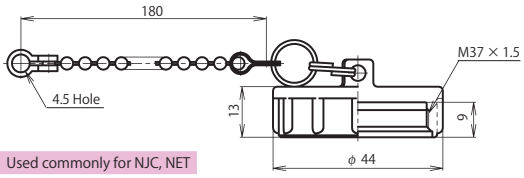
NET-32 ■ -AdF



Receptacle cap : NJC-32-RCa



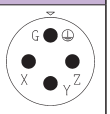
NET-32 ■ -Ad(F)F



Adapter cap : NJC-32-AdCa

Plug | Coupled | Receptacle | Adapter | Accessory

■ indicates the number of contacts.

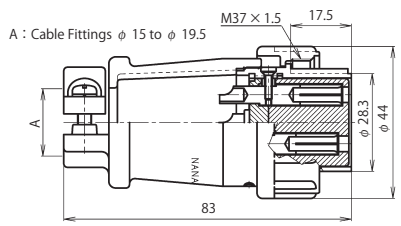
Shell size	Number of Contacts	3	4
32	Contact arrangement <When viewed from the pin (male) contact coupling side>		
	Safety standard (Note-1)	UL・CSA , TÜV	
	Rating	250V	
		30A	
	Withstand voltage (V r.m.s.)	2,000	
	Wire size AWG	#10	

The cable to use should have a conductor cross sectional area shown in the left-side table.

Note-1 : All connectors are UL・CSA , TÜV certified. Not necessary to specify a standard by a product name. For safety standards, see pp.127 and 130.

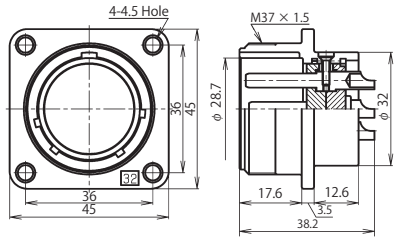
S Type

【Power supply side】< Socket (female) contact used >

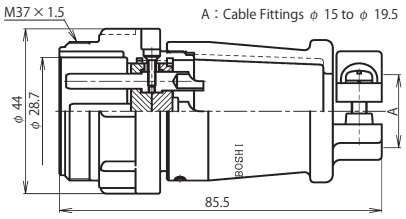


NET-32 ■ -PF

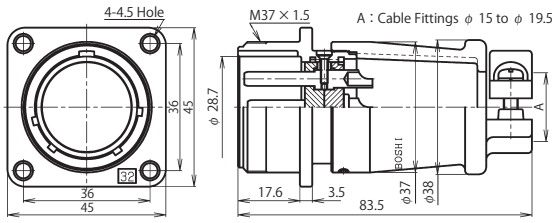
【Power receiving side】< Pin (male) contact used >



NET-32 ■ -RM



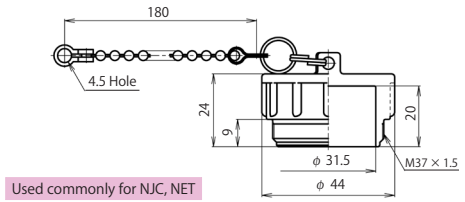
NET-32 ■ -AdM



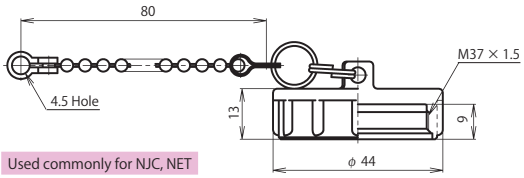
NET-32 ■ -Ad(F)M

Plug — Coupled — Receptacle / Adapter

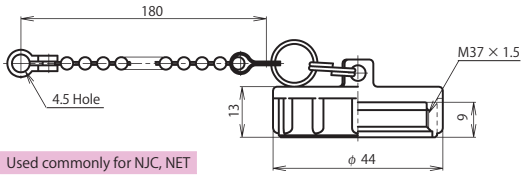
Accessory



Plug cap : NJC-32-PCa

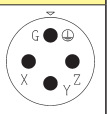


Receptacle cap : NJC-32-RCa



Adapter cap : NJC-32-AdCa

■ indicates the number of contacts.

Shell size	Number of Contacts	3	4
32	Contact arrangement <When viewed from the pin (male) contact coupling side>		
	Safety standard (Note-1)	UL・CSA , TÜV	
	Rating	250V	
		30A	
	Withstand voltage (V r.m.s.)	2,000	
	Wire size AWG	#10	

The cable to use should have a conductor cross sectional area shown in the left-side table.

Note-1 : All connectors are UL・CSA , TÜV certified. Not necessary to specify a standard by a product name. For safety standards, see pp.127 and 130.

NWPC Series

Waterproof equivalent to IP-X6

Safety standard certified products available

RoHS

Overview

- Waterproof connectors based on NCS Series.
- Shell treated by brass + chrome plating.
- Robust and highly resistant to salt damage to make these connectors suitable for a wide variety of fields including civil engineering and construction machines , emergency power supply systems and ships.

Feature

RoHS	RoHS Directive compliant
Waterproof	Waterproof connector 【Waterproof function equivalent to IP-X6 when coupled】
Lock method	Thread lock
Features of mechanism/ material	○ Shell of brass treated by chrome plating to offer superior corrosion resistance. ○ Cable draw-out part provided with cable clamp to ensure firm cable holding (Size 14 excluded).
Standards	○ < CSA NRTL/C > standard certified connectors available. (CSA : C22.2 No.182.3 UL : 1977) Note: The specifications of safety standard certified products are slightly different from those of standard products. For the rated voltage, current and cable conductor cross sectional area, refer to A List of Standards Acquired (p.129).
Cable termination	Soldering

Characteristics

Insulation resistance , Withstand voltage , Contact resistance , Waterproof p.60

The pin contact type has an exposed electrode. If it is used on the [power supply] side, it may cause electric shock or short-circuit accidents. To prevent such accidents, use the socket contact type on the [power supply] side and the pin contact type on the [equipment] side.

【When inserting or extracting the connector, do not turn the connector body.】

NWPC Series

Product No. designation

NWPC - 25 ■ - P M □ __ __

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

① Series designation
② Shell size
③ Number of contacts
④ Shell shape
⑤ Contact shape < Pin (male) contact : M , Socket (female) contact : F >
The S Type of NWPC Series in all shapes of PF, RM, AdM, etc. is indicated simply by P, R, Ad, etc. with the contact shape symbol omitted.
⑥ Symbol indicating cable packing size. 《 Plug & adapter require symbol to be specified. 》
⑦ Additional symbol (-CH) 《 Required only for Shell size 16 》
⑧ Safety standard specification (< CSA NRTL/C >)
《 Required only when safety standard is to be specified. 》 For applicable products, see p.129.

Cable termination : Soldering

Material and Finish

	Material	Finish
Shell	Brass	Chrome plating Partially Tin-cobalt plating (Shell size 16 only)
Insulator	Synthetic resin	—
Contact	Copper alloy	Shell size 14 , 16 , 25 , 30 : Nickel plating Shell size 40 , 44 , 50 , 54 , 60 , 64 : Silver plating Shell size 30 (Number of contacts 7H , 13) : Gold plating
Packing	Synthetic rubber	—

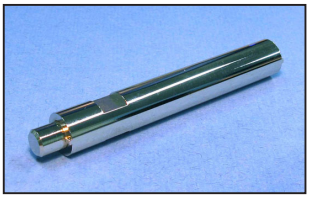
Operating temperature range

-40℃ to +85℃

Exclusive tools (optional) : Contact wrench, soldering iron tip set

The contacts of rated current 80 A or over are constructed for removal from the insulator.
For soldering, remove the contact with a contact wrench.

《 Types of contact wrenches 》



80A Contact Wrench

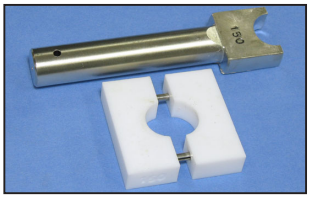
Used for:
NCS・NWPC-502 / 542
NCS・NWPC-503 / 543
NCS・NWPC-604 / 644

150A Contact Wrench

Used for:
NCS・NWPC-602 / 642
NCS・NWPC-603 / 643

【 80A Contact Wrench、150A Contact Wrench 】
One tool is usable for installation and removal of a male and female contact.

《 Soldering iron tip set 》



Usable soldering iron 200 W
Iron tip inserting diameter φ16 mm or over
Iron tip temperature setting 420℃ to 450℃

Set name ＊ A set of iron tip and heat insulator.

For 80A contact → SS80-KB
For 150A contact → SS150-KB

They are also available individually.

For 80A contact
【 Iron tip → SS80-K 】 【 Heat insulator → SS80-B 】
For 150A contact
【 Iron tip → SS150-K 】 【 Heat insulator → SS150-B 】

NWPC Series Characteristics

Number of contacts

Shell size	Contact	Insulation resistance (MΩ) S Type	Insulation resistance (MΩ) G Type	contact resistance (mΩ) S Type	contact resistance (mΩ) G Type	Withstand voltage (V r.m.s.) S Type	Withstand voltage (V r.m.s.) G Type
14	1	DC 500V 2,000 min.	—	3 max.	—	1,000	—
	2						
16	1	DC 500V 2,000 min.	—	3 max.	—	1,000	—
	2		DC 500V 2,000 min.		3 max.		1,000
	3						
	4		—		—		—
25	2	DC 1,000V 2,000 min.	DC 1,000V 2,000 min.	3 max.	3 max.	2,000	2,000
	3						
	4						
	5					1,800	1,800
	6						
	7						
	8		—		—		—
30	2	DC 1,000V 2,000 min.	DC 1,000V 2,000 min.	3 max.	3 max.	2,000	2,000
	3						
	4						
	5					1,800	1,800
	6						
	7		—		—		—
	8		DC 1,000V 2,000 min.		3 max.		1,800
	7H	DC 500V 2,000 min.	—		—	1,500	—
	13						
40 (S Type) 44 (G Type)	2	DC 1,000V 2,000 min.	DC 1,000V 2,000 min.	3 max.	3 max.	2,500	2,500
	3						
	4						
	5					2,000	2,000
	6						
	8						
	10					1,800	1,800
	12						
	16						
	20						

Number of contacts

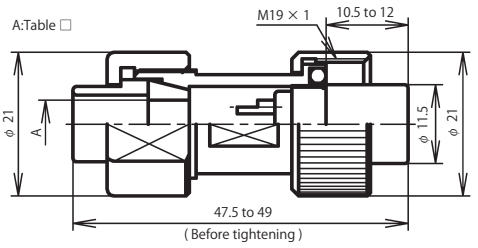
Shell size	Contact	Insulation resistance (MΩ) S Type	Insulation resistance (MΩ) G Type	contact resistance (mΩ) S Type	contact resistance (mΩ) G Type	Withstand voltage (V r.m.s.) S Type	Withstand voltage (V r.m.s.) G Type
50 (S Type) 54 (G Type)	2	DC 1,000V 5,000 min.	DC 1,000V 5,000 min.	1 max.	1 max.	3,000	3,000
	3						
	4	DC 1,000V 2,000 min.	DC 1,000V 2,000 min.	3 max.	3 max.	2,500	2,500
	8					2,000	2,000
	10						
	15						
	25					1,800	1,800
60	2	DC 1,000V 5,000 min.	—	1 max.	—	3,000	—
	3						
	4						
	10	DC 1,000V 2,000 min.	DC 1,000V 2,000 min.	3 max.	3 max.	2,500	2,000
	15						
	30					1,800	1,500
	32						
	40		—		—		—
64	2	—	DC 1,000V 5,000 min.	—	1 max.	—	3,000
	3						
	4						

includes safety standard compliant products.

(Waterproof) No trace of water exposure after being submerged 5 cm below water for 24 hours in the coupled state in its normal state of use.

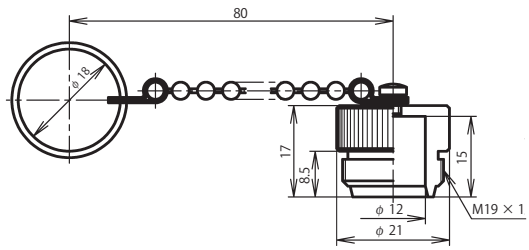
S Type

【Power supply side】< Socket (female) contact used >

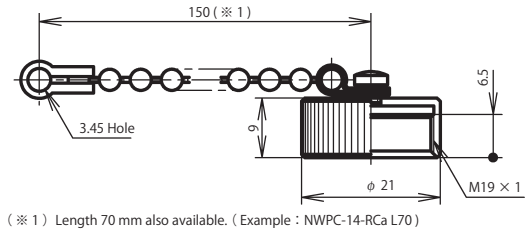


NWPC-14 ■ -P □

Plug

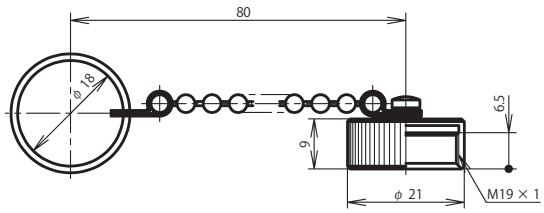


Plug cap：NWPC-14-PCa



(※ 1) Length 70 mm also available. (Example：NWPC-14-RCa L70)

Receptacle cap：NWPC-14-RCa



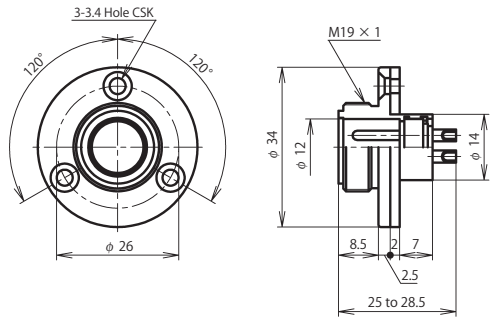
Adapter cap：NWPC-14-AdCa

Accessory

Coupled

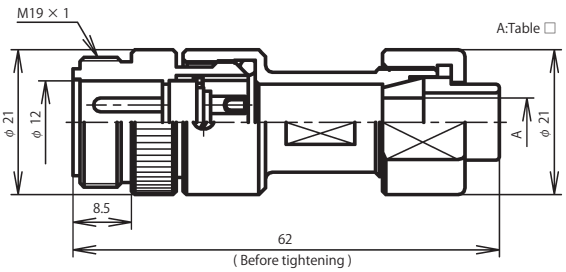
【Power receiving side】< Pin (male) contact used >

Receptacle



NWPC-14 ■ -R

Adapter



NWPC-14 ■ -Ad □

For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used
14	5	φ 5.0 to φ 5.9
	6	φ 6.0 to φ 6.9
	7	φ 7.0 to φ 8.0

■ indicates the number of contacts. The conductor cross sectional area is less than the following value.

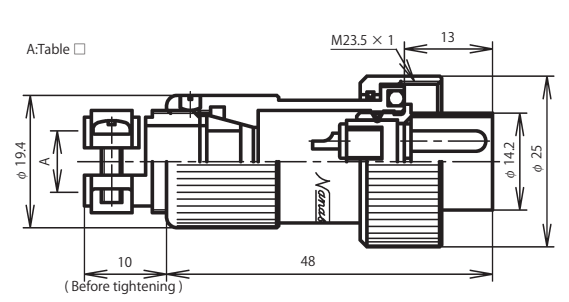
Shell size	Number of Contacts	1	2
14	Contact arrangement <When viewed from the pin (male) contact coupling side>	●	1 2
	Safety standard	—	
	Rating	125V 5A	
	Limit operating voltage (Note-1)	200V	
	Withstand voltage (V r.m.s.)	1,000	
	Wire size (㎟)	0.75	

Note-1 : For the limit operating voltage, see p.131.

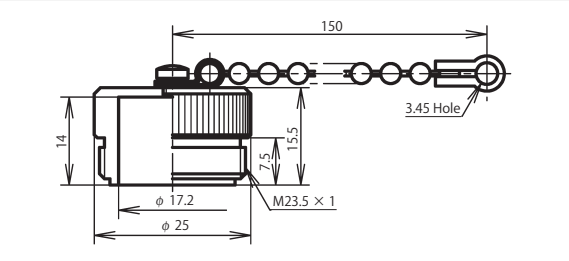
NWPC Series Shell Size 16

G Type

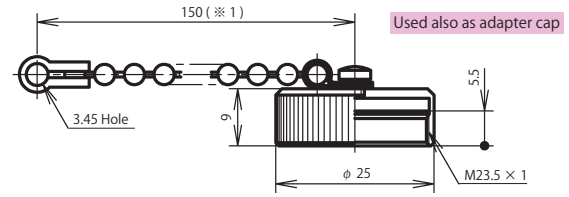
【Power receiving side】< Pin (male) contact used >



NWPC-16 ■ -PM □ -CH



Plug cap：NWPC-16-PCa

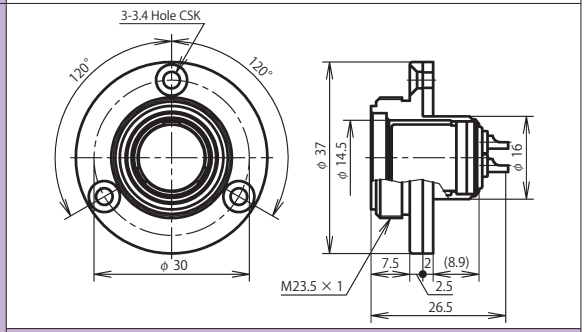


(※ 1) Length 70 mm also available. (Example：NWPC-16-RCa L70)

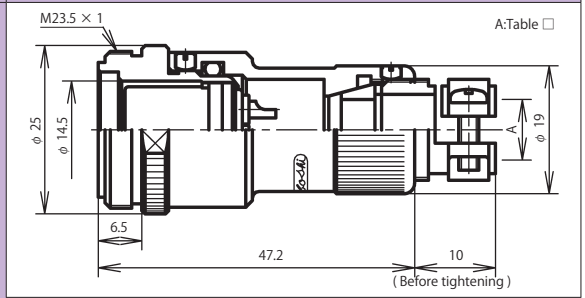
Receptacle cap：NWPC-16-RCa

Plug / Accessory — Coupled → Receptacle / Adapter

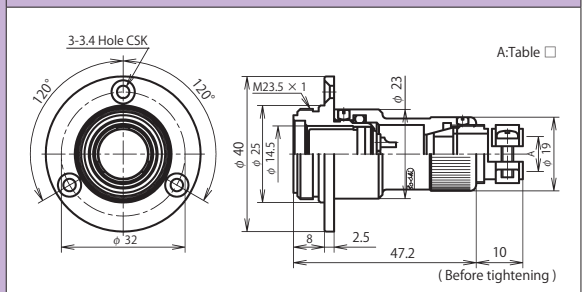
【Power supply side】< Socket (female) contact used >



NWPC-16 ■ -RF-CH



NWPC-16 ■ -AdF □ -CH



NWPC-16 ■ -AdF(F) □ -CH

"-CH" is an additional symbol of renewed products. They are interchangeable with products before renewal.

For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used
16	5	φ 4.5 to φ 6.0
	7	φ 6.1 to φ 8.0
	9	φ 8.1 to φ 10.0

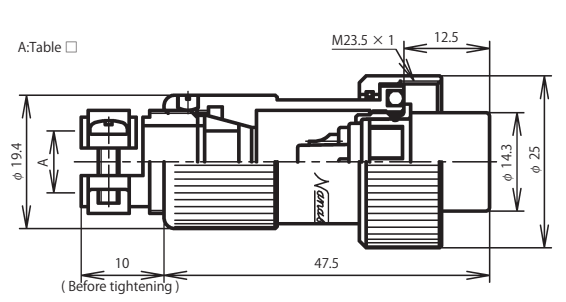
■ indicates the number of contacts. The conductor cross sectional area is less than the following value.

Shell size	Number of Contacts	2	3
16	Contact arrangement <When viewed from the pin (male) contact coupling side>		
	Rating	125V 5A	
	Limit operating voltage (Note-1)	200V	
	Withstand voltage (V r.m.s.)	1,000	
	Wire size (㎟)	0.75	

Note-1 : For the limit operating voltage, see p.131.

S Type

【Power supply side】< Socket (female) contact used >

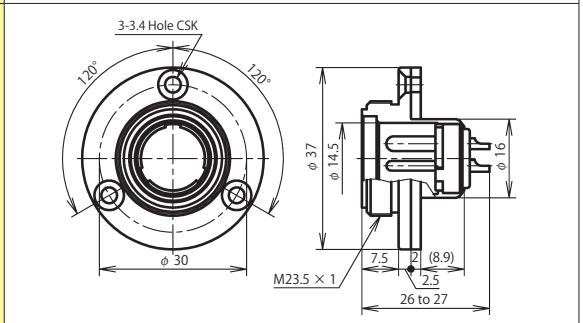


NWPC-16 ■ -P □ -CH

Plug

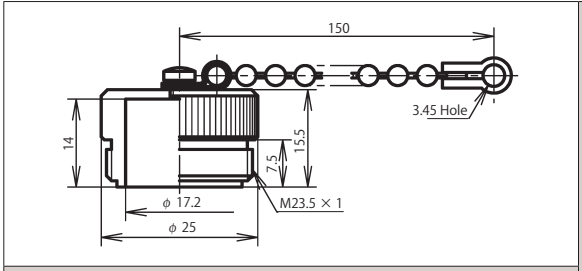
Coupled

【Power receiving side】< Pin (male) contact used >

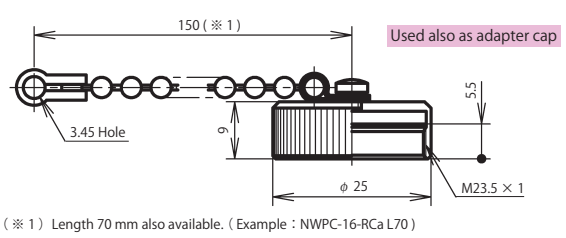


NWPC-16 ■ -R-CH

Receptacle

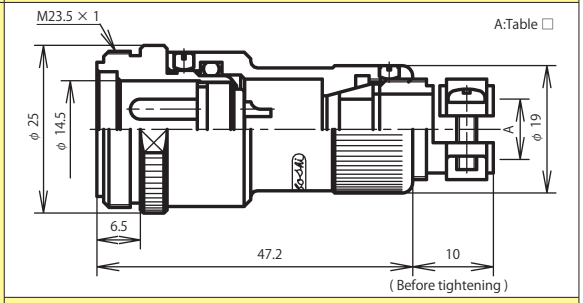


Plug cap：NWPC-16-PCa

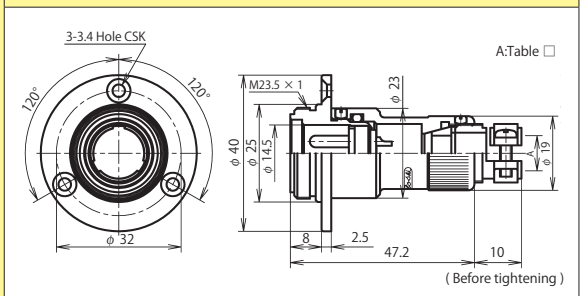


Receptacle cap：NWPC-16-RCa

Accessory



NWPC-16 ■ -Ad □ -CH



NWPC-16 ■ -Ad(F) □ -CH

Adapter

"-CH" is an additional symbol of renewed products. They are interchangeable with products before renewal.

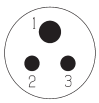
For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used
16	5	φ 4.5 to φ 6.0
	7	φ 6.1 to φ 8.0
	9	φ 8.1 to φ 10.0

■ indicates the number of contacts. The conductor cross sectional area is less than the following value.

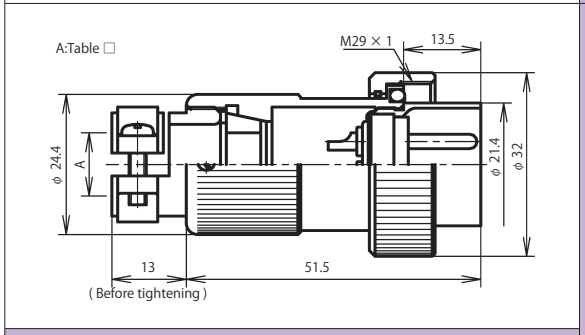
Shell size	Number of Contacts	1	2	3	4
16	Contact arrangement <When viewed from the pin (male) contact coupling side>				
	Rating	125V 10A	125V 5A		
	Limit operating voltage (Note-1)	200V			
	Withstand voltage (V r.m.s.)	1,000			
	Wire size (㎟)	1.25	0.75		

Note-1 : For the limit operating voltage, see p.131.

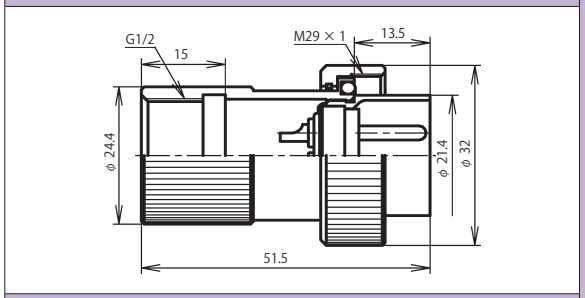
NWPC Series Shell Size 25

G Type

【Power receiving side】< Pin (male) contact used >



NWPC-25 ■ -PM □



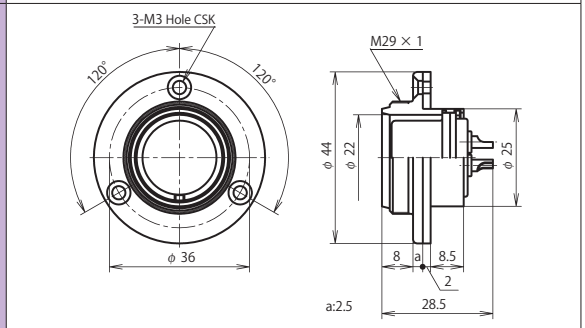
NWPC-25 ■ -GPM1/2 (Note)

Plug

Coupled

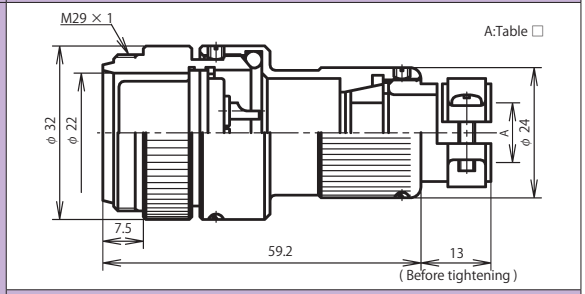
【Power supply side】< Socket (female) contact used >

Receptacle

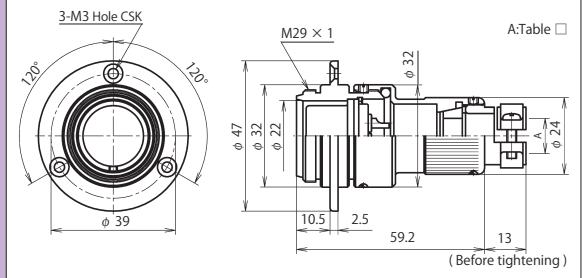


NWPC-25 ■ -RF

Adapter



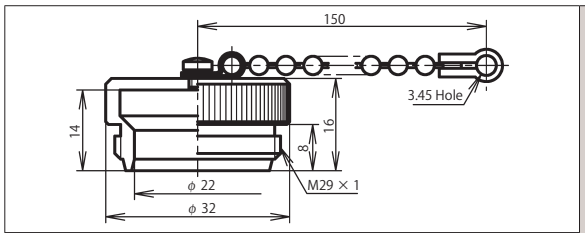
NWPC-25 ■ -AdF □



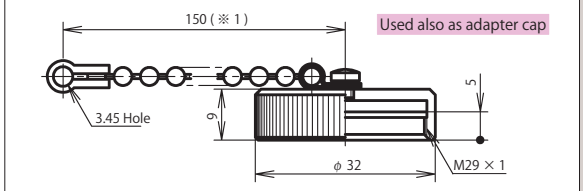
NWPC-25 ■ -AdF(F) □

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135
The waterproof of the conduit installation part depends on the conduit connecting components to use.

Accessory



Plug cap : NWPC-25-PCa



(※ 1) Length 70 mm also available. (Example : NWPC-25-RCa L70)

Receptacle cap : NWPC-25-RCa

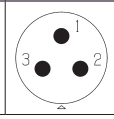
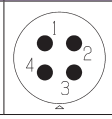
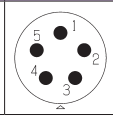
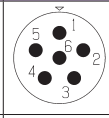
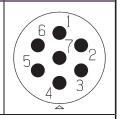
For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

Shell size	Symbol □	Outer diameter of cable used
25	7	φ 6.5 to φ 8.0
	9	φ 8.1 to φ 10.0
	11	φ 10.1 to φ 12.0
	13	φ 12.1 to φ 14.0

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

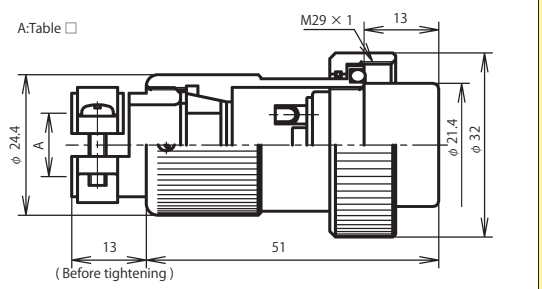
■ indicates the number of contacts. The conductor cross sectional area is less than the following value.

Shell size	Number of Contacts	2	3	4	5	6	7
25	Contact arrangement <When viewed from the pin (male) contact coupling side>						
	Rating	250V 10A				250V 5A	
	Limit operating voltage (Note-1)	400V				300V	
	Withstand voltage (V r.m.s.)	2,000			1,800		
	Wire size (㎟)	2			1.25		

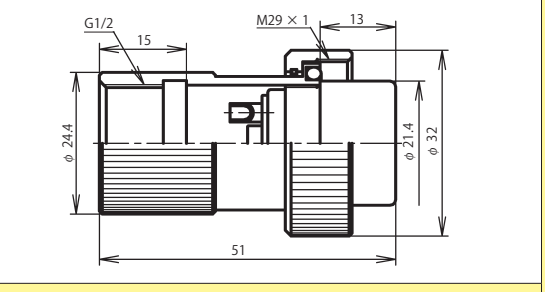
Note-1 : For the limit operating voltage, see p.131.

S Type

【Power supply side】< Socket (female) contact used >

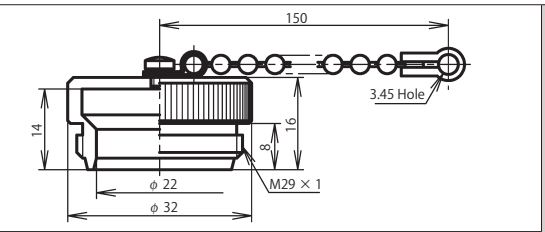


NWPC-25 ■ -P □

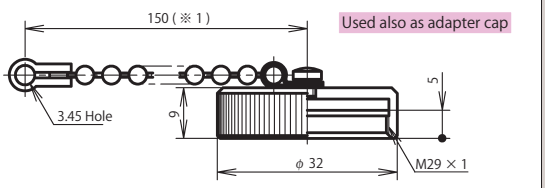


NWPC-25 ■ -GP1/2 (Note)

Plug



Plug cap : NWPC-25-PCa



(※ 1) Length 70 mm also available. (Example : NWPC-25-RCa L70)

Receptacle cap : NWPC-25-RCa

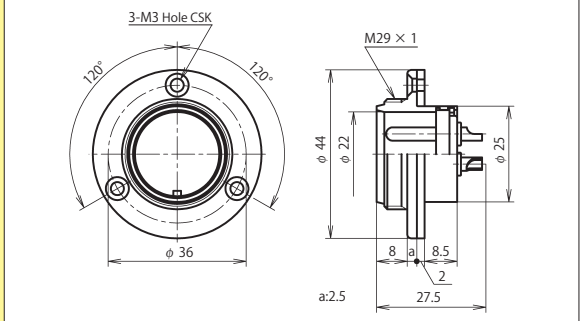
Accessory

For the plug and adapter , be sure to select □ (cable packing symbol).

Coupled

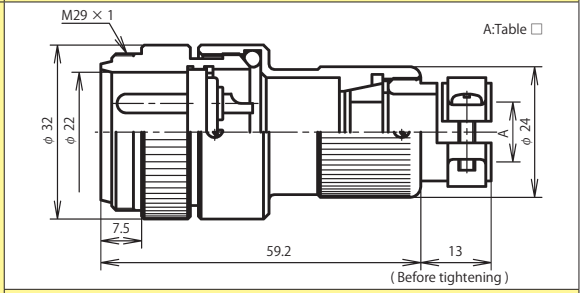
【Power receiving side】< Pin (male) contact used >

Receptacle

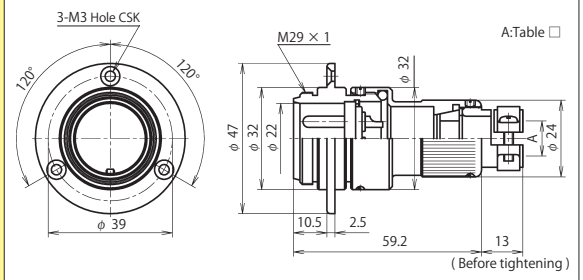


NWPC-25 ■ -R

Adapter



NWPC-25 ■ -Ad □



NWPC-25 ■ -Ad(F) □

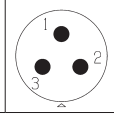
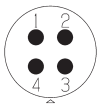
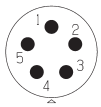
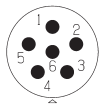
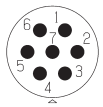
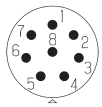
Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135
The waterproof of the conduit installation part depends on the conduit connecting components to use.

Table □

Shell size	Symbol □	Outer diameter of cable used
25	7	φ 6.5 to φ 8.0
	9	φ 8.1 to φ 10.0
	11	φ 10.1 to φ 12.0
	13	φ 12.1 to φ 14.0

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

■ indicates the number of contacts. The conductor cross sectional area is less than the following value.

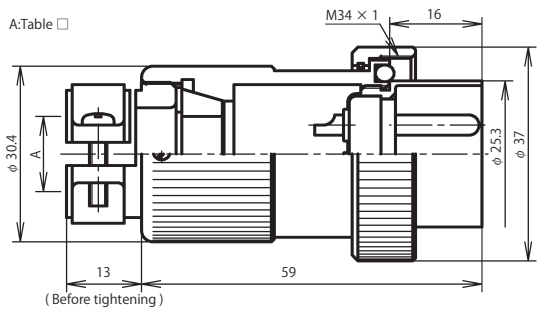
Shell size	Number of Contacts	2	3	4	5	6	7	8
25	Contact arrangement <When viewed from the pin (male) contact coupling side>							
	Rating	250V 10A						250V 5A
	Limit operating voltage (Note-1)	400V				300V		
	Withstand voltage (V r.m.s.)	2,000			1,800			
	Wire size (mm²)	2						1.25

Note-1 : For the limit operating voltage, see p.131.

