

Friendship Everywhere; Trust Any time.

CFriend Fuse Manual (2014)



Solar PV Fuse Solar PV Bases Cylindrical Fuse
BS88 Fuse American Standard Fuse Automotive Fuse
NH Series Fuse Square Body High Speed Fuse
Fuse Bases Various Accessories

Cfriend- Escort for Power System

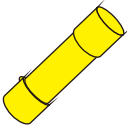
CFriend Electric Co.,Ltd(CFriend as short), which is a professional manufacturer, we're mainly focusing on the investment, R&D, manufacturing, sales and relevant integrated services of power system protection and industrial control. With the possession of many year's professional and technical accumulation and industrial experience,we have excellent performance in the National grid, new energy of PV, wind electricity industry, electronic automotive industry, rectifier inverter, communication power supply, railway engineering machinery and other industries.

CFriend is specialized in the production of solar PV DC fuse (PV series);American Standard

Fuse for electric vehicle use (EV series);the line overload or short circuit with low voltage fuse which conforms to international standards (NH series); high speed fuse for semiconductor device protection use and etc. (DIN43620,DIN43653 BS88 U.L&CSA Series). In order to ensure the service quality for our customers, CFriend has established service and R&D network in Europe, India, East China, South China, North China as well as Taiwan. Both domestic and overseas customers are warmly welcomed to contact with us for further cooperation, CFriend hopes that we can join together to make a brilliant future!



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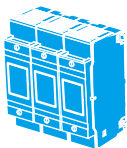
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Solar PV Fuse (Easy Safe Series)

Safe Protection It's So Easy!

New Products Released



Nowadays, with more and more shortage of energy in world, solar energy is undoubtedly the most clean, safe, and reliable. All countries are focusing on the development and utilization of solar energy and regarding it as main task and long-term goal during the energy revolution. Meanwhile, the pacing of developing solar industry has been quickened.

Photovoltaic power generation is a kind of technique to directly transfer light energy to electricity with the usage of "photovoltaic effect" on semiconductor interface. After cascading of packaging protection for solar cell, a large area of solar cell module can be formed. Finally the electric energy will enter into public grid system after getting through the equipments such as combiner box, controller, inverter, electric cabinet.

Very high DC voltage (Max Voltage: 1000Vdc)

can be formed when the PV cell has been cascaded. Among the whole system of photovoltaic power generation, especially in the combiner box, fuse has more advantages such as high breaking capacity, good characteristics of limit flow, reliable performance and economy compared to DC circuit breaker.

CFriend has been striving in developing and investing in new energy industry for many years, after years' effort and practice, CFriend released the first generation of solar PV products in the second half of year 2011.

In 2013, catering for the requirement of market, especially the high quality requirement from overseas market, CFriend developed the second generation solar PV products (Easy Safe Series) with new design and a new level has been reached for safe protection of PV system.

Solar PV Fuse (Easy Safe Series)



【Brief Introduction】



Product Parameter:

- ▶ Model: PV(size)-Rated Current(A)
- ▶ Class of Operation: gPV and UL PV fuses
- ▶ Size: 10x38mm / 14x51mm / PVNH
- ▶ Rated Voltage: 1000Vdc
- ▶ Current: 1-20A/15-32A/32-160A
- ▶ Breaking Capacity: 1-6A: 40KA_{dc} 8-15A: 33KA_{dc}
20-32A: 10KA_{dc} 32-160A: 50KA_{dc}

Product Description:

- ▶ Conforms to the requirement of IEC 60269-6 (gPV) GB/T 13539-2013
- ▶ Meeting the requirement of PV industry
- ▶ Economic protection solution for PV

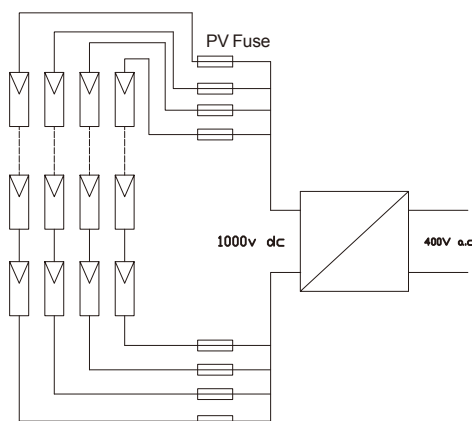
Product Characteristics:

- ▶ 1000V DC loading capacity
- ▶ High breaking capacity
- ▶ Low overloading protection capacity and 1.35 times of rated current
- ▶ The highest applicable ambient temperature reached 120℃
- ▶ Compact overall dimension: 10 X 38mm
- ▶ Easy installation

Matched Bases:

- ▶ PCB fuse clip: SP101/SP102 (See Page 65)
- ▶ The modular fuse base: SC101PV (See Page 7)

Product Selection:



- ▶ The conditions for necessity and function of fuse protection:
if the fault current caused by short circuit in PV array can not be effectively broke, which will be harmful for PV panel and cable, strong DC arc will formed in the circuit.
 - ▶ Main parameter of PV system:
 1. Maximum output voltage: V_{pm}
 2. Maximum open circuit voltage: V_{oc}
 3. Maximum operating current: I_{pm}
 4. Rated current、voltage: V_R 、 I_R
 5. Short Circuit Current: I_{sc}
 6. Breaking range and utilization category: The protection for gPV system DC breaking capacity at a full range
 - ▶ Common sense for selection:
 1. The maximum short circuit current (I_{SC}) caused by PV cell panel is 1.25 times of rated current.
 2. According to the latest IEC and GB standard, gPV fuse will be fused in one hour when 1.35 times of rated current as agreed, the current can't be fused should be corrected as 1.05 times.
 3. According to NEC , the provisions of UL, the rated current of fuse should be more than 1.56 I_{sc} , according to the standard of IEC, more or equal to 1.45 I_{sc} is recommended.
- * Remarks: The above is for your reference only, standards from IEC and UL are still improving

Solar PV Fuse

Easy Safe Serie

Product Features:

- ▶ Made with new ceramic material, ensuring the short circuit energy sealed in the fuse element in high voltage , which is safe and reliable.
- ▶ In order to make sure the melting core can be fused in fault condition, it is made of pure silver of 99.99% .
- ▶ The strictly elected quartz sand is regarded as inner filling material, which is effectively absorbing short circuit DC arc.
- ▶ The metal parts of two ends in fuses are made of 100% red copper, the outer layer is silver plated, no matter which kind of bases are chosen, it can ensure good conductivity and reduce the temperature rise and power losses.

【Selection Table】 1000V DC 10x38mm/14x51mm 1-32A

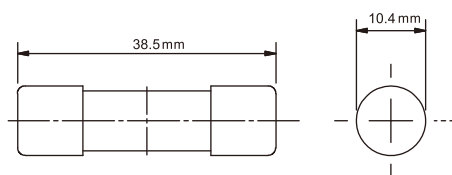
Size	Current	Without Fixing		PCB Fixing		Bolt Fixing		Min Packing Qty	Packing Weight	Fig. No.
		Model	Ordering No.	Model	Ordering No.	Model	Ordering No.			
10X38	1	PV10-1A	RN118810	PV10-1AT	RN118920	PV10-1AP	RN119030	20	0.2	Without Fixing 【fig.-1A1A】
	2	PV10-2A	RN118820	PV10-2AT	RN118930	PV10-2AP	RN119040			
	3	PV10-3A	RN118830	PV10-3AT	RN118940	PV10-3AP	RN119050			
	4	PV10-4A	RN118840	PV10-4AT	RN118950	PV10-4AP	RN119060			PCB Fixing 【fig.-1A1B】
	5	PV10-5A	RN118850	PV10-5AT	RN118960	PV10-5AP	RN119070			
	6	PV10-6A	RN118860	PV10-6AT	RN118970	PV10-6AP	RN119080			
	8	PV10-8A	RN118870	PV10-8AT	RN118980	PV10-8AP	RN119090			Bolt Fixing 【fig.-1A1C】
	10	PV10-10A	RN118880	PV10-10AT	RN118990	PV10-10AP	RN119100			
	12	PV10-12A	RN118890	PV10-12AT	RN119000	PV10-12AP	RN119110			
	15	PV10-15A	RN118900	PV10-15AT	RN119010	PV10-15AP	RN119120			
14X51	20	PV10-20A	RN118910	PV10-20AT	RN119020	PV10-20AP	RN119130	10	0.25	【fig.-1A2A】
	15	PV14-15A	RN119140	PV14-15AT	RN119180	PV14-15AP	RN119220			
	20	PV14-20A	RN119150	PV14-20AT	RN119190	PV14-20AP	RN119230			
	25	PV14-25A	RN119160	PV14-25AT	RN119200	PV14-25AP	RN119240			
	32	PV14-32A	RN119170	PV14-32AT	RN119210	PV14-32AP	RN119250			

【Selection Table】 1000V DC NH 32-160A

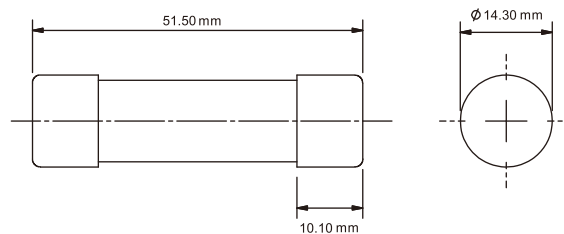
Size	Current	NH Square Body		Min Packing Qty	Packing Weight	Fig. No.
		Model	Ordering No.			
NH	32	PVNH-32A	RN119260	3	1.85	【fig.-1A3A】
	40	PVNH-40A	RN119270			
	50	PVNH-50A	RN119280			
	63	PVNH-63A	RN119290			
	80	PVNH-80A	RN119300			
	100	PVNH-100A	RN119310			
	125	PVNH-125A	RN119320			
	160	PVNH-160A	RN119330			

Solar PV Fuse (Easy Safe Series)

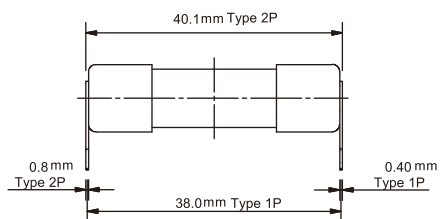
【Dimension Figure】



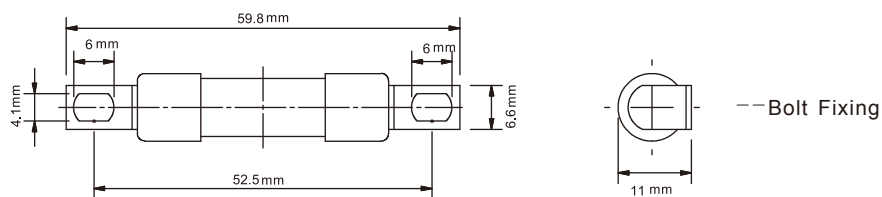
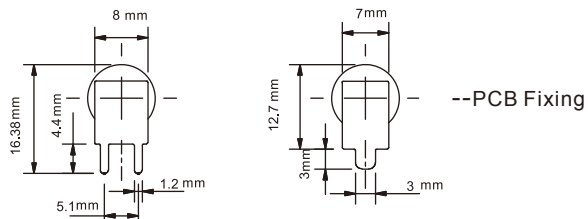
【fig. -1A1A】: PV10(10X38mm)



【fig. -1A2A】: PV14(14X51mm)



【fig. -1A1B】: PV10(PCB Fixing)



【fig. -1A1C】: PV10 (Bolt Fixing)

* For drawing of PVNH products, please contact with CFriend Electric or local dealer.

Bases Specifically for Solar PV Fuse Use

Easy Safe Series

【Brief Introduction】



Product Model: SC101PV

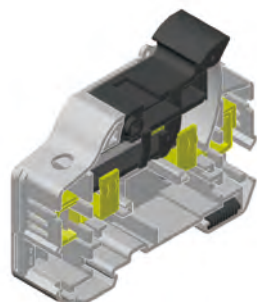
Conformed Standard:

▶ IEC 60269-6 GB/T13539-6 UL4268-18

Product Characteristics:

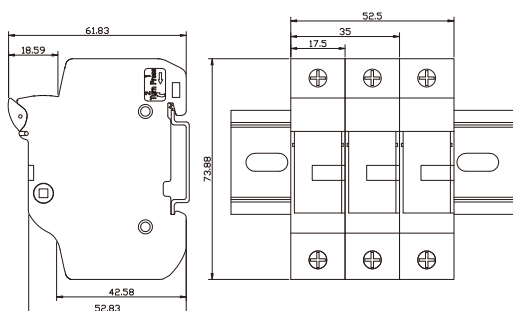
- ▶ Rated voltage: 1000Vdc 33KA
- ▶ Rated current: 30A UL 32A IEC
- ▶ Applied size: 10X38
- ▶ Temperature range: -30℃ - 120℃

Top Ten Features of New Bases:



【fig.-1B1A】 3D drawing of PV bases

- ▶ Imported engineering plastics, better features of antflaming, high and low temperature
- ▶ The metal piece made of pure copper silver plated, and one-shot stamping molding, with lower resistance ($\leq 9m\Omega$; 20℃)
- ▶ To ensure tightly contact with the melting core, it's made of strong spring material with higher clamping strength
- ▶ Non-slip design for the screws, more reliable connection
- ▶ Inner structure has been improved, arc protection performance has been greatly enforced.
- ▶ Using multiple locks to eliminate false switching, making absolutely safe protection.
- ▶ Label slot has been added, making more convenient marking
- ▶ Multipolar connection is allowed (accessory can be chosen), it's convenient to make the selection
- ▶ Design of finger safe
- ▶ Ergonomic shape and make you feel better



【fig.-1B1B】 Overall drawing of PV bases



【fig.-1B1C】 Mounting illustration of PV bases

【Brief Introduction】



- ▶ Conforms to IEC 60269-2
- ▶ CE and CCC certification, meeting the requirements of various designs

- ▶ In a compact size and spare little space
- ▶ Standard Voltage 500V/690Vac
- ▶ Three kinds of features: g G / a M / aR
- ▶ Modular bases are easy to install

Sample: R10H15

Size	Rated current
10:10x38mm	Class
14:14x51mm	H: High Speed Fuse
22:22x58mm	G: gG protection
	M: aM protection

- ▶ Model: R(size) G(current)
R(size) M(current)
R(size) H(current)
- ▶ Operating Class: gG /aM /aR
- ▶ Dimension of Fuse: 10x38mm/14x51mm/22x58mm
- ▶ Rated Voltage: 500V(gG/aM)
690V(High Speed Fusing)
- ▶ Current: 0.5-125A
- ▶ Rated Breaking Capacity: 80KA (gG/aM)
200KA (High Speed Fusing)

A diagram of a capsule. The capsule consists of two semi-circular ends and a central cylindrical section. Dimension A is the total length of the capsule. Dimension B is the radius of the semi-circular ends. Dimension C is the height of the cylindrical section, which is equal to the diameter of the semi-circular ends (2B).

【fig. -1C1A】 : cylindrical series

▶ Modular fuse base: SC***D ("I" means indicating)
The function of indicating can be chosen

Unit: mm

Specification	Current Class	Dimensions		
		A	B	C
10 x 38	0.5-32	38.1	10.3	9.5
14 x 51	1-50	50.8	14.3	15.5
12 x 58	2-125	58	22.2	15

【Selection Table】 500V gG/aM Fuse&690V High Speed Fuse 0.5-125A

Size	Current	500V gG Protection		500V aM Protection		690V High Speed Fusing		Min Packing Qty	Packing Weight	Fig. No.
		Model	Ordering No.	Model	Ordering No.	Model	Ordering No.			
10X38	0.5	R10G0-5	RN120420	R10M0-5	RN120830	R10H0-5	RN121240	20	0.2	【fig.-1C1A】 Refer to Dimension Table
	1	R10G1	RN120430	R10M1	RN120840	R10H1	RN121250			
	2	R10G2	RN120440	R10M2	RN120850	R10H2	RN121260			
	4	R10G4	RN120450	R10M4	RN120860	R10H4	RN121270			
	6	R10G6	RN120460	R10M6	RN120870	R10H6	RN121280			
	8	R10G8	RN120470	R10M8	RN120880	R10H8	RN121290			
	10	R10G10	RN120480	R10M10	RN120890	R10H10	RN121300			
	12	R10G12	RN120490	R10M12	RN120900	R10H12	RN121310			
	16	R10G16	RN120500	R10M16	RN120910	R10H16	RN121320			
	20	R10G20	RN120510	R10M20	RN120920	R10H20	RN121330			
	25	R10G25	RN120520	R10M25	RN120930	R10H25	RN121340			
	32	R10G32	RN120530	R10M32	RN120940	R10H32	RN121350			
14X51	1	R14G1	RN120540	R14M1	RN120950	R14H1	RN121360	10	0.22	【fig.-1C1A】 Refer to Dimension Table
	2	R14G2	RN120550	R14M2	RN120960	R14H2	RN121370			
	4	R14G4	RN120560	R14M4	RN120970	R14H4	RN121380			
	6	R14G6	RN120570	R14M6	RN120980	R14H6	RN121390			
	8	R14G8	RN120580	R14M8	RN120990	R14H8	RN121400			
	10	R14G10	RN120590	R14M10	RN121000	R14H10	RN121410			
	12	R14G12	RN120600	R14M12	RN121010	R14H12	RN121420			
	16	R14G16	RN120610	R14M16	RN121020	R14H16	RN121430			
	20	R14G20	RN120620	R14M20	RN121030	R14H20	RN121440			
	25	R14G25	RN120630	R14M25	RN121040	R14H25	RN121450			
	32	R14G32	RN120640	R14M32	RN121050	R14H32	RN121460			
	40	R14G40	RN120650	R14M40	RN121060	R14H40	RN121470			
	50	R14G50	RN120660	R14M50	RN121070	R14H50	RN121480			
22X58	2	R22G2	RN120670	R22M2	RN121080			10	0.45	【fig.-1C1A】 Refer to Dimension Table
	4	R22G4	RN120680	R22M4	RN121090					
	6	R22G6	RN120690	R22M6	RN121100					
	8	R22G8	RN120700	R22M8	RN121110					
	10	R22G10	RN120710	R22M10	RN121120					
	12	R22G12	RN120720	R22M12	RN121130					
	16	R22G16	RN120730	R22M16	RN121140					
	20	R22G20	RN120740	R22M20	RN121150	R22H20	RN121560			
	25	R22G25	RN120750	R22M25	RN121160	R22H25	RN121570			
	32	R22G32	RN120760	R22M32	RN121170	R22H32	RN121580			
	40	R22G40	RN120770	R22M40	RN121180	R22H40	RN121590			
	50	R22G50	RN120780	R22M50	RN121190	R22H50	RN121600			
	63	R22G63	RN120790	R22M63	RN121200	R22H63	RN121610			
	80	R22G80	RN120800	R22M80	RN121210	R22H80	RN121620			
	100	R22G100	RN120810	R22M100	RN121220	R22H100	RN121630			
	125	R22G125	RN120820	R22M125	RN121230					

A collection of various types of surge protectors, including cylindrical and rectangular units with mounting brackets, arranged on a white background. The cylindrical units are labeled with 'C-Mark' and 'F1750'. The rectangular units are labeled with 'E-Mark' and 'F1750'. Some units have 'CE' and 'RoHS' markings. The units are shown in different orientations and sizes, illustrating the variety of surge protection equipment available.