NWPC Series Shell Size 30

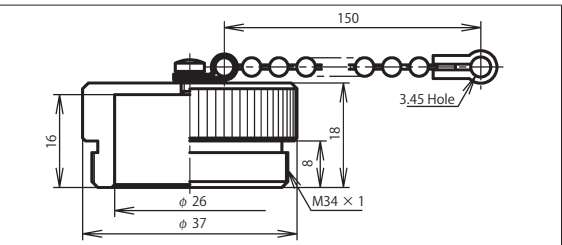
G Type

【Power receiving side】< Pin (male) contact used >

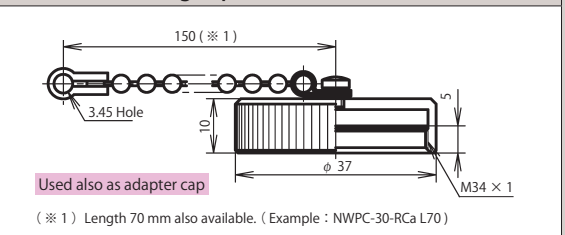


NWPC-30 ■ -PM □

Plug



Plug cap : NWPC-30-PCa



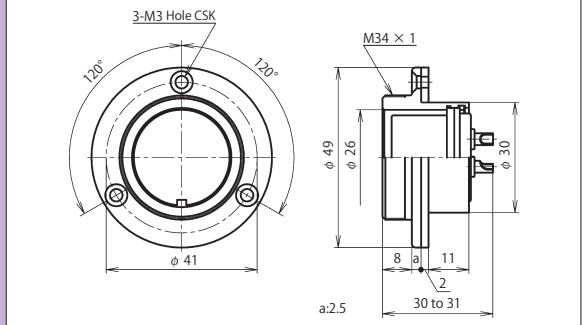
Receptacle cap : NWPC-30-RCa

Accessory

Coupled

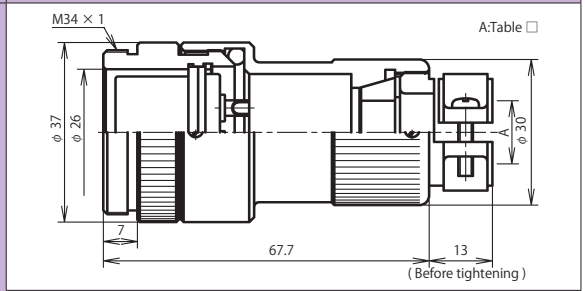
【Power supply side】< Socket (female) contact used >

Receptacle

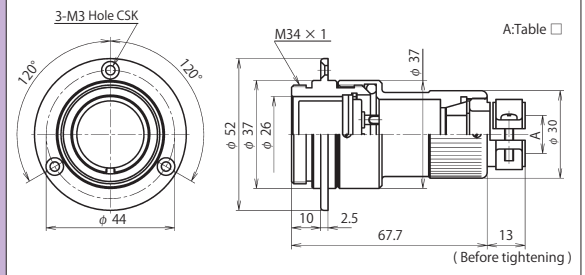


NWPC-30 ■ -RF

Adapter



NWPC-30 ■ -AdF □



NWPC-30 ■ -AdF(F) □

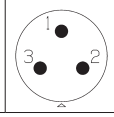
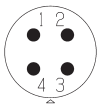
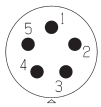
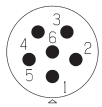
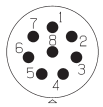
For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

Shell size	Symbol □	Outer diameter of cable used
30	9	φ 8.0 to φ 10.0
	11	φ 10.1 to φ 12.0
	13	φ 12.1 to φ 14.0
	15	φ 14.1 to φ 16.4
	17	φ 16.5 to φ 18.0

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

■ indicates the number of contacts. The conductor cross sectional area is less than the following value.

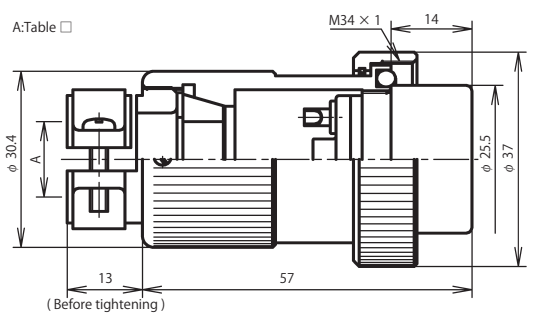
Shell size	Number of Contacts	2	3	4	5	6	8
30	Contact arrangement <When viewed from the pin (male) contact coupling side>						
	Rating	250V 15A				250V 10A	250V 5A
	Limit operating voltage (Note-1)	400V				—	300V
	Withstand voltage (V r.m.s.)	2,000			1,800		
	Wire size (mm²)	2					1.25

Note-1 : For the limit operating voltage, see p.131.

【Power supply side】< Socket (female) contact used >

S Type

【Power receiving side】< Pin (male) contact used >

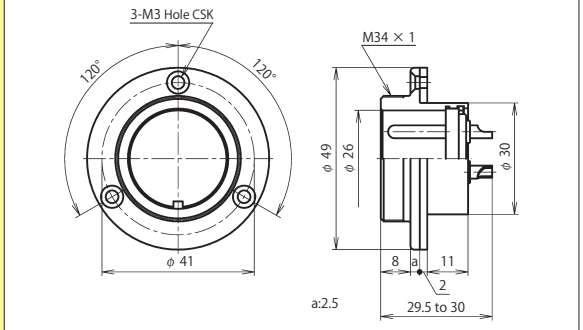


NWPC-30 ■ -P □

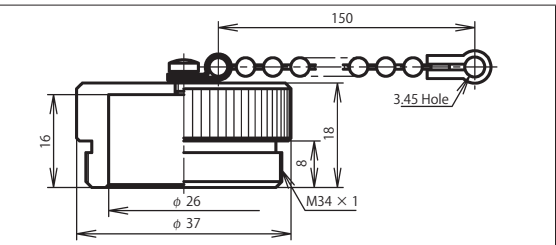
Plug

Coupled

Receptacle

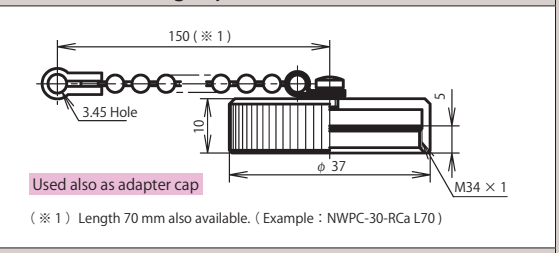


NWPC-30 ■ -R



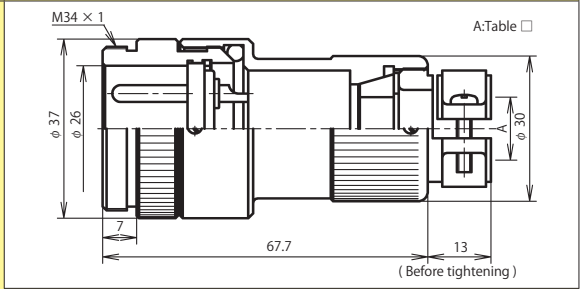
Plug cap : NWPC-30-PCa

Accessory

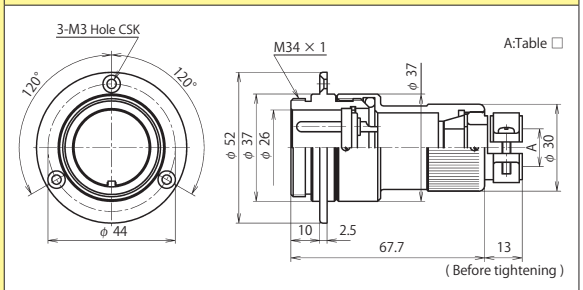


Receptacle cap : NWPC-30-RCa

Adapter



NWPC-30 ■ -Ad □



NWPC-30 ■ -Ad(F) □

For the plug and adapter , be sure to select □ (cable packing symbol).

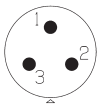
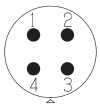
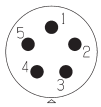
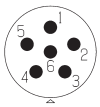
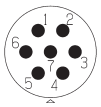
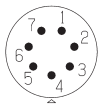
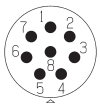
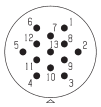
Table □

Shell size	Symbol □	Outer diameter of cable used
30	9	φ 8.0 to φ 10.0
	11	φ 10.1 to φ 12.0
	13	φ 12.1 to φ 14.0
	15	φ 14.1 to φ 16.4
	17	φ 16.5 to φ 18.0

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

■ indicates the number of contacts. The conductor cross sectional area is less than the following value.

[ ] : Gold plating contact

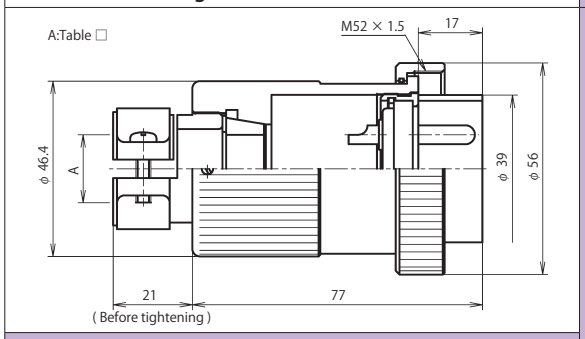
Shell size	Number of Contacts	2	3	4	5	6	7	7H	8	13
30	Contact arrangement <When viewed from the pin (male) contact coupling side>									
	Rating	250V 15A						250V[7A]	250V 10A	250V[5A]
	Limit operating voltage (Note-1)	400V						—	300V	—
	Withstand voltage (V r.m.s.)	2,000			1,800			1,500	1,800	1,500
	Wire size (mm²)	3.5	2					1.25	2	1.25

Note-1 : For the limit operating voltage, see p.131.

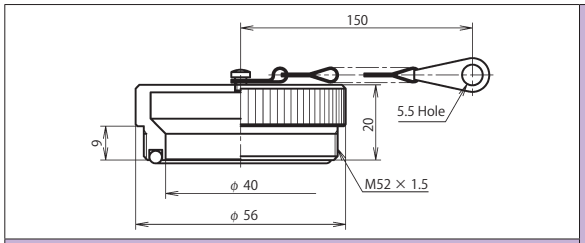
NWPC Series Shell Size 44

G Type

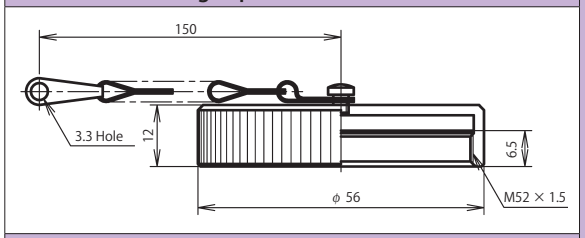
【Power receiving side】< Pin (male) contact used >



NWPC-44 ■ -PM □



Plug cap：NWPC-44-PCa

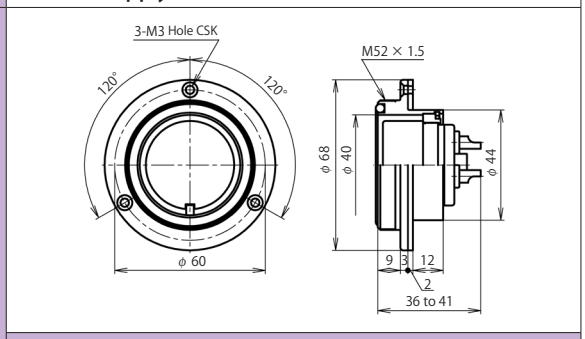


Receptacle cap：NWPC-44-RCa

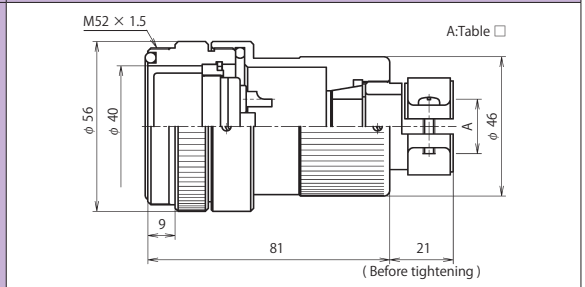
Plug / Accessory

Coupled

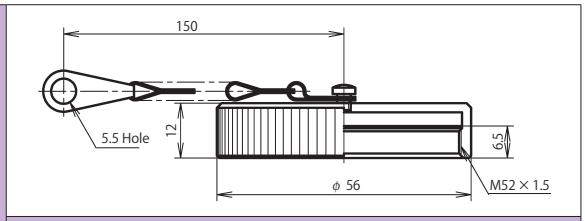
【Power supply side】< Socket (female) contact used >



NWPC-44 ■ -RF



NWPC-44 ■ -AdF □



Adapter cap：NWPC-44-AdCa

Receptacle / Adapter / Accessory

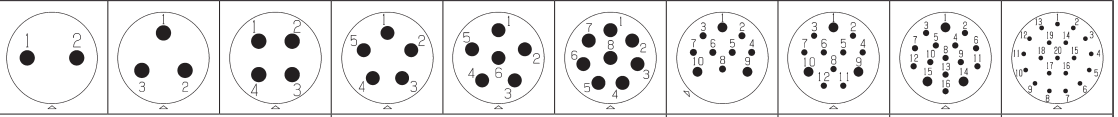
For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used
44	12	φ 11.0 to φ 13.0
	14	φ 13.1 to φ 15.0
	16	φ 15.1 to φ 17.0
	18	φ 17.1 to φ 19.0
	20	φ 19.1 to φ 21.5
	23	φ 21.6 to φ 23.0

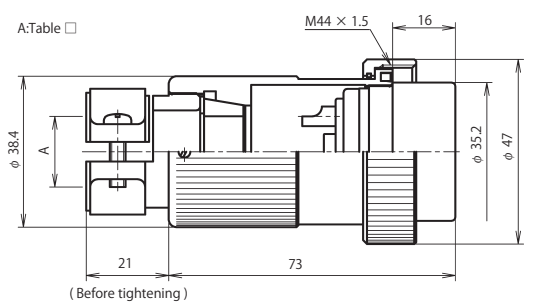
■ indicates the number of contacts. The conductor cross sectional area is less than the following value.

Shell size	Number of Contacts	2	3	4	5	6	8	10	12	16	20
44	Contact arrangement <When viewed from the pin (male) contact coupling side>										
	Rating	250V 30A			250V 20A			250V 3pcs=10A 7pcs= 5A	250V 3pcs=10A 9pcs= 5A	250V 3pcs=10A 13pcs= 5A	250V 5A
	Limit operating voltage (Note-1)	500V			400V			300V			
	Withstand voltage (V r.m.s.)	2,500			2,000			1,800			
	Wire size (㎟)	5.5						3pcs=2 7pcs=1.25	3pcs=2 9pcs=1.25	3pcs=2 13pcs=1.25	1.25

Note-1 : For the limit operating voltage, see p.131.

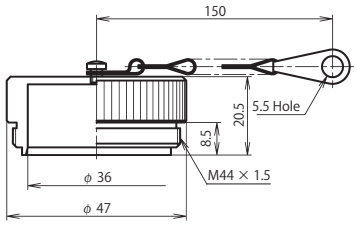
S Type

【Power supply side】< Socket (female) contact used >

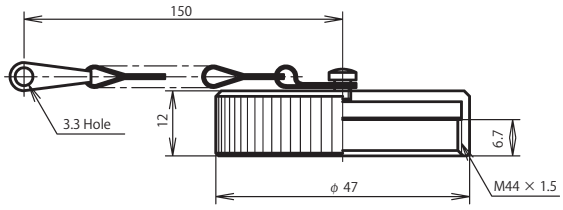


NWPC-40 ■ -P □

Plug



Plug cap : NWPC-40-PCa

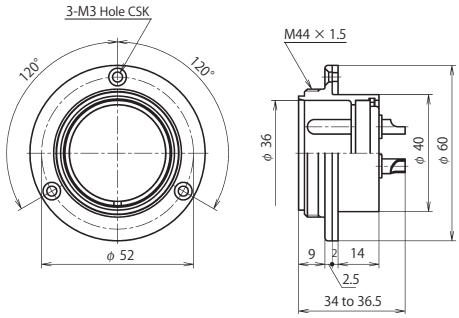


Receptacle cap : NWPC-40-RCa

Accessory

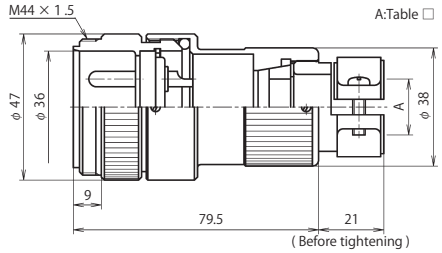
Coupled

【Power receiving side】< Pin (male) contact used >



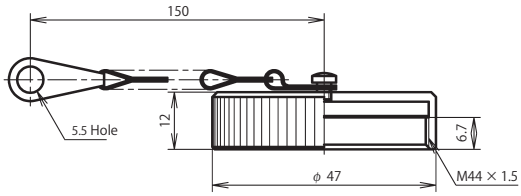
NWPC-40 ■ -R

Receptacle



NWPC-40 ■ -Ad □

Adapter



Adapter cap : NWPC-40-AdCa

Accessory

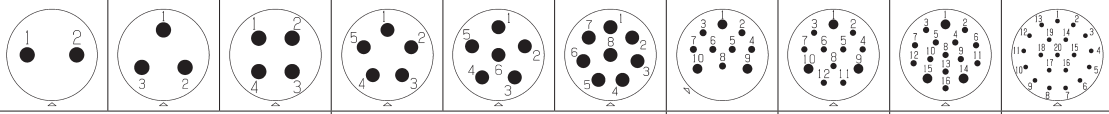
For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used
40	12	φ 11.0 to φ 13.0
	14	φ 13.1 to φ 15.0
	16	φ 15.1 to φ 17.0
	18	φ 17.1 to φ 19.0
	20	φ 19.1 to φ 21.5
	23	φ 21.6 to φ 23.0

■ indicates the number of contacts. The conductor cross sectional area is less than the following value.

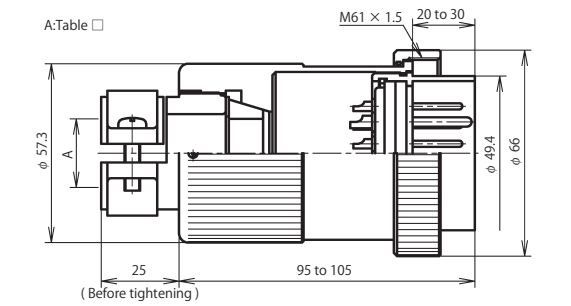
Shell size	Number of Contacts	2	3	4	5	6	8	10	12	16	20
40	Contact arrangement <When viewed from the pin (male) contact coupling side>										
	Rating	250V 30A			250V 20A			250V 3pcs=10A 7pcs= 5A	250V 3pcs=10A 9pcs= 5A	250V 3pcs=10A 13pcs= 5A	250V 5A
	Limit operating voltage (Note-1)	500V			400V			300V			
	Withstand voltage (V r.m.s.)	2,500			2,000			1,800			
	Wire size (㎟)	5.5						3pcs=2 7pcs=1.25	3pcs=2 9pcs=1.25	3pcs=2 13pcs=1.25	1.25

Note-1 : For the limit operating voltage, see p.131.

NWPC Series Shell Size 54

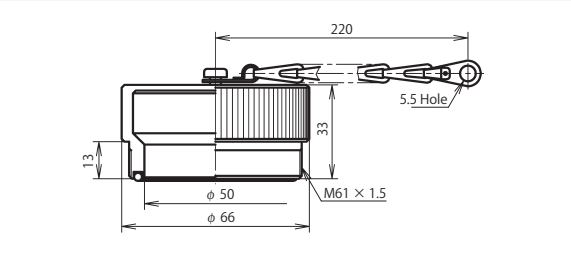
G Type

【Power receiving side】< Pin (male) contact used >

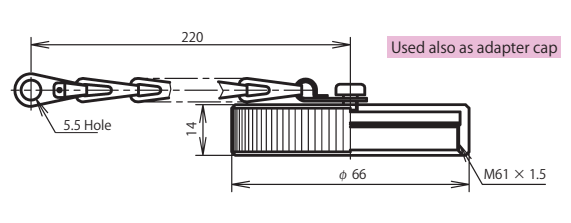


NWPC-54 ■ -PM □

Plug



Plug cap : NWPC-54-PCa



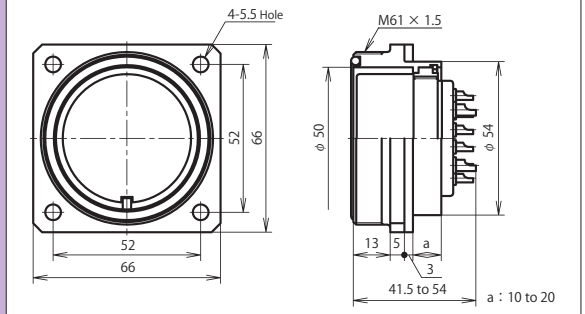
Receptacle cap : NWPC-54-RCa

Accessory

Coupled

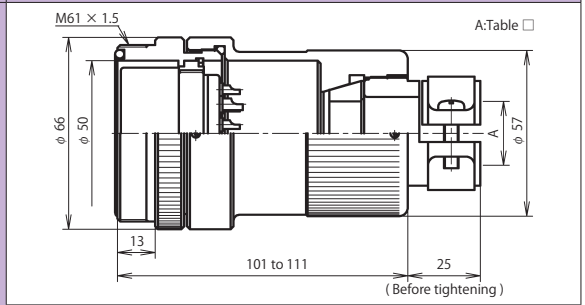
【Power supply side】< Socket (female) contact used >

Receptacle



NWPC-54 ■ -RF

Adapter



NWPC-54 ■ -AdF □

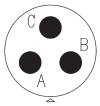
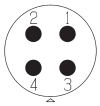
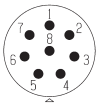
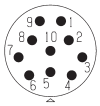
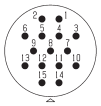
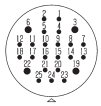
For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used
54	16	φ 15.0 to φ 17.0
	18	φ 17.1 to φ 19.0
	20	φ 19.1 to φ 21.0
	22	φ 21.1 to φ 23.0
	24	φ 23.1 to φ 25.5
	27	φ 25.6 to φ 28.0

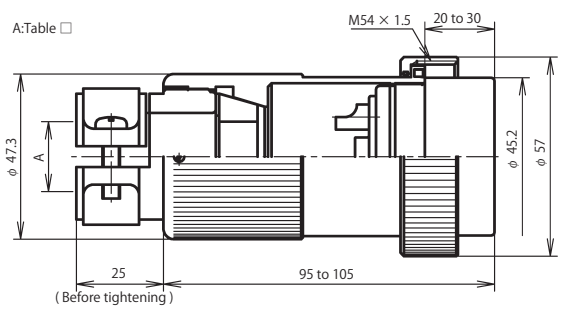
■ indicates the number of contacts. The conductor cross sectional area is less than the following value.

Shell size	Number of Contacts	2	3	4	8	10	15	25
54	Contact arrangement <When viewed from the pin (male) contact coupling side>							
	Rating	500V 80A		250V 50A	250V 25A	250V 20A	250V 15A	250V 4pcs=15A 21pcs= 5A
	Limit operating voltage (Note-1)	600V		500V	400V	300V		
	Withstand voltage (V r.m.s.)	3,000		2,500	2,000			1,800
	Wire size (㎟)	30		14	3.5			4pcs=3.5 21pcs=2

Note-1 : For the limit operating voltage, see p.131.

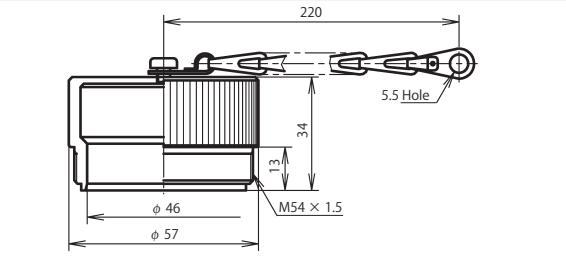
S Type

【Power supply side】< Socket (female) contact used >

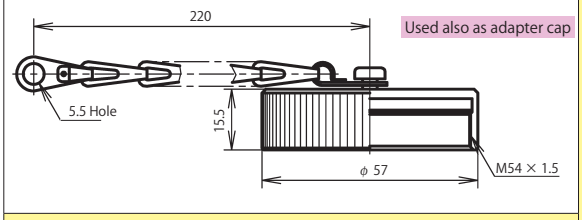


NWPC-50 ■ -P □

Plug



Plug cap : NWPC-50-PCa



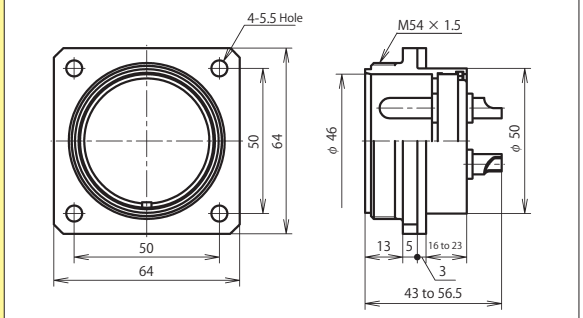
Receptacle cap : NWPC-50-RCa

Accessory

Coupled

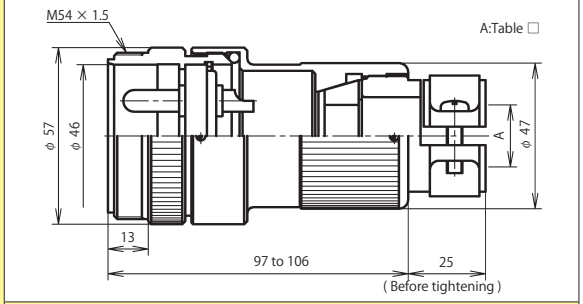
【Power receiving side】< Pin (male) contact used >

Receptacle



NWPC-50 ■ -R

Adapter



NWPC-50 ■ -Ad □

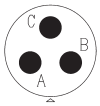
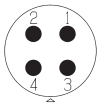
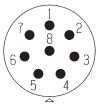
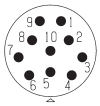
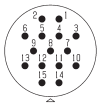
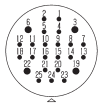
For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used
50	16	φ 15.0 to φ 17.0
	18	φ 17.1 to φ 19.0
	20	φ 19.1 to φ 21.0
	22	φ 21.1 to φ 23.0
	24	φ 23.1 to φ 25.5
	27	φ 25.6 to φ 28.0

■ indicates the number of contacts. The conductor cross sectional area is less than the following value.

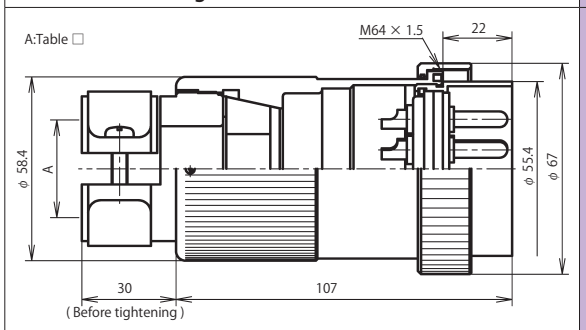
Shell size	Number of Contacts	2	3	4	8	10	15	25
50	Contact arrangement <When viewed from the pin (male) contact coupling side>							
	Rating	500V 80A		250V 50A	250V 25A	250V 20A	250V 15A	250V 4pcs=15A 21pcs= 5A
	Limit operating voltage (Note-1)	600V		500V	400V	300V		
	Withstand voltage (V r.m.s.)	3,000		2,500	2,000			1,800
	Wire size (mm²)	30		14	3.5			4pcs=3.5 21pcs=2

Note-1 : For the limit operating voltage, see p.131.

NWPC Series Shell Size 60

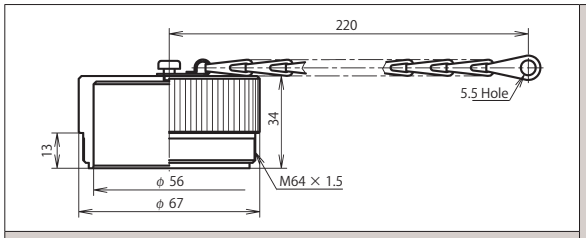
G Type

【Power receiving side】< Pin (male) contact used >

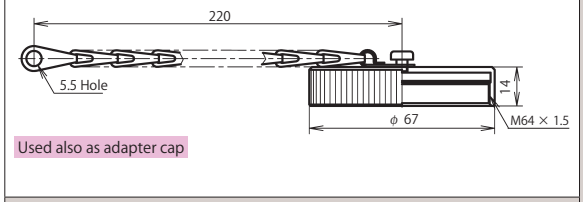


NWPC-60 ■ -PM □

Plug



Plug cap : NWPC-60-PCa



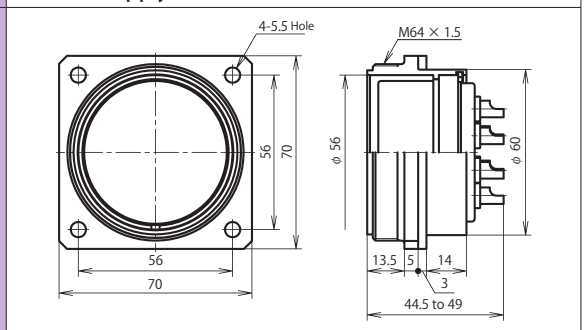
Receptacle cap : NWPC-60-RCa

Accessory

Coupled

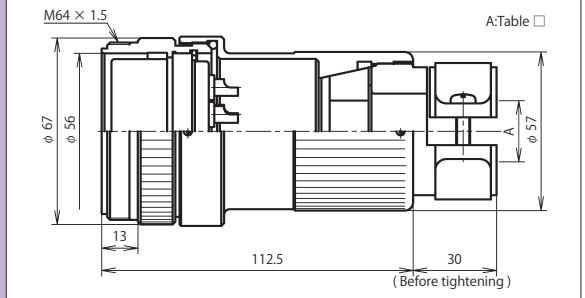
【Power supply side】< Socket (female) contact used >

Receptacle



NWPC-60 ■ -RF

Adapter



NWPC-60 ■ -AdF □

For the plug and adapter , be sure to select □ (cable packing symbol).

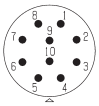
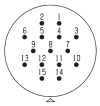
Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used
60	22	φ 21.0 to φ 23.0
	24	φ 23.1 to φ 25.0
	26	φ 25.1 to φ 27.0
	28	φ 27.1 to φ 29.5
	31	φ 29.6 to φ 32.0
	33	φ 32.1 to φ 34.0
	35	φ 34.1 to φ 36.0
	37	φ 36.1 to φ 38.0

2-, 3- and 4-core types are available in Shell size 64.

■ indicates the number of contacts. The conductor cross sectional area is less than the following value.

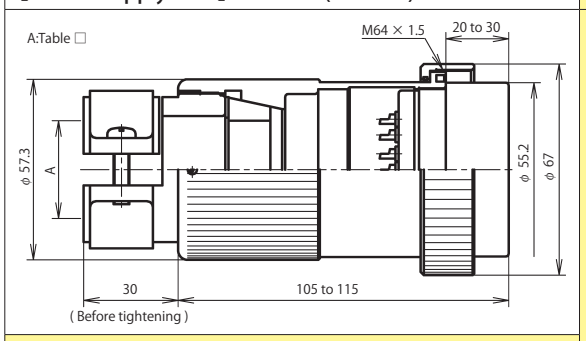
Shell size	Number of Contacts	10	15	30	32
60	Contact arrangement <When viewed from the pin (male) contact coupling side>				
	Safety standard	—			
	Rating	250V 30A	250V 15A	250V 5A	250V 3pcs=15A 29pcs= 5A
	Limit operating voltage (Note-1)	300V			
	Withstand voltage (V r.m.s.)	2,000		1,500	
	Wire size (mm²)	8	3.5	2	3pcs=3.5 29pcs=2

Note-1 : For the limit operating voltage, see p.131.

【Power supply side】< Socket (female) contact used >

S Type

【Power receiving side】< Pin (male) contact used >

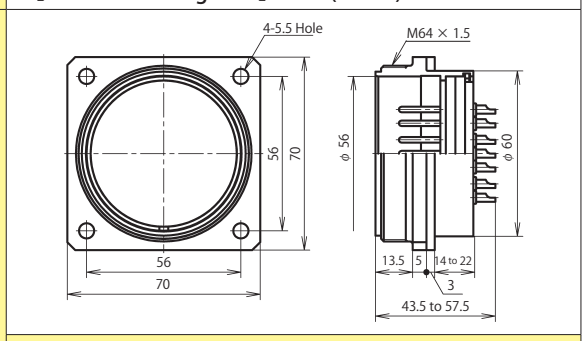


Plug

NWPC-60 ■ -P □

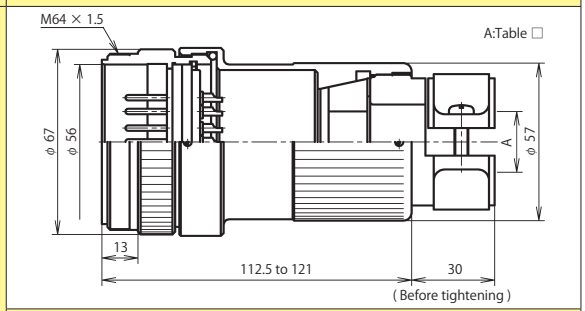
Coupled

Receptacle



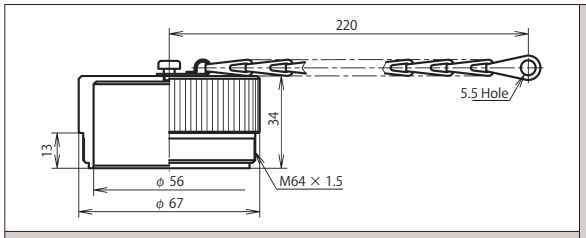
NWPC-60 ■ -R

Adapter

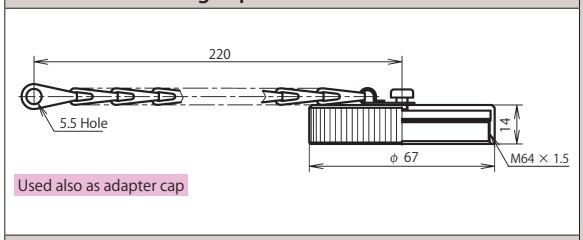


NWPC-60 ■ -Ad □

Accessory



Plug cap : NWPC-60-PCa



Receptacle cap : NWPC-60-RCa

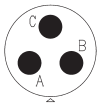
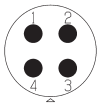
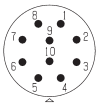
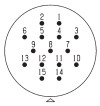
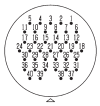
For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used
60	22	φ 21.0 to φ 23.0
	24	φ 23.1 to φ 25.0
	26	φ 25.1 to φ 27.0
	28	φ 27.1 to φ 29.5
	31	φ 29.6 to φ 32.0
	33	φ 32.1 to φ 34.0
	35	φ 34.1 to φ 36.0
	37	φ 36.1 to φ 38.0

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on p.129.

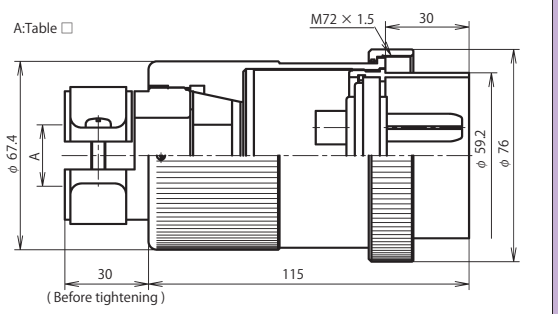
Shell size	Number of Contacts	2	3	4	10	15	30	32	40
60	Contact arrangement <When viewed from the pin (male) contact coupling side>								
	Safety standard (Note-1)	—					CSA NRTL/C	—	CSA NRTL/C
	Rating	500V 150A		500V 80A	250V 30A	250V 15A	250V 5A	250V 3pcs=15A 29pcs= 5A	250V 5A
	Limit operating voltage (Note-2)	600V			300V				
	Withstand voltage (V r.m.s.)	3,000			2,500		1,800		
	Wire size (mm²)	50		30	8	3.5	2	3pcs=3.5 29pcs=2	2

Note-1 : Specified separately. For safety standards, see p.129. (The rated voltage of standard certified products is 265 V.) Note-2 : For the limit operating voltage, see p.131.

NWPC Series Shell Size 64

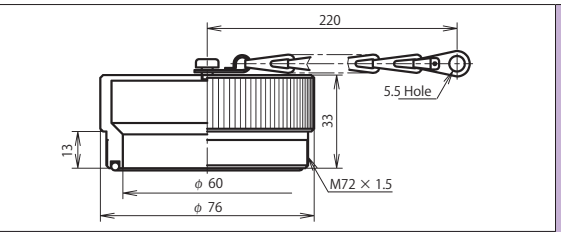
G Type

【Power receiving side】< Pin (male) contact used >

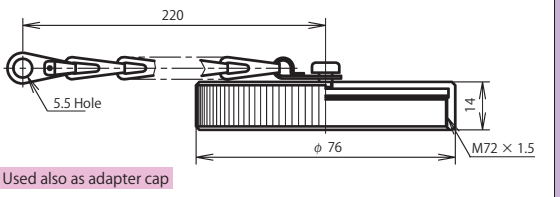


NWPC-64 ■ -PM □

Plug



Plug cap : NWPC-64-PCa



Used also as adapter cap

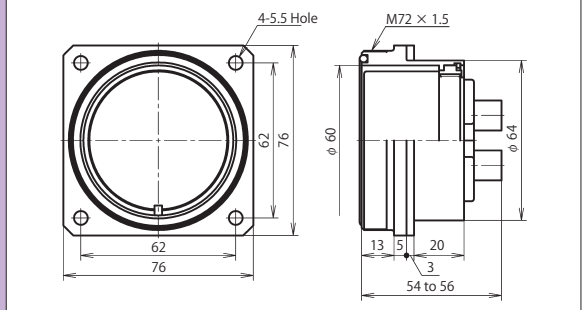
Receptacle cap : NWPC-64-RCa

Accessory

Coupled

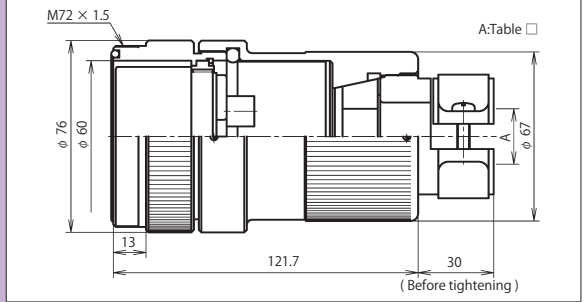
【Power supply side】< Socket (female) contact used >

Receptacle



NWPC-64 ■ -RF

Adapter



NWPC-64 ■ -AdF □

For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used
64	22	φ 21.0 to φ 23.0
	24	φ 23.1 to φ 25.0
	26	φ 25.1 to φ 27.0
	28	φ 27.1 to φ 29.5
	31	φ 29.6 to φ 32.0
	33	φ 32.1 to φ 34.0
	35	φ 34.1 to φ 36.0
	37	φ 36.1 to φ 38.0

■ indicates the number of contacts. The conductor cross sectional area is less than the following value.

Shell size	Number of Contacts	2	3	4
64	Contact arrangement <When viewed from the pin (male) contact coupling side>	A B	C B A	1 2 4 3
	Rating	500V 150A		500V 80A
	Limit operating voltage (Note-1)	600V		
	Withstand voltage (V r.m.s.)	3,000		
	Wire size (mm²)	50		30

Note-1 : For the limit operating voltage, see p.131.

MEMO

NJW Series

Waterproof equivalent to IP-67

Safety standard certified products available

RoHS

Overview

- Waterproof connectors based on NJC Series.
- As with NJC Series, a wide variety of types available.
- Proven performance in outdoor installations such as surveillance cameras, construction machines and outdoor measuring equipment.

Feature

RoHS	RoHS Directive compliant
Waterproof	Waterproof connector【Waterproof function equivalent to IP-67 when coupled】
Lock method	Thread lock
Features of mechanism/ material	○ Die cast shell with zinc alloy or aluminum alloy. ○ Smooth coupling thanks to employment of 5-key system guide. ○ Installation in a small space enabled by use of the L za.
Standards	○ UL・CSA standard certified connectors available.（UL : UL1977　CSA : C22.2 No.182.3） Note: The specifications of saftey standard certified products are slightly different from those of standard products. For the rated voltage, current and cable conductor cross sectional area, refer to A List of Standards Acquired (p.128).
Cable termination	Soldering

Characteristics

Insulation resistance , Withstand voltage , Contact resistance , Waterproof　p.92

The pin contact type has an exposed electrode. If it is used on the [power supply] side, it may cause electric shock or short-circuit accidents. To prevent such accidents, use the socket contact type on the [power supply] side and the pin contact type on the [equipment] side.

NJW Series

Product No. designation

NJW - 24 ■ - P M □ __ __ __

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① Series designation
② Shell size
③ Number of contacts
④ Shell shape
⑤ Contact shape < Pin (male) contact : M , Socket (female) contact : F >
⑥ K type symbol (K) 《 Required only for products with settings 》
⑦ Guide position change symbol (X , Y , Z) 《 Required only when changing the guide position 》
⑧ Symbol indicating cable packing size. 《 Plug & adapter require symbol to be specified. 》
⑨ Safety standard specification (< UL・CSA >)
《 Required only when safety standard is to be specified. 》 For applicable products, see p.128.

《Option》

・When using a plural number of same products at the same time, the guide position can be changed in order to prevent mis-insertion.
(For applicable products, see below.)
Product name example : NJW-2010-PFX
Guide position change symbol (X, Y, Z) in the red character part.

Cable termination : Soldering

Material and Finish

	Material	Finish
Shell	Shell size 16 , 20 , 24 : Zinc alloy (Partially aluminum alloy) Shell size 28 , 32 : Aluminum alloy	Special treatment
Insulator	Synthetic resin	—
Contact	Copper alloy	Silver plating Gold plating
Packing	Synthetic rubber	—

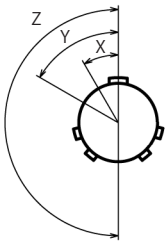
Operating temperature range

Shell size	Number of Contacts	Operating temperature range
16	3,5	-25℃ to +85℃
20	2 , 3 , 4 , 5 , 7 , 10 , 12	
24	2 , 3 , 4 , 5 , 10 , 14 , 16	
28	16 , 24	
32	3 , 4	
16	8	-25℃ to +60℃
20	14	
24	21 , 24	
28	31 , 37	
32	8 , 10 , 12	

To change the guide position (Following number of contacts only)

Shell size	Number of Contacts	Guide Position Symbol		
		X	Y	Z
16	＊ 3	30°	60°	180°
	＊ 5	45°	90°	315°
20	7	30°	—	—
	＊ 10	45°	90°	315°
	12		95°	190°
24	10	45°	90°	315°
	14			
	16			
28	16	45°	90°	315°
	24			

＊ UL・CSA products supported also.

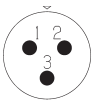
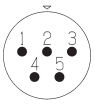
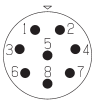


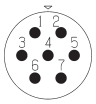
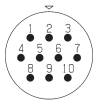
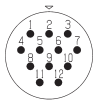
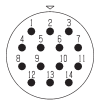
An image of guide position change

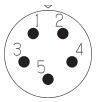
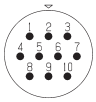
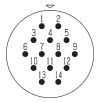
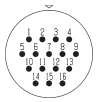
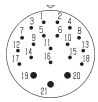
< When viewed from the pin (male) contact side coupling face >

Soldering Type Contact arrangement

[ ] : Gold plating contact

Shell size	Number of Contacts	3	5	8							
16	Contact arrangement <When viewed from the pin (male) contact coupling side>										
	Safety standard (Note-1)	UL・CSA		—							
	Rating (Allowable current for signals)	125V		—							
		10A	5A	[3A]							
	Withstand voltage (V r.m.s.)	1,500	1,000	500							
	Wire size (mm²)	1.25	0.5	0.3							
	Remarks	—		For signals							

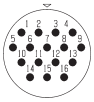
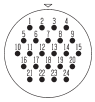
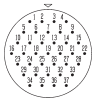
Shell size	Number of Contacts	2	3	4	5	7	10	12	14		
20	Contact arrangement <When viewed from the pin (male) contact coupling side>										
	Safety standard (Note-1)	UL・CSA							—		
	Rating (Allowable current for signals)	250V							—		
		15A		10A			5A		[3A]		
	Withstand voltage (V r.m.s.)	1,500				1,000			500		
	Wire size (mm²)	2		1.25			0.5		0.3		
	Remarks	—							For signals		

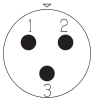
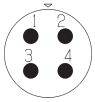
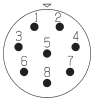
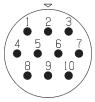
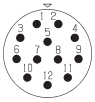
Shell size	Number of Contacts	2	3	4	5	10	14	16	21	24	
24	Contact arrangement <When viewed from the pin (male) contact coupling side>										
	Safety standard (Note-1)	UL・CSA							—		
	Rating (Allowable current for signals)	250V							—		
		20A		15A		10A	5A		3pcs=6A [18pcs=3A]	[3A]	
	Withstand voltage (V r.m.s.)	1,500				1,000			500		
	Wire size (mm²)	3.5		2		1.25	0.5		3pcs=0.75 18pcs=0.3	0.3	
	Remarks	—							For signals		

Note-1 : Specified separately. "Specified as a set of UL and CSA". For safety standards, see p.128.

Soldering Type Contact arrangement

[ ] : Gold plating contact

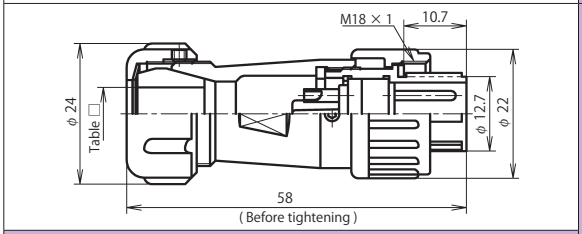
Shell size	Number of Contacts	16	24	31	37						
28	Contact arrangement <When viewed from the pin (male) contact coupling side>										
	Safety standard (Note-1)	UL・CSA		—							
	Rating (Allowable current for signals)	250V		—							
		10A	5A	3pcs=6A [28pcs=3A]	[3A]						
	Withstand voltage (V r.m.s.)	1,000		500							
	Wire size (㎟)	1.25	0.5	3pcs=0.75 28pcs=0.3	0.3						
	Remarks	—		For signals							

Shell size	Number of Contacts	3	4	8	10	12					
32	Contact arrangement <When viewed from the pin (male) contact coupling side>										
	Safety standard (Note-1)	UL・CSA									
	Rating (Allowable current for signals)	250V									
		30A		10A							
	Withstand voltage (V r.m.s.)	2,000		1,500							
	Wire size (㎟)	5.5 , 6		2							
	Remarks	—									

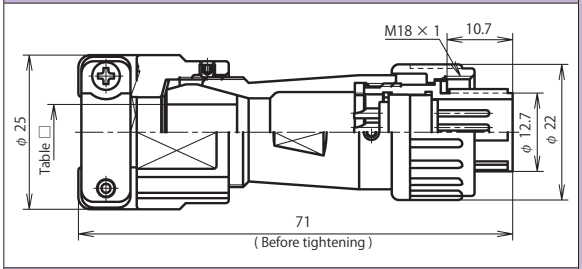
Note-1 : Specified separately. "Specified as a set of UL and CSA". For safety standards, see p.128.

G Type

【Power receiving side】< Pin (male) contact used >



NJW-16 ■ -PM □



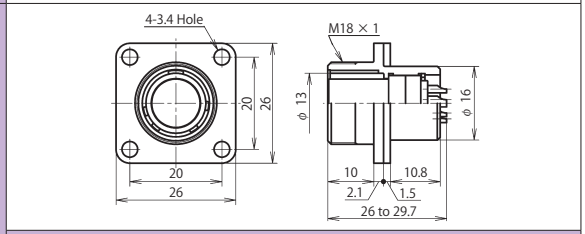
NJW-16 ■ -PMK □

Plug

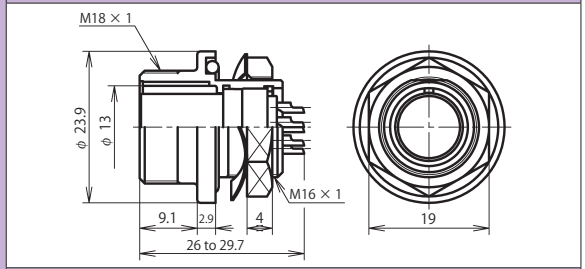
Coupled

Receptacle

【Power supply side】< Socket (female) contact used >

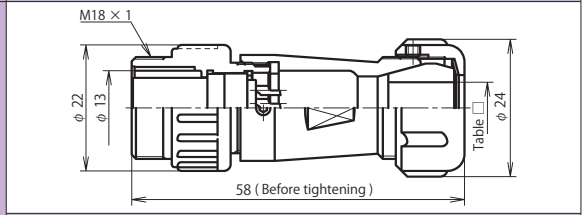


NJW-16 ■ -RF

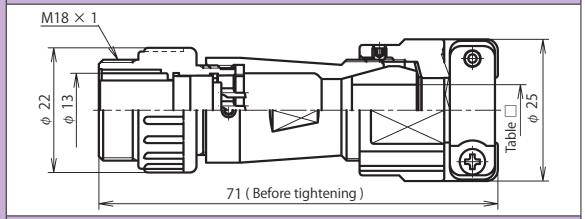


NJW-16 ■ -RBF

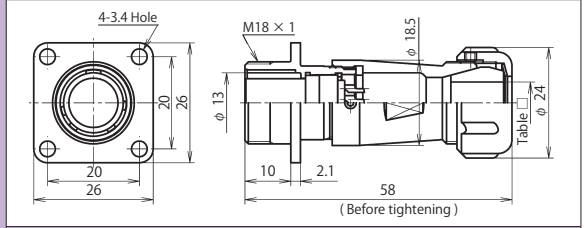
Adapter



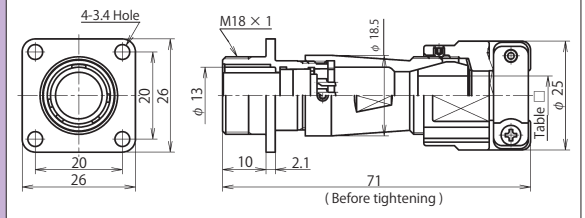
NJW-16 ■ -AdF □



NJW-16 ■ -AdFK □



NJW-16 ■ -Ad(F)F □



NJW-16 ■ -Ad(F)FK □

Cap・L za pp.90-91

For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used	Normal products		Safety standard	
			Standard	K Type	Standard	K Type
16	5	φ 4.0 to φ 4.8	●	—	—	—
	7	φ 5.7 to φ 6.8	●	●	—	—
	8	φ 6.9 to φ 7.9	●	●	—	—
	9	φ 8.0 to φ 9.4	●	●	●	—
	11	φ 9.5 to φ 11.0	●	●	●	—

■ indicates the number of contacts. Contact arrangement p.78.
The conductor cross sectional area is less than the following value.However, for safety standard compliant products, use a cable having a value shown on p.128.

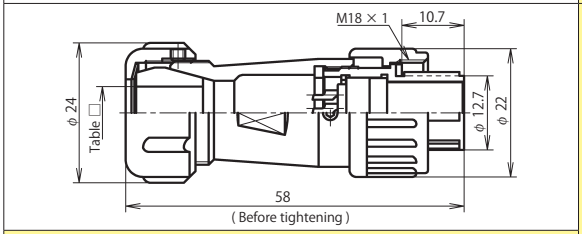
[ ] : Gold plating contact

Shell size	Number of Contacts	3	5	8
16	Safety standard (Note-1)	UL・CSA		—
	Rating (Allowable current for signals)	125V 10A	125V 5A	[3A]
	Withstand voltage (V r.m.s.)	1,500	1,000	500
	Wire size (㎟)	1.25	0.5	0.3
	Remarks	—		For signals

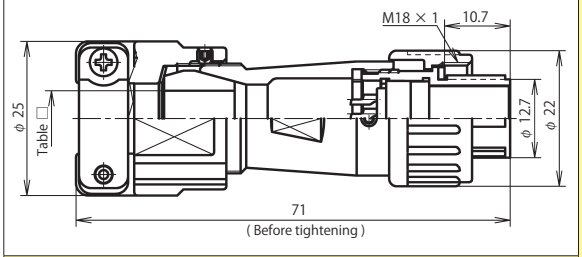
Note-1 : Specified separately. "Specified as a set of UL and CSA". For safety standards, see p.128.

S Type

【Power supply side】< Socket (female) contact used >



NJW-16 ■ -PF □



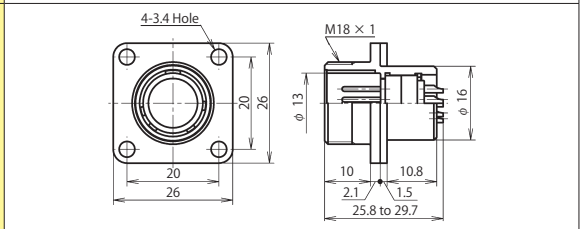
NJW-16 ■ -PFK □

Plug

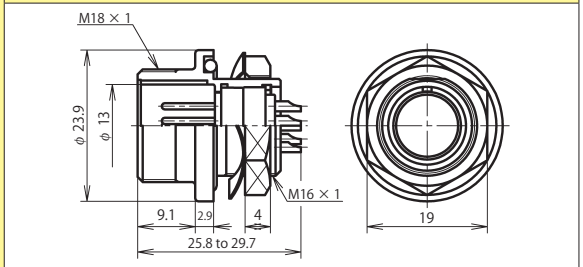
Coupled

Receptacle

【Power receiving side】< Pin (male) contact used >

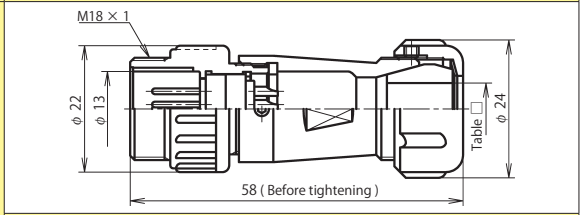


NJW-16 ■ -RM

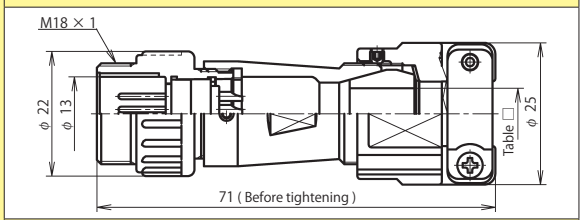


NJW-16 ■ -RBM

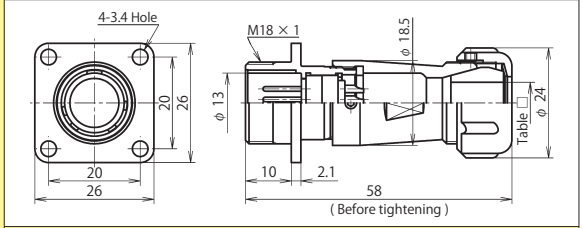
Adapter



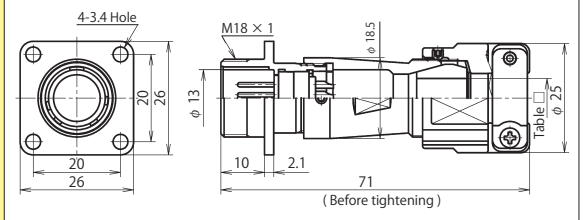
NJW-16 ■ -AdM □



NJW-16 ■ -AdMK □



NJW-16 ■ -Ad(F)M □



NJW-16 ■ -Ad(F)MK □

Cap・L za pp.90-91

For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

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			Standard	K Type	Standard	K Type
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	7	φ 5.7 to φ 6.8	●	●	—	—
	8	φ 6.9 to φ 7.9	●	●	—	—
	9	φ 8.0 to φ 9.4	●	●	●	—
	11	φ 9.5 to φ 11.0	●	●	●	—

■ indicates the number of contacts. Contact arrangement p.78.
The conductor cross sectional area is less than the following value.However, for sefety standard certified products, use a cable having a value shown on p.128.

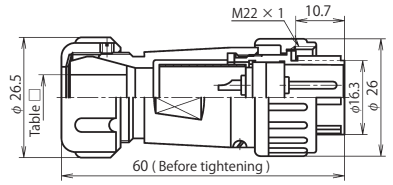
[ ] : Gold plating contact

Shell size	Number of Contacts	3	5	8
16	Safety standard (Note-1)	UL・CSA		—
	Rating (Allowable current for signals)	125V 10A	125V 5A	[3A]
	Withstand voltage (V r.m.s.)	1,500	1,000	500
	Wire size (㎟)	1.25	0.5	0.3
	Remarks	—		For signals

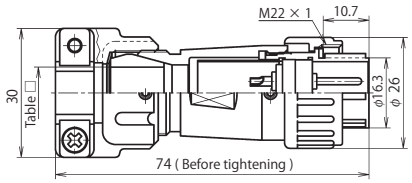
Note-1 : Specified separately. "Specified as a set of UL and CSA". For safety standards, see p.128.

G Type

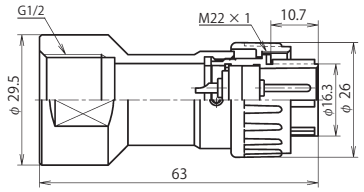
【Power receiving side】< Pin (male) contact used >



NJW-20 ■ -PM □



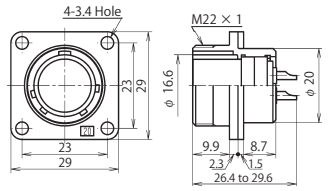
NJW-20 ■ -PMK □



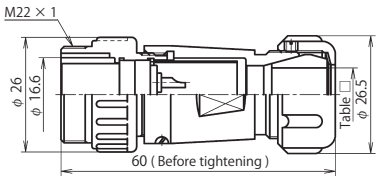
NJW-20 ■ -GPM1/2 (Note)

Plug — Coupled — Receptacle / Adapter

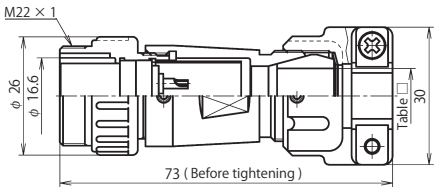
【Power supply side】< Socket (female) contact used >



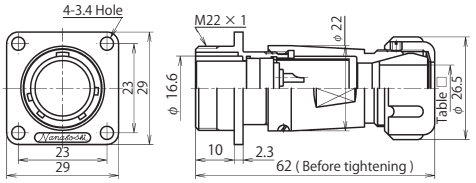
NJW-20 ■ -RF



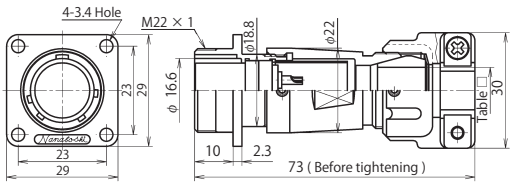
NJW-20 ■ -AdF □



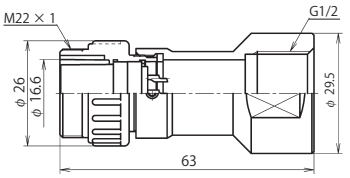
NJW-20 ■ -AdFK □



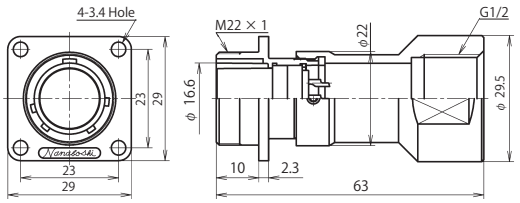
NJW-20 ■ -Ad(F)F □



NJW-20 ■ -Ad(F)FK □



NJW-20 ■ -GAdF1/2 (Note)



NJW-20 ■ -GAd(F)F1/2 (Note)

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135
The waterproof of the conduit installation part depends on the conduit connecting components to use.

Cap・L za pp.90-91

For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used	Normal products		Safety standard	
			Standard	K Type	Standard	K Type
20	6	φ 5.5 to φ 6.3	●	—	—	—
	8	φ 7.0 to φ 8.5	●	●	●	—
	10	φ 8.6 to φ 10.5	●	●	●	—
	12	φ 10.6 to φ 12.5	●	●	●	—

■ indicates the number of contacts. Contact arrangement p.78.
The conductor cross sectional area is less than the following value.However, for safrty standard compliant products, use a cable having a value shown on p.128.

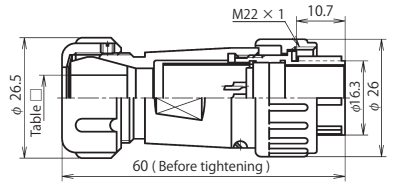
Shell size	Number of Contacts	2	3	4	5	7	10	12	14
20	Safety standard (Note-1)	UL・CSA							—
	Rating (Allowable current for signals)	250V 15A		250V 10A			250V 5A		[3A]
	Withstand voltage (V r.m.s.)	1,500				1,000			500
	Wire size (㎟)	2		1.25			0.5		0.3
	Remarks	—							For signals

Note-1 : Specified separately. "Specified as a set of UL and CSA". For safety standards, see p.128.

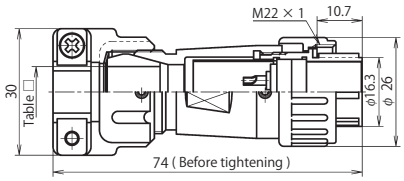
[ ] : Gold plating contact

S Type

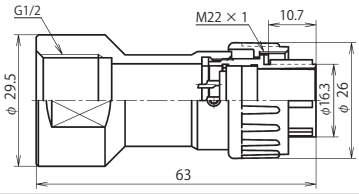
【Power supply side】< Socket (female) contact used >



NJW-20 ■ -PF □



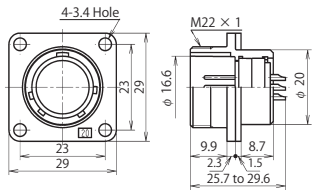
NJW-20 ■ -PFK □



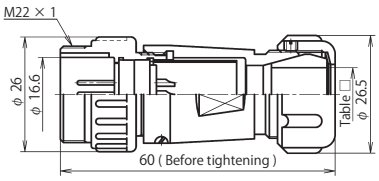
NJW-20 ■ -GPF1/2 (Note)

Plug — Coupled — Receptacle / Adapter

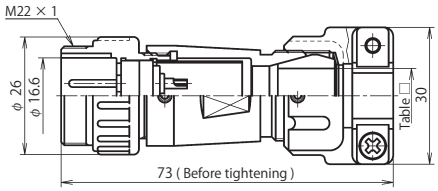
【Power receiving side】< Pin (male) contact used >



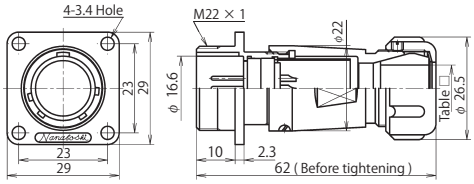
NJW-20 ■ -RM



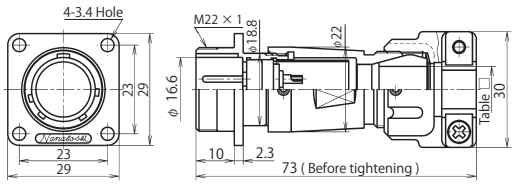
NJW-20 ■ -AdM □



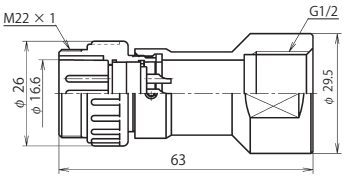
NJW-20 ■ -AdMK □



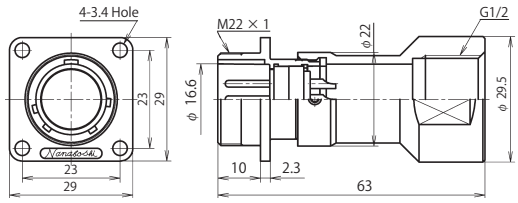
NJW-20 ■ -Ad(F)M □



NJW-20 ■ -Ad(F)MK □



NJW-20 ■ -GAdM1/2 (Note)



NJW-20 ■ -GAd(F)M1/2 (Note)

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135
The waterproof of the conduit installation part depends on the conduit connecting components to use.

Cap・L za pp.90-91

For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used	Normal products		Safety standard	
			Standard	K Type	Standard	K Type
20	6	φ 5.5 to φ 6.3	●	—	—	—
	8	φ 7.0 to φ 8.5	●	●	●	—
	10	φ 8.6 to φ 10.5	●	●	●	—
	12	φ 10.6 to φ 12.5	●	●	●	—

■ indicates the number of contacts. Contact arrangement p.78.
The conductor cross sectional area is less than the following value.However, for sefety standard certified products, use a cable having a value shown on p.128.

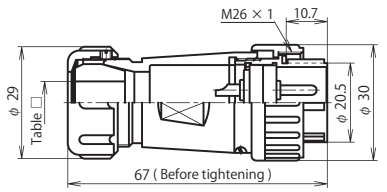
Shell size	Number of Contacts	2	3	4	5	7	10	12	14
20	Safety standard (Note-1)	UL・CSA							—
	Rating (Allowable current for signals)	250V 15A		250V 10A			250V 5A		[3A]
	Withstand voltage (V r.m.s.)	1,500				1,000			500
	Wire size (㎟)	2		1.25			0.5		0.3
	Remarks	—							For signals

Note-1 : Specified separately. "Specified as a set of UL and CSA". For safety standards, see p.128.

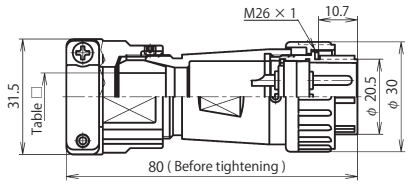
[ ] : Gold plating contact

G Type

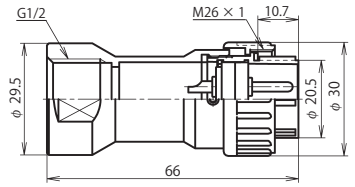
【Power receiving side】< Pin (male) contact used >



NJW-24 ■ -PM □



NJW-24 ■ -PMK □



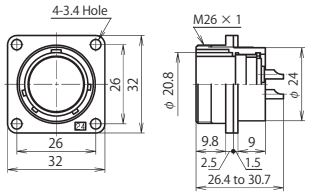
NJW-24 ■ -GPM1/2 (Note)

Plug

Coupled

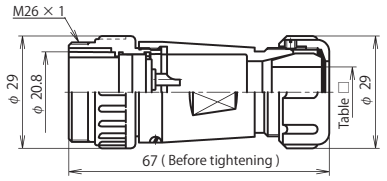
Receptacle

【Power supply side】< Socket (female) contact used >

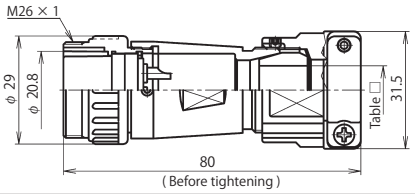


NJW-24 ■ -RF

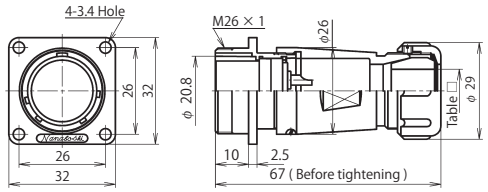
Adapter



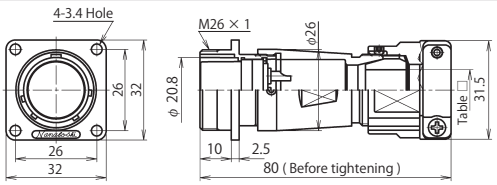
NJW-24 ■ -AdF □



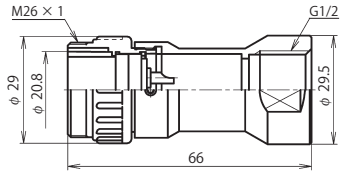
NJW-24 ■ -AdFK □



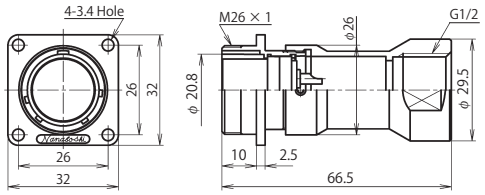
NJW-24 ■ -Ad(F)F □



NJW-24 ■ -Ad(F)FK □



NJW-24 ■ -GAdF1/2 (Note)



NJW-24 ■ -GAd(F)F1/2 (Note)

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135
The waterproof of the conduit installation part depends on the conduit connecting components to use.

Cap・L za pp.90-91

For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used	Normal products		Safety standard	
			Standard	K Type	Standard	K Type
24	8	φ 6.8 to φ 8.0	●	●	—	—
	11	φ 9.5 to φ 11.0	●	●	●	—
	13	φ 11.1 to φ 13.0	●	●	●	—
	15	φ 13.1 to φ 15.0	●	●	●	—

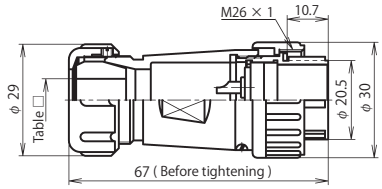
■ indicates the number of contacts. Contact arrangement p.78.
The conductor cross sectional area is less than the following value.However, for sefety standard certified products, use a cable having a value shown on p.128.