- ▶ Conforms to BS88-4&IEC 60269-4
- ▶ British Fuses are commonly used in the power supply equipments such as inverter, UPS/EPS. It is mainly used in the commonwealth countries before, at present, it is adored and utilized by manufacturers from all over the world.

- ▶ High Breaking capacity
- ▶ Small clearing I^2t
- ▶ Small arc voltage, low power losses
- ▶ Small volume, high performance cost ratio

Diagram illustrating a 3-tuple representation for a screw specification:

- F**: Type F (Note: *Type F is faster than type T)
- E**: Diameter
- 80**: Current(A)

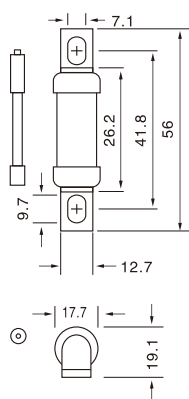
Additional specifications listed:

- C: 8.4mm
- E: 18mm
- M: 38mm
- EE: 2x18mm
- MM: 2x38mm

【Selection Table】BS88 240V 6-900A

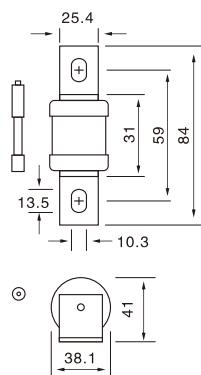
Spec.	Rated Current	I ² t (A ² S)			Power Losses	Product Model	Ordering No.	Min Packing Qty	Packing Weight	Fig. No.
		Clearing of Pre-Arc	Total Clearing at 120V	Total Clearing at 240V						
LET	6	2.3	8	11	3.0	LET6	RN102730	10	0.31	【fig.-2A1A】
	10	4	14	24	4.5	LET10	RN102740			
	12	8	24	34	4.5	LET12	RN102750			
	16	22	52	110	4.5	LET16	RN102760			
	20	30	82	170	6.0	LET20	RN102770			
	25	23	130	260	6.0	LET25	RN102780			
	32	37	210	460	7.0	LET32	RN102790			
	35	55	330	610	7.0	LET35	RN102800			
	50	105	510	1410	9.0	LET50	RN102810			
	63	190	1110	2210	11.0	LET63	RN102820			
	80	320	2000	3900	12.0	LET80	RN102830			
	100	700	3900	7600	12.0	LET100	RN102840			
	125	700	3900	7600	18.0	LET125	RN102850			
	160	1200	7100	16100	22.0	LET160	RN102860			
	180	1700	12100	29100	23.0	LET180	RN102870			
LMT	160	1200	7100	16100	19.0	LMT160	RN102880	1	0.2	【fig.-2A1B】
	200	1700	10100	20100	30.0	LMT200	RN102890			
	250	3500	20100	40100	30.0	LMT250	RN102900			
	315	7000	35100	75100	37.0	LMT315	RN102910			
	355	9000	50100	100100	37.0	LMT355	RN102920			
	400	15000	70100	160100	42.0	LMT400	RN102930			
	450	19000	100100	220100	44.0	LMT450	RN102940			
LMMT	400	7000	35100	80100	62.0	LMMT400	RN102950	1	0.4	【fig.-2A1C】
	500	15000	80100	170100	66.0	LMMT500	RN102960			
	630	25000	150100	300100	77.0	LMMT630	RN102970			
	710	33000	200100	460100	79.0	LMMT710	RN102980			
	800	53000	300100	600100	84.0	LMMT800	RN102990			
	900	76000	400100	800100	99.0	LMMT900	RN103000			

【Dimension Figure】 : BS88 240V 6-900A



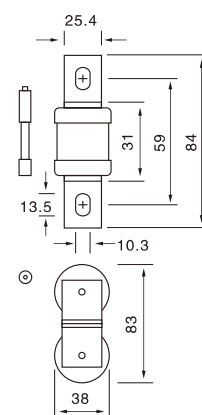
Unit: mm

【fig. -2A1A】 LET 25-180A



Unit: mm

【fig. -2A1B】 LMT 160-450A



Unit: mm

【fig. -2A1C】 LMMT 400-900A

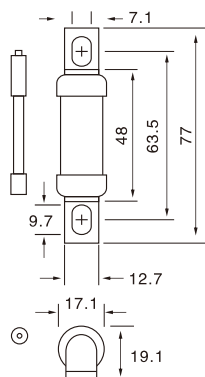


【Selection Table】BS88 690V 6-700A

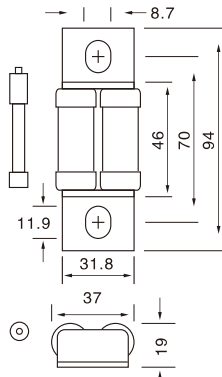
Spec.	Rated Current	I ² t (A ² S)			Power Losses	Product Model	Ordering No.	Min Packing Qty	Packing Weight	Fig. No.
		Clearing of Pre-Arc	Total Clearing at 120V	Total Clearing at 240V						
ET	6	2	9	12	2	Et6	RN102090	10	0.4	【fig. -2A2A】
	10	8	32	50	3	ET10	RN102100			
	12	12	42	67	5	ET12	RN102110			
	16	18	68	120	9	Et16	RN102120			
	20	34	160	230	9	Et20	RN102130			
	25	27	160	260	9	Et25	RN102140			
	32	34	200	360	13	ET32	RN102150			
	35	54	320	510	13	ET35	RN102160			
	40	108	650	950	11	ET40	RN102170			
	45	108	730	1150	13	ET45	RN102180			
	56	140	1000	1550	16	ET56	RN102190			
	63	176	1250	2050	18	ET63	RN102200			
	80	410	2550	4050	20	ET80	RN102210			
FE	35	38	135	250	11	FE35	RN102220	10	0.4	
	40	57	185	350	11	FE40	RN102230			
	45	81	320	500	13	FE45	RN102240			
	50	108	430	650	13	FE50	RN102250			
	63	140	530	800	14	FE63	RN102260			
	71	260	650	1000	19	FE71	RN102270			
	80	300	950	1550	22	FE80	RN102280			
	90	410	1350	2150	22	FE90	RN102290			
	100	520	1850	2850	25	FE100	RN102300			
	80L	520	1850	2850	25	FE80L	RN102281	10	0.4	Please contact with CFriend
	100L	550	2100	3100	27	FE100L	RN102301			
	125L	605	2300	3300	28	FE125L	RN102302			
	160L	800	2900	3700	29	FE160L	RN102303			
	200L	1010	3300	5000	32	FE200L	RN102303			
EET	90	540	3050	4550	21	EET90	RN102310	5	0.45	【fig. -2A2B】
	110	700	4100	6600	29	EET110	RN102320			
	140	1150	7100	12100	37	EET140	RN102330			
	160	1600	10100	17100	41	EET160	RN102340			
FEE	100	410	1700	2500	26	FEE100	RN102350	5	0.45	【fig. -2A2B】
	120	640	2000	3200	34	FEE120	RN102360			
	140	950	2600	3900	38	FEE140	RN102370			
	160	1100	3800	5800	48	FEE160	RN102380			
	180	1500	5400	8500	48	FEE180	RN102390			
	200	2000	7200	11500	62	FEE200	RN102400			
FM	180	1500	7600	13600	42	FM180	RN102410	1	0.25	【fig. -2A2C】
	200	2700	10600	18600	42	FM200	RN102420			
	225	3800	14600	26600	46	FM225	RN102430			
	250	5300	20600	37600	50	FM250	RN102440			
	280	7100	30600	55100	50	FM280	RN102450			
	315	10100	40100	77100	65	FM315	RN102460			
	350	15100	60100	105100	65	FM350	RN102470			
FMM	400	10100	40100	72600	95	FMM400	RN102480	1	0.45	【fig. -2A2D】
	450	15100	65000	110000	100	FMM450	RN102490			
	500	20100	87000	155000	110	FMM500	RN102500			
	550	30100	125000	220000	110	FMM550	RN102510			
	630	45100	185000	315000	110	FMM630	RN102520			
	700	60100	250000	425000	130	FMM700	RN102530			
MT	160	2500	15100	30000	28	MT160	RN102540	1	0.3	【fig. -2A2C】
	180	3900	25100	43000	28	MT180	RN102550			
	200	6100	45000	63000	29	MT200	RN102560			
	250	11600	85000	115000	34	MT250	RN102570			
	280	16600	105000	155000	37	MT280	RN102580			
	315	19100	130000	185000	44	MT315	RN102590			
	355	22100	165000	205000	61	MT355	RN102600			
MMT	180	1750	12100	23000	44	MMT180	RN102610	1	0.5	【fig. -2A2D】
	200	2300	16100	28000	44	MMT200	RN102620			
	225	3800	26100	45000	44	MMT225	RN102630			
	280	6700	52000	75000	49	MMT280	RN102640			
	315	8700	67000	96000	61	MMT315	RN102650			
	355	13600	102000	145000	64	MMT355	RN102660			
	400	21100	155000	225000	70	MMT400	RN102670			
	450	30100	225000	325000	67	MMT450	RN102680			
	500	42100	305000	455000	74	MMT500	RN102690			
	560	60100	435000	645000	74	MMT560	RN102700			
	630	68600	505000	725000	96	MMT630	RN102710			
	710	78100	605000	855000	115	MMT710	RN102720			

For detailed data, please contact with CFriend Electric or local dealer

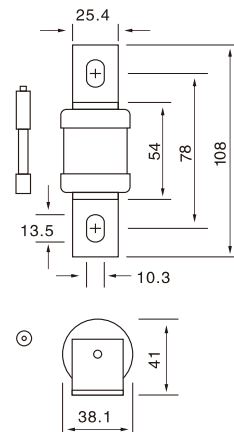
【Dimension Figure】BS88 690V 6-700A



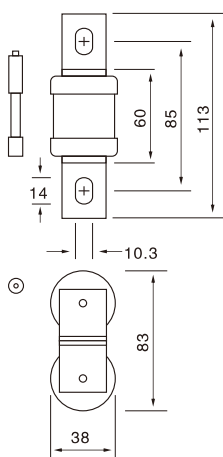
【fig. -2A2A】ET/FE 25-100A



【fig. -2A2B】EET/FEE 90-200A



【fig. -2A2C】FM/MT 180-355A



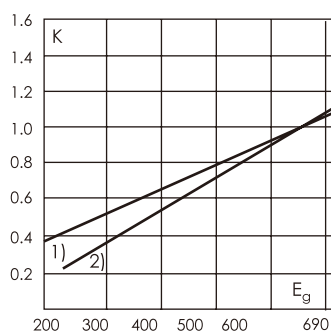
【fig. -2A2D】FMM/MMT 400-710A

* Unit: mm

【Correction Reference】

Total Clearing I_{2t}:

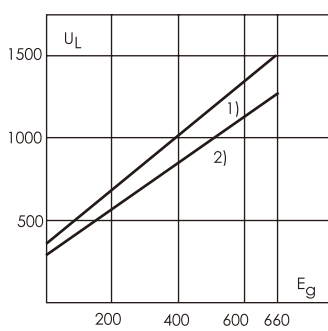
The total clearing I_{2t} at rated voltage and at power factor of 15% are given in the electrical characteristics. For the voltage that is not the rated voltage, the clearing I_{2t} is found by multiplying by correction factor, K. See the function of working voltage E_g (rms) and correction factor K as showed in the figure.



- 1) ET, EET, FE, FEE, MT, MMT
2) FM, FMM

Arc Voltage:

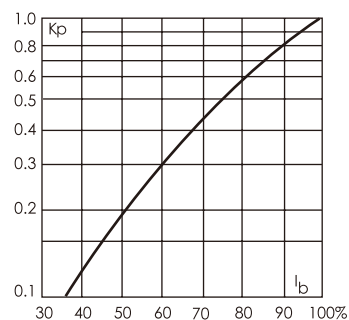
This curve gives the peak arc voltage, U_L, which may appear across the fuse during its operation as a function of the applied working voltage, E_g (rms) at a power factor of 15%.



- 1) ET, FE, EET, FEE, FM, FMM
2) ET, FE, EET, FEE, FM, FMM

Power Losses:

Watts loss at rated current is given in the electrical characteristics. The curve allows the calculation of the power losses at load currents lower than the rated current. The correction factor, K_p is given as a function of the RMS load current, I_b, in % of the rated current.

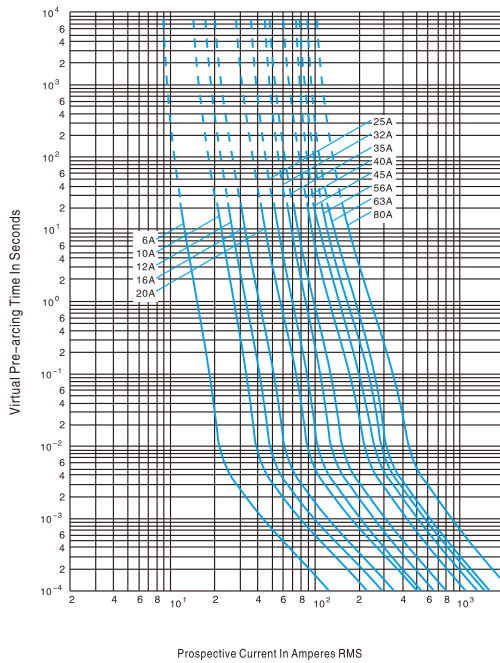




【Curve Chart】

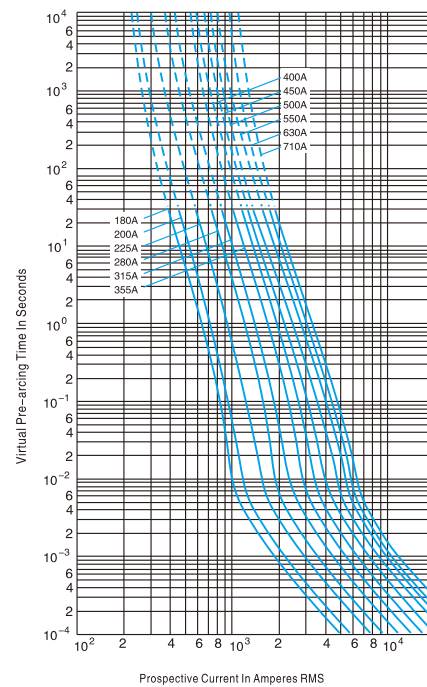
【Curve-211】: ET 690V (6-80A)

Time-Current Curve



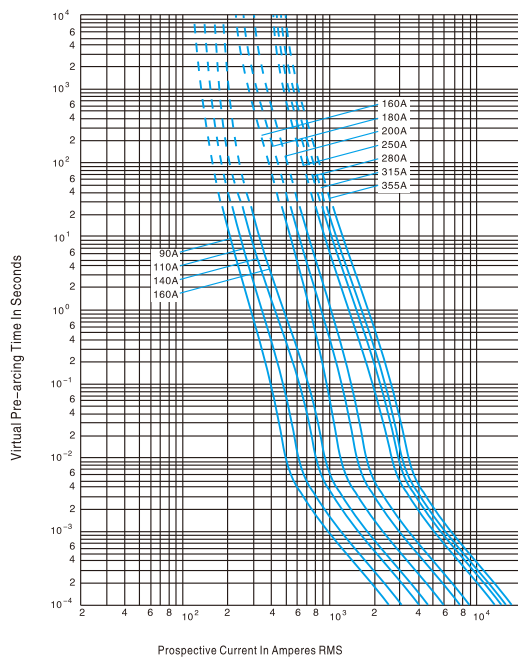
【Curve-213】: MMT 690V (180-710A)

Time-Current Curve

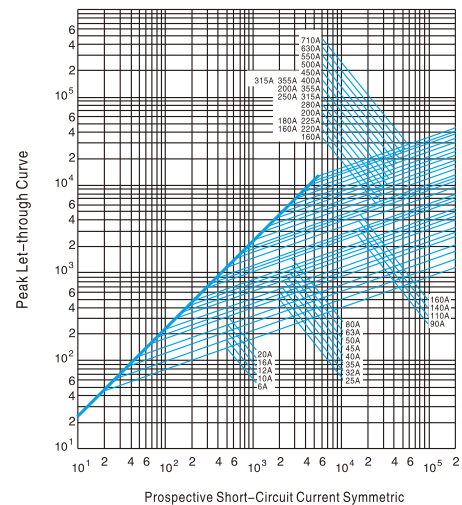


【Curve-212】: EET/MT 690V (90-355A)

Time-Current Curve



【Curve-214】: Peak Let-through Curve



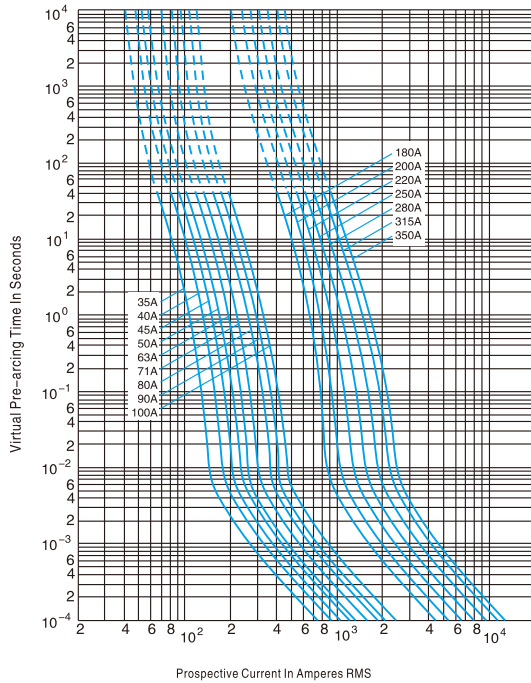
*For electric curve of 240V, please contact with CFriend Electric or local dealer