[ ] : Gold plating contact

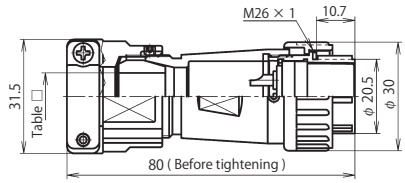
Shell size	Number of Contacts	2	3	4	5	10	14	16	21	24
24	Safety standard (Note-1)	UL・CSA							—	
	Rating (Allowable current for signals)	250V 20A		250V 15A		250V 10A	250V 5A		3pcs=6A [18pcs=3A]	[3A]
	Withstand voltage (V r.m.s.)	1,500				1,000			500	
	Wire size (㎟)	3.5		2		1.25	0.5		3pcs=0.75 18pcs=0.3	0.3
	Remarks	—							For signals	

Note-1 : Specified separately. "Specified as a set of UL and CSA". For safety standards, see p.128.

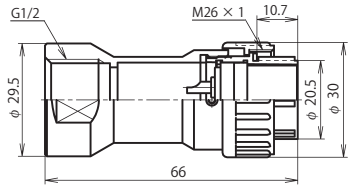
【Power supply side】< Socket (female) contact used >



NJW-24 ■ -PF □



NJW-24 ■ -PFK □

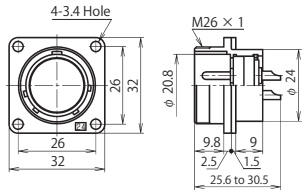


NJW-24 ■ -GPF1/2 (Note)

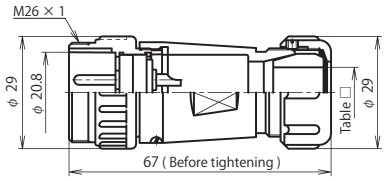
S Type

Plug — Coupled — Receptacle / Adapter

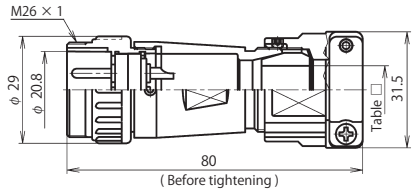
【Power receiving side】< Pin (male) contact used >



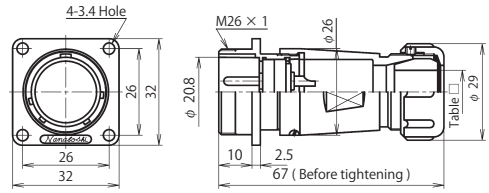
NJW-24 ■ -RM



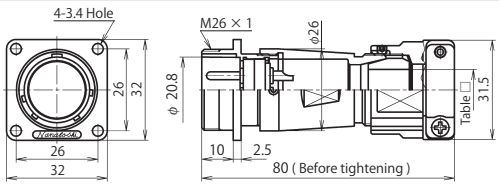
NJW-24 ■ -AdM □



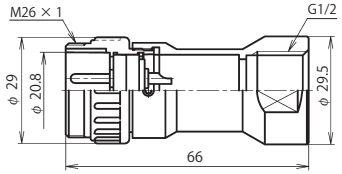
NJW-24 ■ -AdMK □



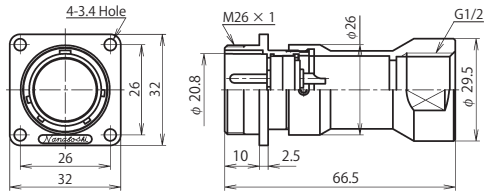
NJW-24 ■ -Ad(F)M □



NJW-24 ■ -Ad(F)MK □



NJW-24 ■ -GAdM1/2 (Note)



NJW-24 ■ -GAd(F)M1/2 (Note)

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Cap・L za pp.90-91

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Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

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24	8	φ 6.8 to φ 8.0	●	●	—	—
	11	φ 9.5 to φ 11.0	●	●	●	—
	13	φ 11.1 to φ 13.0	●	●	●	—
	15	φ 13.1 to φ 15.0	●	●	●	—

■ indicates the number of contacts. Contact arrangement p.78.
The conductor cross sectional area is less than the following value.However, for sefety standard certified products, use a cable having a value shown on p.128.

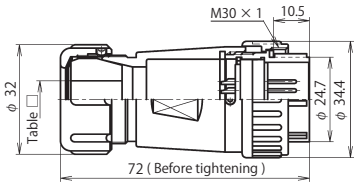
[ ] : Gold plating contact

Shell size	Number of Contacts	2	3	4	5	10	14	16	21	24
24	Safety standard (Note-1)	UL・CSA							—	
	Rating (Allowable current for signals)	250V 20A		250V 15A		250V 10A	250V 5A		3pcs=6A [18pcs=3A]	[3A]
	Withstand voltage (V r.m.s.)	1,500				1,000			500	
	Wire size (㎟)	3.5		2		1.25	0.5		3pcs=0.75 18pcs=0.3	0.3
	Remarks	—							For signals	

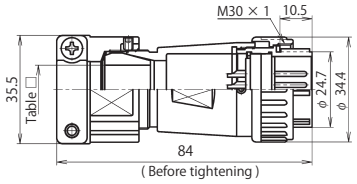
Note-1 : Specified separately. "Specified as a set of UL and CSA". For safety standards, see p.128.

G Type

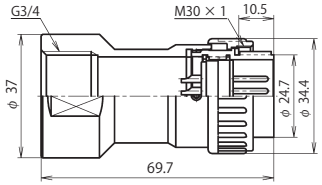
【Power receiving side】< Pin (male) contact used >



NJW-28 ■ -PM □



NJW-28 ■ -PMK □



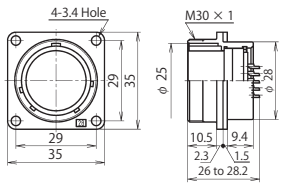
NJW-28 ■ -GPM3/4 (Note)

Plug

Coupled

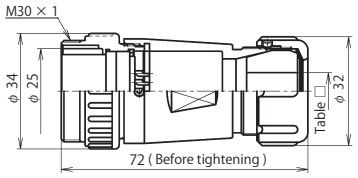
Receptacle

【Power supply side】< Socket (female) contact used >

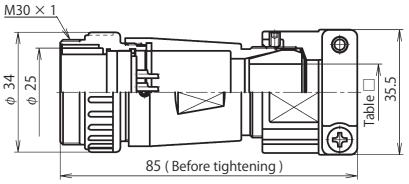


NJW-28 ■ -RF

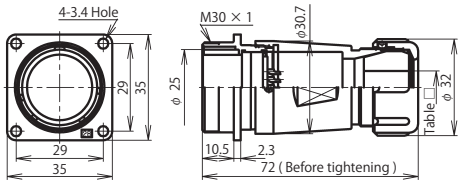
Adapter



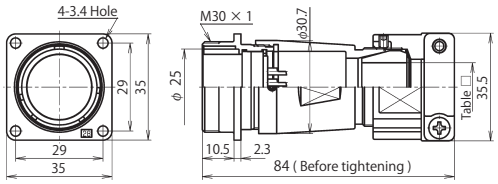
NJW-28 ■ -AdF □



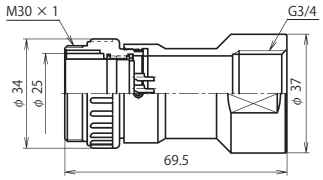
NJW-28 ■ -AdFK □



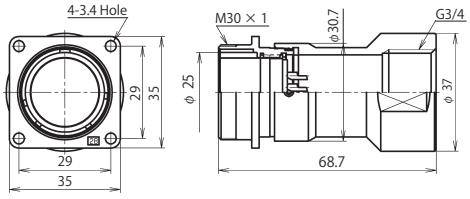
NJW-28 ■ -Ad(F)F □



NJW-28 ■ -Ad(F)FK □



NJW-28 ■ -GAdF3/4 (Note)



NJW-28 ■ -GAd(F)F3/4 (Note)

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135
The waterproof of the conduit installation part depends on the conduit connecting components to use.

Cap・L za pp.90-91

For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used	Normal products		Safety standard	
			Standard	K Type	Standard	K Type
28	10	φ 9.0 to φ 10.9	●	●	—	—
	12	φ 11.0 to φ 12.4	●	●	—	—
	14	φ 12.5 to φ 14.0	●	●	●	—
	16	φ 14.1 to φ 16.0	●	●	●	—
	18	φ 16.1 to φ 18.0	●	●	●	—

■ indicates the number of contacts. Contact arrangement p.79.
The conductor cross sectional area is less than the following value.However, for sefety standard certified products, use a cable having a value shown on p.128.

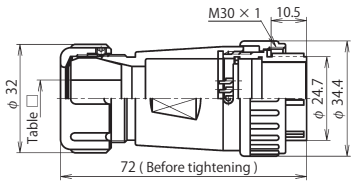
Shell size	Number of Contacts	16	24	31	37
28	Safety standard (Note-1)	UL・CSA		—	
	Rating (Allowable current for signals)	250V 10A	250V 5A	3pcs=6A [28pcs=3A]	[3A]
	Withstand voltage (V r.m.s.)	1,000		500	
	Wire size (㎟)	1.25	0.5	3pcs=0.75 28pcs=0.3	0.3
	Remarks	—		For signals	

Note-1 : Specified separately. "Specified as a set of UL and CSA". For safety standards, see p.128.

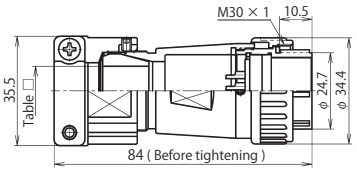
[ ] : Gold plating contact

S Type

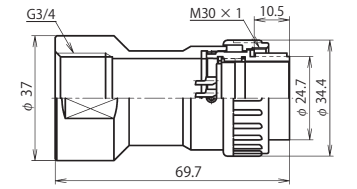
【 Power supply side 】< Socket (female) contact used >



NJW-28 ■ -PF □



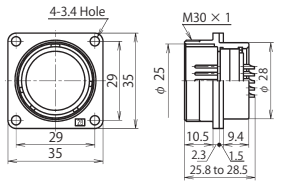
NJW-28 ■ -PFK □



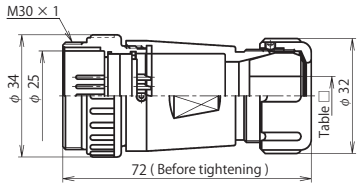
NJW-28 ■ -GPF3/4 (Note)

Plug — Coupled — Receptacle / Adapter

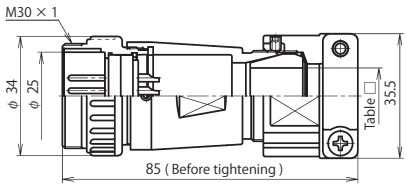
【 Power receiving side 】< Pin (male) contact used >



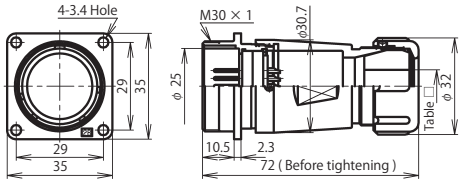
NJW-28 ■ -RM



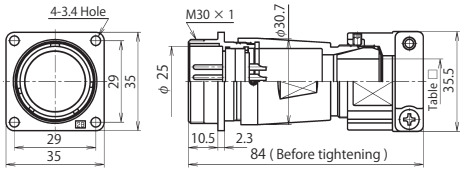
NJW-28 ■ -AdM □



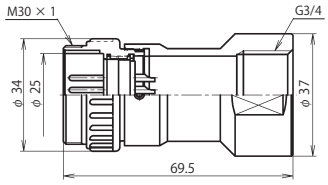
NJW-28 ■ -AdMK □



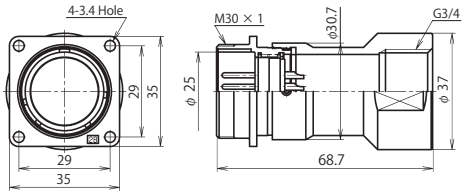
NJW-28 ■ -Ad(F)M □



NJW-28 ■ -Ad(F)MK □



NJW-28 ■ -GAdM3/4 (Note)



NJW-28 ■ -GAd(F)M3/4 (Note)

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135
The waterproof of the conduit installation part depends on the conduit connecting components to use.

Cap・L za pp.90-91

For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used	Normal products		Safety standard	
			Standard	K Type	Standard	K Type
28	10	φ 9.0 to φ 10.9	●	●	—	—
	12	φ 11.0 to φ 12.4	●	●	—	—
	14	φ 12.5 to φ 14.0	●	●	●	—
	16	φ 14.1 to φ 16.0	●	●	●	—
	18	φ 16.1 to φ 18.0	●	●	●	—

■ indicates the number of contacts. Contact arrangement p.79.
The conductor cross sectional area is less than the following value.However, for sefety standard certified products, use a cable having a value shown on p.128.

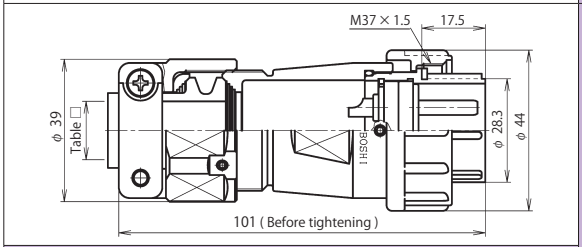
[ ] : Gold plating contact

Shell size	Number of Contacts	16	24	31	37
28	Safety standard (Note-1)	UL・CSA		—	
	Rating (Allowable current for signals)	250V 10A	250V 5A	3pcs=6A [28pcs=3A]	[3A]
	Withstand voltage (V r.m.s.)	1,000		500	
	Wire size (㎟)	1.25	0.5	3pcs=0.75 28pcs=0.3	0.3
	Remarks	—		For signals	

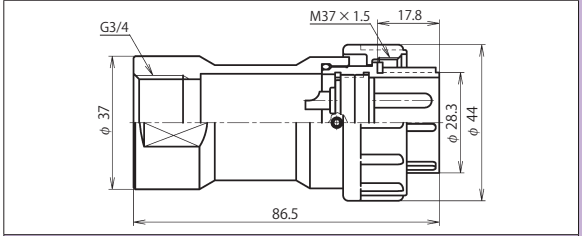
Note-1 : Specified separately. "Specified as a set of UL and CSA". For safety standards, see p.128.

G Type

【Power receiving side】< Pin (male) contact used >



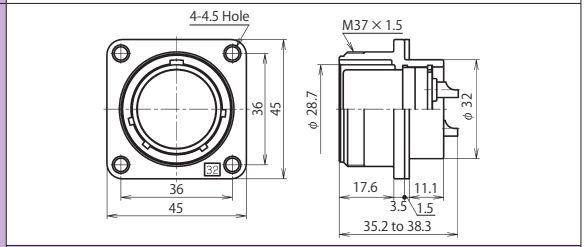
NJW-32 ■ -PM □



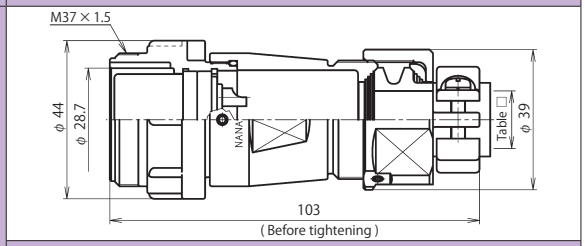
NJW-32 ■ -GPM3/4 (Note)

Plug — Coupled — Receptacle / Adapter

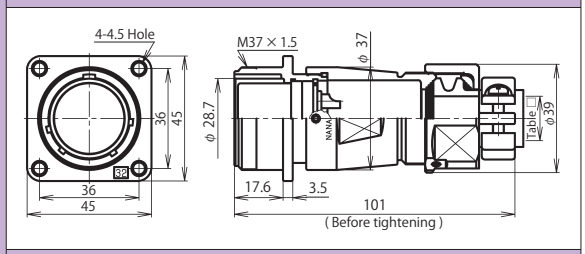
【Power supply side】< Socket (female) contact used >



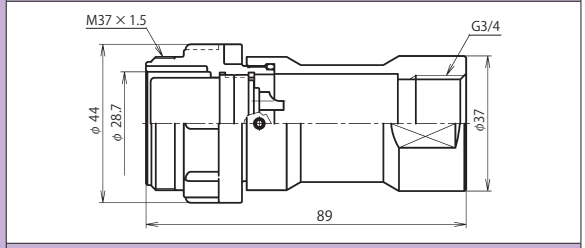
NJW-32 ■ -RF



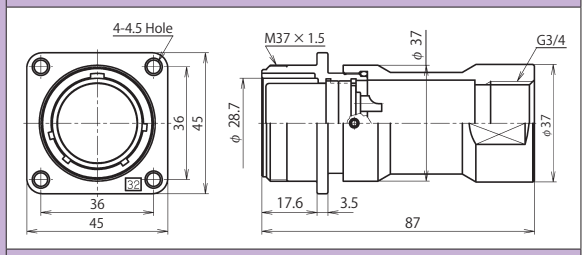
NJW-32 ■ -AdF □



NJW-32 ■ -Ad(F)F □



NJW-32 ■ -GAdF3/4 (Note)



NJW-32 ■ -GAd(F)F3/4 (Note)

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135
The waterproof of the conduit installation part depends on the conduit connecting components to use.

Cap・L za pp.90-91

For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used	Normal products	Safety standard
32	16	φ 11.5 to φ 16.0	●	●
	20	φ 15.5 to φ 20.0	●	●

※ Size 32 is provided with cable clamp as a standard feature.

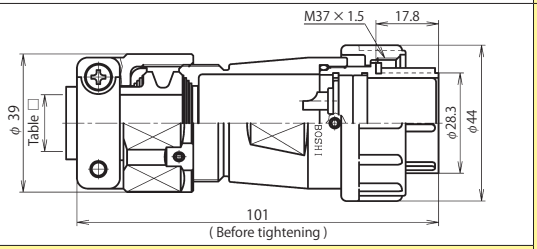
■ indicates the number of contacts. Contact arrangement p.79.
The conductor cross sectional area is less than the following value.However, for sefety standard certified products, use a cable having a value shown on p.128.

Shell size	Number of Contacts	3	4	8	10	12
32	Safety standard (Note-1)	UL・CSA				
	Rating (Allowable current for signals)	250V 30A		250V 10A		
	Withstand voltage (V r.m.s.)	2,000		1,500		
	Wire size (㎟)	5.5 , 6		2		
	Remarks	—				

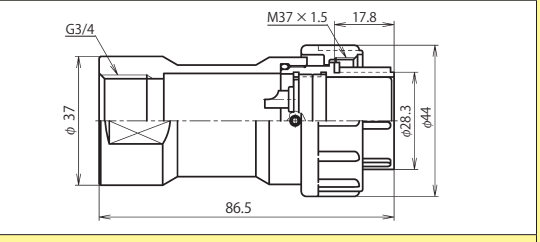
Note-1 : Specified separately. "Specified as a set of UL and CSA". For safety standards, see p.128.

S Type

【Power supply side】< Socket (female) contact used >



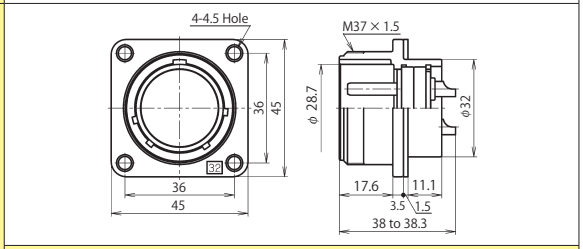
NJW-32 ■ -PF □



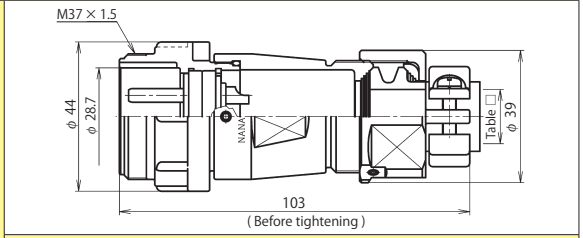
NJW-32 ■ -GPF3/4 (Note)

Plug — Coupled — Receptacle / Adapter

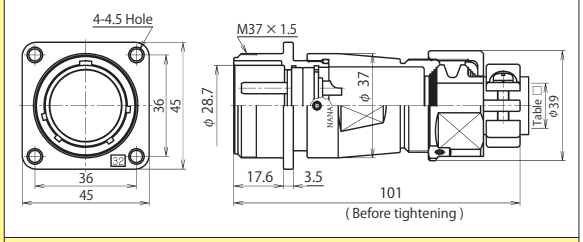
【Power receiving side】< Pin (male) contact used >



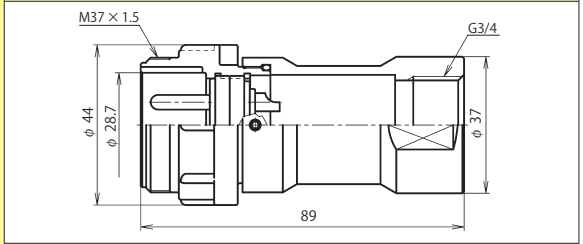
NJW-32 ■ -RM



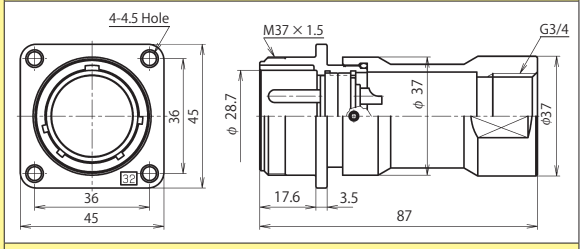
NJW-32 ■ -AdM □



NJW-32 ■ -Ad(F)M □



NJW-32 ■ -GAdM3/4 (Note)



NJW-32 ■ -GAd(F)M3/4 (Note)

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135
The waterproof of the conduit installation part depends on the conduit connecting components to use.

Cap・L za pp.90-91

For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used	Normal products	Safety standard
32	16	φ 11.5 to φ 16.0	●	●
	20	φ 15.5 to φ 20.0	●	●

※ Size 32 is provided with cable clamp as a standard feature.

■ indicates the number of contacts. Contact arrangement p.79.
The conductor cross sectional area is less than the following value.However, for sefety standard certified products, use a cable having a value shown on p.128.

Shell size	Number of Contacts	3	4	8	10	12
32	Safety standard (Note-1)	UL・CSA				
	Rating (Allowable current for signals)	250V 30A		250V 10A		
	Withstand voltage (V r.m.s.)	2,000		1,500		
	Wire size (㎟)	5.5 , 6		2		
	Remarks	—				

Note-1 : Specified separately. "Specified as a set of UL and CSA". For safety standards, see p.128.

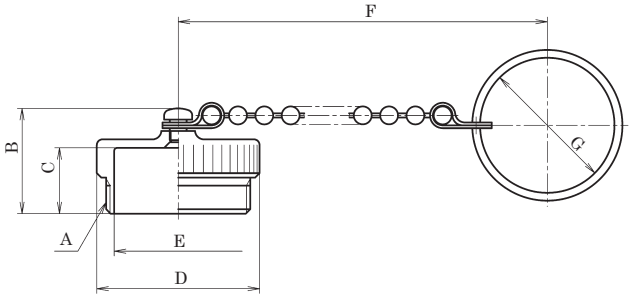
◆【PCa】 Plug cap

Caps used for plugs. Used to protect the contact part when they are not coupled with a receptacle/adapter.

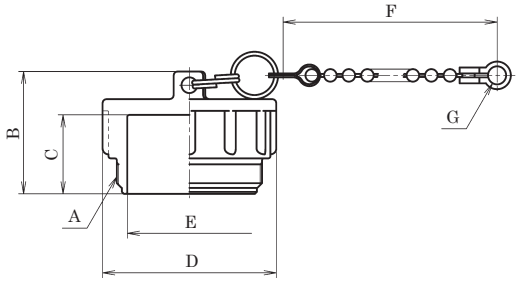
Photo shows Shell size 24

Shell size	Designation	Standard dimensions						
		A	B	C	D	E	F	G
16	NJW-16-PCa	M18 × 1	19	12	φ 22	φ 14	160	φ 21
20	NJW-20-PCa	M22 × 1			φ 25	φ 18.6		
24	NJW-24-PCa	M26 × 1	18.7	11.7	φ 29	φ 22.8	165	φ 24
28	NJW-28-PCa	M30 × 1	19	12	φ 33	φ 27		φ 28
32	NJW-32-PCa	M37 × 1.5	31	20	φ 44	φ 31.5	180	4.5 Hole

NJW-16 to 28



NJW-32



◆【RCa】 Receptacle cap

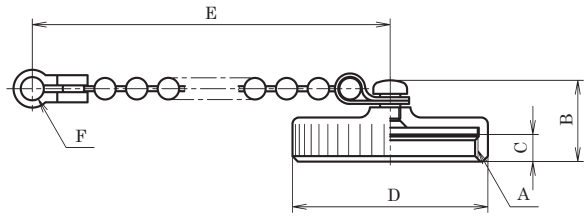
Caps used for receptacles and adapters. Used to protect the contact part when they are not coupled with a plug.

Photo shows Shell size 24

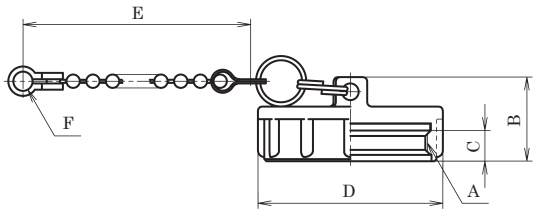
Shell size	Designation	Standard dimensions					
		A	B	C	D	E	F
16	NJW-16-RCa	M18 × 1	11.5	3.5	φ 22	150 (※1)	3.45 Hole
20	NJW-20-RCa	M22 × 1			φ 25		
24	NJW-24-RCa	M26 × 1	12	4	φ 29		
28	NJW-28-RCa	M30 × 1	12.5	4.5	φ 33		
32	NJW-32-RCa	M37 × 1.5	20	7.3	φ 44	80	4.5 Hole

(※1) Length 70 mm also available. (Example：NJW-16-RCa L70)

NJW-16 to 28



NJW-32



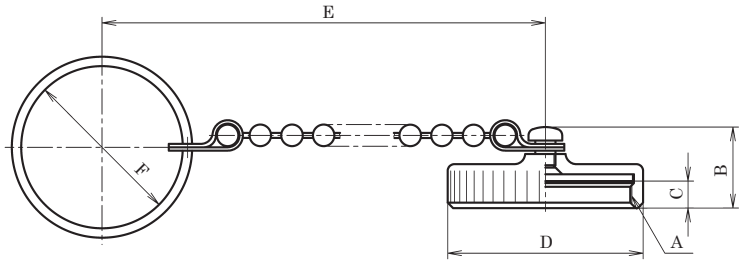
◆【AdCa】 Adapter cap

Caps used for adapters. Used to protect the contact part when they are not coupled with a plug.
For adapters with flange, RCa may also be used.

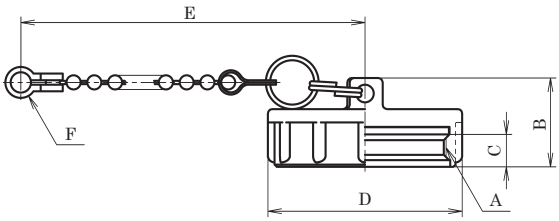
Photo shows Shell size 24

Shell size	Designation	Standard dimensions					
		A	B	C	D	E	F
16	NJW-16-AdCa	M18 × 1	11.5	3.5	ϕ 22	160	ϕ 21
20	NJW-20-AdCa	M22 × 1			ϕ 25		
24	NJW-24-AdCa	M26 × 1	12	4	ϕ 29	165	ϕ 24
28	NJW-28-AdCa	M30 × 1	12.5	4.5	ϕ 33		ϕ 28
32	NJW-32-AdCa	M37 × 1.5	20	7.3	ϕ 44	180	4.5 Hole

NJW-16 to 28



NJW-32



◆【L za】

An angle part used in the receptacle mounting place to change the direction of a receptacle.
The plug and cable can be installed parallel with the panel.

Used commonly for NJW, NAW, NRW and NEW.

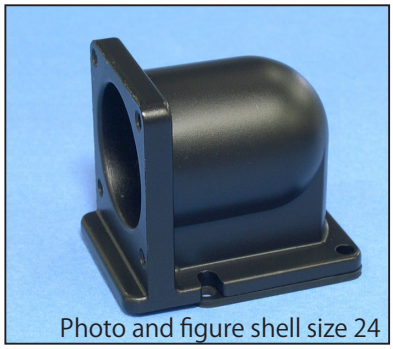
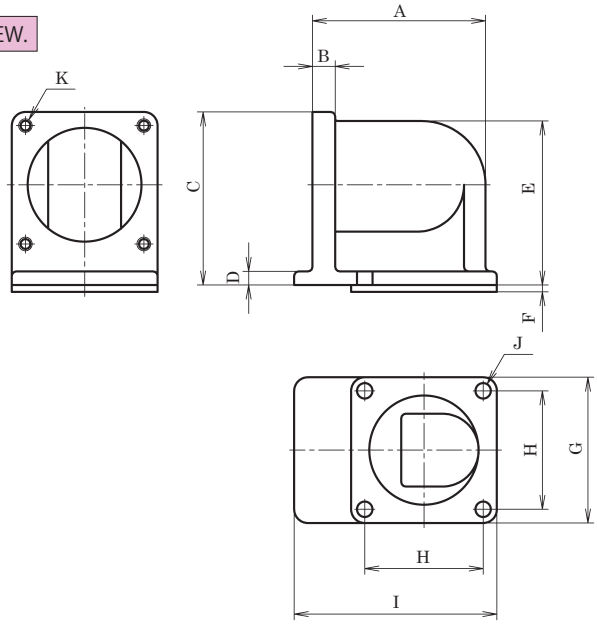
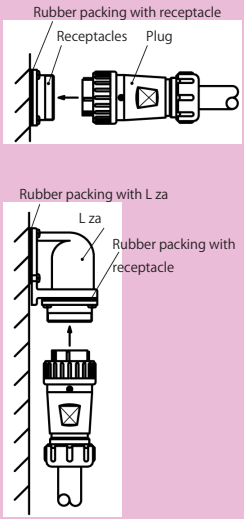


Photo and figure shell size 24



Example of use of L za



Shell size	Designation	Standard dimensions										
		A	B	C	D	E	F	G	H	I	J	K
16	NJW-16-L za	29.5	5	30.5	3	27.5	1.5	26	20	36.9	4-3.4 Hole	4-M3 tap
20	NJW-20-L za	32		35.3	5.3	32.8		29	23	38.4		
24	NJW-24-L za	38		38	3	36		32	26	44.5		
28	NJW-28-L za	41		41.5		40		35	29	46.8		

Number of contacts

Shell size	Contact	Insulation resistance (M Ω)		Contact resistance (m Ω)		Withstand voltage (V r.m.s.)	
		Normal products	Safety standard UL・CSA	Normal products	Safety standard UL・CSA	Normal products	Safety standard UL・CSA
16	3	DC 500V 2,000 min.		3 max.		1,500	
	5	DC 500V 1,000 min.		5 max.		1,000	
	8	DC 250V 1,000 min.	—	5 max.	—	500	—
20	2	DC 500V 2,000 min.		3 max.		1,500	
	3						
	4						
	5						
	7					1,000	
	10	DC 500V 1,000 min.		5 max.			
	12						
	14	DC 250V 1,000 min.	—	5 max.	—	500	—
24	2	DC 500V 5,000 min.	DC 500V 2,000 min.	3 max.		1,500	
	3						
	4						
	5						
	10	DC 500V 2,000 min.				1,000	
	14	DC 500V 1,000 min.		5 max.			
	16						
	21	DC 250V 1,000 min.	—	5 max.	—	500	—
	24						
28	16	DC 500V 2,000 min.		3 max.		1,000	
	24	DC 500V 1,000 min.		5 max.			
	31	DC 250V 1,000 min.	—	5 max.	—	500	—
	37						
32	3	DC 500V 2,000 min.		3 max.		2,000	
	4						
	8					1,500	
	10						
	12						

(Waterproof) No trace of water exposure after being kept at a water pressure of 40 kPa for 24 hours in the coupled state in its normal state of use.

MEMO

NAW Series

Waterproof equivalent to IP-67

Safety standard certified products available

RoHS **Quick lock**

Overview

- Metallic type of quick lock waterproof connectors.
- Robust assured by employment of a metallic shell.
- Suitable for use in civil engineering & construction machines and other various types of machinery.

Feature

RoHS	RoHS Directive compliant
Waterproof	Waterproof connector【Waterproof function equivalent to IP-67 when coupled】
Lock method	Quick lock
Features of mechanism/ material	○ Die cast shell with zinc alloy. ○ Smooth coupling thanks to employment of 5-key system guide. ○ Installation in a small space enabled by use of the L za.
Standards	○ UL・CSA standard certified connectors available.（UL : UL1977　CSA : C22.2 No.182.3） ○ < CSA NRTL/C > standard certified connectors available.（CSA : C22.2 No.182.3　UL : 1977） Note: The specifications of safety standard certified products are slightly different from those of standard products. For the rated voltage, current and cable conductor cross sectional area, refer to A List of Standards Acquired (pp.128-129).
Cable termination	Soldering

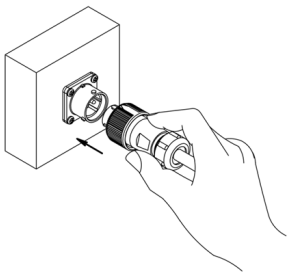
Characteristics Insulation resistance , Withstand voltage , Contact resistance , Waterproof p.103

The pin contact type has an exposed electrode. If it is used on the [power supply] side, it may cause electric shock or short-circuit accidents. To prevent such accidents, use the socket contact type on the [power supply] side and the pin contact type on the [equipment] side.

Insertion

Align the plug and the guide of the mating connector (receptacle/adapter) and push in straight until it clicks in place.

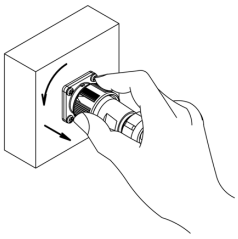
Caution: When inserting, do not turn the lock nut.



Extraction

Extract the connector with the lock nut turned in the arrow direction 30 degrees CCW for Size 16 and 45 degrees CCW for Sizes 20 & 24.

Caution: When extracting, do not turn the end bell.



NAW Series

Product No. designation

NAW - 20 ■ - P M _ _ □ _

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① Series designation
② Shell size
③ Number of contacts
④ Shell shape
⑤ Contact shape < Pin (male) contact : M , Socket (female) contact : F >
⑥ K type symbol (K) 《 Required only for products with settings 》
⑦ Guide position change symbol (X , Y , Z) 《 Required only when changing the guide position 》
⑧ Symbol indicating cable packing size. 《 Plug & adapter require symbol to be specified. 》
⑨ Safety standard specification (< UL・CSA > , < CSA NRTL/C >)
《 Required only when safety standard is to be specified. 》 For applicable products, see pp.128-129.