For detailed data, please contact with CFriend Electric or local dealer

【Curve Chart】

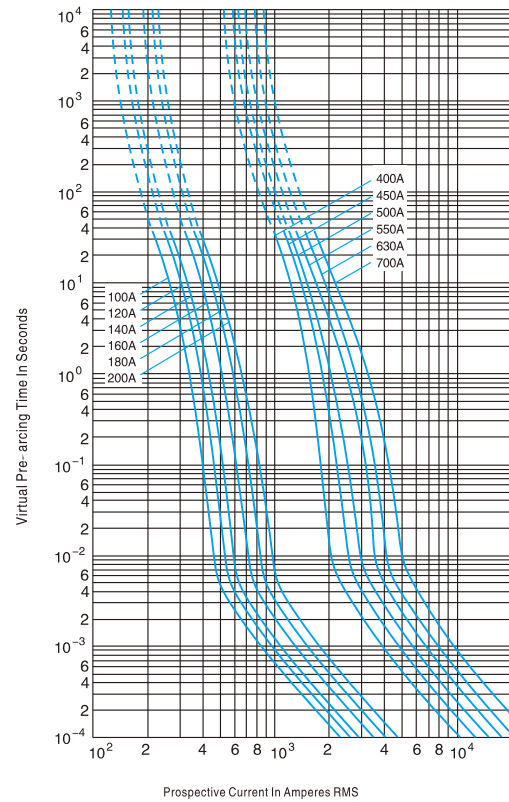
【Curve-215】: 690V FE(35-100A)
FM(180-350A)

Time-Current Curve

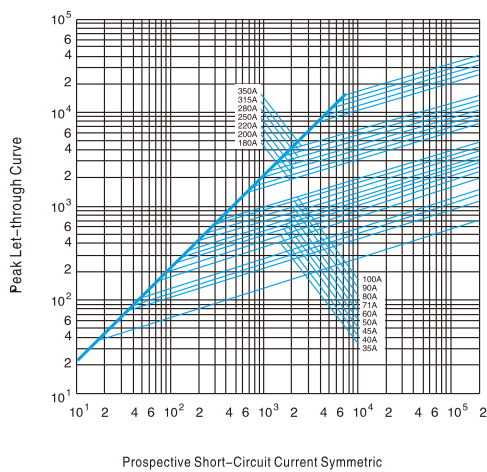


【Curve-217】: 690V FEE(100-200A)
FMM(400-700A)

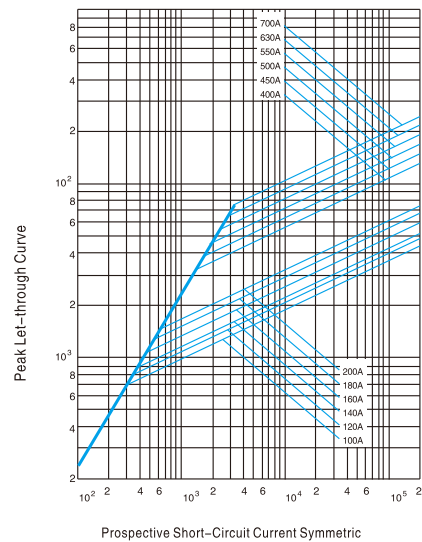
Time-Current Curve



【Curve-216】: Peak Let-through Curve



【Curve-218】: Peak Let-through Curve





North American Standard High Speed Fuses

【Brief Introduction】



Product Features:

- ▶ Fuse tube is made of epoxy resin and glass fiber which are high temperature resistant, arc extinguish medium are filled with high pure quartz sand, it is widely used in the new energy industry such as EV, HEV.
- ▶ 99.99% pure silver fuse element was used, with internal solid quartz sand, strong resistance to impact and vibration, high fire resistance.
- ▶ It is applicable in the ambient temperature of $-40^{\circ}\text{C} \sim 95^{\circ}\text{C}$, relative humidity is $\leq 90\%$.

Product Characteristics :

- ▶ Conforms to IEC 60269-1-4
- ▶ High Breaking Capacity: 100KA
- ▶ Small Clearing I^2t
- ▶ Low Arc Voltage and Power Losses

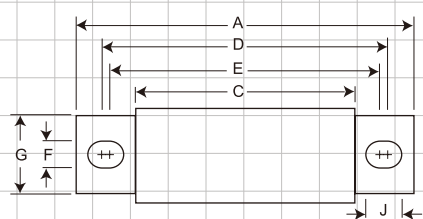
Matched Bases:

- ▶ FDH Series: BDH(See Page 67)
- ▶ FDP Series: BDP (See Page 67)

【Selection Table】 FDH 500V 35-1600A

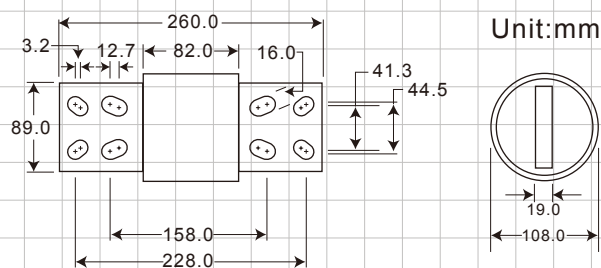
Current	500V 35-200A		Min Packing Qty	Packing Weight	Fig. No.	Current	500V 225-1600A		Min Packing Qty	Packing Weight	Fig. No.
	Model	Ordering No.					Model	Ordering No.			
35	FDH-35A	RN103010	5	0.35	【fig. -2B1A】	225	FDH-225A	RN103140	1	0.3	【fig. -2B1A】
40	FDH-40A	RN103020				250	FDH-250A	RN103150			
45	FDH-45A	RN103030				275	FDH-275A	RN103160			
50	FDH-50A	RN103040				300	FDH-300A	RN103170			
60	FDH-60A	RN103050				325	FDH-325A	RN103180			
70	FDH-70A	RN103060	1	0.1		350	FDH-350A	RN103190	1	0.45	
80	FDH-80A	RN103070				400	FDH-400A	RN103200			
90	FDH-90A	RN103080				450	FDH-450A	RN103210			
100	FDH-100A	RN103090				500	FDH-500A	RN103220			
125	FDH-125A	RN103100	1	0.15		600	FDH-600A	RN103230	1	0.96	
150	FDH-150A	RN103110				700	FDH-700A	RN103240			
175	FDH-175A	RN103120				800	FDH-800A	RN103250			
200	FDH-200A	RN103130				1000	FDH-1000A	RN103260	1	2	
						1200	FDH-1200A	RN103270			
						1400	FDH-1400A	RN103280	1	5.25	【fig. -2B1B】
						1600	FDH-1600A	RN103290			

【Dimension Figure】 : American Standard FDH 500V



Refer to the dimension table

【fig. -2B1A】 : FDH35A-1200A



Unit:mm

【fig. -2B1B】 : FDH1400A-1600A

【Dimension Table】 : American Standard FDH 500V

* Size C of FDH-200:53mm

Model	A	B	C	D	E	F	G	H	J
FDH-35A-60A	81	20	40	65	57	8.5	18	3	13
FDH-70A-100A	92	25	44	72	71	9.0	19	3	9.5
FDH-125A-200A	92	30	47	73	70	8.5	25	5	10
FDH-225A-400A	110	38	53	87	70	10.5	25	6	19
FDH-450A-600A	110	51	53	90	71	10.5	38	6	20
FDH-700A-800A	161	63	53	126	87	13.5	51	10	33
FDH-1000A-1200A	177	75	82	139	114	16.0	60	11	28
FDH-1400A-1600A	Refer to the drawing								

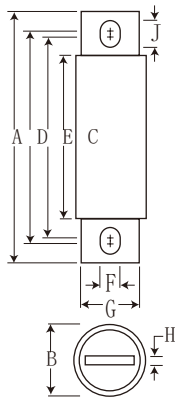


【Selection Table】 FDP 700V 5-1200A

Current	700V 35-200A		Min Packing Qty	Packing Weight	Fig. No.	Current	700V 225-1200A		Min Packing Qty	Packing Weight	Fig. No.
	Model	Ordering No.					Model	Ordering No.			
35	FDP-35A	RN103360	5	0.6	【fig. -2B2A】	225	FDP-225A	RN103480	1	0.6	【fig. -2B2A】
40	FDP-40A	RN103370				250	FDP-250A	RN103490			
50	FDP-50A	RN103380				300	FDP-300A	RN103500			
60	FDP-60A	RN103390				350	FDP-350A	RN103510			
70	FDP-70A	RN103400	1	0.1		400	FDP-400A	RN103520	1	1.1	
80	FDP-80A	RN103410				450	FDP-450A	RN103530			
90	FDP-90A	RN103420				500	FDP-500A	RN103540			
100	FDP-100A	RN103430				600	FDP-600A	RN103550			
125	FDP-125A	RN103440	1	0.3		700	FDP-700A	RN103560	1	1.5	
150	FDP-150A	RN103450				800	FDP-800A	RN103570			
175	FDP-175A	RN103460				900	FDP-900A	RN103580	1	3	
200	FDP-200A	RN103470				1000	FDP-1000A	RN103590			
						1200	FDP-1200A	RN103600			【fig. -2B2B】 【fig. -2B2C】

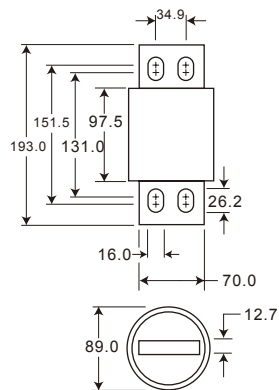
* Remarks: For information and drawing of FDP-(5-30A), please contact with CFriend.

【Dimension Figure】 : American Standard FDP 700V



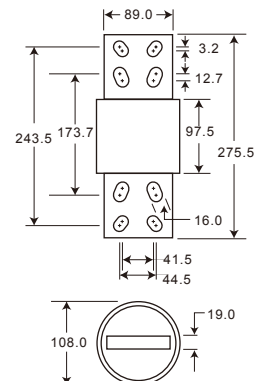
Refer to the dimension table

【fig. -2B2A】 : FDP 5A-800A



Unit:mm

【fig. -2B2B】 : FDP 900A-1000A



Unit:mm

【fig. -2B2C】 : FDP 1200A

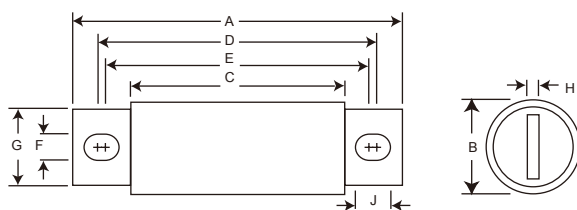
【Dimension Table】 : American Standard FDP 700V

Model	A	B	C	D	E	F	G	H	J
FDP-35A-60A	111	20	70	94	84	8.5	18	3	14
FDP-70A-100A	112	25	66	92	90	8.5	19	3	10
FDP-125A-200A	129	38	72	106	89	10.5	25	6	19
FDP-225A-400A	129	51	72	109	90	10.5	38	6	20
FDP-450A-600A	180	63	72	145	106	13.0	51	10	33
FDP-700A-800A	168	51	72	141	128	16.0	38	6	22
FDP-900A-1000A	Refer to the drawing								
FDP-1000A-1200A	Refer to the drawing								

【Selection Table】FDJ 1000V 35-2000A

Current	1000V 65-200A		Min Packing Qty	Packing Weight	Fig. No.	Current	1000V 225-2000A		Min Packing Qty	Packing Weight	Fig. No.
	Model	Ordering No.					Model	Ordering No.			
35	FDJ-35A	RN103610	10	2.2	【fig. -2B3A】	250	FDJ-250A	RN103730	1	2.5	【fig. -2B3A】
40	FDJ-40A	RN103620				300	FDJ-300A	RN103740			
50	FDJ-50A	RN103630				350	FDJ-350A	RN103750			
60	FDJ-60A	RN103640				400	FDJ-400A	RN103760			
70	FDJ-70A	RN103650	10	2.2		500	FDJ-500A	RN103770	1	2.5	
80	FDJ-80A	RN103660				600	FDJ-600A	RN103780			
90	FDJ-90A	RN103670				800	FDJ-800A	RN103790			
100	FDJ-100A	RN103680				1000	FDJ-1000A	RN103800			
125	FDJ-125A	RN103690	1	2		1200	FDJ-1200A	RN103810	1	2.8	
150	FDJ-150A	RN103700				1400	FDJ-1400A	RN103820			
175	FDJ-175A	RN103710				1600	FDJ-1600A	RN103830			
200	FDJ-200A	RN103720				1800	FDJ-1800A	RN103840			
							2000	FDJ-2000A	RN103850		

【Dimension Figure】 : American Standard FDJ 1000V



Refer to the dimension table

【fig. -2B3A】 : FDJ 35A-2000A

【DimensionTable】 : American Standard FDJ 1000V

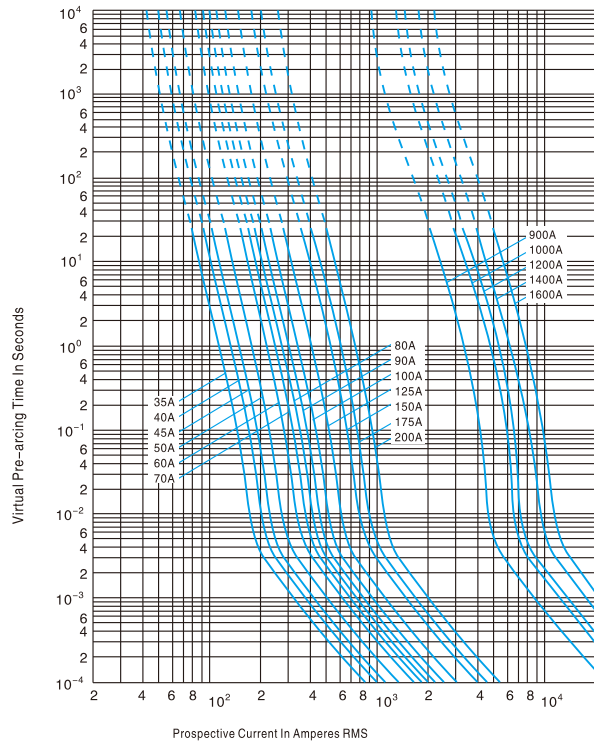
Model	A	B	C	D	E	F	G	H	J
FDJ-35A-60A	127	25	79	108	106	9	19	3	10
FDJ-70A-100A	126	30	78	108	106	9	25	5	10
FDJ-125A-200A	144	38	83	122	103	11	25	6	21
FDJ-250A-400A	146	51	89	122	105	11	38	6	19
FDJ-500A-600A	183	63	88	152	120	14	51	10	31
FDJ-800A-2000A	173	89	84	139	126	16	70	12	22



【Curve Chart】 : FDH 500V

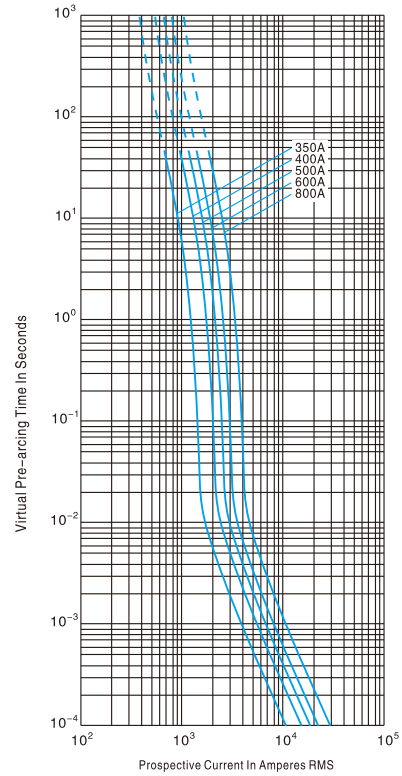
【Curve-221】 : 500V FDH (35-200A)

Time-Current Curve

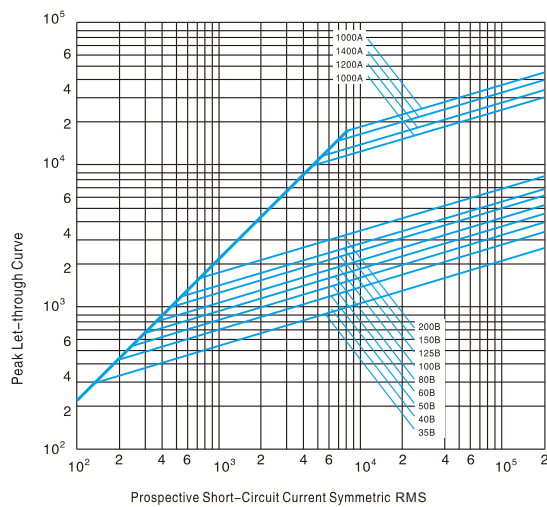


【Curve-223】 : 500V FDH (350-800A)

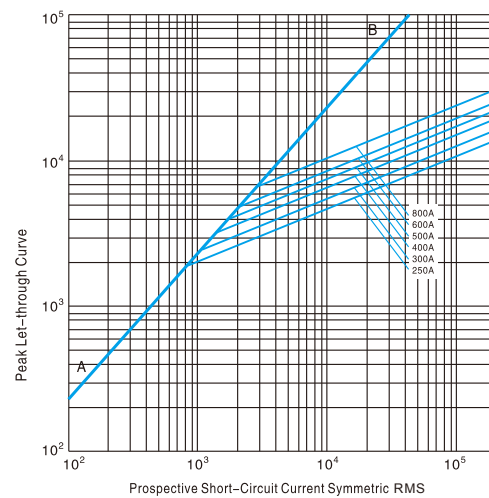
Time-Current Curve



【Curve-222】 : Peak Let-through Curve



【Curve-224】 : Peak Let-through Curve

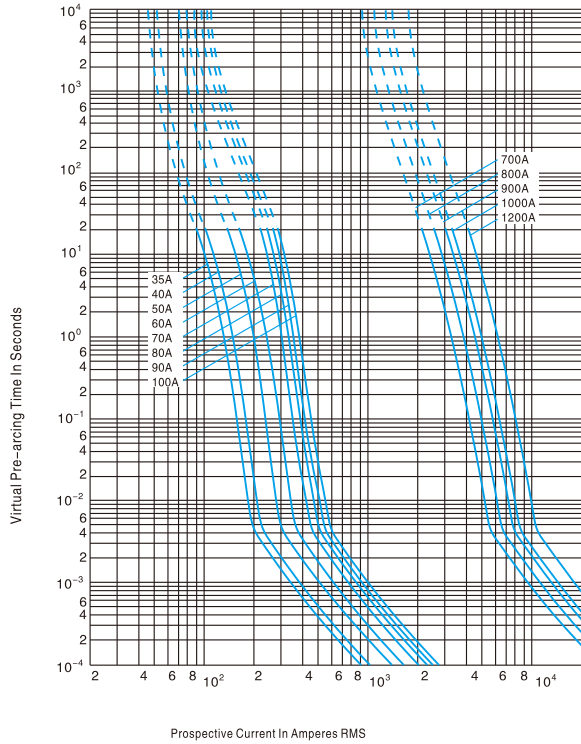


【Curve Chart】 : FDP 700V

【Curve-225】 : 700V FDP (35-200A)

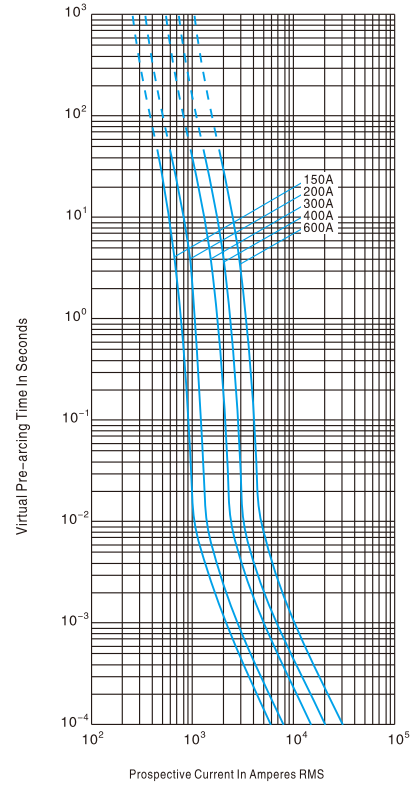
700V FDP(800-1200A)

Time-Current Curve

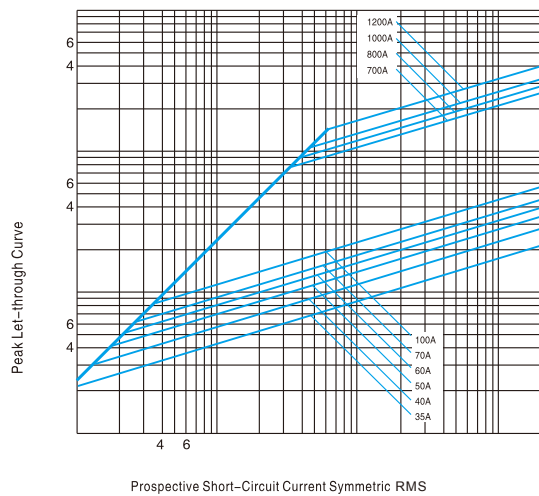


【Curve-227】 : 700V FDP (125-600A)

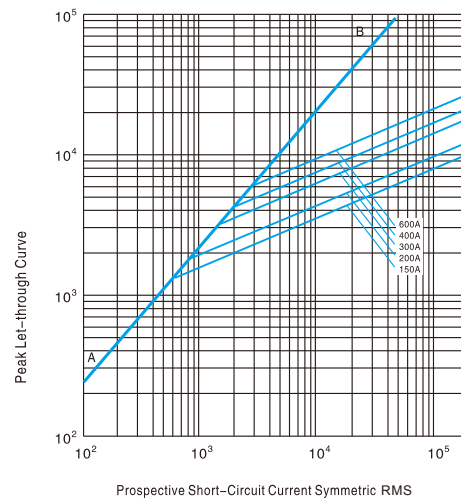
Time-Current Curve



【Curve-226】 : Peak Let-through Curve



【Curve-228】 : Peak Let-through Curve



*For the electric curve of 1000V, please contact with CFriend Electric or local dealer.



Automotive Fuses

【Electrical Characteristics】

Rated Voltage: 125Vac/72Vdc

Rated Current: 10-800A

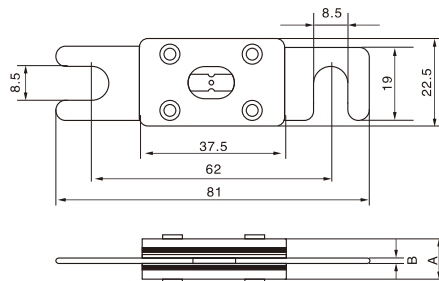
Product Characteristics: aR, high speed fusing
Small volume, space saving
Mica Window Indication

Applications: Short circuit protection for automotive use

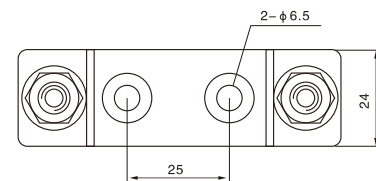
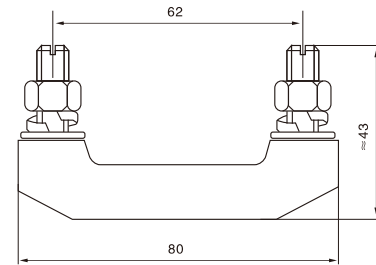
【Dimension Figure】DC72V/AC125V 10-800A

Current	A	B
10-350A	9.5	3.6
375-600A	13	5.2
700-800A	14	5.5

Unit:mm



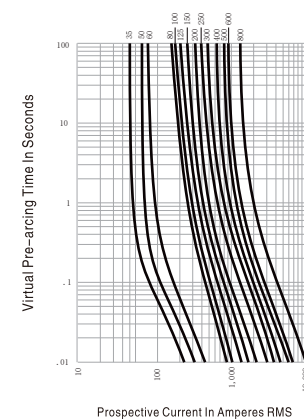
【fig.-2C1A】DC72V/AC125V 10-800A



【fig. -2C1B】Specific Bases ST4362

【Curve-229】: DC72V/AC125V 10-800A

Time-Current Curve



【Selection Table】DC72V/AC125V 10-800A

Current	Model	Ordering No.	Min Packing Qty	Fig. No.	Current	Model	Ordering No.	Min Packing Qty	Fig. No.
10	TNN-10	RN120180	12	【fig. -2C1A】	325	TNN-325	RN120340	2	【fig. -2C1A】
35	TNN-35	RN120190			350	TNN-350	RN120350		
40	TNN-40	RN120200			400	TNN-400	RN120360		
50	TNN-50	RN120210			500	TNN-500	RN120370		
60	TNN-60	RN120220			600	TNN-600	RN120380		
80	TNN-80	RN120230			700	TNN-700	RN120390	1	【fig. -2C1A】
90	TNN-90	RN120240			800	TNN-800	RN120400		
100	TNN-100	RN120250			Bases	ST4362	RN120410	1	【fig. -2C1B】
125	TNN-125	RN120260							
150	TNN-150	RN120270							
175	TNN-175	RN120280							
200	TNN-200	RN120290							
225	TNN-225	RN120300							
250	TNN-250	RN120310							
275	TNN-275	RN120320							
300	TNN-300	RN120330							

NH Series Low Voltage Fuses

【Brief Introduction】



Standard:

- ▶ Conforms to VDE 0636-1-4
- ▶ Conforms to DIN 43 620-1-4
- ▶ Conforms to IEC 60269 and EN 60269

Certification:

- ▶ China Compulsory Product Certification (CCC)
- ▶ Compulsory Product Certification of EU (CE)

Product Characteristics:

- ▶ High breaking capacity, the highest is 120KA
- ▶ 500Vac/690Vac/250Vdc
- ▶ Operating Frequency: 45-62HZ
- ▶ Dual Indication
- ▶ Low Power Losses

Matched Bases:

- ▶ Open Type: SN***S (See Page 64)
- ▶ Switch type of isolated
horizontal installation: JFHXX-Current (See Page 68)

Performance Data:

Size			000	00	1	2	3	4
Max. current rating, AC	500 V	A	100	160	250	400	630	1250
	690 V	A	100	160	250	400	630	-
Breaking capacity, AC	500 V	kA	120	120	120	120	120	120
	690 V	kA	80	80	80	80	80	-

User guide for the selection table:

- ▶ Size: Refer to the maximum cross section of fuse body(for details, please check the "size specification"), as the calculation of array space of fuses.
- ▶ Applied Voltage: The applicable circuit voltage range for fuses, if the circuit less than 500V, such as 380V or 440V, the level of 500V can be chosen; if more than 500V or in the condition of bigger voltage fluctuation, 690V is recommended.
- ▶ Applied Current: Current range of fuse protection. For the poles you have chosen, please check whether it is suitable for the current, if it is out of the poles that covered, adjust the poles should be considered, the current of the next poles can be chosen.
- ▶ Protection Class: gG-gL is suitable for circuit protection at full range, both of overloading and short circuit protection can be offered; aM is suitable for the protection of motor circuit, usually it is used as short circuit protection at local range.
- ▶ Single/Dual indicator: NH series have the function of indicating, there're two kinds of ways for indicating, which is very clear for the user to check the status of fuses, single indicator refers to clip at the top of fuse, if the clip is popping up, which means it's under protection; dual indicator is based on the single indicator, the color code will indicate at the front pole of fuses.



【Selection Table】500V gG/gL Size 000/00/1/2/3/4 2-1250A



Size	Current	Single Indicator		Dual Indicator		Min Packing Qty	Packing Weight	Fig. No.
		Model	Ordering No.	Model	Ordering No.			
000	2	2NH000G	RN100010	2NH000GI	RN100410	3	0.4	
	4	4NH000G	RN100020	4NH000GI	RN100420			
	6	6NH000G	RN100030	6NH000GI	RN100430			
	10	10NH000G	RN100040	10NH000GI	RN100440			
	16	16NH000G	RN100050	16NH000GI	RN100450			
	20	20NH000G	RN100060	20NH000GI	RN100460			
	25	25NH000G	RN100070	25NH000GI	RN100470			
	32	32NH000G	RN100080	32NH000GI	RN100480			
	35	35NH000G	RN100090	35NH000GI	RN100490			
	40	40NH000G	RN100100	40NH000GI	RN100500			
	50	50NH000G	RN100110	50NH000GI	RN100510			
	63	63NH000G	RN100120	63NH000GI	RN100520			
	80	80NH000G	RN100130	80NH000GI	RN100530			
	100	100NH000G	RN100140	100NH000GI	RN100540			
00	4	4NH00G	RN100150	-	-	3	0.6	【fig. -3A1A】
	6	6NH00G	RN100160	-	-			
	10	10NH00G	RN100170	-	-			
	16	16NH00G	RN100180	-	-			
	20	20NH00G	RN100190	-	-			
	25	25NH00G	RN100200	-	-			
	32	32NH00G	RN100210	-	-			
	35	35NH00G	RN100220	-	-			
	40	40NH00G	RN100230	-	-			
	50	50NH00G	RN100240	-	-			
	63	63NH00G	RN100250	-	-			
	80	80NH00G	RN100260	-	-			
	100	100NH00G	RN100270	-	-			
	125	125NH00G	RN100280	125NH00GI	RN100550			
160	160NH00G	RN100290	160NH00GI	RN100560				
1	200	200NH1G	RN100300	200NH1GI	RN100570	3	1	【fig. -3A1B】
	224	224NH1G	RN100310	224NH1GI	RN100580			
	250	250NH1G	RN100320	250NH1GI	RN100590			
2	315	315NH2G	RN100330	315NH2GI	RN100600	3	2	
	355	355NH2G	RN100340	355NH2GI	RN100610			
	400	400NH2G	RN100350	400NH2GI	RN100620			
3	500	500NH3G	RN100360	500NH3GI	RN100630	1	0.9	
	630	630NH3G	RN100370	630NH3GI	RN100640			
4	800	800NH4G	RN100380	-	-	1	2	【fig. -3A1C】
	1000	1000NH4G	RN100390	-	-			
	1250	1250NH4G	RN100400	-	-			

【Size Table】

Size	000	00	1	2	3	4
Size of Cross Section	21x40	30x48	46x46	58x58	69x69	100x100
Scale Map of Cross Section						

【Selection Table】500V aM Size 000/00/1/2/3/ 2-630A

Size	Current	Single Indicator		Dual Indicator		Min Packing Qty	Packing Weight	Fig. No.
		Model	Ordering No.	Model	Ordering No.			
000	2	2NH000M	RN100650	2NH000MI	RN100890	3	0.4	【fig. -3A1A】
	4	4NH000M	RN100660	4NH000MI	RN100900			
	6	6NH000M	RN100670	6NH000MI	RN100910			
	10	10NH000M	RN100680	10NH000MI	RN100920			
	16	16NH000M	RN100690	16NH000MI	RN100930			
	20	20NH000M	RN100700	20NH000MI	RN100940			
	25	25NH000M	RN100710	25NH000MI	RN100950			
	32	32NH000M	RN100720	32NH000MI	RN100960			
	35	35NH000M	RN100730	35NH000MI	RN100970			
	40	40NH000M	RN100740	40NH000MI	RN100980			
	50	50NH000M	RN100750	50NH000MI	RN100990			
	63	63NH000M	RN100760	63NH000MI	RN101000			
	80	80NH000M	RN100770	80NH000MI	RN101010			
	100	100NH000M	RN100780	100NH000MI	RN101020			
00	125	125NH00M	RN100790	125NH00MI	RN101030	3	0.6	
	160	160NH00M	RN100800	160NH00MI	RN101040			
1	200	200NH1M	RN100810	200NH1MI	RN101050	3	1	
	224	224NH1M	RN100820	224NH1MI	RN101060			
	250	250NH1M	RN100830	250NH1MI	RN101070			
2	315	315NH2M	RN100840	315NH2MI	RN101080	3	2	【fig. -3A1B】
	355	355NH2M	RN100850	355NH2MI	RN101090			
	400	400NH2M	RN100860	400NH2MI	RN101100			
3	500	500NH3M	RN100870	500NH3MI	RN101110	1	0.9	
	630	630NH3M	RN100880	630NH3MI	RN101120			

【Selection Table】690V gG/gL Size 000/00/1/2/3/ 2-630A

Size	Current	Single Indicator		Dual Indicator		Min Packing Qty	Packing Weight	Fig. No.
		Model	Ordering No.	Model	Ordering No.			
000	2	2NH000G-690	RN101130	2NH000GI-690	RN101370	3	0.4	【fig. -3A1A】
	4	4NH000G-690	RN101140	4NH000GI-690	RN101380			
	6	6NH000G-690	RN101150	6NH000GI-690	RN101390			
	10	10NH000G-690	RN101160	10NH000GI-690	RN101400			
	16	16NH000G-690	RN101170	16NH000GI-690	RN101410			
	20	20NH000G-690	RN101180	20NH000GI-690	RN101420			
	25	25NH000G-690	RN101190	25NH000GI-690	RN101430			
	32	32NH000G-690	RN101200	32NH000GI-690	RN101440			
	35	35NH000G-690	RN101210	35NH000GI-690	RN101450			
	40	40NH000G-690	RN101220	40NH000GI-690	RN101460			
	50	50NH000G-690	RN101230	50NH000GI-690	RN101470			
	63	63NH000G-690	RN101240	63NH000GI-690	RN101480			
	80	80NH000G-690	RN101250	80NH000GI-690	RN101490			
	100	100NH000G-690	RN101260	100NH000GI-690	RN101500			
00	125	125NH00G-690	RN101270	125NH00GI-690	RN101510	2	0.6	
	160	160NH00G-690	RN101280	160NH00GI-690	RN101520			
1	200	200NH1G-690	RN101290	200NH1GI-690	RN101530	3	1	
	224	224NH1G-690	RN101300	224NH1GI-690	RN101540			
	250	250NH1G-690	RN101310	250NH1GI-690	RN101550			
2	315	315NH2G-690	RN101320	315NH2GI-690	RN101560	3	2	【fig. -3A1B】
	355	355NH2G-690	RN101330	355NH2GI-690	RN101570			
	400	400NH2G-690	RN101340	400NH2GI-690	RN101580			
3	500	500NH3G-690	RN101350	500NH3GI-690	RN101590	1	0.9	
	630	630NH3G-690	RN101360	630NH3GI-690	RN101600			

For detailed data, please contact with CFriend Electric or local dealer

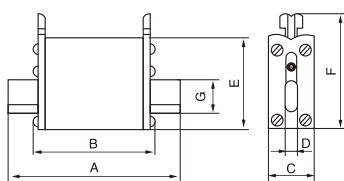


【Selection Table】690V aM Size 000/00/1/2/3/ 2-630A

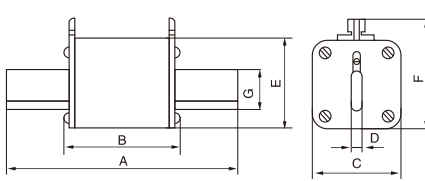


Size	Current	Single Indicator		Dual Indicator		Min Packing Qty	Packing Weight	Fig. No.
		Model	Ordering No.	Model	Ordering No.			
000	2	2NH000M-690	RN101610	2NH000MI-690	RN101850	3	0.4	【fig. -3A1A】
	4	4NH000M-690	RN101620	4NH000MI-690	RN101860			
	6	6NH000M-690	RN101630	6NH000MI-690	RN101870			
	10	10NH000M-690	RN101640	10NH000MI-690	RN101880			
	16	16NH000M-690	RN101650	16NH000MI-690	RN101890			
	20	20NH000M-690	RN101660	20NH000MI-690	RN101900			
	25	25NH000M-690	RN101670	25NH000MI-690	RN101910			
	32	32NH000M-690	RN101680	32NH000MI-690	RN101920			
	35	35NH000M-690	RN101690	35NH000MI-690	RN101930			
	40	40NH000M-690	RN101700	40NH000MI-690	RN101940			
	50	50NH000M-690	RN101710	50NH000MI-690	RN101950			
	63	63NH000M-690	RN101720	63NH000MI-690	RN101960			
	80	80NH000M-690	RN101730	80NH000MI-690	RN101970			
	100	100NH000M-690	RN101740	100NH000MI-690	RN101980			
00	125	125NH00M-690	RN101750	125NH00MI-690	RN101990	2	0.6	
	160	160NH00M-690	RN101760	160NH00MI-690	RN102000			
1	200	200NH1M-690	RN101770	200NH1MI-690	RN102010	3	1	【fig. -3A1B】
	224	224NH1M-690	RN101780	224NH1MI-690	RN102020			
	250	250NH1M-690	RN101790	250NH1MI-690	RN102030			
2	315	315NH2M-690	RN101800	315NH2MI-690	RN102040	3	2	
	355	355NH2M-690	RN101810	355NH2MI-690	RN102050			
	400	400NH2M-690	RN101820	400NH2MI-690	RN102060			
3	500	500NH3M-690	RN101830	500NH3MI-690	RN102070	1	0.9	
	630	630NH3M-690	RN101840	630NH3MI-690	RN102080			

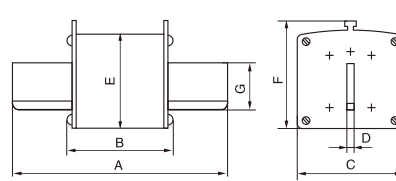
【Dimension Figure】500V&690V



【fig.-3A1A】NH000 / NH00



【fig.-3A1B】NH1/NH2/NH3



【fig.-3A1C】NH4

【Dimension Table】

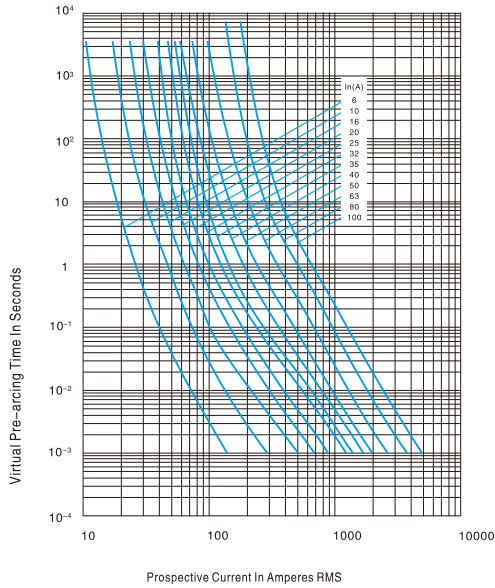
Size	Current Class	Dimension						
		A	B	C	D	E	F	G
NH000	4-100	78.5	54.5	21	6	40	53	15
NH00	4-160	78.5	54.5	30	6	48	61	15
NH1	80-250	135	75	46	6	46	61	20
NH2	125-400	150	75	58	6	58	73	25
NH3	315-630	150	75	69	6	69	83	32
NH4	800-1250	200	97	100	6	100	112	50