《Option》

・When using a plural number of same products at the same time, the guide position can be changed in order to prevent mis-insertion.
(For applicable products, see below.)
Product name example : NAW-2010-PFX
Guide position change symbol (X, Y, Z) in the red character part.

Cable termination : Soldering

NAW

Material and Finish

	Material	Finish
Shell	Zinc alloy (Partially aluminum alloy)	Special treatment
Insulator	Synthetic resin	—
Contact	Copper alloy	Silver plating Gold plating
Packing	Synthetic rubber	—

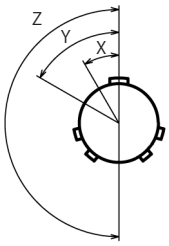
Operating temperature range

Shell size	Number of Contacts	Operating temperature range
16	3 , 5	-25℃ to +85℃
20	2 , 3 , 4 , 5 , 7 , 10 , 12	
24	2 , 3 , 4 , 5 , 10 , 14 , 16	
16	8	-25℃ to +60℃
20	14	
24	21 , 24	

To change the guide position (Following number of contacts only)

Shell size	Number of Contacts	Guide Position Symbol		
		X	Y	Z
16	★ 3	30°	60°	180°
	★ 5	45°	90°	315°
20	☆ 7	30°	-	-
	☆ 10	45°	90°	315°
	☆ 12		95°	190°
24	★ 10	45°	90°	315°
	★ 14			
	★ 16			

★ CSA NRTL/C products supported also.
☆ UL・CSA products supported also.

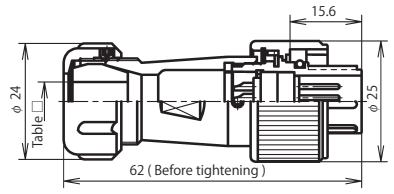


An image of guide position change

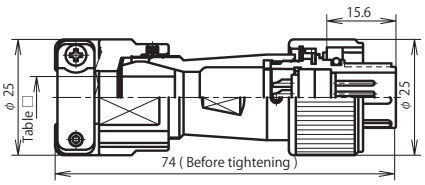
< When viewed from the pin (male) contact side coupling face >

G Type

【Power receiving side】< Pin (male) contact used >



NAW-16 ■ -PM □



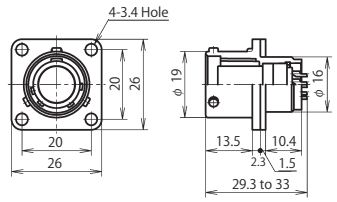
NAW-16 ■ -PMK □

Plug

Coupled

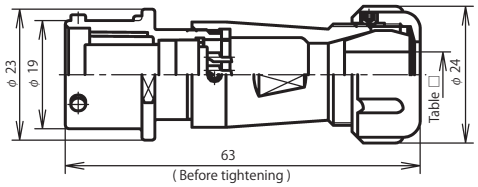
【Power supply side】< Socket (female) contact used >

Receptacle

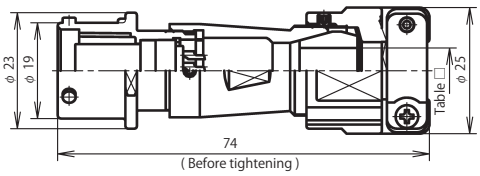


NAW-16 ■ -RF

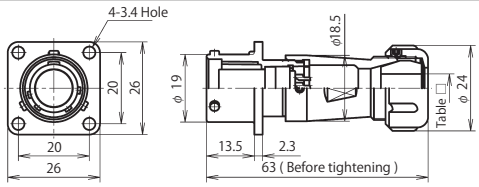
Adapter



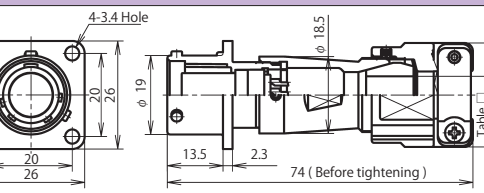
NAW-16 ■ -AdF □



NAW-16 ■ -AdFK □



NAW-16 ■ -Ad(F)F □



NAW-16 ■ -Ad(F)FK □

Cap p.102・L za p.91

For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used	Normal products		Safety standard	
			Standard	K Type	Standard	K Type
16	5	φ 4.0 to φ 4.8	●	—	●	—
	7	φ 5.7 to φ 6.8	●	●	●	—
	8	φ 6.9 to φ 7.9	●	●	●	—
	9	φ 8.0 to φ 9.4	●	●	●	—
	11	φ 9.5 to φ 11.0	●	●	●	—

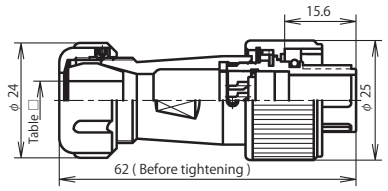
■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on p.129.

Shell size	Number of Contacts	3	5	8
16	Contact arrangement <When viewed from the pin (male) contact coupling side>			
	Safety standard (Note-1)	CSA NRTL/C		—
	Rating (Allowable current for signals)	125V		—
		10A	5A	[3A]
	Withstand voltage (V r.m.s.)	1,500	1,000	500
	Wire size (㎟)	1.25	0.5	0.3
	Remarks	—		For signals

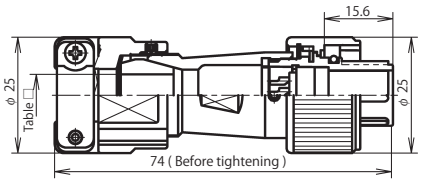
Note-1 : Specified separately. For safety standards, see p.129.

[ ] : Gold plating contact

【Power supply side】< Socket (female) contact used >



NAW-16 ■ -PF □



NAW-16 ■ -PFK □

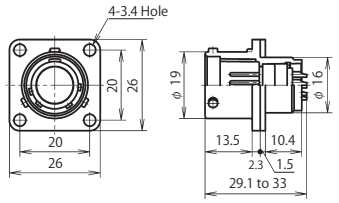
Plug

S Type

Coupled

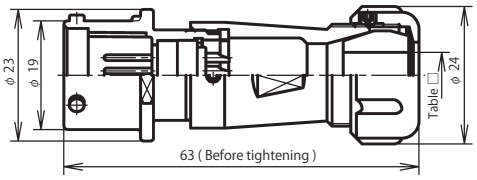
Receptacle

【Power receiving side】< Pin (male) contact used >

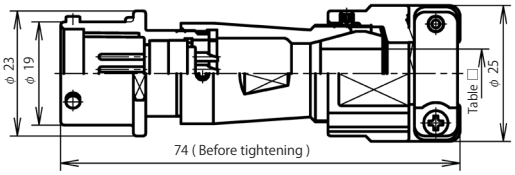


NAW-16 ■ -RM

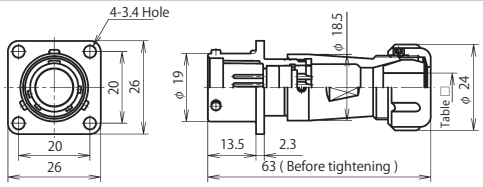
Adapter



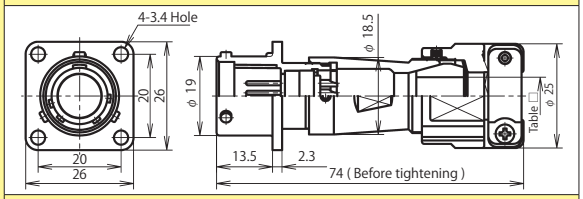
NAW-16 ■ -AdM □



NAW-16 ■ -AdMK □



NAW-16 ■ -Ad(F)M □



NAW-16 ■ -Ad(F)MK □

Cap p.102・L za p.91

For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used	Normal products		Safety standard	
			Standard	K Type	Standard	K Type
16	5	φ 4.0 to φ 4.8	●	—	●	—
	7	φ 5.7 to φ 6.8	●	●	●	—
	8	φ 6.9 to φ 7.9	●	●	●	—
	9	φ 8.0 to φ 9.4	●	●	●	—
	11	φ 9.5 to φ 11.0	●	●	●	—

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on p.129.

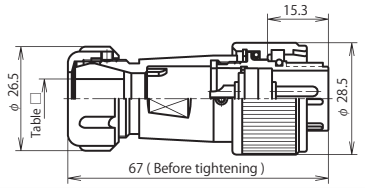
Shell size	Number of Contacts	3	5	8
16	Contact arrangement <When viewed from the pin (male) contact coupling side>			
	Safety standard (Note-1)	CSA NRTL/C		—
	Rating (Allowable current for signals)	125V		—
		10A	5A	[3A]
	Withstand voltage (V r.m.s.)	1,500	1,000	500
	Wire size (㎟)	1.25	0.5	0.3
	Remarks	—		For signals

[ ] : Gold plating contact

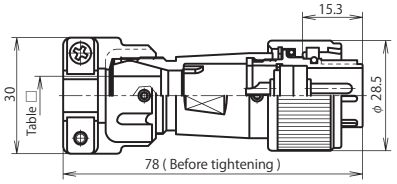
Note-1 : Specified separately. For safety standards, see p.129.

G Type

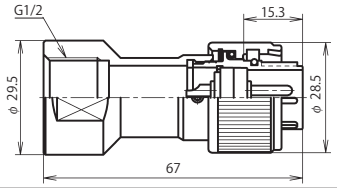
【Power receiving side】< Pin (male) contact used >



NAW-20 ■ -PM □



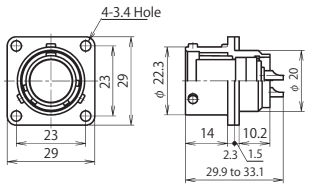
NAW-20 ■ -PMK □



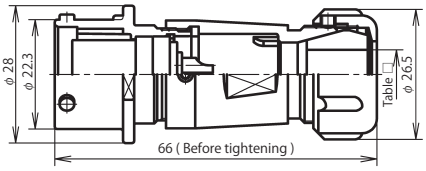
NAW-20 ■ -GPM1/2 (Note)

Plug — Coupled — Receptacle / Adapter

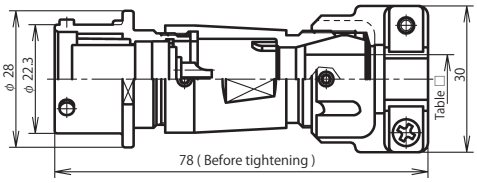
【Power supply side】< Socket (female) contact used >



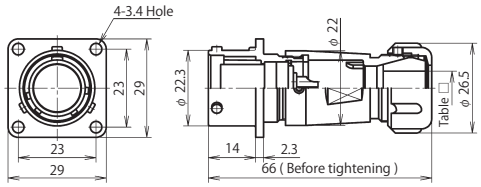
NAW-20 ■ -RF



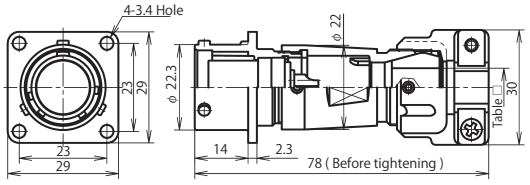
NAW-20 ■ -AdF □



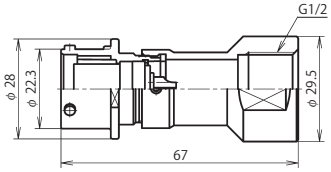
NAW-20 ■ -AdFK □



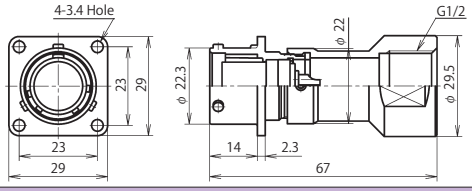
NAW-20 ■ -Ad(F)F □



NAW-20 ■ -Ad(F)FK □



NAW-20 ■ -GAdF1/2 (Note)



NAW-20 ■ -GAd(F)F1/2 (Note)

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135
The waterproof of the conduit installation part depends on the conduit connecting components to use.

Cap p.102・L za p.91

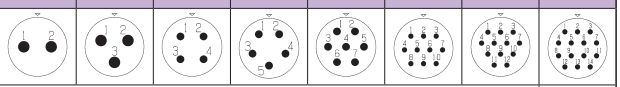
For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used	Normal products		Safety standard	
			Standard	K Type	Standard	K Type
20	6	φ 5.5 to φ 6.3	●	—	●	—
	8	φ 7.0 to φ 8.5	●	●	●	—
	10	φ 8.6 to φ 10.5	●	●	●	—
	12	φ 10.6 to φ 12.5	●	●	●	—

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on p.128.

Shell size	Number of Contacts	2	3	4	5	7	10	12	14
20	Contact arrangement <When viewed from the pin (male) contact coupling side>								
	Safety standard (Note-1)	UL・CSA							—
	Rating (Allowable current for signals)	250V							—
		15A		10A			5A		[3A]
	Withstand voltage (V r.m.s.)	1,500				1,000			500
	Wire size (mm²)	2		1.25			0.5		0.3
	Remarks	—							For signals

Note-1 : Specified separately. "Specified as a set of UL and CSA". For safety standards, see p.128.

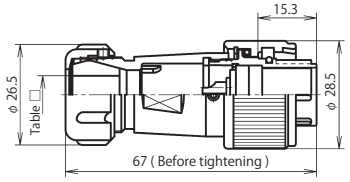
[ ] : Gold plating contact

【Power supply side】< Socket (female) contact used >

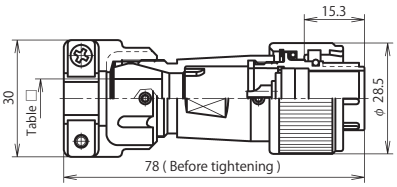
S Type

【Power receiving side】< Pin (male) contact used >

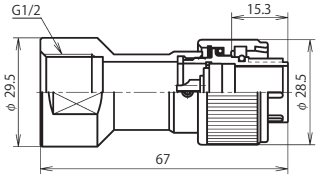
Plug — Coupled — Receptacle / Adapter



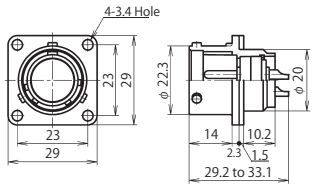
NAW-20 ■ -PF □



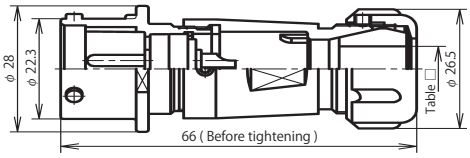
NAW-20 ■ -PFK □



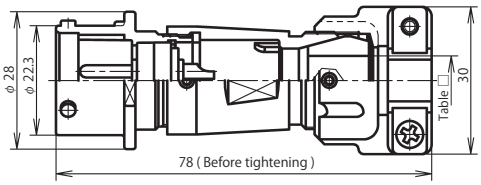
NAW-20 ■ -GPF1/2 (Note)



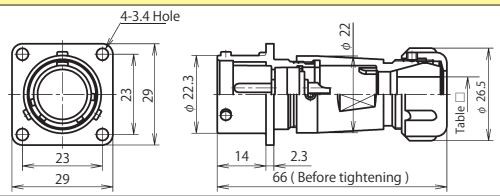
NAW-20 ■ -RM



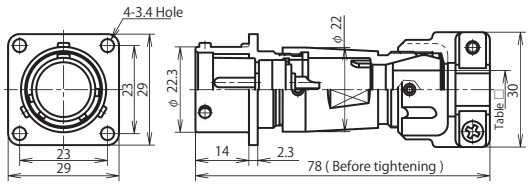
NAW-20 ■ -AdM □



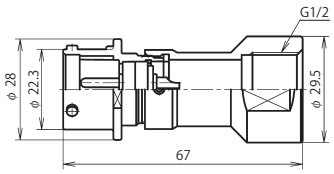
NAW-20 ■ -AdMK □



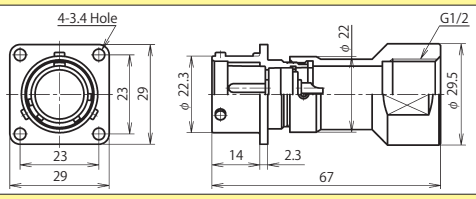
NAW-20 ■ -Ad(F)M □



NAW-20 ■ -Ad(F)MK □



NAW-20 ■ -GAdM1/2 (Note)



NAW-20 ■ -GAd(F)M1/2 (Note)

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135
The waterproof of the conduit installation part depends on the conduit connecting components to use.

Cap p.102 • L za p.91

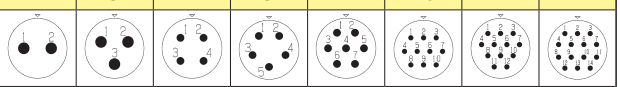
For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used	Normal products		Safety standard	
			Standard	K Type	Standard	K Type
20	6	φ 5.5 to φ 6.3	●	—	●	—
	8	φ 7.0 to φ 8.5	●	●	●	—
	10	φ 8.6 to φ 10.5	●	●	●	—
	12	φ 10.6 to φ 12.5	●	●	●	—

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on p.128.

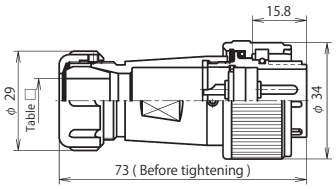
Shell size	Number of Contacts	2	3	4	5	7	10	12	14
20	Contact arrangement <When viewed from the pin (male) contact coupling side>								
	Safety standard (Note-1)	UL・CSA							—
	Rating (Allowable current for signals)	250V							—
		15A		10A			5A		[3A]
	Withstand voltage (V r.m.s.)	1,500				1,000			500
	Wire size (mm²)	2		1.25			0.5		0.3
	Remarks	—							For signals

Note-1 : Specified separately. "Specified as a set of UL and CSA". For safety standards, see p.128.

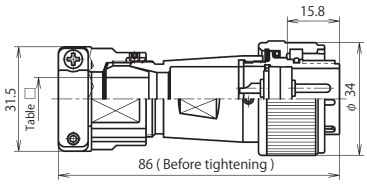
[ ] : Gold plating contact

G Type

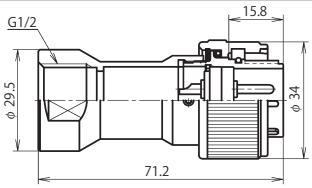
【Power receiving side】< Pin (male) contact used >



NAW-24 ■ -PM □



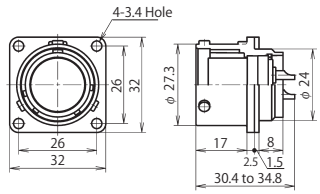
NAW-24 ■ -PMK □



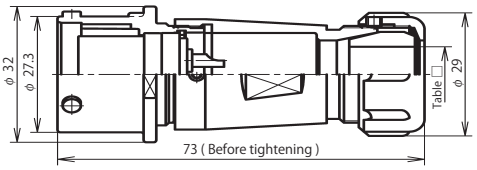
NAW-24 ■ -GPM1/2 (Note)

Plug — Coupled — Receptacle / Adapter

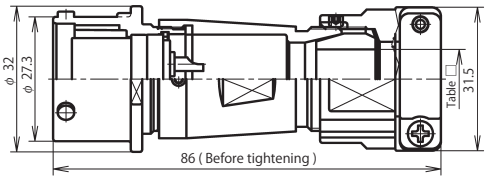
【Power supply side】< Socket (female) contact used >



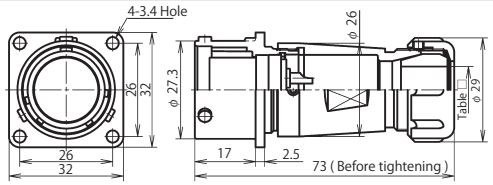
NAW-24 ■ -RF



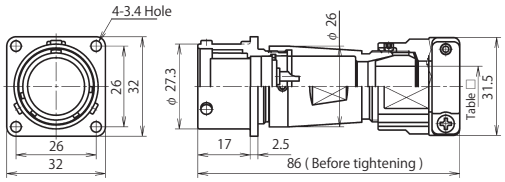
NAW-24 ■ -AdF □



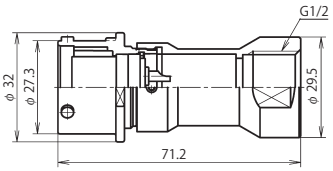
NAW-24 ■ -AdFK □



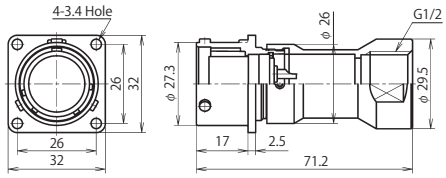
NAW-24 ■ -Ad(F)F □



NAW-24 ■ -Ad(F)FK □



NAW-24 ■ -GAdF1/2 (Note)



NAW-24 ■ -GAd(F)F1/2 (Note)

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135
The waterproof of the conduit installation part depends on the conduit connecting components to use.

Cap p.102 • L za p.91

For the plug and adapter , be sure to select □ (cable packing symbol).

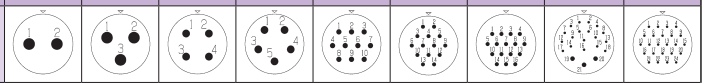
Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used	Normal products		Safety standard	
			Standard	K Type	Standard	K Type
24	8	φ 6.8 to φ 8.0	●	●	●	—
	11	φ 9.5 to φ 11.0	●	●	●	—
	13	φ 11.1 to φ 13.0	●	●	●	—
	15	φ 13.1 to φ 15.0	●	●	●	—

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on p.129.

[ ] : Gold plating contact

Shell size	Number of Contacts	2	3	4	5	10	14	16	21	24
24	Contact arrangement <When viewed from the pin (male) contact coupling side>									
	Safety standard (Note-1)	CSA NRTL/C							—	
	Rating (Allowable current for signals)	250V							—	
		20A		15A		10A	5A		3pcs=6A [18pcs=3A]	[3A]
	Withstand voltage (V r.m.s.)	1,500				1,000			500	
	Wire size (mm²)	3.5		2		1.25	0.5		3pcs=0.75 18pcs=0.3	0.3
	Remarks	—							For signals	

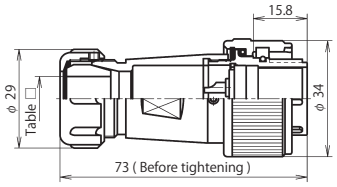
Note-1 : Specified separately. For safety standards, see p.129.

【Power supply side】< Socket (female) contact used >

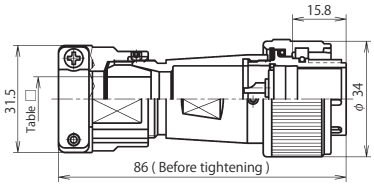
S Type

【Power receiving side】< Pin (male) contact used >

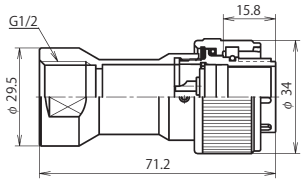
Plug — Coupled — Receptacle / Adapter



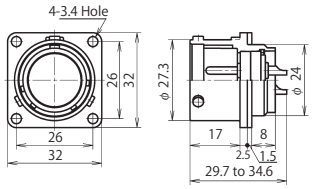
NAW-24 ■ -PF □



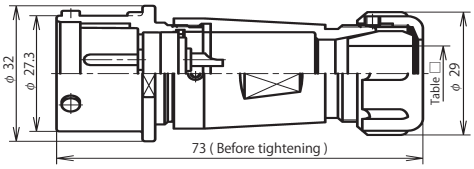
NAW-24 ■ -PFK □



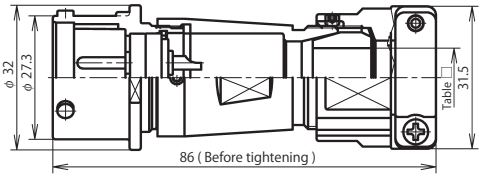
NAW-24 ■ -GPF1/2 (Note)



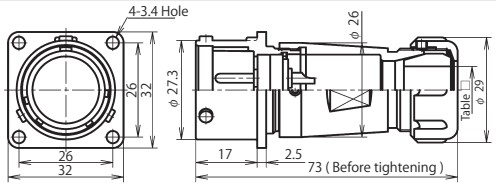
NAW-24 ■ -RM



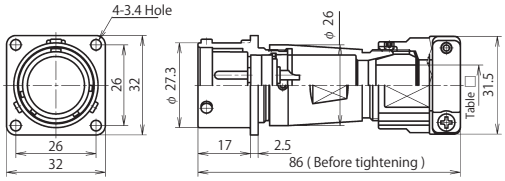
NAW-24 ■ -AdM □



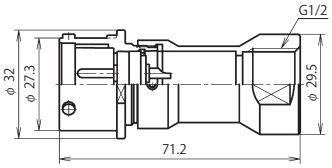
NAW-24 ■ -AdMK □



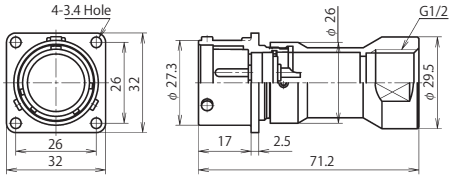
NAW-24 ■ -Ad(F)M □



NAW-24 ■ -Ad(F)MK □



NAW-24 ■ -GAdM1/2 (Note)



NAW-24 ■ -GAd(F)M1/2 (Note)

Note: We show sizes by the nominal "G(PF)" of parallel pipe threads. p.135
The waterproof of the conduit installation part depends on the conduit connecting components to use.

Cap p.102 • L za p.91

For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used	Normal products		Safety standard	
			Standard	K Type	Standard	K Type
24	8	φ 6.8 to φ 8.0	●	●	●	—
	11	φ 9.5 to φ 11.0	●	●	●	—
	13	φ 11.1 to φ 13.0	●	●	●	—
	15	φ 13.1 to φ 15.0	●	●	●	—

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on p.129.

Shell size	Number of Contacts	2	3	4	5	10	14	16	21	24
24	Contact arrangement <When viewed from the pin (male) contact coupling side>									
	Safety standard (Note-1)	CSA NRTL/C							—	
	Rating (Allowable current for signals)	250V							—	
		20A		15A		10A	5A		3pcs=6A [18pcs=3A]	[3A]
	Withstand voltage (V r.m.s.)	1,500				1,000			500	
	Wire size (mm²)	3.5		2		1.25	0.5		3pcs=0.75 18pcs=0.3	0.3
	Remarks	—							For signals	

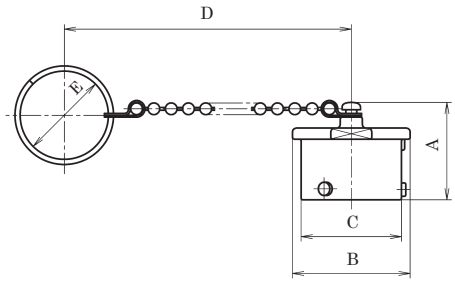
[ ] : Gold plating contact

Note-1 : Specified separately. For safety standards, see p.129.

NAW Series

◆【PCa】 Plug cap

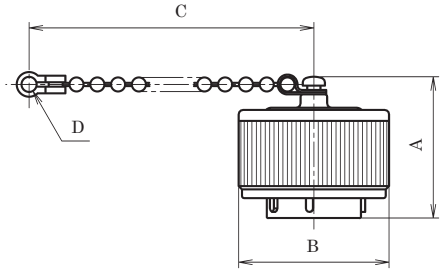
Caps used for plugs. Used to protect the contact part when they are not coupled with a receptacle/adapter.



Shell size	Designation	Standard dimensions				
		A	B	C	D	E
16	NAW-16-PCa	25	ϕ 23	ϕ 19	160	ϕ 21
20	NAW-20-PCa		ϕ 28	ϕ 22.3		
24	NAW-24-PCa	26.5	ϕ 32	ϕ 27.3	165	ϕ 24

◆【RCa】 Receptacle cap

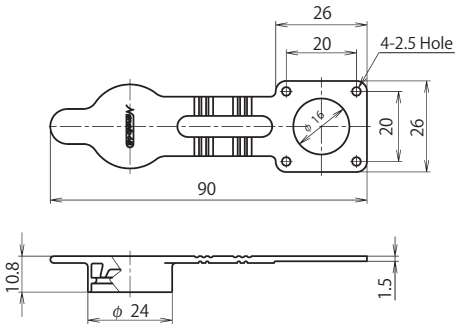
Caps used for receptacles. Used to protect the contact part when they are not coupled with a plug.



Shell size	Designation	Standard dimensions			
		A	B	C	D
16	NAW-16-RCa	30.5	ϕ 25	150 (※1)	3.45 Hole
20	NAW-20-RCa	32	ϕ 28.5		
24	NAW-24-RCa		ϕ 34		

(※1) Length 70 mm also available. (Example：NAW-20-RCa L70)

◆【RCa・2】 Receptacle rubber cap



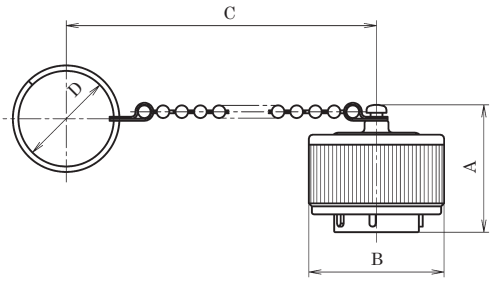
Caps used for receptacles. Used to protect the contact part when they are not coupled with a plug.
This is a flange packing one piece type and the flange packing part is installed between the flange of the receptacle and the mounting panel.
The flange packing part is water tight. The cap is not water tight.

Shell size 16 NAW only

Shell size	Designation
16	NAW-16-RCa・2

◆【AdCa】 Adapter cap

Caps used for adapters. Used to protect the contact part when they are not coupled with a plug.
For adapters with flange, RCa may also be used.



Shell size	Designation	Standard dimensions			
		A	B	C	D
16	NAW-16-AdCa	30.5	ϕ 25	160	ϕ 21
20	NAW-20-AdCa	32	ϕ 28.5		
24	NAW-24-AdCa		ϕ 34	165	ϕ 24

Number of contacts

Shell size	Contact	Insulation resistance (M Ω)		Contact resistance (m Ω)		Withstand voltage (V r.m.s.)	
		Normal products	Safety standard CSA NRTL/C	Normal products	Safety standard CSA NRTL/C	Normal products	Safety standard CSA NRTL/C
16	3	DC 500V 2,000 min.		3 max.		1,500	
	5	DC 500V 1,000 min.		5 max.		1,000	
	8	DC 250V 1,000 min.	—	5 max.	—	500	—
24	2	DC 500V 5,000 min.		3 max.		1,500	
	3						
	4						
	5						
	10	DC 500V 2,000 min.				1,000	
	14	DC 500V 1,000 min.		5 max.			
	16						
	21	DC 250V 1,000 min.	—	5 max.	—	500	—
	24						

Number of contacts

Shell size	Contact	Insulation resistance (M Ω)		Contact resistance (m Ω)		Withstand voltage (V r.m.s.)	
		Normal products	Safety standard UL・CSA	Normal products	Safety standard UL・CSA	Normal products	Safety standard UL・CSA
20	2	DC 500V 2,000 min.		3 max.		1,500	
	3						
	4						
	5						
	7					1,000	
	10	DC 500V 1,000 min.		5 max.			
	12						
	14	DC 250V 1,000 min.	—	5 max.	—	500	—

(Waterproof) No trace of water exposure after being kept at a water pressure of 40 kPa for 24 hours in the coupled state in its normal state of use.

NRW Series

Waterproof equivalent to IP-67

Safety standard certified products available

RoHS **Quick lock**

Overview

- Made of resin and light weight. Quick lock system to make these connectors most suitable for portable equipment.
- Proven performance in outdoor measuring equipment, semiconductor equipment, temporary equipment for events, etc.

Feature

RoHS	RoHS Directive compliant
Waterproof	Waterproof connector【Waterproof function equivalent to IP-67 when coupled】
Lock method	Quick lock
Features of mechanism/ material	○ Shell made of weather-resistant, high-strength plastic. ○ Light weight and sturdy. ○ Installation in a small space enabled by use of the L za.
Standards	○ UL・CSA standard certified connectors available.（UL : UL1977　CSA : C22.2 No.182.3） ○ Safety standard certified connectors available. (EN61984 compliant, TÜV certified) Note: The specifications of safety standard certified products are slightly different from those of standard products. For the rated voltage, current and cable conductor cross sectional area, refer to A List of Standards Acquired (pp.128 and 130).
Cable termination	Soldering

Characteristics

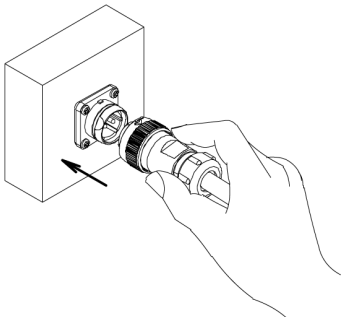
Insulation resistance , Withstand voltage , Contact resistance , Waterproof　p.112

The pin contact type has an exposed electrode. If it is used on the [power supply] side, it may cause electric shock or short-circuit accidents. To prevent such accidents, use the socket contact type on the [power supply] side and the pin contact type on the [equipment] side.

Insertion

Align the plug and the guide of the mating connector (receptacle/adapter) and push in straight.

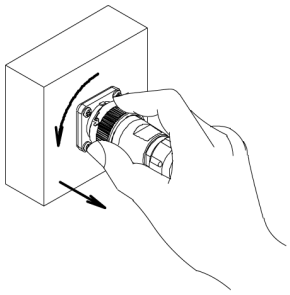
Caution: When inserting, do not turn the coupling nut.



Extraction

With the coupling nut turned CCW 45 degrees in the arrow direction, extract the connector.

Caution: When extracting, do not turn the end bell.



NRW Series

Product No. designation

NRW - 24 ■ - P M _ □ _

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

① Series designation
② Shell size
③ Number of contacts
④ Shell shape
⑤ Contact shape < Pin (male) contact : M , Socket (female) contact : F >
⑥ Guide position change symbol (X , Y , Z) 《 Required only when changing the guide position 》
⑦ Symbol indicating cable packing size. 《 Plug & adapter require symbol to be specified. 》
⑧ Safety standard specification (< UL・CSA > , < UL・CSA , TUV >)
《 Required only when safety standard is to be specified. 》 For applicable products, see pp.128 and 130.

《Option》

・When using a plural number of same products at the same time, the guide position can be changed in order to prevent mis-insertion.
(For applicable products, see below.)
Product name example : NRW-2010-PFX
Guide position change symbol (X, Y, Z) in the red character part.

Cable termination : Soldering

Material and Finish

	Material	Finish
Shell	Synthetic resin	—
Insulator		
Contact	Copper alloy	Silver plating Gold plating
Packing	Synthetic rubber	—

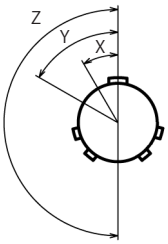
Operating temperature range

Shell size	Number of Contacts	Operating temperature range
20	2 , 3 , 4 , 5 , 7 , 10 , 12	-25℃ to +85℃
24	2 , 3 , 4 , 5 , 10 , 14 , 16	
28	16 , 24	
20	14	-25℃ to +60℃
24	21 , 24	
28	31 , 37	

To change the guide position (Following number of contacts only)

Shell size	Number of Contacts	Guide Position Symbol		
		X	Y	Z
20	7	30°	-	-
	＊ 10	45°	90°	315°
	12		95°	190°
24	10	45°	90°	315°
	14			
	16			
28	＊ 16	45°	90°	315°
	＊ 24			

＊ UL・CSA products supported also.