For detailed data, please contact with CFriend Electric or local dealer

【Curve Chart】 : 690V

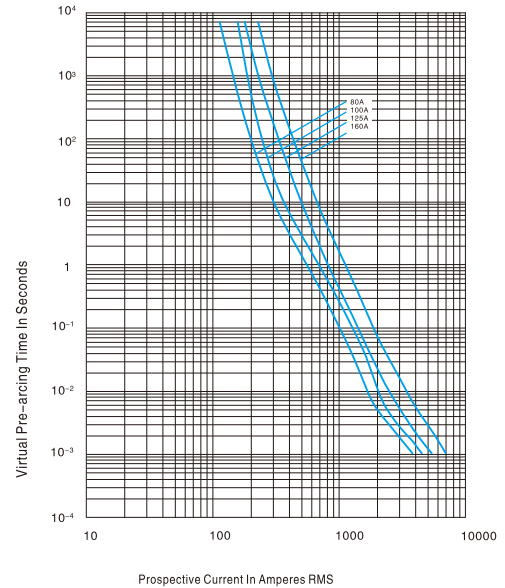
【Curve-311】 : size 000 690V 6-100A

Time-Current Curve



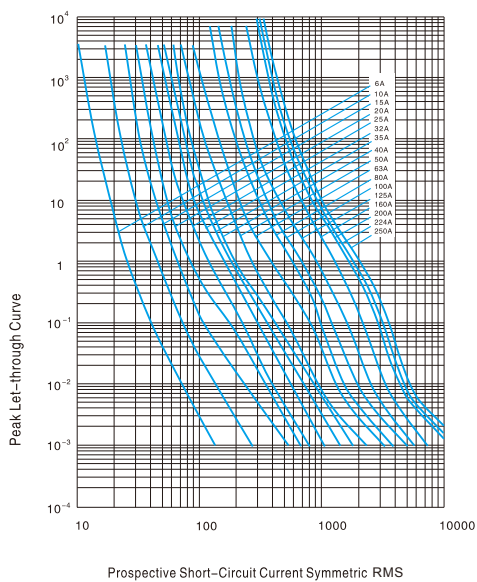
【Curve-312】 : size00 690V 10-160A

Time-Current Curve



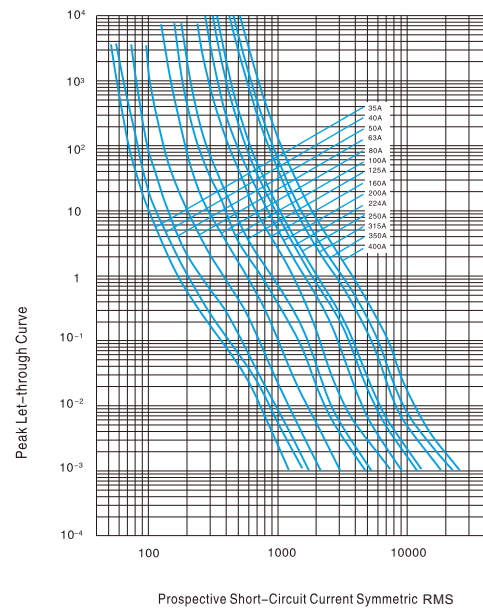
【Curve-313】 : size 1 690V 6-250A

Time-Current Curve



【Curve-314】 : size 2 690V 35-400A

Time-Current Curve

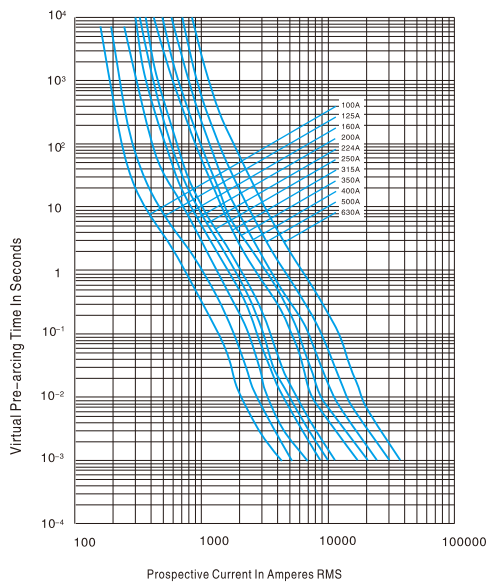




【Curve Chart】 : 690V

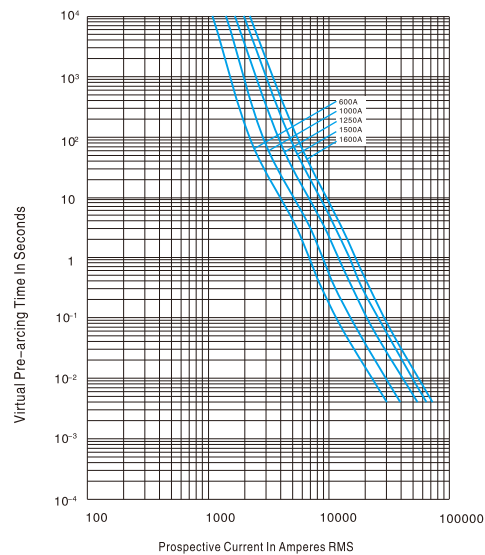
【Curve-315】 : size 3 690V 100-630A

Time-Current Curve



【Curve-316】 : size 4 690V 800-1600A

Time-Current Curve



* For electric curve of 500V, please contact CFriend or local dealer

European Standard Square Body High Speed Fuses

【Brief Introduction】



Standard:

- ▶ IEC 60269-4
- ▶ US/BS

Certification:

- ▶ China Compulsory Product Certification.(CCC)
- ▶ Compulsory Product Certification of EU (CE)

Protection Characteristics:

- ▶ aR & gR

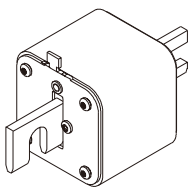
Product Description:

Cfriend offers a complete range of square body high speed fuses. Square body high speed fuses are widely used in the protection of precised circuit semiconductor which require a compact design with superior performance.

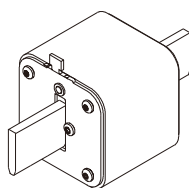
Product Characteristics:

- ▶ Minimum total clearing $I^2 t$
- ▶ Low power losses and temperature rise
- ▶ Higher reliability
- ▶ Lower arc voltage
- ▶ 95 porcelain is used with better mechanical strength and electric insulation

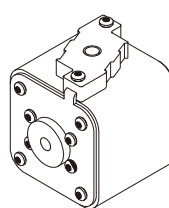
Style Illustration:



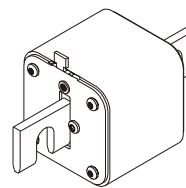
DIN 43 653



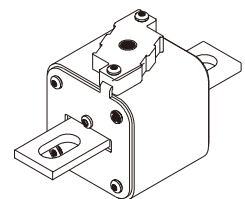
DIN 43 620



Flush End



French Style



US Style

Size Table:

Size	000	00	1*	1	2	3	4
Size of Cross Section mm	21x36	30x47	45x45	53x53	61x61	76x76	105x105
Scale Map of Cross Section							

For detailed data, please contact with CFriend Electric or local dealer



【Applications Guide】

Maximum Permissible Load Current

The rated current value of CFriend is based on the ambient temperature of 20°C. The following graph gives correction factors(k) for a range of temperatures(-40°C to +80°C). Maximum permissible continuous load currents can be calculated by applying the following formula:

$$I_b \leq I_n \times K \times (1 + 0.05V) \times K_b$$

I_b = Maximum permissible continuous load current

I_n = Rated current of Fuse

k = Temperature correction factor

V = Velocity of cooling air in m/s(max. 5m/s)

K_b = Fuse load constant 1.0

The maximum permissible continuous load current I_b of a fuse can be checked empirically(i.e., by satisfying the formula below) by making simple voltage and temperature measurements under actual operating conditions after the fuse has been installed in its operating location and loaded at the calculated I_b value:

$$\frac{E_2}{E_1} \times (0.92 + 0.004t) \leq N$$

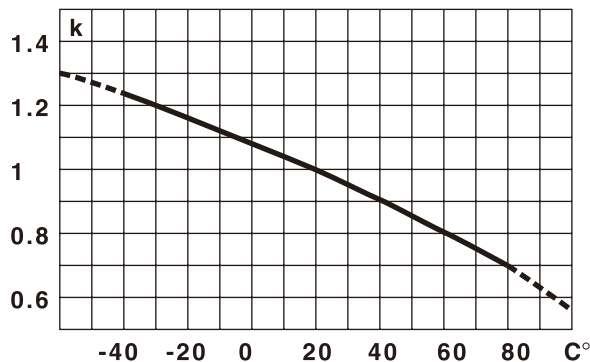
E_1 = Voltage drop across fuse after 5 seconds

E_2 = Voltage drop across fuse after 2 hour

t = Air temperature at start of test(°C)

N = Constant

Temperature Correction Curve



Fuse Rated Voltage(IEC)	N
690	1.5
1250	1.6

【Model Coding Rules】 :

CFriend offers clear rules and illustration for the coding of square body high speed fuses, which is convenient for the selection and checking.

Model Illustration: **C F U 2 0 8 0 E T - G** this model means C square body high speed fuse/690V/type DIN43653/No.2/800A/space 80mm/type T indicating

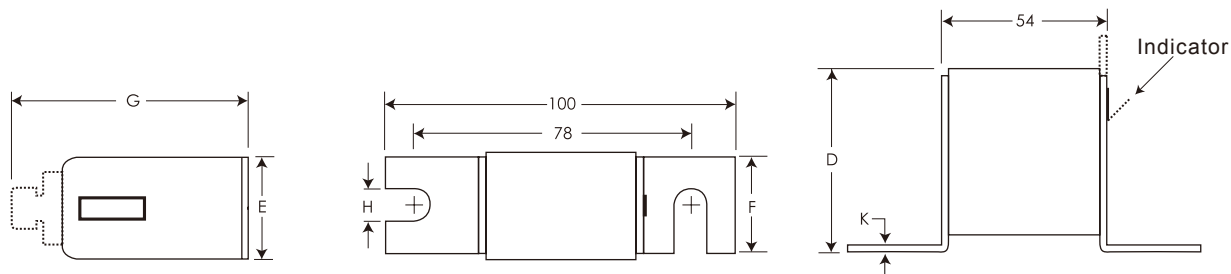
Series No.	Applied Voltage	Way of Mounting	Size	Rated Current	Space of mounting	Type of indicating	Protection Characteristics
C: Square body high speed fuses series	F: 690V	M: DIN43620	9: 000	Value: when the value is 8,9,0., which means the actual rated current	A: 51mm	K: type K indicating T: type T indicating I: type I indicating N: no indicating	No: aR -G: gR
	700V	blade type	0: 00		B: 67mm		
	R: 1000V	H: flush end	8: 1*	Value: when the value is 1-7., which means the actual rated current should multiply 10 times	C: 75mm		
	B: 1250V	U: DIN4363 hook	1: 1		D: 78mm		
	E: 1500V	L: DIN43653	2: 2		Fr style 76mm		
	N: 2000V	stool type	3: 3		E: 80mm		
	D: DC	F: French style	4: 4		F: 86mm		
		E: US style	5: 5		G: 90mm		
		P: single plate	6: 6		Fr style 91mm		
		K: dual plate	7: 7		H: 110mm		
		D: dual			J: 115mm		
					K: 135mm		
					L: 150mm		
					P: 60mm		

【Selection Table】 690V DIN type43653 size000/00 10-400A

Size	Current	Type 80 with Indicator		Type 80T Microswitch can be matched		Min Packing Qty	Packing Weight	Fig. No.
		Model	Ordering No.	Model	Ordering No.			
000	10	CFL9010EI	RN103860	CFL9010ET	RN104680	3	0.4	【fig.-3B1A】
	16	CFL9016EI	RN103870	CFL9016ET	RN104690			
	20	CFL9020EI	RN103880	CFL9020ET	RN104700			
	25	CFL9025EI	RN103890	CFL9025ET	RN104710			
	32	CFL9032EI	RN103900	CFL9032ET	RN104720			
	40	CFL9040EI	RN103910	CFL9040ET	RN104730			
	50	CFL9050EI	RN103920	CFL9050ET	RN104740			
	63	CFL9063EI	RN103930	CFL9063ET	RN104750			
	80	CFL9080EI	RN103940	CFL9080ET	RN104760			
	100	CFL9100EI	RN103950	CFL9100ET	RN104770			
	125	CFL9125EI	RN103960	CFL9125ET	RN104780			
	160	CFL9160EI	RN103970	CFL9160ET	RN104790			
	200	CFL9200EI	RN103980	CFL9200ET	RN104800			
	250	CFL9250EI	RN103990	CFL9250ET	RN104810			
	315	CFL9315EI	RN104000	CFL9315ET	RN104820			
00	25	CFL0025EI	RN104010	CFL0025ET	RN104830	3	0.6	【fig.-3B1A】
	32	CFL0032EI	RN104020	CFL0032ET	RN104840			
	40	CFL0040EI	RN104030	CFL0040ET	RN104850			
	50	CFL0050EI	RN104040	CFL0050ET	RN104860			
	63	CFL0063EI	RN104050	CFL0063ET	RN104870			
	80	CFL0080EI	RN104060	CFL0080ET	RN104880			
	100	CFL0100EI	RN104070	CFL0100ET	RN104890			
	125	CFL0125EI	RN104080	CFL0125ET	RN104900			
	160	CFL0160EI	RN104090	CFL0160ET	RN104910			
	200	CFL0200EI	RN104100	CFL0200ET	RN104920			
	250	CFL0250EI	RN104110	CFL0250ET	RN104930			
	315	CFL0315EI	RN104120	CFL0315ET	RN104940			
	350	CFL0350EI	RN104130	CFL0350ET	RN104950			
	400	CFL0400EI	RN104140	CFL0400ET	RN104960			

【Dimension Figure】 : unit:mm

Size	D	E	F	G	H	K
000	40	21	20	51	8	2
00	51	30	28	67	10	2



【fig.-3B1A】 690V DIN43653 000/00



【Selection Table】 690V DIN type43653 size1*/1/2/3 40-2000A

Size	Current	Type 80 with Indicator		Type 80T Microswitch can be matched		Min Packing Qty	Packing Weight	Fig. No.
		Model	Ordering No.	Model	Ordering No.			
1*	40	CFU8040EI	RN104150	CFU8040ET	RN104970	3	0.9	【fig. -3B1B】
	50	CFU8050EI	RN104160	CFU8050ET	RN104980			
	63	CFU8063EI	RN104170	CFU8063ET	RN104990			
	80	CFU8080EI	RN104180	CFU8080ET	RN105000			
	100	CFU8100EI	RN104190	CFU8100ET	RN105010			
	125	CFU8125EI	RN104200	CFU8125ET	RN105020			
	160	CFU8160EI	RN104210	CFU8160ET	RN105030			
	200	CFU8200EI	RN104220	CFU8200ET	RN105040			
	250	CFU8250EI	RN104230	CFU8250ET	RN105050			
	315	CFU8315EI	RN104240	CFU8315ET	RN105060			
	350	CFU8350EI	RN104250	CFU8350ET	RN105070			
	400	CFU8400EI	RN104260	CFU8400ET	RN105080			
	450	CFU8450EI	RN104270	CFU8450ET	RN105090			
	500	CFU8500EI	RN104280	CFU8500ET	RN105100			
	550	CFU8550EI	RN104290	CFU8550ET	RN105110			
	630	CFU8630EI	RN104300	CFU8630ET	RN105120			
1	200	CFU1020EI	RN104310	CFU1020ET	RN105130	3	1.3	
	250	CFU1025EI	RN104320	CFU1025ET	RN105140			
	315	CFU1031EI	RN104330	CFU1031ET	RN105150			
	350	CFU1035EI	RN104340	CFU1035ET	RN105160			
	400	CFU1040EI	RN104350	CFU1040ET	RN105170			
	450	CFU1045EI	RN104360	CFU1045ET	RN105180			
	500	CFU1050EI	RN104370	CFU1050ET	RN105190			
	550	CFU1055EI	RN104380	CFU1055ET	RN105200			
	630	CFU1063EI	RN104390	CFU1063ET	RN105210			
	700	CFU1070EI	RN104400	CFU1070ET	RN105220			
	800	CFU1080EI	RN104410	CFU1080ET	RN105230			
	900	CFU1090EI	RN104420	CFU1090ET	RN105240			
2	400	CFU2040EI	RN104430	CFU2040ET	RN105250	3	1.8	
	450	CFU2045EI	RN104440	CFU2045ET	RN105260			
	500	CFU2050EI	RN104450	CFU2050ET	RN105270			
	550	CFU2055EI	RN104460	CFU2055ET	RN105280			
	630	CFU2063EI	RN104470	CFU2063ET	RN105290			
	700	CFU2070EI	RN104480	CFU2070ET	RN105300			
	800	CFU2080EI	RN104490	CFU2080ET	RN105310			
	900	CFU2090EI	RN104500	CFU2090ET	RN105320			
	1000	CFU2100EI	RN104510	CFU2100ET	RN105330			
	1100	CFU2110EI	RN104520	CFU2110ET	RN105340			
	1250	CFU2125EI	RN104530	CFU2125ET	RN105350			
	3	500	CFU3050EI	RN104540	CFU3050ET			
550		CFU3055EI	RN104550	CFU3055ET	RN105370			
630		CFU3063EI	RN104560	CFU3063ET	RN105380			
700		CFU3070EI	RN104570	CFU3070ET	RN105390			
800		CFU3080EI	RN104580	CFU3080ET	RN105400			
900		CFU3090EI	RN104590	CFU3090ET	RN105410			
1000		CFU3100EI	RN104600	CFU3100ET	RN105420			
1100		CFU3110EI	RN104610	CFU3110ET	RN105430			
1250		CFU3125EI	RN104620	CFU3125ET	RN105440			
1400		CFU3140EI	RN104630	CFU3140ET	RN105450			
1500		CFU3150EI	RN104640	CFU3150ET	RN105460			
1600		CFU3160EI	RN104650	CFU3160ET	RN105470			
1800		CFU3180EI	RN104660	CFU3180ET	RN105480			
2000		CFU3200EI	RN104670	CFU3200ET	RN105490			