An image of guide position change

< When viewed from the pin (male) contact side coupling face >

Upper limit of ambient temperature at rated current

TÜV products only

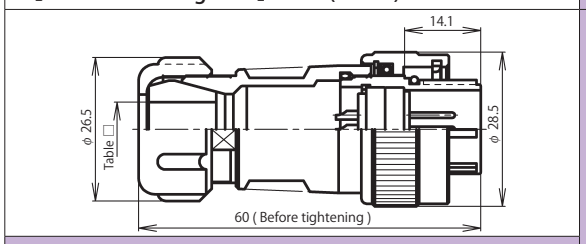
	Number of Contacts			
Shell size	2	3	4	5
20	+77℃	+77℃	+77℃	+77℃
24	+67℃	+67℃	+77℃	+77℃

(**Note**) Max.ambient temp. at rated current
(Based on TÜV certification test results)

NRW

G Type

【Power receiving side】< Pin (male) contact used >



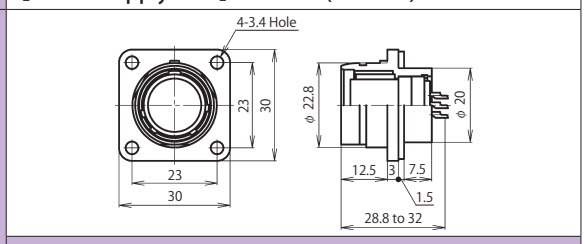
NRW-20 ■ -PM □

Plug

Coupled

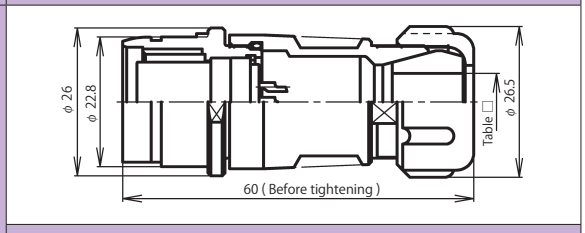
【Power supply side】< Socket (female) contact used >

Receptacle



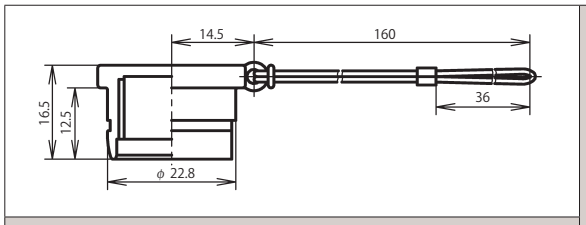
NRW-20 ■ -RF

Adapter

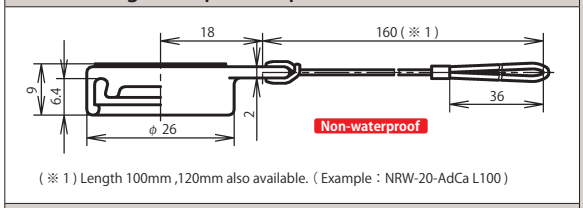


NRW-20 ■ -AdF □

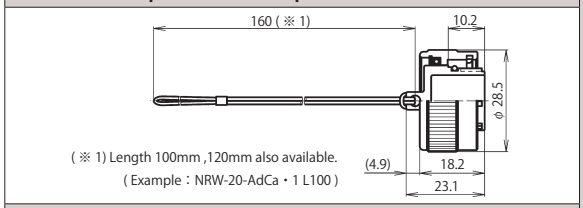
Accessory



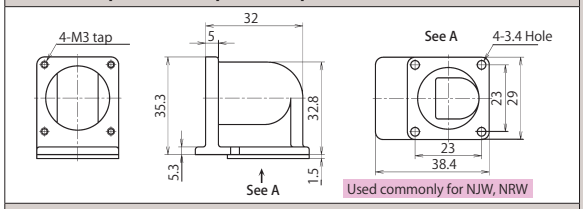
Plug waterproof cap：NRW-20-PCa・1



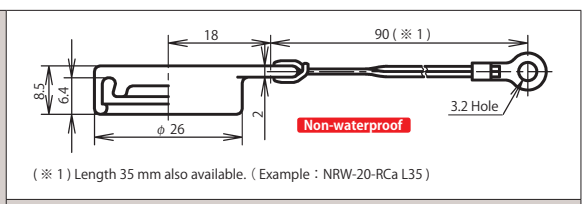
Adapter rubber cap：NRW-20-AdCa



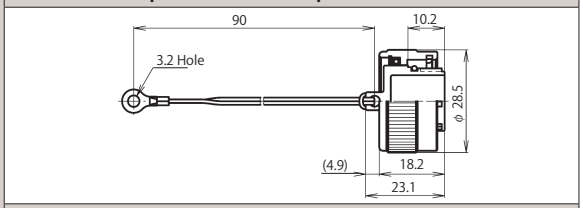
Adapter waterproof cap：NRW-20-AdCa・1



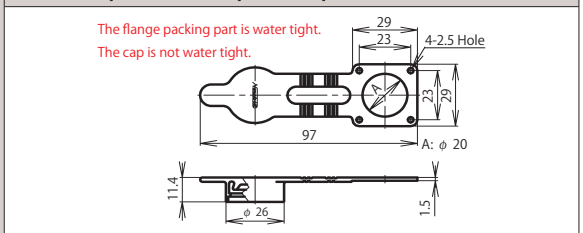
NJW-20-L za



Receptacle rubber cap：NRW-20-RCa



Receptacle waterproof cap：NRW-20-RCa・1



Receptacle rubber cap：NRW-20-RCa・2

For the plug and adapter , be sure to select □ (cable packing symbol).

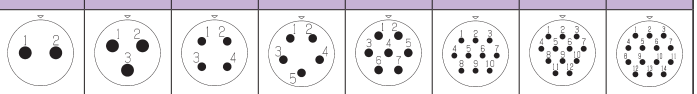
Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used	Normal products	Safety standard	Symbol □	Outer diameter of cable used	Normal products	Safty standard
20	6	φ 5.5 to φ 6.3	●	—	10	φ 8.6 to φ 10.5	●	●
	8	φ 7.0 to φ 8.5	●	●	12	φ 10.6 to φ 12.5	●	●

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on pp.128 and 130.

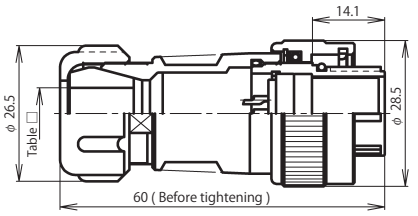
[ ]：Gold plating contact

Shell size	Number of Contacts	2	3	4	5	7	10	12	14
20	Contact arrangement <When viewed from the pin (male) contact coupling side>								
	Safety standard (Note-1)	UL・CSA,TÜV				UL・CSA			—
	Rating (Allowable current for signals)	250V							—
		15A		10A			5A		[3A]
	Withstand voltage (V r.m.s.)	1,500				1,000			500
	Wire size (mm²)	2		1.25			0.5		0.3
	Remarks	—							For signals

Note-1 : Specified separately. Selection of either "specified as a set of UL and CSA" or "UL , CSA and TÜV specified." For safety standards, see pp. 128 and 130.

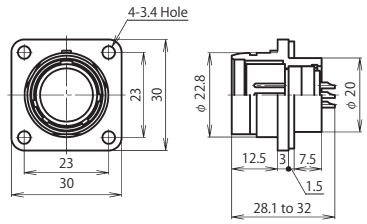
S Type

【Power supply side】< Socket (female) contact used >



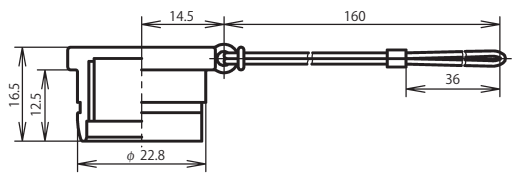
NRW-20 ■ -PF □

【Power receiving side】< Pin (male) contact used >

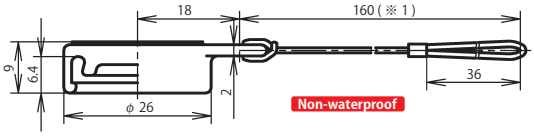


NRW-20 ■ -RM

Plug — Coupled — Receptacle

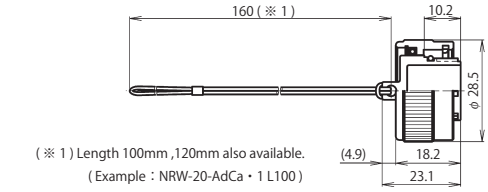


Plug waterproof cap：NRW-20-PCa・1



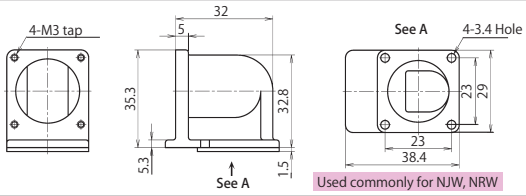
(※ 1) Length 100mm ,120mm also available. (Example：NRW-20-AdCa L100)

Adapter rubber cap：NRW-20-AdCa



(※ 1) Length 100mm ,120mm also available.
(Example：NRW-20-AdCa・1 L100)

Adapter waterproof cap：NRW-20-AdCa・1

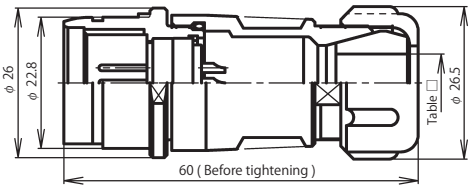


NJW-20-L za

Accessory

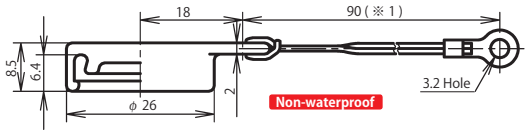
For the plug and adapter , be sure to select □ (cable packing symbol).

Adapter



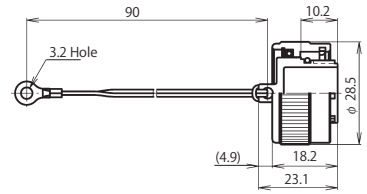
NRW-20 ■ -AdM □

Accessory

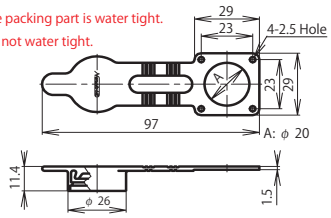


(※ 1) Length 35 mm also available. (Example：NRW-20-RCa L35)

Receptacle rubber cap：NRW-20-RCa



Receptacle waterproof cap：NRW-20-RCa・1



Receptacle rubber cap：NRW-20-RCa・2

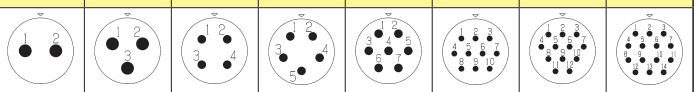
Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used	Normal products	Safety standard	Symbol □	Outer diameter of cable used	Normal products	Safety standard
20	6	φ 5.5 to φ 6.3	●	—	10	φ 8.6 to φ 10.5	●	●
	8	φ 7.0 to φ 8.5	●	●	12	φ 10.6 to φ 12.5	●	●

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on pp.128 and 130.

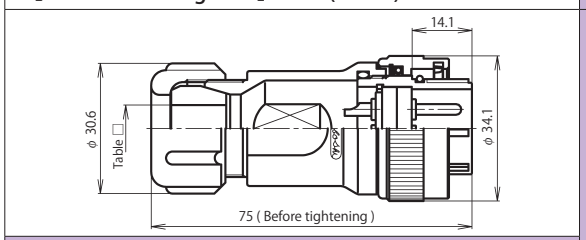
[ ]：Gold plating contact

Shell size	Number of Contacts	2	3	4	5	7	10	12	14
20	Contact arrangement <When viewed from the pin (male) contact coupling side>								
	Safety standard (Note-1)	UL・CSA,TÜV				UL・CSA			—
	Rating (Allowable current for signals)	250V							—
		15A		10A			5A		[3A]
	Withstand voltage (V r.m.s.)	1,500				1,000			500
	Wire size (㎟)	2		1.25			0.5		0.3
	Remarks	—							For signals

Note-1 : Specified separately. Selection of either "specified as a set of UL and CSA" or "UL , CSA and TÜV specified." For safety standards, see pp. 128 and 130.

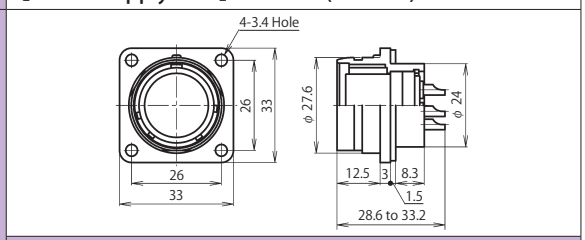
G Type

【Power receiving side】< Pin (male) contact used >



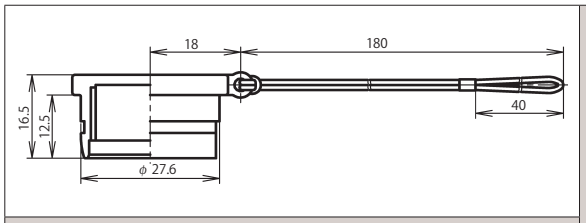
NRW-24 ■ -PM □

【Power supply side】< Socket (female) contact used >

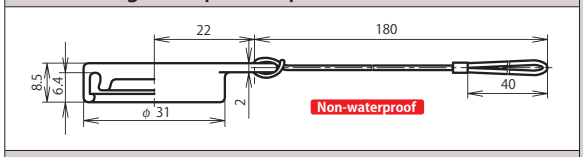


NRW-24 ■ -RF

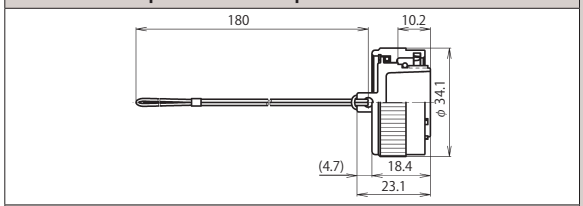
Plug — Coupled — Receptacle



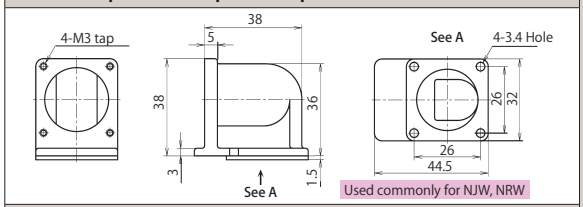
Plug waterproof cap：NRW-24-PCa・1



Adapter rubber cap：NRW-24-AdCa



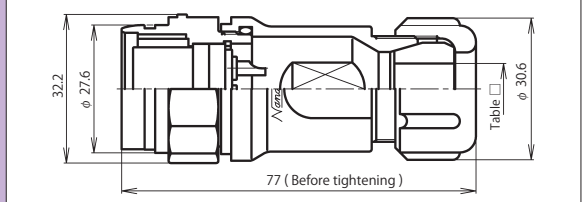
Adapter waterproof cap：NRW-24-AdCa・1



NJW-24-L za

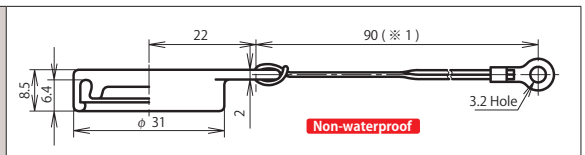
Accessory

Adapter



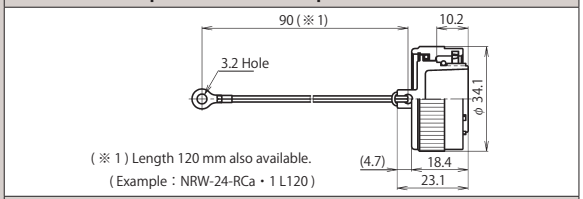
NRW-24 ■ -AdF □

Accessory

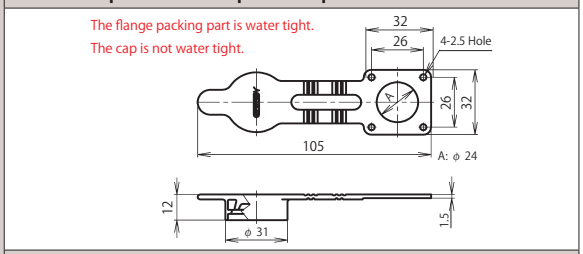


(※ 1) Length 35 mm also available. (Example：NRW-24-RCa L35)

Receptacle rubber cap：NRW-24-RCa



Receptacle waterproof cap：NRW-24-RCa・1



Receptacle rubber cap：NRW-24-RCa・2

For the plug and adapter , be sure to select □ (cable packing symbol).

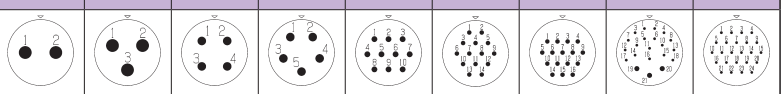
Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used	Normal products	Safety standard
24	8	φ 6.8 to φ 8.0	●	—
	11	φ 9.5 to φ 11.0	●	●
	13	φ 11.1 to φ 13.0	●	●
	15	φ 13.1 to φ 15.0	●	●

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on pp.128 and 130.

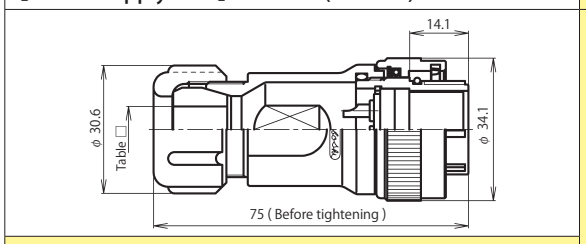
[ ]：Gold plating contact

Shell size	Number of Contacts	2	3	4	5	10	14	16	21	24
24	Contact arrangement <When viewed from the pin (male) contact coupling side>									
	Safety standard (Note-1)	UL・CSA,TÜV				UL・CSA			—	
	Rating (Allowable current for signals)	250V							—	
		20A		15A		10A	5A		3pcs=6A [18pcs=3A]	[3A]
	Withstand voltage (V r.m.s.)	1,500				1,000			500	
	Wire size (mm²)	3.5		2		1.25	0.5		3pcs=0.75 18pcs=0.3	0.3
	Remarks	—							For signals	

Note-1 : Specified separately. Selection of either "specified as a set of UL and CSA" or "UL , CSA and TÜV specified." For safety standards, see pp. 128 and 130.

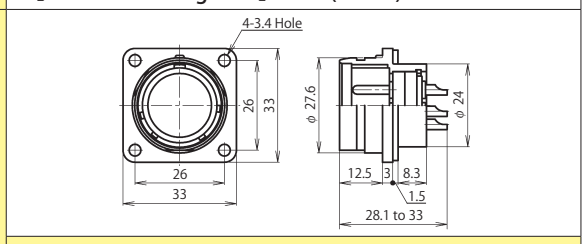
S Type

【Power supply side】< Socket (female) contact used >



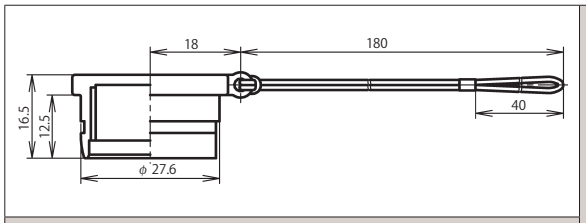
NRW-24 ■ -PF □

【Power receiving side】< Pin (male) contact used >

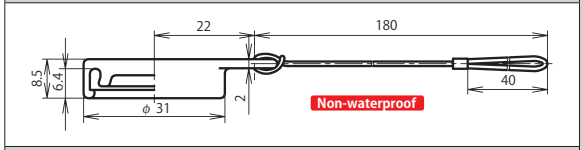


NRW-24 ■ -RM

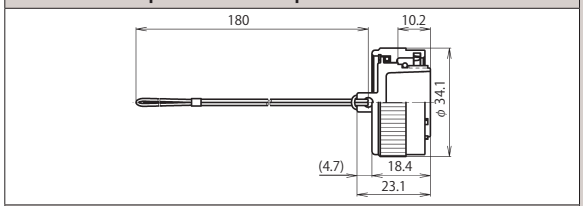
Plug — Coupled — Receptacle



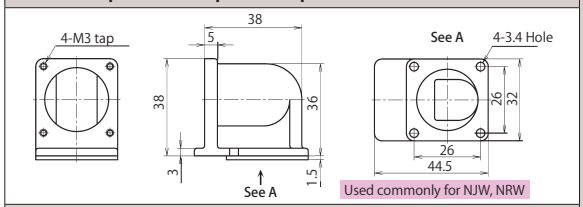
Plug waterproof cap：NRW-24-PCa・1



Adapter rubber cap：NRW-24-AdCa



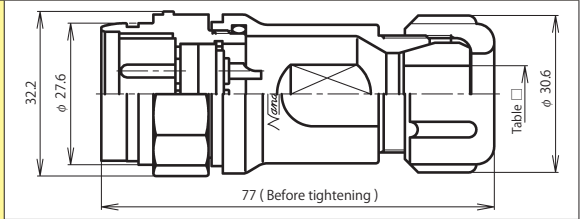
Adapter waterproof cap：NRW-24-AdCa・1



NJW-24-L za

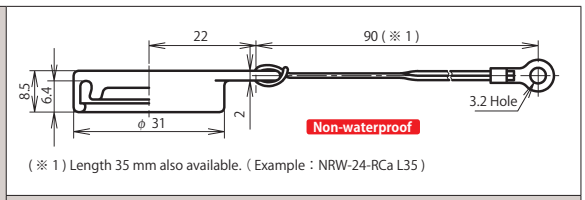
Accessory

Adapter

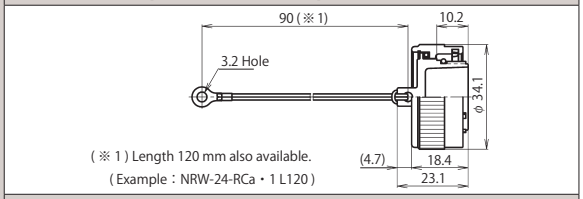


NRW-24 ■ -AdM □

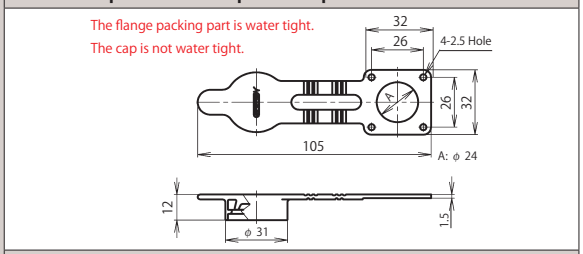
Accessory



Receptacle rubber cap：NRW-24-RCa



Receptacle waterproof cap：NRW-24-RCa・1



Receptacle rubber cap：NRW-24-RCa・2

For the plug and adapter , be sure to select □ (cable packing symbol).

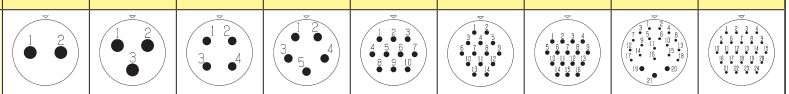
Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used	Normal products	Safety standard
24	8	φ 6.8 to φ 8.0	●	—
	11	φ 9.5 to φ 11.0	●	●
	13	φ 11.1 to φ 13.0	●	●
	15	φ 13.1 to φ 15.0	●	●

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on pp.128 and 130.

[ ]：Gold plating contact

Shell size	Number of Contacts	2	3	4	5	10	14	16	21	24
24	Contact arrangement <When viewed from the pin (male) contact coupling side>									
	Safety standard (Note-1)	UL・CSA,TÜV				UL・CSA			—	
	Rating (Allowable current for signals)	250V							—	
		20A		15A		10A	5A		3pcs=6A [18pcs=3A]	[3A]
	Withstand voltage (V r.m.s.)	1,500				1,000			500	
	Wire size (mm²)	3.5		2		1.25	0.5		3pcs=0.75 18pcs=0.3	0.3
	Remarks	—							For signals	

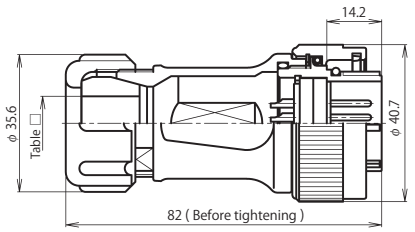
Note-1 : Specified separately. Selection of either "specified as a set of UL and CSA" or "UL , CSA and TÜV specified." For safety standards, see pp. 128 and 130.

G Type

【Power receiving side】< Pin (male) contact used >

【Power supply side】< Socket (female) contact used >

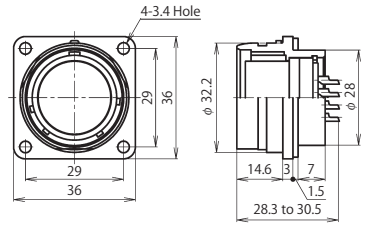
Plug



NRW-28 ■ -PM □

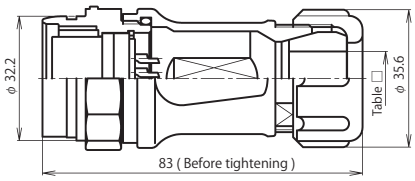
Coupled

Receptacle



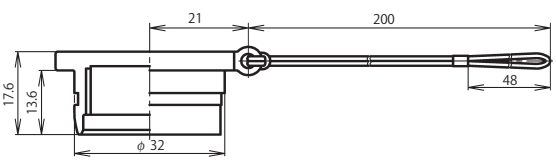
NRW-28 ■ -RF

Adapter

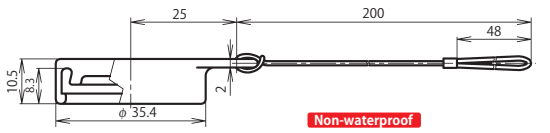


NRW-28 ■ -AdF □

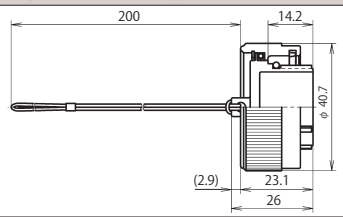
Accessory



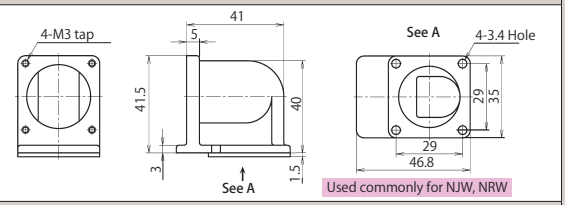
Plug waterproof cap：NRW-28-PCa・1



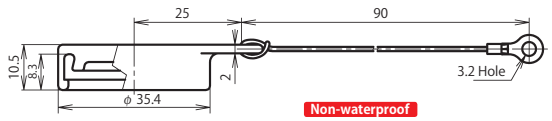
Adapter rubber cap：NRW-28-AdCa



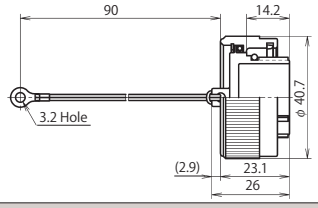
Adapter waterproof cap：NRW-28-AdCa・1



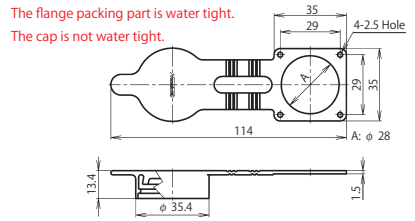
NJW-28-L za



Receptacle rubber cap：NRW-28-RCa



Receptacle waterproof cap：NRW-28-RCa・1



Receptacle rubber cap：NRW-28-RCa・2

For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used	Normal products	Safety standard	Symbol □	Outer diameter of cable used	Normal products	Safety standard
28	10	φ 9.0 to φ 10.9	●	●	16	φ 14.1 to φ 16.0	●	●
	12	φ 11.0 to φ 12.4	●	●	18	φ 16.1 to φ 18.0	●	●
	14	φ 12.5 to φ 14.0	●	●				

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on p.128.

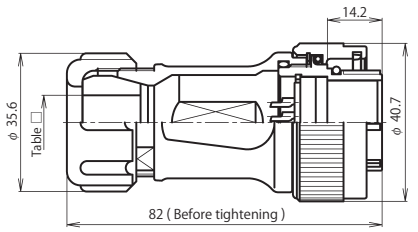
Shell size	Number of Contacts	16	24	31	37
28	Contact arrangement <When viewed from the pin (male) contact coupling side>				
	Safety standard (Note-1)	UL・CSA		—	
	Rating (Allowable current for signals)	250V		—	
		10A	5A	3pcs=6A [28pcs=3A]	[3A]
	Withstand voltage (V r.m.s.)	1,000		500	
	Wire size (㎟)	1.25	0.5	3pcs=0.75 28pcs=0.3	0.3
	Remarks	—		For signals	

[ ] : Gold plating contact

Note-1 : Specified separately. "Specified as a set of UL and CSA". For safety standards, see p.128.

S Type

【Power supply side】< Socket (female) contact used >



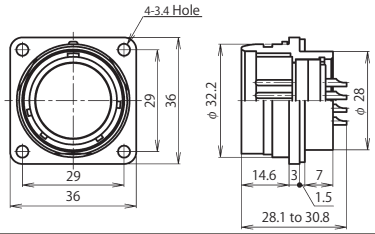
NRW-28 ■ -PF □

Plug

Coupled

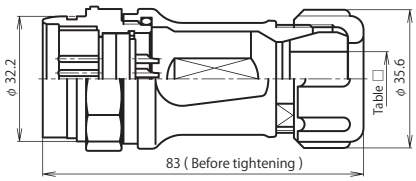
【Power receiving side】< Pin (male) contact used >

Receptacle



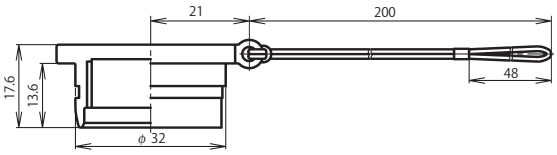
NRW-28 ■ -RM

Adapter

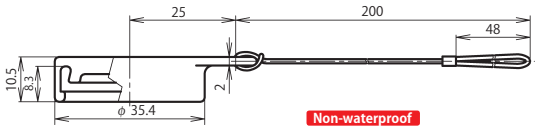


NRW-28 ■ -AdM □

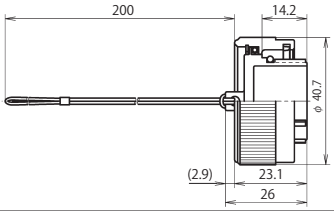
Accessory



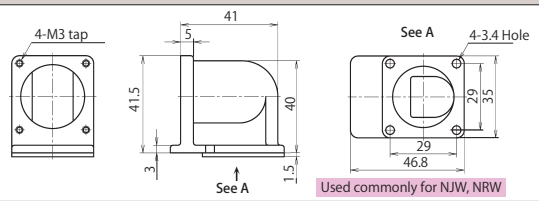
Plug waterproof cap：NRW-28-PCa・1



Adapter rubber cap：NRW-28-AdCa

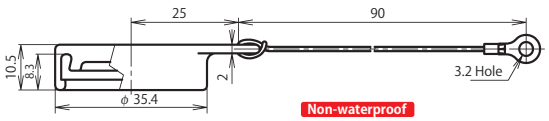


Adapter waterproof cap：NRW-28-AdCa・1

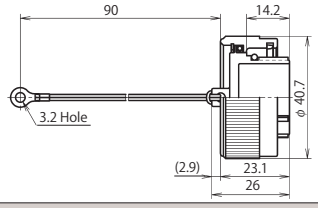


NJW-28-L za

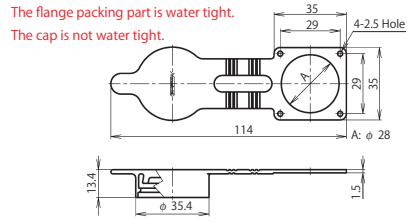
Accessory



Receptacle rubber cap：NRW-28-RCa



Receptacle waterproof cap：NRW-28-RCa・1



Receptacle rubber cap：NRW-28-RCa・2

For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used	Normal products	Safety standard	Symbol □	Outer diameter of cable used	Normal products	Safety standard
28	10	φ 9.0 to φ 10.9	●	●	16	φ 14.1 to φ 16.0	●	●
	12	φ 11.0 to φ 12.4	●	●	18	φ 16.1 to φ 18.0	●	●
	14	φ 12.5 to φ 14.0	●	●				

■ indicates the number of contacts.
The conductor cross sectional area is less than the following value.However, for safety standard certified products, use a cable having a value shown on p.128.

Shell size	Number of Contacts	16	24	31	37
28	Contact arrangement <When viewed from the pin (male) contact coupling side>				
	Safety standard (Note-1)	UL・CSA		—	
	Rating (Allowable current for signals)	250V		—	
		10A	5A	3pcs=6A [28pcs=3A]	[3A]
	Withstand voltage (V r.m.s.)	1,000		500	
	Wire size (mm²)	1.25	0.5	3pcs=0.75 28pcs=0.3	0.3
	Remarks	—		For signals	

[ ] : Gold plating contact

Note-1 : Specified separately. "Specified as a set of UL and CSA". For safety standards, see p.128.

Number of contacts

Shell size	Contact	Insulation resistance (M Ω)			Contact resistance (m Ω)			Withstand voltage (V r.m.s.)		
		Normal products	Safety standard		Normal products	Safety standard		Normal products	Safety standard	
			UL・CSA	UL・CSA , TÜV		UL・CSA	UL・CSA , TÜV		UL・CSA	UL・CSA , TÜV
20	2	DC 500V 2,000 min.	—	DC 500V 2,000 min.	3 max.	—	3 max.	1,500	—	1,500
	3									
	4									
	5									
	7	DC 500V 2,000 min.		—	3 max.		—	1,000		—
	10	DC 500V 1,000 min.			5 max.					
	12									
	14	DC 250V 1,000 min.	—		5 max.	—		500	—	
24	2	DC 500V 2,000 min.	—	DC 500V 2,000 min.	3 max.	—	3 max.	1,500	—	1,500
	3									
	4									
	5									
	10	DC 500V 2,000 min.		—	3 max.		—	1,000		—
	14	DC 500V 1,000 min.			5 max.					
	16									
	21	DC 250V 1,000 min.	—		5 max.	—		500	—	
	24									
28	16	DC 500V 2,000 min.		—	3 max.		—	1,000		—
	24	DC 500V 1,000 min.			5 max.					
	31	DC 250V 1,000 min.	—		5 max.	—		500	—	
	37									

(Waterproof) No trace of water exposure after being kept at a water pressure of 40 kPa for 24 hours in the coupled state in its normal state of use.