【Selection Table】 690V DIN type43653 size1*/1/2/3 40-2000A

Size	Current	Type 110 with Indicator		Type 110T Microswitch can be matched		Min Packing Qty	Packing Weight	Fig. No.	
		Model	Ordering No.	Model	Ordering No.				
1*	40	CFU8040HI	RN106030	CFU8040HT	RN106560	3	0.9	【fig. -3B1B】	
	50	CFU8050HI	RN106040	CFU8050HT	RN106570				
	63	CFU8063HI	RN106050	CFU8063HT	RN106580				
	80	CFU8080HI	RN106060	CFU8080HT	RN106590				
	100	CFU8100HI	RN106070	CFU8100HT	RN106600				
	125	CFU8125HI	RN106080	CFU8125HT	RN106610				
	160	CFU8160HI	RN106090	CFU8160HT	RN106620				
	200	CFU8200HI	RN106100	CFU8200HT	RN106630				
	250	CFU8250HI	RN106110	CFU8250HT	RN106640				
	315	CFU8315HI	RN106120	CFU8315HT	RN106650				
	350	CFU8350HI	RN106130	CFU8350HT	RN106660				
	400	CFU8400HI	RN106140	CFU8400HT	RN106670				
	450	CFU8450HI	RN106150	CFU8450HT	RN106680				
	500	CFU8500HI	RN106160	CFU8500HT	RN106690				
	550	CFU8550HI	RN106170	CFU8550HT	RN106700				
630	CFU8630HI	RN106180	CFU8630HT	RN106710					
1	200	CFU1020HI	RN106190	CFU1020HT	RN106720	3	1.3		
	250	CFU1025HI	RN106200	CFU1025HT	RN106730				
	315	CFU1031HI	RN106210	CFU1031HT	RN106740				
	350	CFU1035HI	RN106220	CFU1035HT	RN106750				
	400	CFU1040HI	RN106230	CFU1040HT	RN106760				
	450	CFU1045HI	RN106240	CFU1045HT	RN106770				
	500	CFU1050HI	RN106250	CFU1050HT	RN106780				
	550	CFU1055HI	RN106260	CFU1055HT	RN106790				
	630	CFU1063HI	RN106270	CFU1063HT	RN106800				
	700	CFU1070HI	RN106280	CFU1070HT	RN106810				
	800	CFU1080HI	RN106290	CFU1080HT	RN106820				
900	CFU1090HI	RN106300	CFU1090HT	RN106830					
2	400	CFU2040HI	RN106310	CFU2040HT	RN106840	3	1.8		
	450	CFU2045HI	RN106320	CFU2045HT	RN106850				
	500	CFU2050HI	RN106330	CFU2050HT	RN106860				
	550	CFU2055HI	RN106340	CFU2055HT	RN106870				
	630	CFU2063HI	RN106350	CFU2063HT	RN106880				
	700	CFU2070HI	RN106360	CFU2070HT	RN106890				
	800	CFU2080HI	RN106370	CFU2080HT	RN106900				
	900	CFU2090HI	RN106380	CFU2090HT	RN106910				
	1000	CFU2100HI	RN106390	CFU2100HT	RN106920				
	1100	CFU2110HI	RN106400	CFU2110HT	RN106930				
	1250	CFU2125HI	RN106410	CFU2125HT	RN106940				
3	500	CFU3050HI	RN106420	CFU3050HT	RN106950	1	0.9		
	550	CFU3055HI	RN106430	CFU3055HT	RN106960				
	630	CFU3063HI	RN106440	CFU3063HT	RN106970				
	700	CFU3070HI	RN106450	CFU3070HT	RN106980				
	800	CFU3080HI	RN106460	CFU3080HT	RN106990				
	900	CFU3090HI	RN106470	CFU3090HT	RN107000				
	1000	CFU3100HI	RN106480	CFU3100HT	RN107010				
	1100	CFU3110HI	RN106490	CFU3110HT	RN107020				
	1250	CFU3125HI	RN106500	CFU3125HT	RN107030				
	1400	CFU3140HI	RN106510	CFU3140HT	RN107040				
	1500	CFU3150HI	RN106520	CFU3150HT	RN107050				
	1600	CFU3160HI	RN106530	CFU3160HT	RN107060				
	1800	CFU3180HI	RN106540	CFU3180HT	RN107070				
	2000	CFU3200HI	RN106550	CFU3200HT	RN107080				



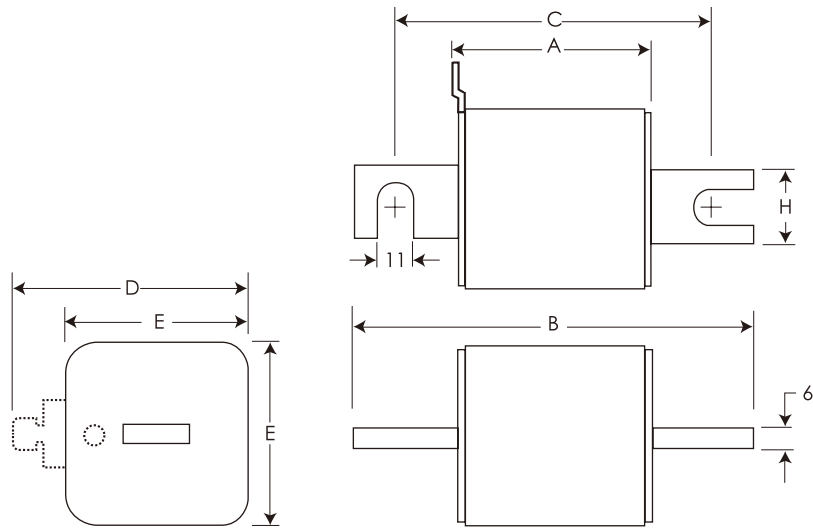
【Selection Table】 690V DIN type43653 size1*/1/2/3 40-2000A

Size	Current	Type 80K with Microswitch		Type 110K with Microswitch		Min Packing Qty	Packing Weight	Fig. No.
		Model	Ordering No.	Model	Ordering No.			
1*	40	CFU8040EK	RN105500	CFU8040HK	RN107090	3	0.95	【fig. -3B1C】
	50	CFU8050EK	RN105510	CFU8050HK	RN107100			
	63	CFU8063EK	RN105520	CFU8063HK	RN107110			
	80	CFU8080EK	RN105530	CFU8080HK	RN107120			
	100	CFU8100EK	RN105540	CFU8100HK	RN107130			
	125	CFU8125EK	RN105550	CFU8125HK	RN107140			
	160	CFU8160EK	RN105560	CFU8160HK	RN107150			
	200	CFU8200EK	RN105570	CFU8200HK	RN107160			
	250	CFU8250EK	RN105580	CFU8250HK	RN107170			
	315	CFU8315EK	RN105590	CFU8315HK	RN107180			
	350	CFU8350EK	RN105600	CFU8350HK	RN107190			
	400	CFU8400EK	RN105610	CFU8400HK	RN107200			
	450	CFU8450EK	RN105620	CFU8450HK	RN107210			
	500	CFU8500EK	RN105630	CFU8500HK	RN107220			
	550	CFU8550EK	RN105640	CFU8550HK	RN107230			
	630	CFU8630EK	RN105650	CFU8630HK	RN107240			
1	200	CFU1020EK	RN105660	CFU1020HK	RN107250	3	1.5	
	250	CFU1025EK	RN105670	CFU1025HK	RN107260			
	315	CFU1031EK	RN105680	CFU1031HK	RN107270			
	350	CFU1035EK	RN105690	CFU1035HK	RN107280			
	400	CFU1040EK	RN105700	CFU1040HK	RN107290			
	450	CFU1045EK	RN105710	CFU1045HK	RN107300			
	500	CFU1050EK	RN105720	CFU1050HK	RN107310			
	550	CFU1055EK	RN105730	CFU1055HK	RN107320			
	630	CFU1063EK	RN105740	CFU1063HK	RN107330			
	700	CFU1070EK	RN105750	CFU1070HK	RN107340			
	800	CFU1080EK	RN105760	CFU1080HK	RN107350			
900	CFU1090EK	RN105770	CFU1090HK	RN107360				
2	400	CFU2040EK	RN105780	CFU2040HK	RN107370	3	1.85	
	450	CFU2045EK	RN105790	CFU2045HK	RN107380			
	500	CFU2050EK	RN105800	CFU2050HK	RN107390			
	550	CFU2055EK	RN105810	CFU2055HK	RN107400			
	630	CFU2063EK	RN105820	CFU2063HK	RN107410			
	700	CFU2070EK	RN105830	CFU2070HK	RN107420			
	800	CFU2080EK	RN105840	CFU2080HK	RN107430			
	900	CFU2090EK	RN105850	CFU2090HK	RN107440			
	1000	CFU2100EK	RN105860	CFU2100HK	RN107450			
	1100	CFU2110EK	RN105870	CFU2110HK	RN107460			
	1250	CFU2125EK	RN105880	CFU2125HK	RN107470			
3	500	CFU3050EK	RN105890	CFU3050HK	RN107480	1	0.92	
	550	CFU3055EK	RN105900	CFU3055HK	RN107490			
	630	CFU3063EK	RN105910	CFU3063HK	RN107500			
	700	CFU3070EK	RN105920	CFU3070HK	RN107510			
	800	CFU3080EK	RN105930	CFU3080HK	RN107520			
	900	CFU3090EK	RN105940	CFU3090HK	RN107530			
	1000	CFU3100EK	RN105950	CFU3100HK	RN107540			
	1100	CFU3110EK	RN105960	CFU3110HK	RN107550			
	1250	CFU3125EK	RN105970	CFU3125HK	RN107560			
	1400	CFU3140EK	RN105980	CFU3140HK	RN107570			
	1500	CFU3150EK	RN105990	CFU3150HK	RN107580			
	1600	CFU3160EK	RN106000	CFU3160HK	RN107590			
	1800	CFU3180EK	RN106010	CFU3180HK	RN107600			
	2000	CFU3200EK	RN106020	CFU3200HK	RN107610			

【Dimension Figure】 : 690V DIN type43653 size1*/1/2/3 type 80/80T/110/110T

Size	A	B	B*	C	C*	D	E	H
1*	50	104	134	78	108	58	45	22
1	50	108	138	78	108	66	53	25
2	50	108	138	78	108	75	61	25
3	51	109	139	78	108	90	76	30

Unit:mm

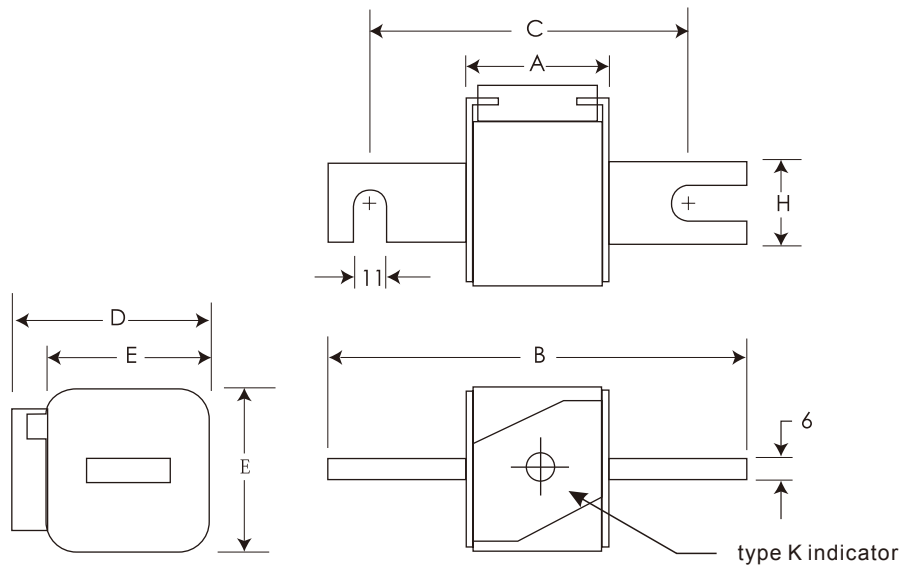


【fig. -3B1B】 : 690V DIN43653 1*/1/2/3 Type T mounting

【Dimension Figure】 : 690V DIN type43653 size1*/1/2/3 type 80k/110k

Size	A	B	B*	C	C*	D	E	H
1*	50	104	134	78	108	59	45	22
1	50	108	138	78	108	69	53	25
2	50	108	138	78	108	77	61	25
3	51	109	139	78	108	92	76	30

Unit:mm



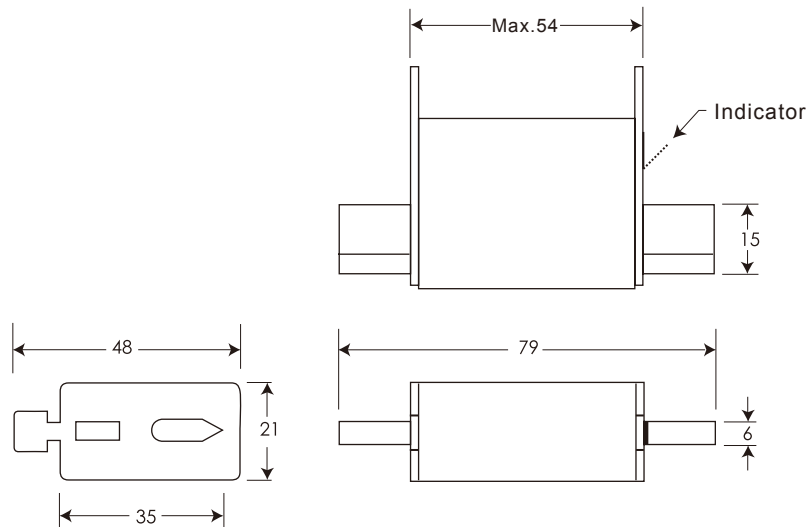
【fig. -3B1C】 : 690V DIN43653 1*/1/2/3 Type K mounting



【Selection Table】 690V DIN type43620 size000/1*/1/2/3 10-1000A

Size	Current	Type T Microswitch can be matched		Min Packing Qty	Packing Weight	Fig. No.
		Model	Ordering No.			
000	10	CFM9010DT	RN107620	3	0.40	【fig. -3B2A】
	16	CFM9016DT	RN107630			
	20	CFM9020DT	RN107640			
	25	CFM9025DT	RN107650			
	32	CFM9032DT	RN107660			
	40	CFM9040DT	RN107670			
	50	CFM9050DT	RN107680			
	63	CFM9063DT	RN107690			
	80	CFM9080DT	RN107700			
	100	CFM9100DT	RN107710			
	125	CFM9125DT	RN107720			
	160	CFM9160DT	RN107730			
	200	CFM9200DT	RN107740			
	250	CFM9250DT	RN107750			
	315	CFM9315DT	RN107760			
1*	40	CFM8040KT	RN107770	3	0.90	【fig. -3B2B】
	50	CFM8050KT	RN107780			
	63	CFM8063KT	RN107790			
	80	CFM8080KT	RN107800			
	100	CFM8100KT	RN107810			
	125	CFM8125KT	RN107820			
	160	CFM8160KT	RN107830			
	200	CFM8200KT	RN107840			
	250	CFM8250KT	RN107850			
	315	CFM8315KT	RN107860			
	350	CFM8350KT	RN107870			
	400	CFM8400KT	RN107880			
1	400	CFM1040LT	RN107890	3	1.30	【fig. -3B2B】
	450	CFM1045LT	RN107900			
	500	CFM1050LT	RN107910			
	550	CFM1055LT	RN107920			
	630	CFM1063LT	RN107930			
	700	CFM1070LT	RN107940			
2	500	CFM2050LT	RN107950	3	1.80	【fig. -3B2B】
	550	CFM2055LT	RN107960			
	630	CFM2063LT	RN107970			
	700	CFM2070LT	RN107980			
	800	CFM2080LT	RN107990			
	900	CFM2090LT	RN108000			
3	500	CFM3050LT	RN108010	1	0.90	【fig. -3B2B】
	550	CFM3055LT	RN108020			
	630	CFM3063LT	RN108030			
	700	CFM3070LT	RN108040			
	800	CFM3080LT	RN108050			
	900	CFM3090LT	RN108060			
	1000	CFM3100LT	RN108070			

【Dimension Figure】： 690V DIN type43620 size000 type T

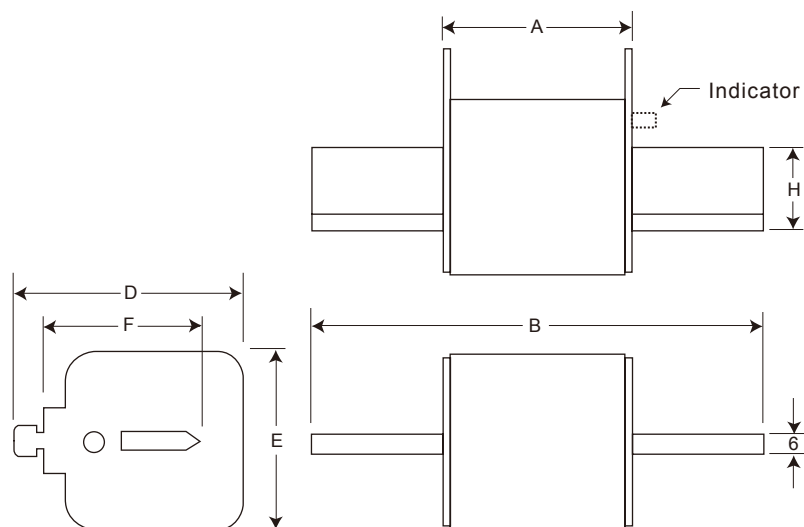


【fig. -3B2A】： 690V DIN43620 000 Type T mounting

【Dimension Figure】： 690V DIN type43620 size000/1*/1/2/3 type T

Size	A	B	D	E	F	H
1*	69	135	58	45	40	20
1	69	150	71	57	48	25
2	69	150	88	68	60	32
3	69	150	88	75	60	32

Unit:mm



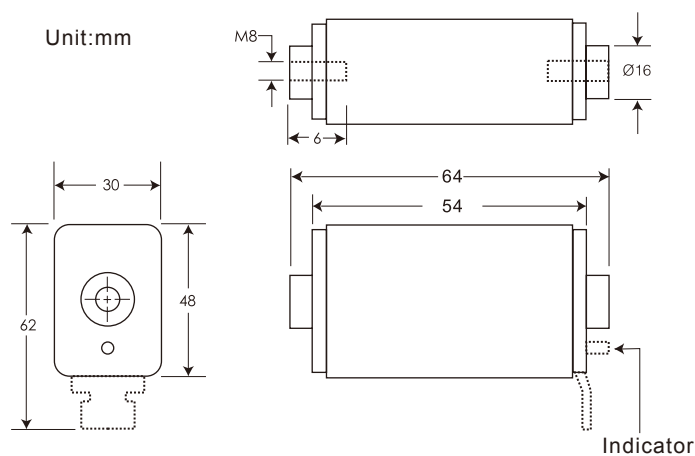
【fig. -3B2B】： 690V DIN43620 1*/1/2/3 Type T mounting (Microswitch can be matched)



【Selection Table】 690V flush end size 00 25-400A

Size	Current	Type 60 with Indicator		Type 60T Microswitch can be matched		Min Packing Qty	Packing Weight	Fig. No.
		Model	Ordering No.	Model	Ordering No.			
00	25	CFH0025PI	RN108080	CFH0025PT	RN108220	3	0.8	【fig. -3B3A】
	32	CFH0032PI	RN108090	CFH0032PT	RN108230			
	40	CFH0040PI	RN108100	CFH0040PT	RN108240			
	50	CFH0050PI	RN108110	CFH0050PT	RN108250			
	63	CFH0063PI	RN108120	CFH0063PT	RN108260			
	80	CFH0080PI	RN108130	CFH0080PT	RN108270			
	100	CFH0100PI	RN108140	CFH0100PT	RN108280			
	125	CFH0125PI	RN108150	CFH0125PT	RN108290			
	160	CFH0160PI	RN108160	CFH0160PT	RN108300			
	200	CFH0200PI	RN108170	CFH0200PT	RN108310			
	250	CFH0250PI	RN108180	CFH0250PT	RN108320			
	315	CFH0315PI	RN108190	CFH0315PT	RN108330			
	350	CFH0350PI	RN108200	CFH0350PT	RN108340			
	400	CFH0400PI	RN108210	CFH0400PT	RN108350			

【Dimension Figure】 690V flush end size 00 type 60/60T



【fig. -3B3A】 : 690V flush end size 00 type 60/60T

【Selection Table】 690V flush end size 1*/1/2/3 40-2000A

Size	Current	Type 51 with Indicator		Type 51K with Microswitch		Min Packing Qty	Packing Weight	Fig. No.
		Model	Ordering No.	Model	Ordering No.			
1*	40	CFH8040AI	RN108360	CFH8040AK	RN108970	3	0.8	
	50	CFH8050AI	RN108370	CFH8050AK	RN108980			
	63	CFH8063AI	RN108380	CFH8063AK	RN108990			
	80	CFH8080AI	RN108390	CFH8080AK	RN109000			
	100	CFH8100AI	RN108400	CFH8100AK	RN109010			
	125	CFH8125AI	RN108410	CFH8125AK	RN109020			
	160	CFH8160AI	RN108420	CFH8160AK	RN109030			
	200	CFH8200AI	RN108430	CFH8200AK	RN109040			
	250	CFH8250AI	RN108440	CFH8250AK	RN109050			
	315	CFH8315AI	RN108450	CFH8315AK	RN109060			
	350	CFH8350AI	RN108460	CFH8350AK	RN109070			
	400	CFH8400AI	RN108470	CFH8400AK	RN109080			
	450	CFH8450AI	RN108480	CFH8450AK	RN109090			
	500	CFH8500AI	RN108490	CFH8500AK	RN109100			
	550	CFH8550AI	RN108500	CFH8550AK	RN109110			
	630	CFH8630AI	RN108510	CFH8630AK	RN109120			
1	200	CFH1020AI	RN108520	CFH1020AK	RN109130	3	1.2	【fig. -3B3B】
	250	CFH1025AI	RN108530	CFH1025AK	RN109140			
	315	CFH1031AI	RN108540	CFH1031AK	RN109150			
	350	CFH1035AI	RN108550	CFH1035AK	RN109160			
	400	CFH1040AI	RN108560	CFH1040AK	RN109170			
	450	CFH1045AI	RN108570	CFH1045AK	RN109180			
	500	CFH1050AI	RN108580	CFH1050AK	RN109190			
	550	CFH1055AI	RN108590	CFH1055AK	RN109200			
	630	CFH1063AI	RN108600	CFH1063AK	RN109210			
	700	CFH1070AI	RN108610	CFH1070AK	RN109220			
	800	CFH1080AI	RN108620	CFH1080AK	RN109230			
2	900	CFH1090AI	RN108630	CFH1090AK	RN109240	3	1.8	
	400	CFH2040AI	RN108640	CFH2040AK	RN109250			
	450	CFH2045AI	RN108650	CFH2045AK	RN109260			
	500	CFH2050AI	RN108660	CFH2050AK	RN109270			
	550	CFH2055AI	RN108670	CFH2055AK	RN109280			
	630	CFH2063AI	RN108680	CFH2063AK	RN109290			
	700	CFH2070AI	RN108690	CFH2070AK	RN109300			
	800	CFH2080AI	RN108700	CFH2080AK	RN109310			
	900	CFH2090AI	RN108710	CFH2090AK	RN109320			
	1000	CFH2100AI	RN108720	CFH2100AK	RN109330			
	1100	CFH2110AI	RN108730	CFH2110AK	RN109340			
3	1250	CFH2125AI	RN108740	CFH2125AK	RN109350	1	0.9	
	500	CFH3050AI	RN108750	CFH3050AK	RN109360			
	550	CFH3055AI	RN108760	CFH3055AK	RN109370			
	630	CFH3063AI	RN108770	CFH3063AK	RN109380			
	700	CFH3070AI	RN108780	CFH3070AK	RN109390			
	800	CFH3080AI	RN108790	CFH3080AK	RN109400			
	900	CFH3090AI	RN108800	CFH3090AK	RN109410			
	1000	CFH3100AI	RN108810	CFH3100AK	RN109420			
	1100	CFH3110AI	RN108820	CFH3110AK	RN109430			
	1250	CFH3125AI	RN108830	CFH3125AK	RN109440			
	1400	CFH3140AI	RN108840	CFH3140AK	RN109450			
	1500	CFH3150AI	RN108850	CFH3150AK	RN109460			
	1600	CFH3160AI	RN108860	CFH3160AK	RN109470			
	1800	CFH3180AI	RN108870	CFH3180AK	RN109480			
	2000	CFH3200AI	RN108880	CFH3200AK	RN109490			



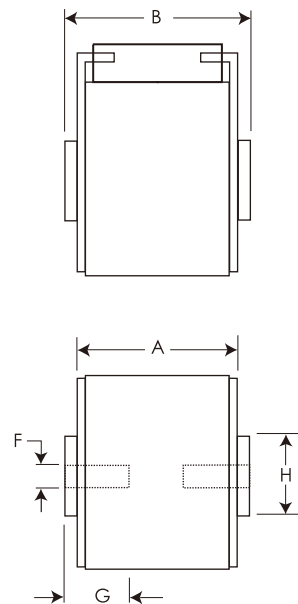
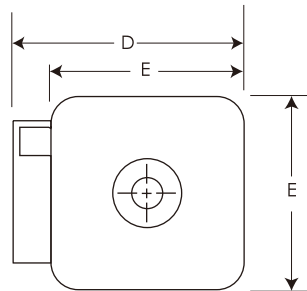
【Selection Table】 690V flush end size 4 1000-4000A

Size	Current	Type 67 with Indicator		Type 67K with Microswitch		Min Packing Qty	Packing Weight	Fig. No.
		Model	Ordering No.	Model	Ordering No.			
4	1000	CFH4100BI	RN108890	CFH4100BK	RN109500	1	2.0	【fig. -3B3C】
	1250	CFH4125BI	RN108900	CFH4125BK	RN109510			
	1400	CFH4140BI	RN108910	CFH4140BK	RN109520			
	1600	CFH4160BI	RN108920	CFH4160BK	RN109530			
	2000	CFH4200BI	RN108930	CFH4200BK	RN109540			
	3000	CFH4300BI	RN108940	CFH4300BK	RN109550			
	3500	CFH4350BI	RN108950	CFH4350BK	RN109560			
	4000	CFH4400BI	RN108960	CFH4400BK	RN109570			

【Dimension Figure】 690V flush end size 1*/1/2/3 type 51/51K

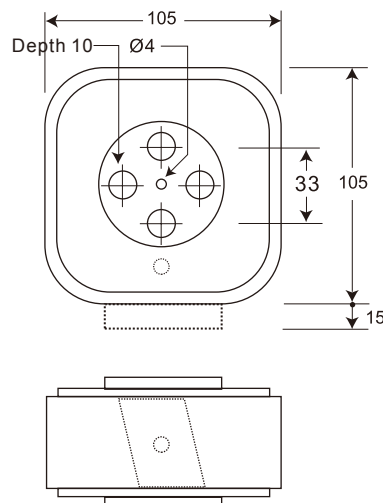
Size	A	B	D	E	F	G	H
1*	50	51	59	45	8	5	17
1	50	51	69	53	8	8	20
2	50	51	77	61	10	10	24
3	51	53	92	76	12	10	30

Unit:mm

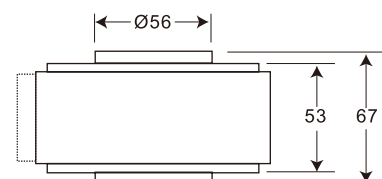


【fig-3B3B】 : 690V flush end size 00 type 60/60T

【Dimension Figure】 690V flush end size 4 type 67/67K



Unit:mm



【fig. -3B3C】 : 690V flush end size 4 type 67/67K

【Selection Table】 690V French style size 1*/1/2/3 40-1500A

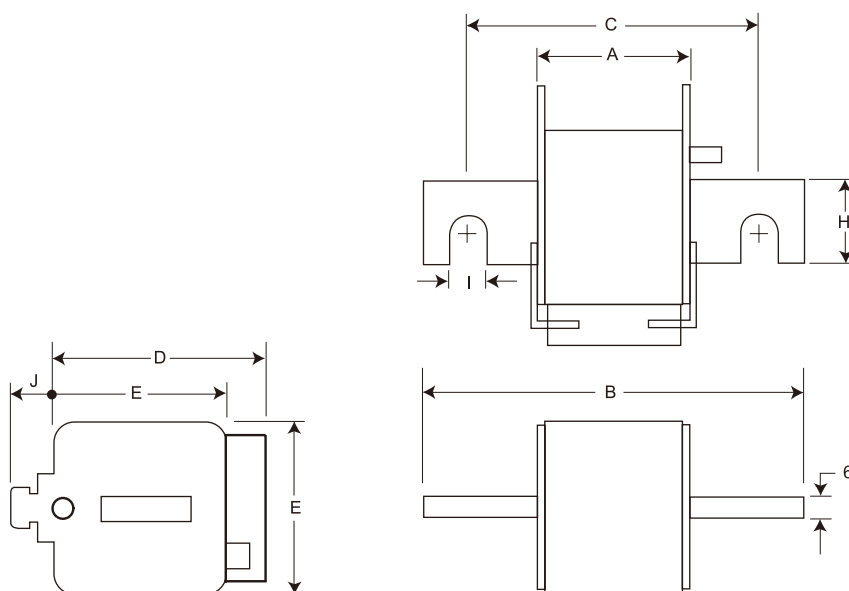
Size	Current	Type 76T/86T/90T Microswitch can be matched		Type 76K/86K/90K with Microswitch		Min Packing Qty	Packing Weight	Fig. No.
		Model	Ordering No.	Model	Ordering No.			
1*	40	CFF8040DT	RN109580	CFF8040DK	RN110110	3	0.90	【fig. -3B4A】
	50	CFF8050DT	RN109590	CFF8050DK	RN110120			
	63	CFF8063DT	RN109600	CFF8063DK	RN110130			
	80	CFF8080DT	RN109610	CFF8080DK	RN110140			
	100	CFF8100DT	RN109620	CFF8100DK	RN110150			
	125	CFF8125DT	RN109630	CFF8125DK	RN110160			
	160	CFF8160DT	RN109640	CFF8160DK	RN110170			
	200	CFF8200DT	RN109650	CFF8200DK	RN110180			
	250	CFF8250DT	RN109660	CFF8250DK	RN110190			
	315	CFF8315DT	RN109670	CFF8315DK	RN110200			
	350	CFF8350DT	RN109680	CFF8350DK	RN110210			
	400	CFF8400DT	RN109690	CFF8400DK	RN110220			
	450	CFF8450DT	RN109700	CFF8450DK	RN110230			
	500	CFF8500DT	RN109710	CFF8500DK	RN110240			
	550	CFF8550DT	RN109720	CFF8550DK	RN110250			
	630	CFF8630DT	RN109730	CFF8630DK	RN110260			
1	200	CFF1020FT	RN109740	CFF1020FK	RN110270	3	1.50	
	250	CFF1025FT	RN109750	CFF1025FK	RN110280			
	315	CFF1031FT	RN109760	CFF1031FK	RN110290			
	350	CFF1035FT	RN109770	CFF1035FK	RN110300			
	400	CFF1040FT	RN109780	CFF1040FK	RN110310			
	450	CFF1045FT	RN109790	CFF1045FK	RN110320			
	500	CFF1050FT	RN109800	CFF1050FK	RN110330			
	550	CFF1055FT	RN109810	CFF1055FK	RN110340			
	630	CFF1063FT	RN109820	CFF1063FK	RN110350			
	700	CFF1070FT	RN109830	CFF1070FK	RN110360			
	800	CFF1080FT	RN109840	CFF1080FK	RN110370			
	900	CFF1090FT	RN109850	CFF1090FK	RN110380			
2	400	CFF2040GT	RN109860	CFF2040GK	RN110390	3	1.80	
	450	CFF2045GT	RN109870	CFF2045GK	RN110400			
	500	CFF2050GT	RN109880	CFF2050GK	RN110410			
	550	CFF2055GT	RN109890	CFF2055GK	RN110420			
	630	CFF2063GT	RN109900	CFF2063GK	RN110430			
	700	CFF2070GT	RN109910	CFF2070GK	RN110440			
	800	CFF2080GT	RN109920	CFF2080GK	RN110450			
	900	CFF2090GT	RN109930	CFF2090GK	RN110460			
	1000	CFF2100GT	RN109940	CFF2100GK	RN110470			
	1100	CFF2110GT	RN109950	CFF2110GK	RN110480			
	1250	CFF2125GT	RN109960	CFF2125GK	RN110490			
	3	500	CFF3050GT	RN109970	CFF3050GK			
550		CFF3055GT	RN109980	CFF3055GK	RN110510			
630		CFF3063GT	RN109990	CFF3063GK	RN110520			
700		CFF3070GT	RN110000	CFF3070GK	RN110530			
800		CFF3080GT	RN110010	CFF3080GK	RN110540			
900		CFF3090GT	RN110020	CFF3090GK	RN110550			
1000		CFF3100GT	RN110030	CFF3100GK	RN110560			
1100		CFF3110GT	RN110040	CFF3110GK	RN110570			
1250		CFF3125GT	RN110050	CFF3125GK	RN110580			
1400		CFF3140GT	RN110060	CFF3140GK	RN110590			
1500		CFF3150GT	RN110070	CFF3150GK	RN110600			



【Dimension Figure】 690V French style size 1*/1/2/3 type 76/86/90(T/K)

Size	A	B	C	D	E	H	I	J
1*	50	102	76	59	45	18	9	13
1	50	111	86	69	53	25	11	11
2	50	126	91	77	61	30	13	12
3	51	126	91	92	76	36	13	13

Unit:mm



【fig. -3B4A】 : French style mounting size 1*/1/2/3 type 76/86/90(T/K)

【Selection Table】 690V US style size 1*/1/2/3 40-2000A type 78/90(N/K)

Size	Current	Type 78/90 without Indicator		Type 78K/90K with Microswitch		Min Packing Qty	Packing Weight	Fig. No.
		Model	Ordering No.	Model	Ordering No.			
1*	40	CFE8040DN	RN110640	CFE8040DK	RN111170	3	1.0	
	50	CFE8050DN	RN110650	CFE8050DK	RN111180			
	63	CFE8063DN	RN110660	CFE8063DK	RN111190			
	80	CFE8080DN	RN110670	CFE8080DK	RN111200			
	100	CFE8100DN	RN110680	CFE8100DK	RN111210			
	125	CFE8125DN	RN110690	CFE8125DK	RN111220			
	160	CFE8160DN	RN110700	CFE8160DK	RN111230			
	200	CFE8200DN	RN110710	CFE8200DK	RN111240			
	250	CFE8250DN	RN110720	CFE8250DK	RN111250			
	315	CFE8315DN	RN110730	CFE8315DK	RN111260			
	350	CFE8350DN	RN110740	CFE8350DK	RN111270			
	400	CFE8400DN	RN110750	CFE8400DK	RN111280			
	450	CFE8450DN	RN110760	CFE8450DK	RN111290			
	500	CFE8500DN	RN110770	CFE8500DK	RN111300			
	550	CFE8550DN	RN110780	CFE8550DK	RN111310			
	630	CFE8630DN	RN110790	CFE8630DK	RN111320			
1	200	CFE1020GN	RN110800	CFE1020GK	RN111330	3	1.5	【fig. -3B5A】
	250	CFE1025GN	RN110810	CFE1025GK	RN111340			
	315	CFE1031GN	RN110820	CFE1031GK	RN111350			
	350	CFE1035GN	RN110830	CFE1035GK	RN111360			
	400	CFE1040GN	RN110840	CFE1040GK	RN111370			
	450	CFE1045GN	RN110850	CFE1045GK	RN111380			
	500	CFE1050GN	RN110860	CFE1050GK	RN111390			
	550	CFE1055GN	RN110870	CFE1055GK	RN111400			
	630	CFE1063GN	RN110880	CFE1063GK	RN111410			
	700	CFE1070GN	RN110890	CFE1070GK	RN111420			
	800	CFE1080GN	RN110900	CFE1080GK	RN111430			
	900	CFE1090GN	RN110910	CFE1090GK	RN111440			
2	400	CFE2040GN	RN110920	CFE2040GK	RN111450	3	2.0	
	450	CFE2045GN	RN110930	CFE2045GK	RN111460			
	500	CFE2050GN	RN110940	CFE2050GK	RN111470			
	550	CFE2055GN	RN110950	CFE2055GK	RN111480			
	630	CFE2063GN	RN110960	CFE2063GK	RN111490			
	700	CFE2070GN	RN110970	CFE2070GK	RN111500			
	800	CFE2080GN	RN110980	CFE2080GK	RN111510			
	900	CFE2090GN	RN110990	CFE2090GK	RN111520			
	1000	CFE2100GN	RN111000	CFE2100GK	RN111530			
	1100	CFE2110GN	RN111010	CFE2110GK	RN111540			
	1250	CFE2125GN	RN111020	CFE2125GK	RN111550			
3	500	CFE3050GN	RN111030	CFE3050GK	RN111560	1	0.95	
	550	CFE3055GN	RN111040	CFE3055GK	RN111570			
	630	CFE3063GN	RN111050	CFE3063GK	RN111580			
	700	CFE3070GN	RN111060	CFE3070GK	RN111590			
	800	CFE3080GN	RN111070	CFE3080GK	RN111600			
	900	CFE3090GN	RN111080	CFE3090GK	RN111610			
	1000	CFE3100GN	RN111090	CFE3100GK	RN111620			
	1100	CFE3110GN	RN111100	CFE3110GK	RN111630			
	1250	CFE3125GN	RN111110	CFE3125GK	RN111640			
	1400	CFE3140GN	RN111120	CFE3140GK	RN111650			
	1500	CFE3150GN	RN111130	CFE3150GK	RN111660			
	1600	CFE3160GN	RN111140	CFE3160GK	RN111670			
	1800	CFE3180GN	RN111150	CFE3180GK	RN111680			
	2000	CFE3200GN	RN111160	CFE3200GK	RN111690			