MEMO

NEW Series

Waterproof IP-67

Safety standard certified products available

RoHS **Quick lock**

Overview

- Safety standard cerrtified, waterproof connectors based on NRW. Certified by UL・CSA standards also.
- Grounding of prioritized contact structure to make these connectors suitable for use in a wide variety of fields including semiconductor equipment and various outdoor equipment.

NEW

Feature

RoHS	RoHS Directive compliant
Waterproof	Waterproof connector【Waterproof function IP-67 when coupled】
Lock method	Quick lock
Features of mechanism/ material	○ Protection circuit structure: Ground contact of sequence structure. (prioritized contact) ○ Shell made of weather-resistant, high-strength plastic. ○ Light weight and sturdy. ○ Installation in a small space enabled by use of the L za.
Standards	○ Safety standard certified connectors available. (EN61984 compliant , TÜV certified) ○ UL・CSA standard certified connectors available.（UL : UL1977　CSA : C22.2 No.182.3 ）
Cable termination	Soldering

Characteristics

Number of contacts

Shell size	Contact	Insulation resistance (M Ω)	Contact resistance (m Ω)	Withstand voltage (V r.m.s.)
20	3	DC 500V　2,000 min.	3 max.	1,500
24	3 4	DC 500V　2,000 min.	3 max.	1,500
28	4 8	DC 500V　2,000 min.	3 max.	1,500

(Waterproof) No trace of water exposure after being kept at a water pressure of 40 kPa for 24 hours in the coupled state in its normal state of use.

NEW Series

Product No. designation

NEW - 24 ■ - P F □

① ② ③ ④ ⑤ ⑥

① Series designation
② Shell size
③ Number of contacts
④ Shell shape
⑤ Contact shape < Pin (male) contact : M , Socket (female) contact : F >
⑥ Symbol indicating cable packing size. 《 Plug & adapter require symbol to be specified. 》

All connectors are UL・CSA , TÜV certified. Not necessary to specify a standard by a product name. For safety standards, see pp.128 and 130.

Cable termination : Soldering

NEW

Material and Finish

	Material	Finish
Shell	Synthetic resin	—
Insulator		
Contact	Copper alloy	Silver plating
Packing	Synthetic rubber	—

Operating temperature range

Shell size	Number of Contacts	Operating temperature range	Upper limit of ambient temperature at rated current (Note)
20	3	-25℃ to +85℃	+80℃
24	3		+74℃
	4		+80℃
28	4		+67℃
	8		+77℃

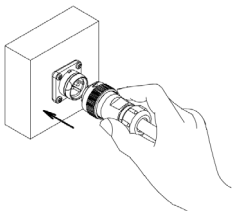
(**Note**) Max.ambient temp. at rated current
(Based on TÜV certification test results)

The pin contact type has an exposed electrode. If it is used on the [power supply] side, it may cause electric shock or short-circuit accidents. To prevent such accidents, use the socket contact type on the [power supply] side and the pin contact type on the [equipment] side.

Insertion

Align the plug and the guide of the mating connector (receptacle/adapter) and push in straight.

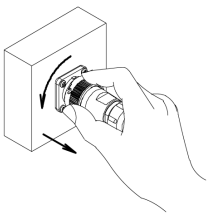
Caution: When inserting, do not turn the coupling nut.



Extraction

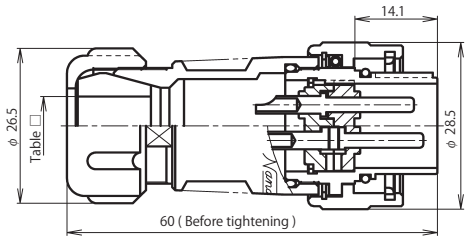
With the coupling nut turned CCW 45 degrees in the arrow direction, extract the connector.

Caution: When extracting, do not turn the end bell.



G Type

【Power receiving side】< Pin (male) contact used >



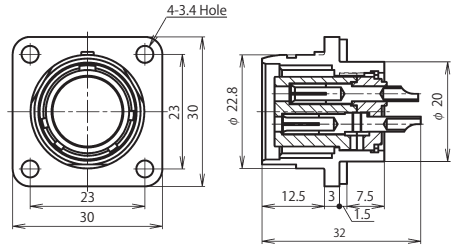
NEW-20 ■ -PM □

Plug

Coupled

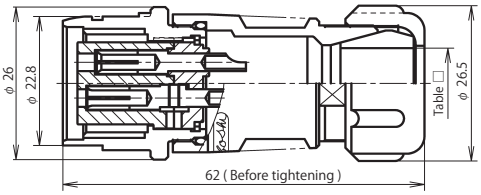
【Power supply side】< Socket (female) contact used >

Receptacle



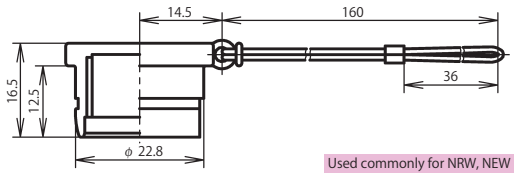
NEW-20 ■ -RF

Adapter

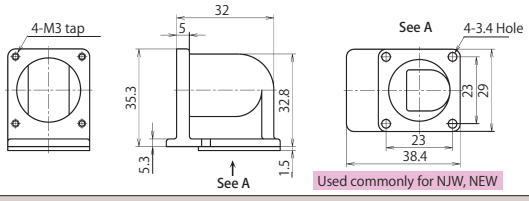


NEW-20 ■ -AdF □

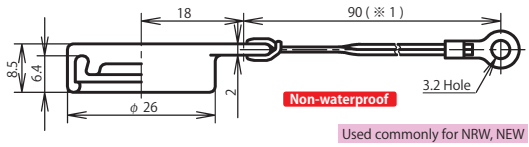
Accessory



Plug waterproof cap：NRW-20-PCa・1

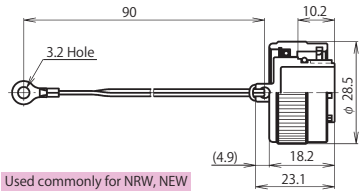


NJW-20-L za

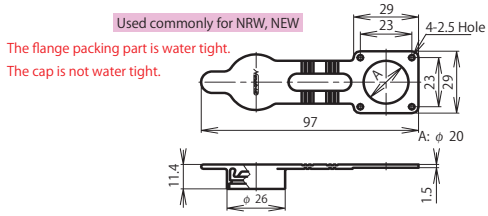


(※ 1) Length 35 mm also available. (Example：NRW-20-RCa L35)

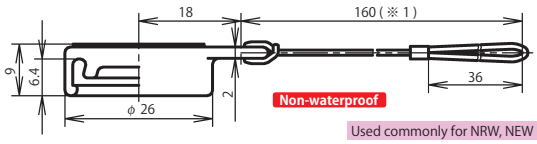
Receptacle rubber cap：NRW-20-RCa



Receptacle waterproof cap：NRW-20-RCa・1

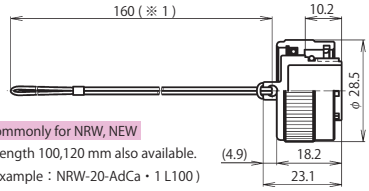


Receptacle rubber cap：NRW-20-RCa・2



(※ 1) Length 100,120 mm also available. (Example：NRW-20-AdCa L100)

Adapter rubber cap：NRW-20-AdCa



Adapter waterproof cap：NRW-20-AdCa・1

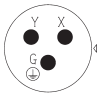
For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used
20	8	φ 7.0 to φ 8.5
	10	φ 8.6 to φ 10.5
	12	φ 10.6 to φ 12.5

■ indicates the number of contacts.

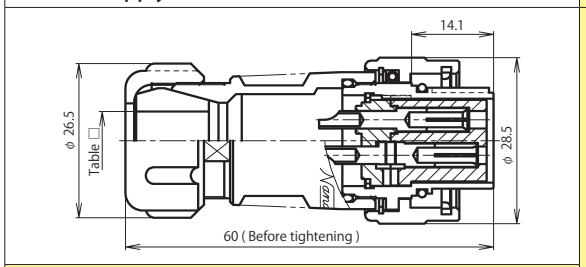
Shell size	Number of Contacts	3
20	Contact arrangement <When viewed from the pin (male) contact coupling side>	
	Safety standard (Note-1)	UL・CSA , TÜV
	Rating	250V 15A
	Withstand voltage (V r.m.s.)	1,500
	Wire size AWG	#14

The cable to use should have a conductor cross sectional area shown in the left-side table.

Note-1 : All connectors are UL・CSA , TÜV certified. Not necessary to specify a standard by a product name.For safety standards, see pp.128 and 130.

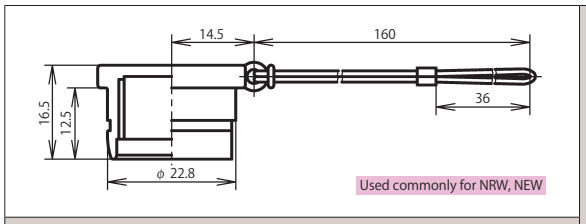
S Type

【Power supply side】< Socket (female) contact used >

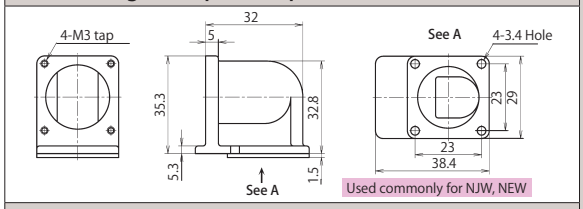


NEW-20 ■ -PF □

Plug



Plug waterproof cap：NRW-20-PCa・1



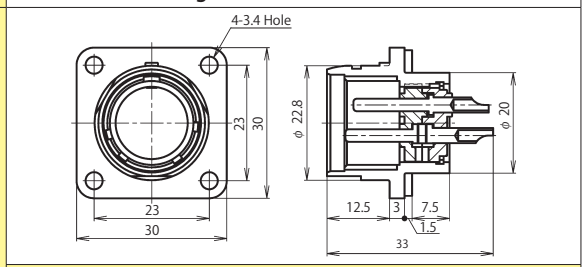
NJW-20-L za

Accessory

Coupled

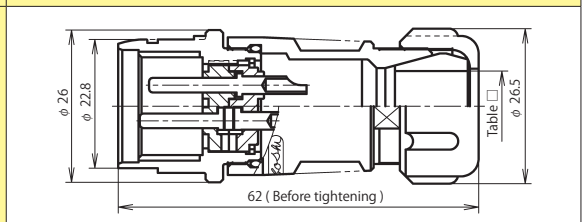
【Power receiving side】< Pin (male) contact used >

Receptacle



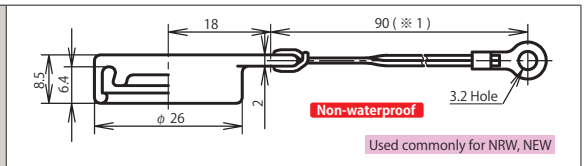
NEW-20 ■ -RM

Adapter



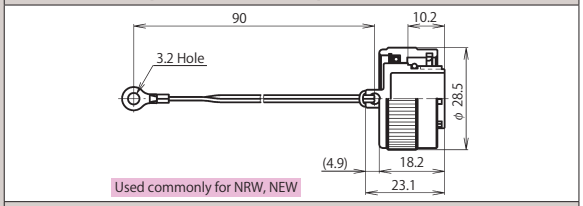
NEW-20 ■ -AdM □

Accessory

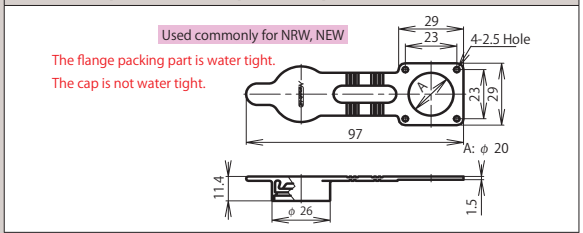


(※ 1) Length 35 mm also available. (Example：NRW-20-RCa L35)

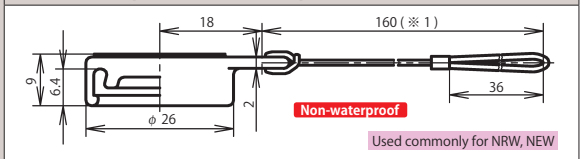
Receptacle rubber cap：NRW-20-RCa



Receptacle waterproof cap：NRW-20-RCa・1

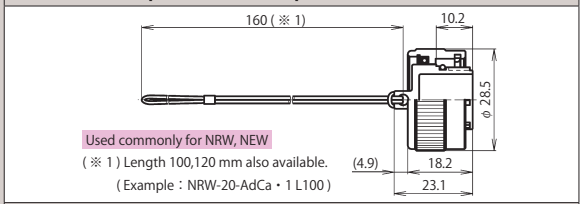


Receptacle rubber cap：NRW-20-RCa・2



(※ 1) Length 100,120 mm also available. (Example：NRW-20-AdCa L100)

Adapter rubber cap：NRW-20-AdCa



Adapter waterproof cap：NRW-20-AdCa・1

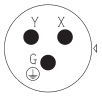
For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used
20	8	φ 7.0 to φ 8.5
	10	φ 8.6 to φ 10.5
	12	φ 10.6 to φ 12.5

■ indicates the number of contacts.

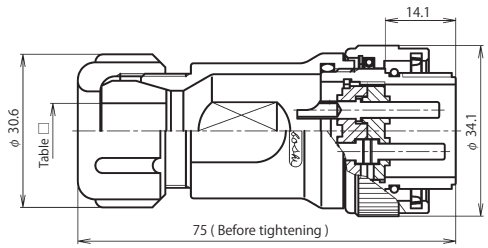
Shell size	Number of Contacts	3
20	Contact arrangement <When viewed from the pin (male) contact coupling side>	
	Safety standard (Note-1)	UL・CSA , TÜV
	Rating	250V 15A
	Withstand voltage (V r.m.s.)	1,500
	Wire size AWG	#14

The cable to use should have a conductor cross sectional area shown in the left-side table.

Note-1 : All connectors are UL・CSA , TÜV certified. Not necessary to specify a standard by a product name.For safety standards, see pp.128 and 130.

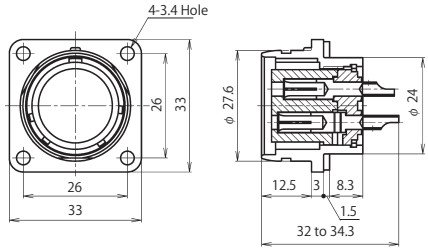
G Type

【Power receiving side】< Pin (male) contact used >



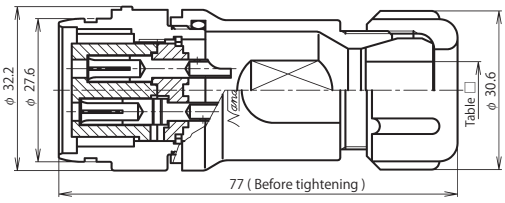
NEW-24 ■ -PM □

【Power supply side】< Socket (female) contact used >



NEW-24 ■ -RF

Coupled

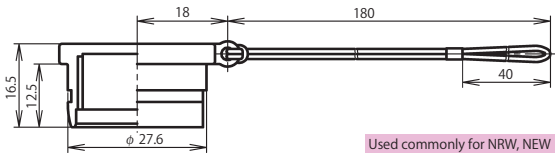


NEW-24 ■ -AdF □

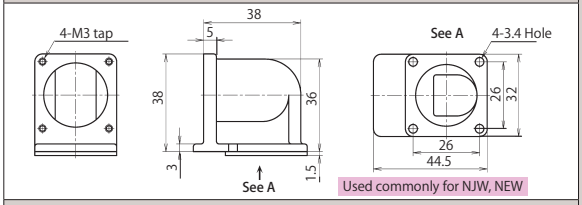
Plug

Adapter

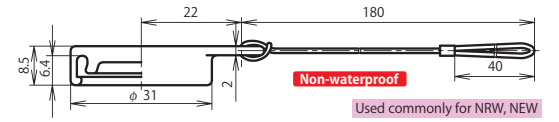
Accessory



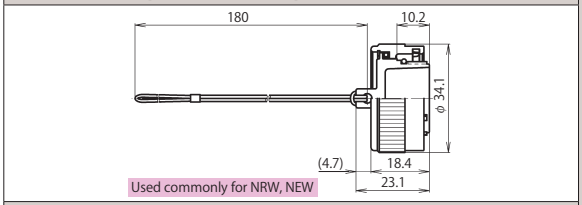
Plug waterproof cap：NRW-24-PCa・1



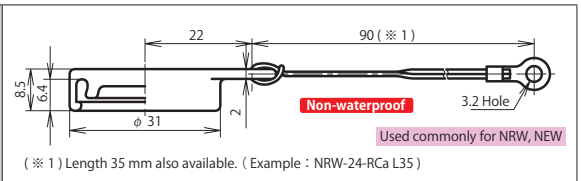
NJW-24-L za



Adapter rubber cap：NRW-24-AdCa

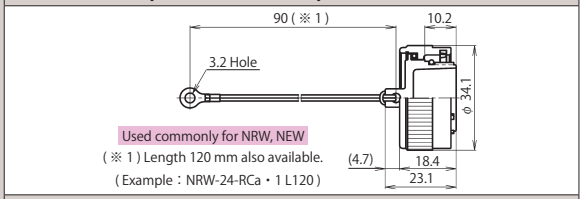


Adapter waterproof cap：NRW-24-AdCa・1

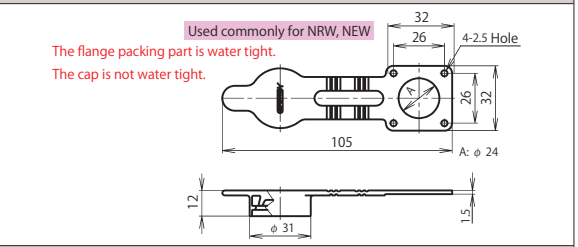


(※ 1) Length 35 mm also available. (Example：NRW-24-RCa L35)

Receptacle rubber cap：NRW-24-RCa



Receptacle waterproof cap：NRW-24-RCa・1



Receptacle rubber cap：NRW-24-RCa・2

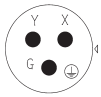
For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used
24	11	φ 9.5 to φ 11.0
	13	φ 11.1 to φ 13.0
	15	φ 13.1 to φ 15.0

■ indicates the number of contacts.

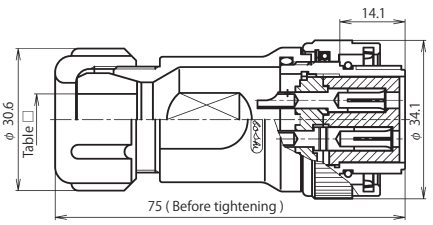
Shell size	Number of Contacts	3	4
24	Contact arrangement <When viewed from the pin (male) contact coupling side>		
	Safety standard (Note-1)	UL・CSA , TÜV	
	Rating	250V 20A	250V 15A
	Withstand voltage (V r.m.s.)	1,500	
	Wire size AWG	#12	#14

The cable to use should have a conductor cross sectional area shown in the left-side table.

Note-1 : All connectors are UL・CSA , TÜV certified. Not necessary to specify a standard by a product name.For safety standards, see pp.128 and 130.

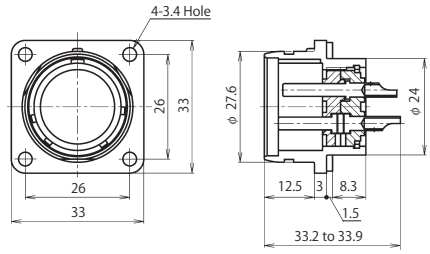
S Type

【Power supply side】< Socket (female) contact used >



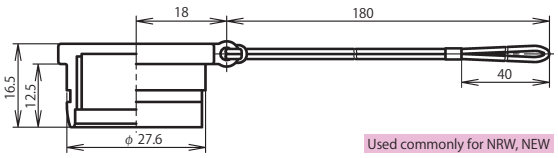
NEW-24 ■ -PF □

【Power receiving side】< Pin (male) contact used >

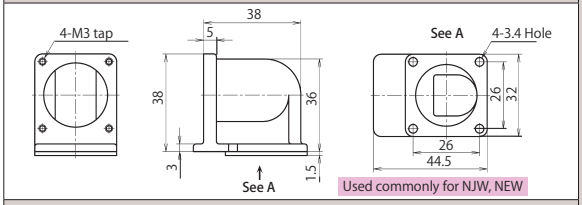


NEW-24 ■ -RM

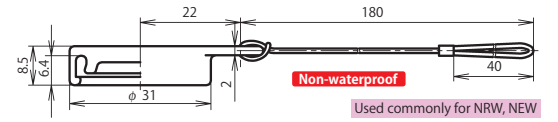
Plug — Coupled — Receptacle



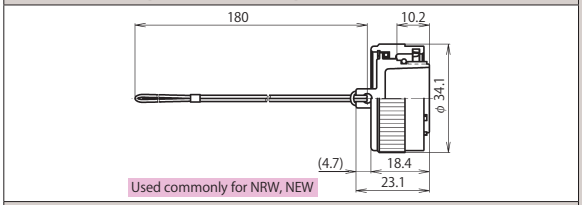
Plug waterproof cap：NRW-24-PCa・1



NJW-24-L za

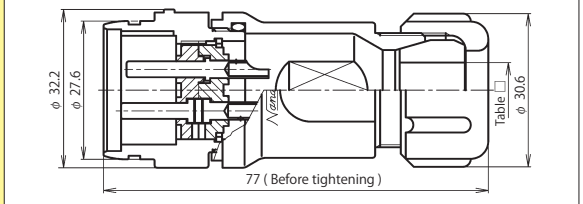


Adapter rubber cap：NRW-24-AdCa



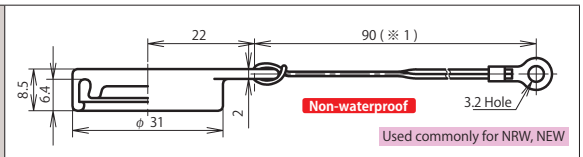
Adapter waterproof cap：NRW-24-AdCa・1

Adapter



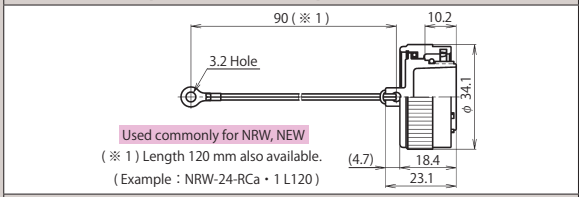
NEW-24 ■ -AdM □

Accessory

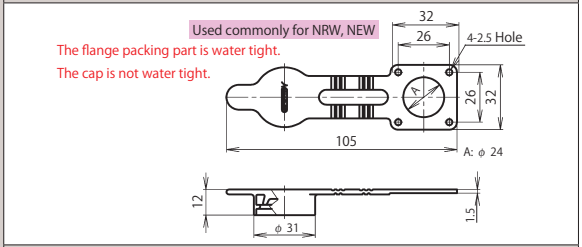


(※ 1) Length 35 mm also available. (Example：NRW-24-RCa L35)

Receptacle rubber cap：NRW-24-RCa



Receptacle waterproof cap：NRW-24-RCa・1



Receptacle rubber cap：NRW-24-RCa・2

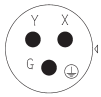
For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used
24	11	φ 9.5 to φ 11.0
	13	φ 11.1 to φ 13.0
	15	φ 13.1 to φ 15.0

■ indicates the number of contacts.

Shell size	Number of Contacts	3	4
24	Contact arrangement <When viewed from the pin (male) contact coupling side>		
	Safety standard (Note-1)	UL・CSA , TÜV	
	Rating	250V 20A	250V 15A
	Withstand voltage (V r.m.s.)	1,500	
	Wire size AWG	#12	#14

The cable to use should have a conductor cross sectional area shown in the left-side table.

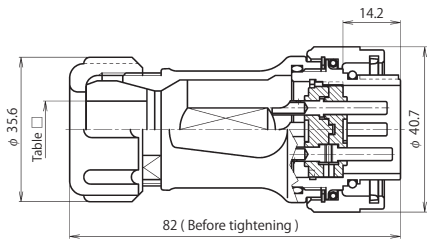
Note-1 : All connectors are UL・CSA , TÜV certified. Not necessary to specify a standard by a product name.For safety standards, see pp.128 and 130.

【Power receiving side】< Pin (male) contact used >

G Type

【Power supply side】< Socket (female) contact used >

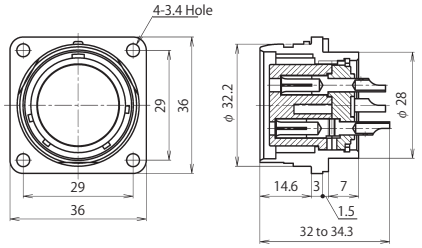
Plug



NEW-28 ■ -PM □

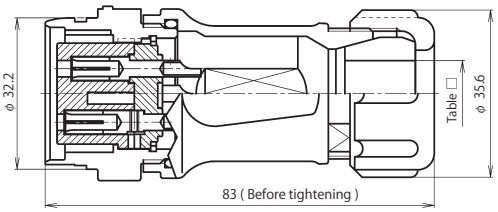
Coupled

Receptacle



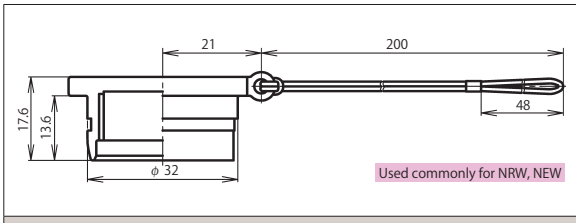
NEW-28 ■ -RF

Adapter

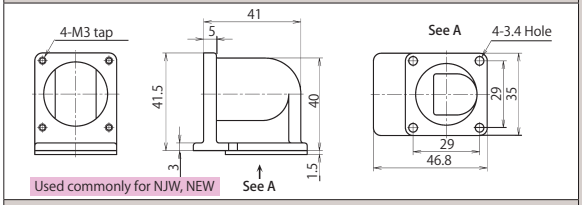


NEW-28 ■ -AdF □

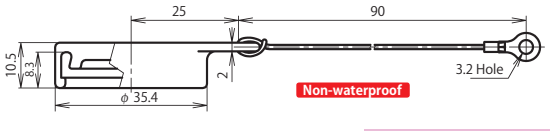
Accessory



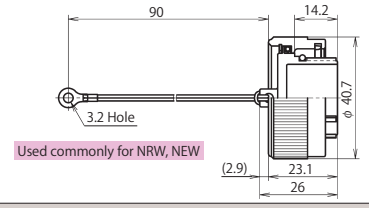
Plug waterproof cap：NRW-28-PCa・1



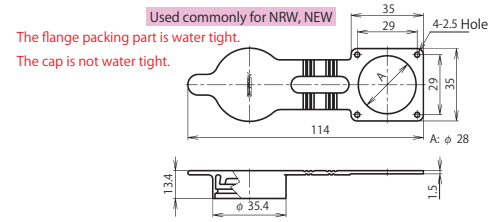
NJW-28-L za



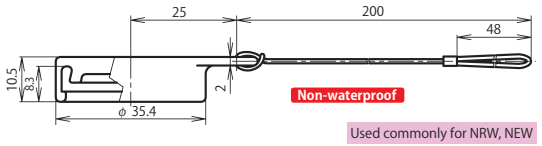
Receptacle rubber cap：NRW-28-RCa



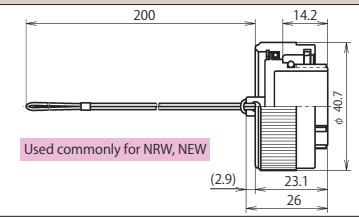
Receptacle waterproof cap：NRW-28-RCa・1



Receptacle rubber cap：NRW-28-RCa・2



Adapter rubber cap：NRW-28-AdCa



Adapter waterproof cap：NRW-28-AdCa・1

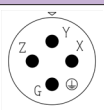
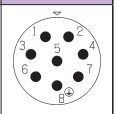
For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used
28	10	φ 9.0 to φ 10.9
	12	φ 11.0 to φ 12.4
	14	φ 12.5 to φ 14.0
	16	φ 14.1 to φ 16.0
	18	φ 16.1 to φ 18.0

■ indicates the number of contacts.

Shell size	Number of Contacts	4	8
28	Safety arrangement <When viewed from the pin (male) contact coupling side>		
	Safety standard (Note-1)	UL・CSA , TÜV	
	Rating	250V 20A	250V 15A
	Withstand voltage (V r.m.s.)	1,500	
	Wire size AWG	#12	#14

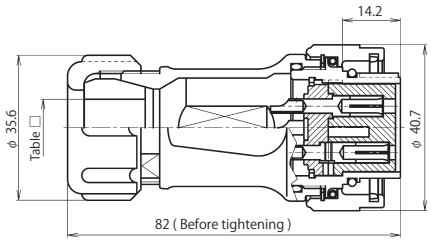
The cable to use should have a conductor cross sectional area shown in the left-side table.

Note-1 : All connectors are UL・CSA , TÜV certified. Not necessary to specify a standard by a product name.For safety standards, see pp.128 and 130.

S Type

【Power supply side】< Socket (female) contact used >

Plug

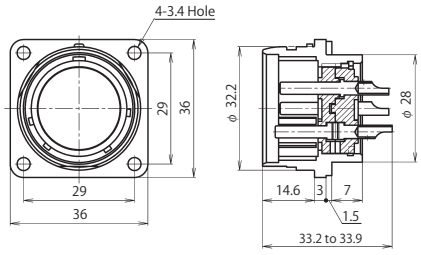


NEW-28 ■ -PF □

Coupled

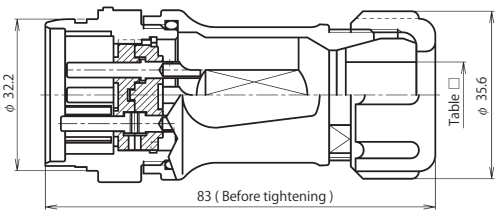
【Power receiving side】< Pin (male) contact used >

Receptacle



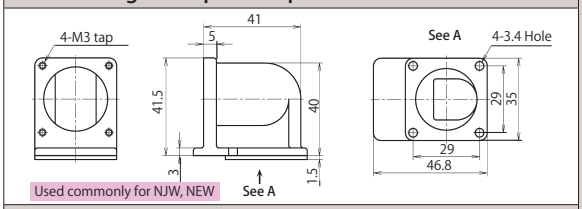
NEW-28 ■ -RM

Adapter



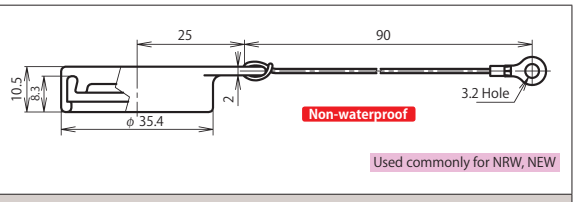
NEW-28 ■ -AdM □

Accessory

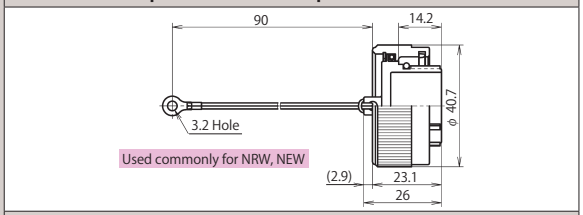


Plug waterproof cap：NRW-28-PCa・1

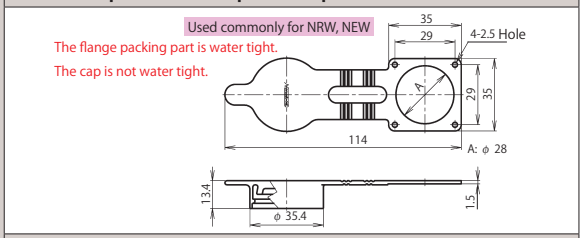
NJW-28-L za



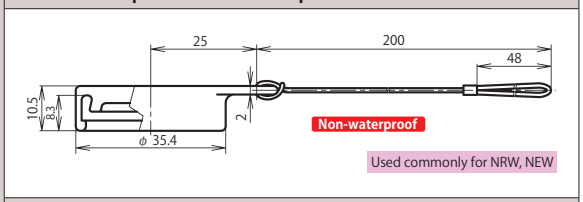
Receptacle rubber cap：NRW-28-RCa



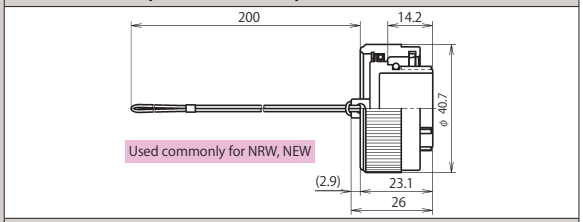
Receptacle waterproof cap：NRW-28-RCa・1



Receptacle rubber cap：NRW-28-RCa・2



Adapter rubber cap：NRW-28-AdCa



Adapter waterproof cap：NRW-28-AdCa・1

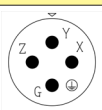
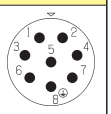
For the plug and adapter , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug/adapter should have an appropriate specification and structure.

Shell size	Symbol □	Outer diameter of cable used
28	10	φ 9.0 to φ 10.9
	12	φ 11.0 to φ 12.4
	14	φ 12.5 to φ 14.0
	16	φ 14.1 to φ 16.0
	18	φ 16.1 to φ 18.0

■ indicates the number of contacts.

Shell size	Number of Contacts	4	8
28	Contact arrangement <When viewed from the pin (male) contact coupling side>		
	Safety standard (Note-1)	UL・CSA , TÜV	
	Rating	250V 20A	250V 15A
	Withstand voltage (V r.m.s.)	1,500	
	Wire size AWG	#12	#14

The cable to use should have a conductor cross sectional area shown in the left-side table.

Note-1 : All connectors are UL・CSA , TÜV certified. Not necessary to specify a standard by a product name.For safety standards, see pp.128 and 130.

NT Series

Waterproof equivalent to IP-X6

RoHS

Overview

- Waterproof and oilproof connectors for machine tools.
- Safety design with ground contact for a wide variety of machines including various molding machines.

Feature

RoHS	RoHS Directive compliant
Waterproof	Waterproof connector【Waterproof function equivalent to IP-X6 when coupled】
Lock method	Thread lock
Features of mechanism/ material	○Made of aluminum for light weight and robust. ○Use of NBR packing for high oil resistance. ○Safety design with ground contact.
Cable termination	Soldering

Characteristics

Number of contacts

Shell size	Contact	Insulation resistance (MΩ)	Contact resistance (mΩ)	Withstand voltage (V r.m.s.)
50	4	DC 1,000V 5,000 min.	3 max.	3,000
	10			
	12			2,500
	15			

(Waterproof) No trace of water exposure after being tested to the protection degree 6 in the coupled state in its normal state of use.

The pin contact type has an exposed electrode. If it is used on the [power supply] side, it may cause electric shock or short-circuit accidents.
To prevent such accidents, use the socket contact type on the [power supply] side and the pin contact type on the [equipment] side.

NT Series

Product No. designation

NT - 50 ■ - P M _ □

① ② ③ ④ ⑤ ⑥ ⑦

① Series designation
② Shell size
③ Number of contacts
④ Shell shape
⑤ Contact shape < pin (male) contact : M , socket (female) contact : F >
⑥ Guide position change symbol (X , Y , Z) 《 Required only when changing the guide position 》
⑦ Symbol indicating cable packing size. 《 Plug require symbol to be specified. 》

Cable termination : Soldering

《Option》

- When using a plural number of same products at the same time, the guide position can be changed in order to prevent mis-insertion.
  (For applicable products, see below.)
  Product name example : NT-5012-PFZ16
  Guide position change symbol (X, Y, Z) in the red character part.

Operating temperature range

-40℃ to +85℃

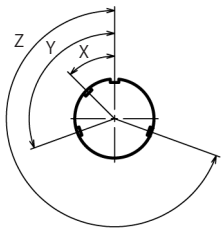
Material and Finish

	Material	Finish
Shell	Aluminum alloy	Chrome plating
Insulator	Epoxy resin	–
Contact	Copper alloy	Silver plating
Packing	Oil-resistant rubber	–

To change the guide position

Number of Contacts	Guide Position Symbol		
	X	Y	Z
4	45°	110°	250°
10			
12			
15			

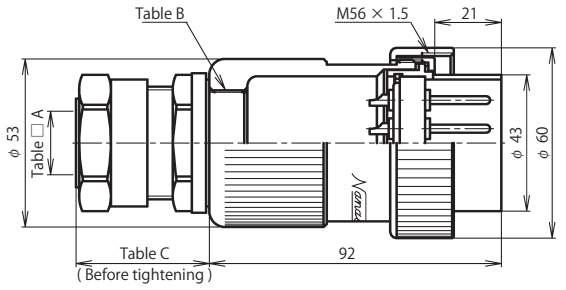
An image of guide position change
< When viewed from the pin (male) contact side coupling face >



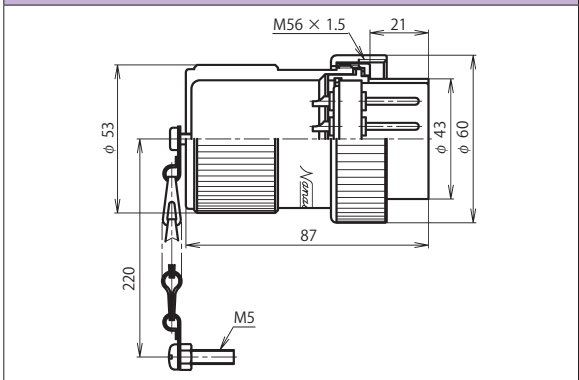
NT Series Shell Size 50

G Type

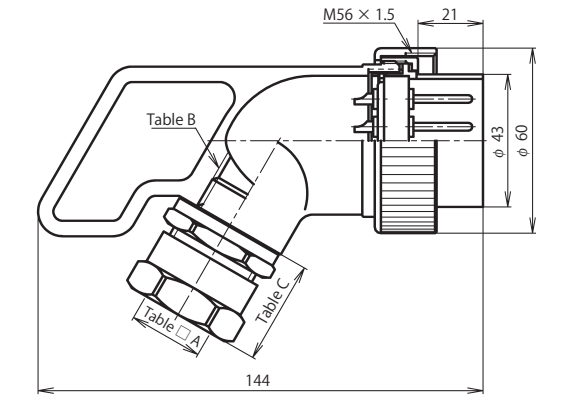
【Power receiving side】< Pin (male) contact used >



NT-50 ■ -PM □



NT-50 ■ -SPM □



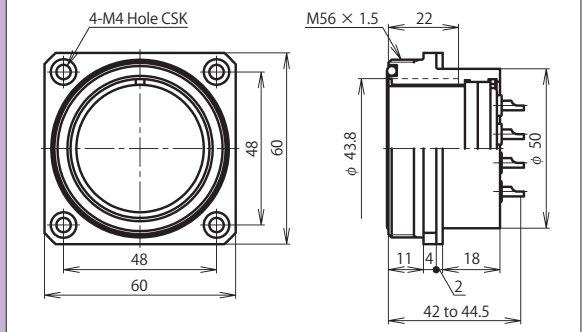
NT-50 ■ -LPM □

Plug

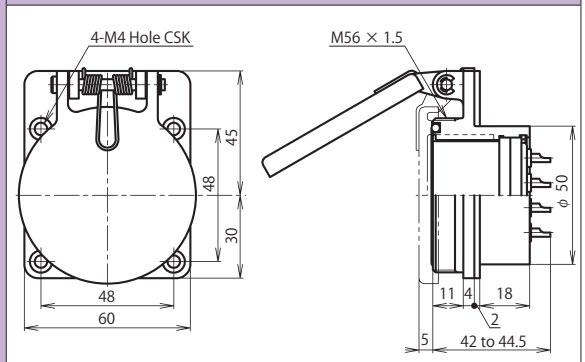
Coupled

Receptacle

【Power supply side】< Socket (female) contact used >



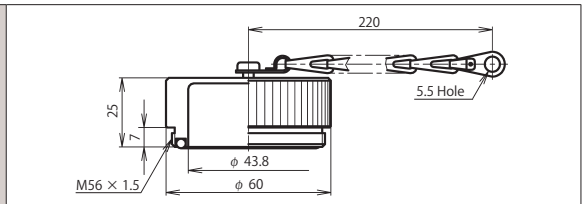
NT-50 ■ -RF



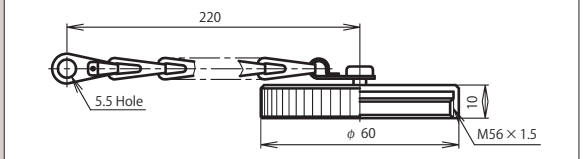
Receptacle with cap: NT-50 ■ -CRF

The water resistance of the CR cap part is equivalent to IPX4.

Accessory



Plug cap：NT-50-PCa



Receptacle cap：NT-50-RCa

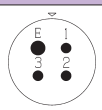
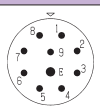
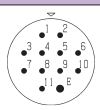
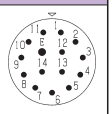
For the plug , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug should have an appropriate specification and structure.

Shell size	Symbol □	A	B	C
50	12	φ 8.0 to φ 12.0	G 1/2	max.32
	16	φ 12.1 to φ 16.0	G 3/4	max.34
	20	φ 16.1 to φ 20.0		max.37
	24	φ 20.1 to φ 24.0	G 1	max.43

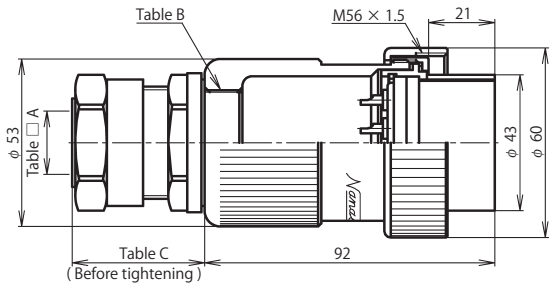
■ indicates the number of contacts. The conductor cross sectional area is less than the following value.

Shell size	Number of Contacts	4	10	12	15
50	Contact arrangement <When viewed from the pin (male) contact coupling side>				
	Rating	250V 30A	600V 15A	400V 5A	
	Limit operating voltage (Note-1)	600V	—		
	Withstand voltage (V r.m.s.)	3,000		2,500	
	Wire size (㎟)	8	3.5	2	

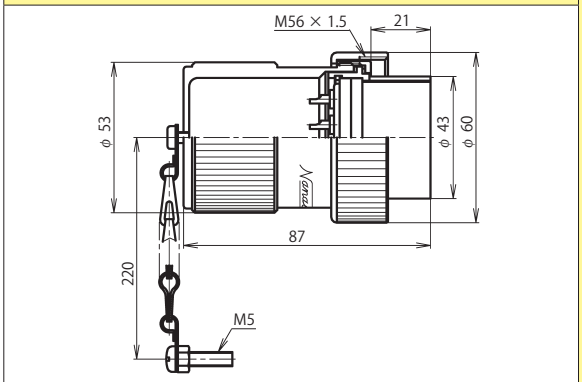
Note-1 : For the limit operating voltage, see p.131.

S Type

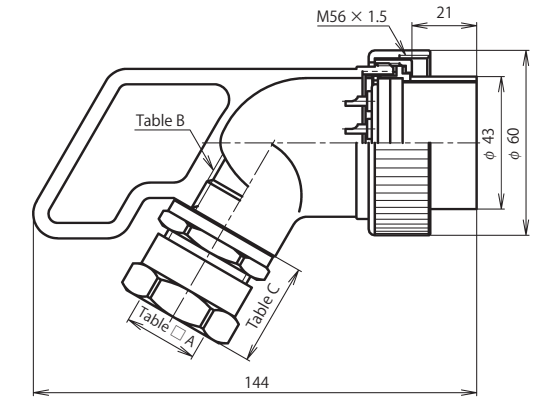
【Power supply side】< Socket (female) contact used >



NT-50 ■ -PF □



NT-50 ■ -SPF □



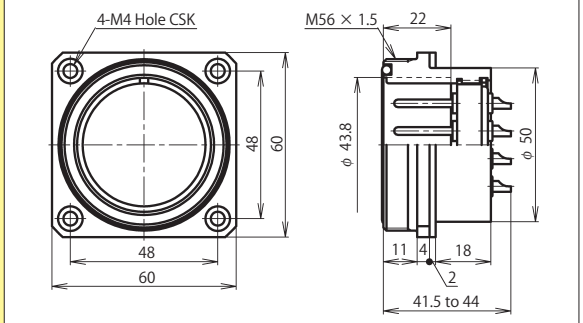
NT-50 ■ -LPF □

Plug

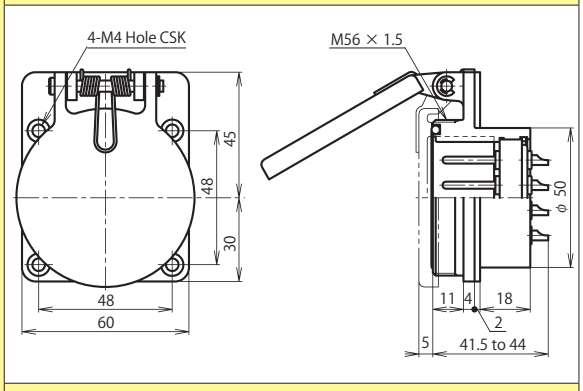
Coupled

Receptacle

【Power receiving side】< Pin (male) contact used >



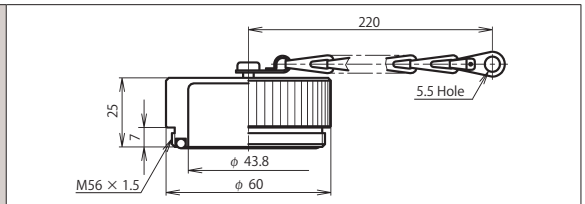
NT-50 ■ -RM



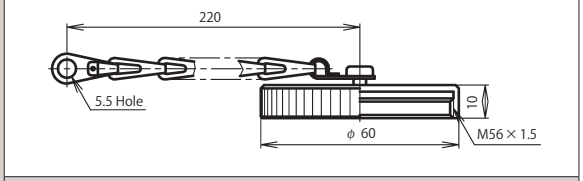
Receptacle with cap: NT-50 ■ -CRM

The water resistance of the CR cap part is equivalent to IPX4.

Accessory



Plug cap：NT-50-PCa



Receptacle cap：NT-50-RCa

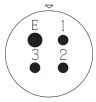
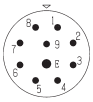
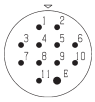
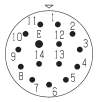
For the plug , be sure to select □ (cable packing symbol).

Table □

In order to secure the intended waterproof function, a cable to be used for the plug should have an appropriate specification and structure.

Shell size	Symbol □	A	B	C
50	12	φ 8.0 to φ 12.0	G 1/2	max.32
	16	φ 12.1 to φ 16.0	G 3/4	max.34
	20	φ 16.1 to φ 20.0		max.37
	24	φ 20.1 to φ 24.0	G 1	max.43

■ indicates the number of contacts. The conductor cross sectional area is less than the following value.

Shell size	Number of Contacts	4	10	12	15
50	Contact arrangement <When viewed from the pin (male) contact coupling side>				
	Rating	250V 30A	600V 15A	400V 5A	
	Limit operating voltage (Note-1)	600V	—		
	Withstand voltage (V r.m.s.)	3,000		2,500	
	Wire size (㎟)	8	3.5	2	

Note-1 : For the limit operating voltage, see p.131.

Technical Data

A List of Standards Acquired

- UL・CSA certified products ····· 127
- CSA NRTL / C certified products ····· 129
- T Ü V certified products ····· 130

Explanation of Terms

- Shell Size , Rated Voltage , Limit Operating Voltage , Protection Degree ····· 131
- Installation Dimensions ····· 132
- AWG Conversion Table ····· 135
- Parallel Pipe Thread Conversion Table ····· 135

Wire connecting methods, wire stripping dimensions and weight can be found in our website.

【C E Marking】

The CE Marking applies to finished products and devices to indicate that they comply with the European safety standards. This CE Marking is not applicable to connectors that are electrical & mechanical components.

【EU RoHS】

The compliance of EU RoHS subject ten substances
(mercury , lead , hexavalentchrome , cadmium , PBB ,PBDE , DEHP , BBP , DBP , DIBP)
enacted from July 2019 will correspond from production in July 2018.

【RoHS Directive】

The RoHS Directive has been established by the EU (European Union) with an objective to protect human health and define collection and treatment of electrical and electronic equipment that does not affect environment by unifying laws and regulations concerning the restriction of use of harmful substances in electrical and electronic equipment among EU member countries.
The Chinese version RoHS Directive that has come into force in the People's Republic of China covers the same substances as the EU-RoHS Directive but there are some differences such as the obligation of indication of information about contained substances.
Our RoHS Directive compliant product types are those that are compliant with the EU-RoHS Directive, but not with the Chinese version RoHS Directive.

A List of Standards Acquired

UL・CSA certified products【Non-waterproof】

Applicable standard: UL standard UL1977

The UL standard is a safety assurance standard released by the most famous private testing laboratory (UL) in the U.S., that is intended to eliminate the risk of fire and personal accidents caused by electrical equipment. Thus, the UL certified products are considered to be reliable and usable safely by customers. Our file No. is E117868.

Applicable standard: CSA standard C22.2 No.182.3

The CSA standard is a safety standard in Canada applicable to electrical equipment and machinery. In Canada, it is required that electrical machinery and equipment that are connected to the power supply for use conform to the CSA standard.

The U.S. and Canada have concluded a mutual recognition agreement and the UL standard and the CSA standard are treated equivalent. Also the UL standard and the CSA standard are allowed for mutual recognition and the following list of standard certified products includes the products that have been recognized by the UL by use of the CSA standard and the products that have been recognized by the CSA by use of the UL standard. Please note that depending on differences of manners of acquiring certification, markings on products may differ.

Series	size	Number of contacts	PF	RM	AdM	Ad(F)M	PM	RF	AdF	Ad(F)F	Different guide ※ X	Different guide ※ Y	Different guide ※ Z	Rated current	Rated voltage	Wire size AWG (mm²)
NJC	16	3				●						●		10A	125V	#16 (-)
		5				●						●		5A		#20 (-)
	20	2 , 3				●						—		15A	250V	#14 (-)
		4 , 5				●						—		10A		#16 (-)
		7				●					●		—			
		10				●						●		5A		#20 (-)
		12				●						—				
	24	2 , 3				●						—		20A		#12 (-)
		4 , 5				●						—		15A		#14 (-)
		10				●						●		10A		#16 (-)
		14				●						—		5A		#20 (-)
		16				●						●				
	28	16				●						●		10A		#16 (-)
		24				●						●		5A		#20 (-)
	32	3 , 4 ,				●						—		30A		#10 (5.5,6)
		8 , 10 , 12				●						—		10A		#14 (2)
NR	20	2 , 3				●						—		15A		#14 (-)
		4 , 5 , 7				●						—		10A		#16 (-)
		10				●						●		5A		#20 (-)
		12				●						—				
	24	2 , 3				●						—		20A		#12 (3.5)
		4 , 5				●						—		15A		#14 (2)
		10				●						●		10A		#16 (1.25)
		14 , 16				●						●		5A		#20 (0.5)
NET	20	3				●						—		15A		#14 (2)
	24	3				●						—		20A		#12 (3.5)
		4				●						—		15A		#14 (2)
	28	4				●						—		20A		#12 (3.5)
		8				●						—		15A		#14 (2)
	32	3 , 4				●						—		30A		#10 (5.5,6)

※ "Different guide" column: The symbol ● indicates that products of different guide position are available.
The products other than the products of shapes shown in the table are not covered by the standards.

A List of Standards Acquired

UL・CSA certified products【Waterproof】

Series	size	Number of contacts	PF	RM	AdM	Ad(F)M	PM	RF	AdF	Ad(F)F	Different guide ※ X	Different guide ※ Y	Different guide ※ Z	Applicable Cable OD Symbol					Rated current	Rated voltage	Wire size AWG (㎟)
NJW	16	3				●						●		9	11	—			10A	125V	#16 (-)
		5				●						●							5A		#20 (-)
	20	2 , 3				●					—			8	10	12	—		15A	250V	#14 (-)
		4 , 5 , 7				●					—								10A		#16 (-)
		10				●						●							5A		#20 (-)
		12				●					—										
	24	2 , 3				●					—			11	13	15	—		20A		#12 (-)
		4 , 5				●					—								15A		#14 (-)
		10				●					—								10A		#16 (-)
		14 , 16				●					—								5A		#20 (-)
	28	16				●					—			14	16	18	—		10A		#16 (-)
		24				●					—								5A		#20 (-)
	32	3 , 4 ,				●					—			16	20	—			30A		#10 (5.5,6)
		8 , 10 , 12				●					—								10A		#14 (2)
NRW	20	2 , 3	●		—		●			—	—			8	10	12	—		15A		#14 (-)
		4 , 5 , 7	●		—		●			—	—								10A		#16 (-)
		10	●		—		●			—		●							5A		#20 (-)
		12	●		—		●			—	—										
	24	2 , 3	●		—		●			—	—			11	13	15	—		20A		#12 (-)
		4 , 5	●		—		●			—	—								15A		#14 (-)
		10	●		—		●			—	—			11	13	15	—		10A		#16 (-)
		14 , 16	●		—		●			—	—								5A		#20 (-)
	28	16	●		—		●			—		●		10	12	14	16	18	10A		#16 (-)
		24	●		—		●			—		●							5A		#20 (-)
NAW	20	2 , 3				●					—			6	8	10	12	—	15A		#14 (-)
		4 , 5				●					—								10A		#16 (-)
		7				●					●	—									
		10 , 12				●						●							5A		#20 (-)
NEW	20	3	●		—		●			—	—			8	10	12	—		15A		#14 (2)
	24	3	●		—		●			—	—			11	13	15	—		20A		#12 (3.5)
		4	●		—		●			—	—								15A		#14 (2)
	28	4	●		—		●			—	—			10	12	14	16	18	20A		#12 (3.5)
		8	●		—		●			—	—								15A		#14 (2)

※ "Different guide" column: The symbol ● indicates that products of different guide position are available.
The products other than the products of shapes shown in the table are not covered by the standards.

A List of Standards Acquired

CSA NRTL/C

Applicable standard: CSA standard C22.2 No.182.3 , UL1977

Products that have been certified by the CSA as products that conform to the standards in both of Canada and U.S.

Series	size	Number of contacts	P	R	Ad	Ad(F)	GP □	PM	RF	AdF	GPM □	Rated current	Rated voltage	Wire size AWG S Type	Wire size AWG G Type
NCS	25	6	●		—			●		—		10A (S Type) , 5A (G Type)	265V	#14	#16
		7	●		—			●		—					
	30	3	●		—			●		—		15A			#14
		8	●		—			●		—		10A (S Type) , 5A (G Type)			#16
	40	8		●			—					20A		#10	—
		12		●				—				3pcs-10A , 9pcs-5A		3pcs-#14 , 9pcs-#16	
		16		●			—					3pcs-10A , 13pcs-5A		3pcs-#14 , 13pcs-#16	
		20		●			—					5A		#16	
	44	8		—					●		—	20A		—	#10
		12		—						●		3pcs-10A , 9pcs-5A			3pcs-#14 , 9pcs-#16
		16		—					●		—	3pcs-10A , 13pcs-5A			3pcs-#14 , 13pcs-#16
		20		—					●		—	5A			#16
	50	15		●		—						15A		#12	—
		25		●		—	●		—			4pcs-15A , 21pcs-5A		4pcs-#12 , 21pcs-#14	
	54	15		—					●		—	15A		—	#12
		25		—						●		4pcs-15A , 21pcs-5A			4pcs-#12 , 21pcs-#14
NWPC	60	30 , 40	●		—							5A		#14	—

Series	size	Number of contacts	PF	RM	AdM	Ad(F)M	PM	RF	AdF	Ad(F)F	Different guide ※ X	Different guide ※ Y	Different guide ※ Z	Applicable Cable OD Symbol					Rated current	Rated voltage	Wire size AWG (㎜)
NAW	16	3				●						●		5	7	8	9	11	10A	125V	#16
		5				●						●							5 A		#20
	24	2 , 3				●						—		8	11	13	15	—	20A	250V	#12
		4 , 5				●						—							15A		#14
		10				●						●							10A		#16
		14 , 16				●						●							5A		#20

※ "Different guide" column: The symbol ● indicates that products of different guide position are available.
The products other than the products of shapes shown in the table are not covered by the standards.

A List of Standards Acquired

TÜV certified products

Applicable standard: European standard EN 61984

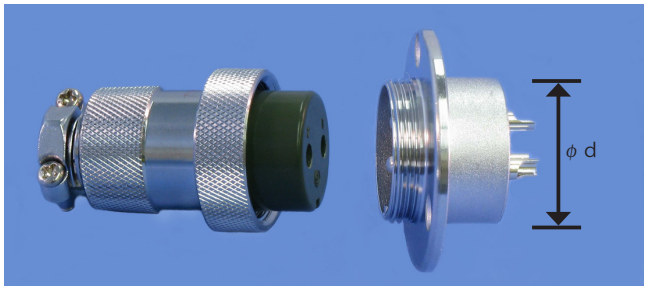
Products certified by TÜV Rheinland as the products that conform to European standard EN61984 that is applicable to multi-pole connectors for industrial application.

Series	size	Number of contacts	PF	RM	AdM	Ad(F)M	PM	RF	AdF	Ad(F)F	Applicable Cable OD Symbol					Rated current	Rated voltage	Wire size AWG (㎟)
NJC	20	2 , 3	●								—					15A	250V	#14 (-)
		4	●													10A		#16 (-)
	24	2 , 3	●								—					20A		#12 (-)
		4 , 5	●													15A		#14 (-)
	32	3 , 4	●								—					30A		#10 (5.5,6)
NR	20	2 , 3	●								—					15A		#14 (-)
		4	●													10A		#16 (-)
	24	2 , 3	●								—					20A		#12 (-)
		4 , 5	●													15A		#14 (-)
NET	20	3	●								—					15A		#14 (2)
	24	3	●								—					20A		#12 (3.5)
		4	●													15A		#14 (2)
	28	4	●								—					20A		#12 (3.5)
		8	●													15A		#14 (2)
	32	3 , 4	●								—					30A		#10(5.5,6)
NRW	20	2 , 3	●			—	●			—	8	10	12	—		15A		#14 (-)
		4 , 5	●			—	●			—						10A		#16 (-)
	24	2 , 3	●			—	●			—	11	13	15	—		20A		#12 (-)
		4 , 5	●			—	●			—						15A		#14 (-)
NEW	20	3	●			—	●			—	8	10	12	—		15A		#14 (2)
	24	3	●			—	●			—	11	13	15	—		20A		#12(3.5)
		4	●			—	●			—						15A		#14(2)
	28	4	●			—	●			—	10	12	14	16	18	20A		#12(3.5)
		8	●			—	●			—						15A		#14(2)

Explanation of Terms

- **Shell size**

We use the outer diameter (ϕ d [mm]) of the panel inserting part of the receptacle to indicate the shell size.



Example : NCS-25 (Shell size)
ϕd

- **"Rated voltage" "Limit operating voltage"**

The "rated voltage" is the voltage defined by the technical standards in the Electrical Appliances and Materials Safety Act in order to eliminate variation in performance by manufacturers and the "limit operating voltage" is the voltage that indicates the performance that can be exhibited by the products of Nanaboshi Electric Mfg.

Both of them are continuously usable voltages and we show the same value for both of AC and DC.

- **Protection degree(JIS C 0920 , EN / IEC 60529)**

The degree of protection against the entry of foreign solid objects such as dust and dirt and the ingress of water, which is verified by standardized testing methods. This protection degree is designated by the form of "IP □■ ". A figure of degree of protection against the entry of foreign solid objects is shown in □ and a figure of degree of protection against the ingress of water is shown in ■ .

If there is no need of specification, an alphabet "X" is used.

Example: IP67, IPX7

Tests are applicable only to assigned degrees and the products of degree 7 do not necessarily satisfy the tests of degree 6 or below.

IP □ ■

First characteristic digit		
IP	Protection of electrical equipment	Protection of persons
	Entry of foreign solid objects	Access to hazardous parts
0	(No protection)	(No protection)
1	Diameter ≧ 50mm	Back of hand
2	Diameter ≧ 12.5mm	Finger
3	Diameter ≧ 2.5mm	Tool
4	Diameter ≧ 1.0mm	Wire
5★	Dust protected	Wire
6	Dust tight	Wire

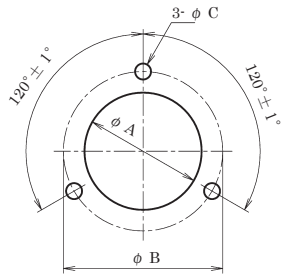
★ Category 1: Test with the inside under negative pressure.
Category 2: Test with the inside not under negative pressure.

Second characteristic digit	
IP	Protection of electrical equipment
	Harmful ingress of water
0	(No protection)
1	Vertically falling
2	Falling (at an degree of 15°)
3	Spraying
4	Splashing
5	Jetting
6	Powerful water jets
7	Temporary immersion (Watertight)
8	Continuous immersion (Submersible)

※ The testing method of numeral 8 is agreed between the parties concerned.

Installation Dimensions

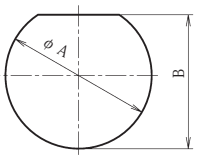
Round flange receptacle (3 holes)



(mm)

Series	Shell size	Shape	φ A $^{+1}_{0}$	φ B	φ C
NCS	14	R	15	23 ± 0.2	3.4 hole or M3 tap
	16	R RF	17	24 ± 0.2	
	25		26	34 ± 0.2	
	30		31	38 ± 0.2	
	40	R	41	50 ± 0.2	
	44	RF	45	56 ± 0.2	
	50	R	51	60 ± 0.2	
NWPC	14	R	15	26 ± 0.2	
	16	R RF	17	30 ± 0.2	
	25		26	36 ± 0.2	
	30		31	41 ± 0.2	
	40	R	41	52 ± 0.2	
	44	RF	45	60 ± 0.2	

NJW-16-RBM,RBF

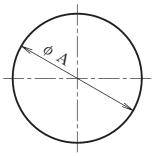


(mm)

Series	Shell size	Shape	φ A $^{+0.1}_{0}$	B $^{+0.1}_{0}$	Panel thickness
NJW	16	RBM RBF	16	15.4	2 to 5

Recommended tightening torque of mounting nut : 1.5 N・m

NCS-25・30-RBP



(mm)

Series	Shell size	Shape	φ A $^{+0.5}_{0}$	Panel thickness
NCS	25	RBP	28.5	2 to 3
	30		33.5	2 to 4

Recommended tightening torque of mounting nut : 2 N・m

Precautions for installing the waterproof type

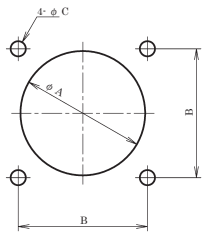
In order to secure water tightness, the installation part must be treated as below:

1. When the panel thickness is 10 mm or more, tap the panel directly and ensure that the thread hole does not penetrate from the installation panel surface to the back.
2. When the installation panel is thinner, either use a commercially available seal washer or mold the mounting nut part with resin.

※ The inside of the panel should be water tight.

Installation Dimensions

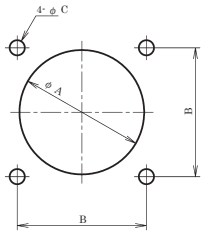
Square flange receptacle (4 holes)



(mm)

Series	Shell size	Shape	φ A $^{+1}_{0}$	B	φ C
NCS	25	R Kaku RF Kaku	26	24 ± 0.2	3.4 hole or M3 tap
	50	R R Kaku	51	48 ± 0.3	5.5 hole or M5 tap
	54	RF	55	52 ± 0.3	
	60	R RF	61	56 ± 0.3	
	64	RF	65	62 ± 0.3	
NWPC	50	R	51	50 ± 0.3	
	54	RF	55	52 ± 0.3	
	60	R RF	61	56 ± 0.3	
	64	RF	65	62 ± 0.3	
NJC , NJW , NAW	16	RM RF L za	17	20 ± 0.2	3.4 hole or M3 tap
NJC , NR , NET NJW , NRW NAW , NEW	20		21	23 ± 0.2	
	24		25	26 ± 0.2	
NJC , NET , NJW NRW , NEW	28		29	29 ± 0.2	
NJC , NET , NJW	32	RM RF	33	36 ± 0.2	4.5 hole or M4 tap
NT	50	RM,RF CRM,CRF	51	48 ± 0.2	

NJC, NR Series receptacle Installed from back of panel



(mm)

Series	Shell size	Shape	φ A $^{+1}_{0}$	B	φ C	Panel thickness
NJC	16	RM RF	19	20 ± 0.2	3.4 hole	2 to 3
	20		23	23 ± 0.2		
	24		27	26 ± 0.2		
	28		31	29 ± 0.2		2 to 3.5
	32		38	36 ± 0.2	4.5 hole	2 to 6.5
NR	20	RM RF	23	23 ± 0.2	3.4 hole	2 to 3
	24		27	26 ± 0.2		

Precautions for installing the waterproof type

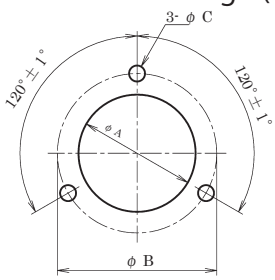
In order to secure water tightness, the installation part must be treated as below:

1. When the panel thickness is 10 mm or more, tap the panel directly and ensure that the thread hole does not penetrate from the installation panel surface to the back.
2. When the installation panel is thinner, either use a commercially available seal washer or mold the mounting nut part with resin.

※ The inside of the panel should be water tight.

Installation Dimensions

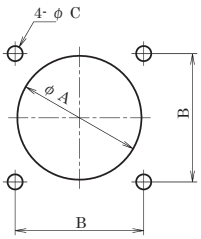
Adapter with round flange (3 holes)



(mm)

Series	Shell size	Shape	φ A $^{+1}_{0}$	φ B	φ C
NCS	16	Ad(F) AdF(F)	22.5	28 ± 0.2	3.4 hole or M3 tap
	25		29	35 ± 0.2	
	30		34	42 ± 0.2	
	40	Ad(F)	47	56 ± 0.2	
NWPC	16	Ad(F) AdF(F)	26	32 ± 0.2	
	25		33	39 ± 0.2	
	30		38	44 ± 0.2	

Adapter with square flange (4 holes)



(mm)

Series	Shell size	Shape	φ A $^{+1}_{0}$	B	φ C
NJC , NJW , NAW	16	Ad(F)M Ad(F)F GAd(F)M GAd(F)F Ad(F)MK Ad(F)FK	19.5	20 ± 0.2	3.4 hole or M3 tap
NJC , NR , NET, NJW , NAW	20		24	23 ± 0.2	
NJC , NR , NET, NJW , NAW	24		27	26 ± 0.2	
NJC , NET , NJW	28		32	29 ± 0.2	
NJC , NET , NJW	32		40	36 ± 0.2	4.5 hole or M4 tap

In the case of NJW and NAW Series, insert a connector through a panel hole with the clamp nut removed.
(Other than Size 32)

AWG Conversion Table

A W G	Wire Diameter (mm)	Wire size (mm^2)	A W G	Wire Diameter (mm)	Wire size (mm^2)
4/0	11.684	107.2	24	0.5106	0.2047
3/0	10.404	85.03	25	0.4547	0.1623
2/0	9.266	67.42	26	0.4049	0.1288
0	8.250	53.49	27	0.3606	0.1021
1	7.348	42.41	28	0.3211	0.08097
2	6.544	33.63	29	0.2859	0.06425
3	5.827	26.66	30	0.2546	0.05097
4	5.189	21.15	31	0.2268	0.04039
5	4.621	16.77	32	0.2019	0.03203
6	4.115	13.30	33	0.1798	0.02540
7	3.665	10.55	34	0.1601	0.02014
8	3.264	8.368	35	0.1426	0.01597
9	2.906	6.632	36	0.1270	0.01267
10	2.588	5.262	37	0.1131	0.01005
11	2.305	4.172	38	0.1007	0.007968
12	2.053	3.309	39	0.08969	0.006319
13	1.828	2.624	40	0.07987	0.005012
14	1.628	2.081	41	0.07113	0.003973
15	1.450	1.650	42	0.06334	0.003151
16	1.291	1.309	43	0.05641	0.002499
17	1.150	1.037	44	0.05023	0.001982
18	1.024	0.8226	45	0.04473	0.001572
19	0.9116	0.6529	46	0.03984	0.001246
20	0.8118	0.5174	47	0.03547	0.0009884
21	0.7229	0.4105	48	0.03159	0.0007838
22	0.6438	0.3256	49	0.02813	0.0006216
23	0.5733	0.2581	50	0.02505	0.0004929

Parallel Pipe Thread Conversion Table

JIS B 0202 (Parallel pipe thread)	
Specified in ISO	Not specified in ISO
$G^1/_2$	$PF^1/_2$
$G^3/_4$	$PF^3/_4$
G1	PF1
$G1^1/_4$	$PF1^1/_4$
$G1^1/_2$	$PF1^1/_2$

JIS C 8305 (Rigid steel conduits) Thick steel conduit pipe thread
CTG16
CTG22
CTG28
CTG36
CTG42

For designation of pipe threads, we use the expression of parallel pipe thread "G(PF)". For the thick steel conduit pipe thread (CTG) also, the above table can be used without problem.

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