【Selection Table】 690V US style size 1*/1/2/3 40-2000A type 115N/115K

Size	Current	Type 115 without Indicator		Type 115K with Microswitch		Min Packing Qty	Packing Weight	Fig. No.
		Model	Ordering No.	Model	Ordering No.			
1*	40	CFE8040JN	RN111700	CFE8040JK	RN112230	3	1.0	
	50	CFE8050JN	RN111710	CFE8050JK	RN112240			
	63	CFE8063JN	RN111720	CFE8063JK	RN112250			
	80	CFE8080JN	RN111730	CFE8080JK	RN112260			
	100	CFE8100JN	RN111740	CFE8100JK	RN112270			
	125	CFE8125JN	RN111750	CFE8125JK	RN112280			
	160	CFE8160JN	RN111760	CFE8160JK	RN112290			
	200	CFE8200JN	RN111770	CFE8200JK	RN112300			
	250	CFE8250JN	RN111780	CFE8250JK	RN112310			
	315	CFE8315JN	RN111790	CFE8315JK	RN112320			
	350	CFE8350JN	RN111800	CFE8350JK	RN112330			
	400	CFE8400JN	RN111810	CFE8400JK	RN112340			
	450	CFE8450JN	RN111820	CFE8450JK	RN112350			
	500	CFE8500JN	RN111830	CFE8500JK	RN112360			
	550	CFE8550JN	RN111840	CFE8550JK	RN112370			
	630	CFE8630JN	RN111850	CFE8630JK	RN112380			
1	200	CFE1020JN	RN111860	CFE1020JK	RN112390	3	1.5	【fig. -3B5A】
	250	CFE1025JN	RN111870	CFE1025JK	RN112400			
	315	CFE1031JN	RN111880	CFE1031JK	RN112410			
	350	CFE1035JN	RN111890	CFE1035JK	RN112420			
	400	CFE1040JN	RN111900	CFE1040JK	RN112430			
	450	CFE1045JN	RN111910	CFE1045JK	RN112440			
	500	CFE1050JN	RN111920	CFE1050JK	RN112450			
	550	CFE1055JN	RN111930	CFE1055JK	RN112460			
	630	CFE1063JN	RN111940	CFE1063JK	RN112470			
	700	CFE1070JN	RN111950	CFE1070JK	RN112480			
	800	CFE1080JN	RN111960	CFE1080JK	RN112490			
2	900	CFE1090JN	RN111970	CFE1090JK	RN112500	3	2.0	
	400	CFE2040JN	RN111980	CFE2040JK	RN112510			
	450	CFE2045JN	RN111990	CFE2045JK	RN112520			
	500	CFE2050JN	RN112000	CFE2050JK	RN112530			
	550	CFE2055JN	RN112010	CFE2055JK	RN112540			
	630	CFE2063JN	RN112020	CFE2063JK	RN112550			
	700	CFE2070JN	RN112030	CFE2070JK	RN112560			
	800	CFE2080JN	RN112040	CFE2080JK	RN112570			
	900	CFE2090JN	RN112050	CFE2090JK	RN112580			
	1000	CFE2100JN	RN112060	CFE2100JK	RN112590			
	1100	CFE2110JN	RN112070	CFE2110JK	RN112600			
3	1250	CFE2125JN	RN112080	CFE2125JK	RN112610	1	0.95	
	500	CFE3050JN	RN112090	CFE3050JK	RN112620			
	550	CFE3055JN	RN112100	CFE3055JK	RN112630			
	630	CFE3063JN	RN112110	CFE3063JK	RN112640			
	700	CFE3070JN	RN112120	CFE3070JK	RN112650			
	800	CFE3080JN	RN112130	CFE3080JK	RN112660			
	900	CFE3090JN	RN112140	CFE3090JK	RN112670			
	1000	CFE3100JN	RN112150	CFE3100JK	RN112680			
	1100	CFE3110JN	RN112160	CFE3110JK	RN112690			
	1250	CFE3125JN	RN112170	CFE3125JK	RN112700			
	1400	CFE3140JN	RN112180	CFE3140JK	RN112710			
	1500	CFE3150JN	RN112190	CFE3150JK	RN112720			
	1600	CFE3160JN	RN112200	CFE3160JK	RN112730			
	1800	CFE3180JN	RN112210	CFE3180JK	RN112740			
	2000	CFE3200JN	RN112220	CFE3200JK	RN112750			

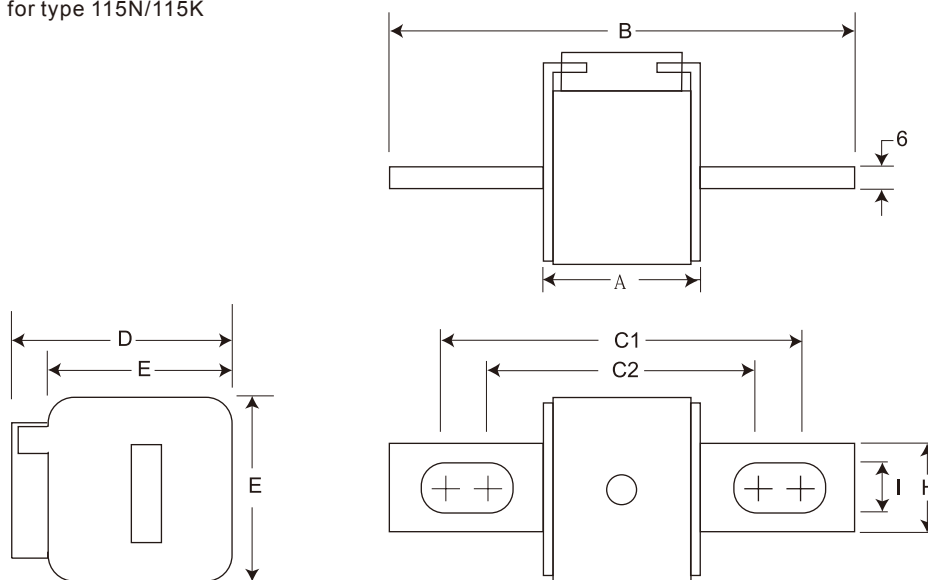
【Dimension Figure】 690V US style size 1*/1/2/3 type 78/90/115(N/K)

Size	A	B	B*	C1	C1*	C2	C2*	D	E	H	I
1*	50	110	148	85	123	72	110	59	45	20	10
1	50	136	157	104	126	78	100	69	53	25	14
2	50	135	159	105	125	78	99	77	61	25	14
3	51	135	155	106	125	77	97	92	76	36	16

Remarks:

Unit:mm

C1* /C2* is applied for type 115N/115K



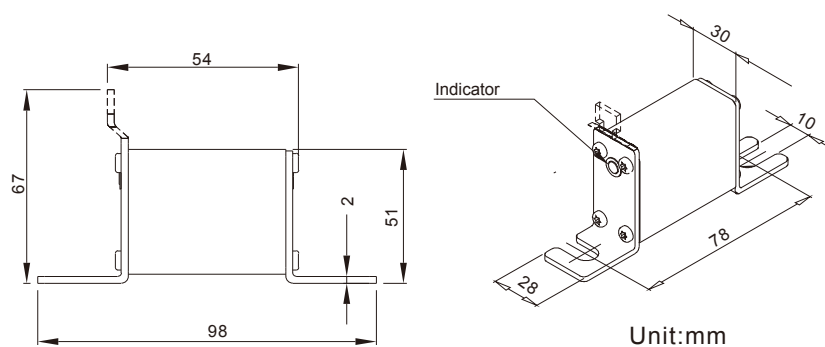
【fig. -3B5A】 : US style mounting size 1*/1/2/3 type 78/90/115(N/K)



【Selection Table】 1000V DIN43653 size 00 20-315A

Size	Current	Type 80 with Indicator		Type 80T Microswitch can be matched		Min Packing Qty	Packing Weight	Fig. No.
		Model	Ordering No.	Model	Ordering No.			
00	20	CRL0020EI	RN112760	CRL0020ET	RN112900	3	0.8	【fig.-3C1A】
	25	CRL0025EI	RN112770	CRL0025ET	RN112910			
	32	CRL0032EI	RN112780	CRL0032ET	RN112920			
	35	CRL0035EI	RN112790	CRL0035ET	RN112930			
	40	CRL0040EI	RN112800	CRL0040ET	RN112940			
	50	CRL0050EI	RN112810	CRL0050ET	RN112950			
	63	CRL0063EI	RN112820	CRL0063ET	RN112960			
	80	CRL0080EI	RN112830	CRL0080ET	RN112970			
	100	CRL0100EI	RN112840	CRL0100ET	RN112980			
	125	CRL0125EI	RN112850	CRL0125ET	RN112990			
	160	CRL0160EI	RN112860	CRL0160ET	RN113000			
	200	CRL0200EI	RN112870	CRL0200ET	RN113010			
	250	CRL0250EI	RN112880	CRL0250ET	RN113020			
	315	CRL0315EI	RN112890	CRL0315ET	RN113030			

【Dimension Figure】 1000V DIN43653 size 00 type 80/80K



【fig.-3C1A】 : 1000V DIN43653 size 00 type80/80K

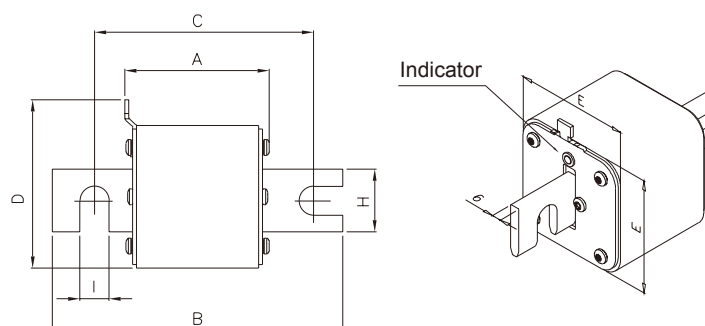
【Selection Table】 1000V DIN43653 size 1*/1/2/3 50-1400A

Size	Current	Type 110T Microswitch can be matched		Type 110K with Microswitch		Min Packing Qty	Packing Weight	Fig. No.
		Model	Ordering No.	Model	Ordering No.			
1*	50	CRU8050HT	RN113040	CRU8050HK	RN113490	3	1.35	
	63	CRU8063HT	RN113050	CRU8063HK	RN113500			
	80	CRU8080HT	RN113060	CRU8080HK	RN113510			
	100	CRU8100HT	RN113070	CRU8100HK	RN113520			
	125	CRU8125HT	RN113080	CRU8125HK	RN113530			
	160	CRU8160HT	RN113090	CRU8160HK	RN113540			
	200	CRU8200HT	RN113100	CRU8200HK	RN113550			
	250	CRU8250HT	RN113110	CRU8250HK	RN113560			
	315	CRU8315HT	RN113120	CRU8315HK	RN113570			
	350	CRU8350HT	RN113130	CRU8350HK	RN113580			
	400	CRU8400HT	RN113140	CRU8400HK	RN113590			
1	160	CRU1016HT	RN113150	CRU1016HK	RN113600	3	2.1	
	200	CRU1020HT	RN113160	CRU1020HK	RN113610			
	250	CRU1025HT	RN113170	CRU1025HK	RN113620			
	315	CRU1031HT	RN113180	CRU1031HK	RN113630			
	350	CRU1035HT	RN113190	CRU1035HK	RN113640			
	400	CRU1040HT	RN113200	CRU1040HK	RN113650			
	450	CRU1045HT	RN113210	CRU1045HK	RN113660			
	500	CRU1050HT	RN113220	CRU1050HK	RN113670			
	550	CRU1055HT	RN113230	CRU1055HK	RN113680			
	630	CRU1063HT	RN113240	CRU1063HK	RN113690			
2	250	CRU2025HT	RN113250	CRU2025HK	RN113700	3	2.7	【fig. -3C1B】 【fig. -3C1C】
	315	CRU2031HT	RN113260	CRU2031HK	RN113710			
	350	CRU2035HT	RN113270	CRU2035HK	RN113720			
	400	CRU2040HT	RN113280	CRU2040HK	RN113730			
	450	CRU2045HT	RN113290	CRU2045HK	RN113740			
	500	CRU2050HT	RN113300	CRU2050HK	RN113750			
	550	CRU2055HT	RN113310	CRU2055HK	RN113760			
	630	CRU2063HT	RN113320	CRU2063HK	RN113770			
	700	CRU2070HT	RN113330	CRU2070HK	RN113780			
	800	CRU2080HT	RN113340	CRU2080HK	RN113790			
3	315	CRU3031HT	RN113350	CRU3031HK	RN113800	1	1.5	
	350	CRU3035HT	RN113360	CRU3035HK	RN113810			
	400	CRU3040HT	RN113370	CRU3040HK	RN113820			
	450	CRU3045HT	RN113380	CRU3045HK	RN113830			
	500	CRU3050HT	RN113390	CRU3050HK	RN113840			
	550	CRU3055HT	RN113400	CRU3055HK	RN113850			
	630	CRU3063HT	RN113410	CRU3063HK	RN113860			
	700	CRU3070HT	RN113420	CRU3070HK	RN113870			
	800	CRU3080HT	RN113430	CRU3080HK	RN113880			
	900	CRU3090HT	RN113440	CRU3090HK	RN113890			
	1000	CRU3100HT	RN113450	CRU3100HK	RN113900			
	1100	CRU3110HT	RN113460	CRU3110HK	RN113910			
	1250	CRU3125HT	RN113470	CRU3125HK	RN113920			
	1400	CRU3140HT	RN113480	CRU3140HK	RN113930			


【Dimension Figure】 1000V DIN43653 size 1*/1/2/3 type 110T

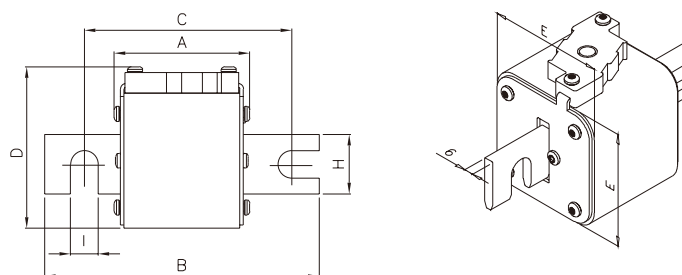
Size	A	B	C	D	E	G	H	I
1*	80	138	108	61	43	6	22	11
1	80	138	108	69	51	6	25	11
2	80	138	108	75	59	6	25	11
3	81	139	108	90	74	6	30	11

Unit:mm


【fig. -3C1B】 : 1000V DIN43653 size 1*/1/2/3 type110T
【Dimension Figure】 1000V DIN43653 size 1*/1/2/3 type 110K

Size	A	B	C	D	E	G	H	I
1*	80	138	108	61	43	6	22	11
1	80	138	108	69	51	6	25	11
2	80	138	108	77	59	6	25	11
3	81	139	108	92	74	6	30	11

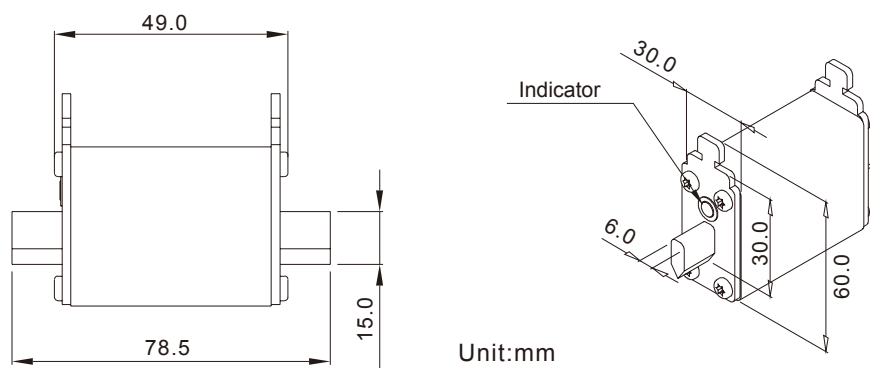
Unit:mm


【fig. -3C1C】 : 1000V DIN43653 size 1*/1/2/3 type 110K

【Selection Table】 1000V DIN43620 size 00 20-250A

Size	Current	Type 78T Microswitch can be matched		Min Packing Qty	Packing Weight	Fig. No.
		Model	Ordering No.			
00	20	CRF0020DT	RN113940	3	0.7	【fig.-3C2A】
	25	CRF0025DT	RN113950			
	32	CRF0032DT	RN113960			
	35	CRF0035DT	RN113970			
	40	CRF0040DT	RN113980			
	50	CRF0050DT	RN113990			
	63	CRF0063DT	RN114000			
	80	CRF0080DT	RN114010			
	100	CRF0100DT	RN114020			
	125	CRF0125DT	RN114030			
	160	CRF0160DT	RN114040			
	200	CRF0200DT	RN114050			
	250	CRF0225DT	RN114060			

【Dimension Figure】 1000V DIN43620 size 00 type 78T



【fig. -3C2A】 : 1000V DIN43620 size 00 type78T



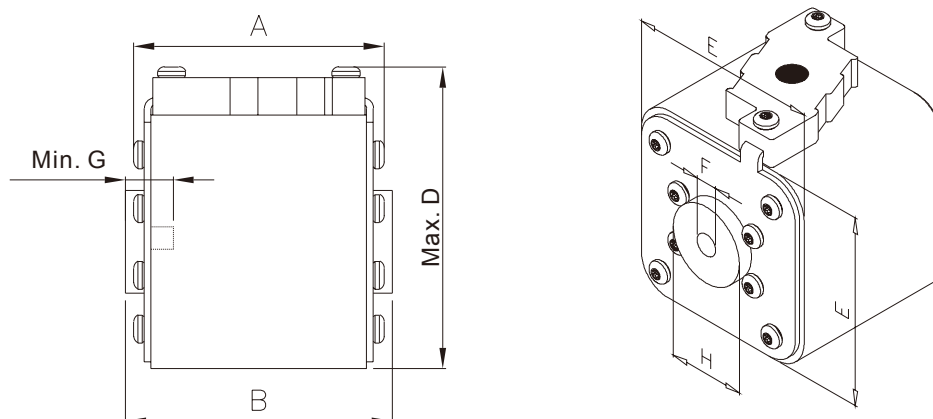
【Selection Table】 1000V flush end size 1*/1/2/3 50-1400A

Size	Current	Type 75K with Microswitch		Min Packing Qty	Packing Weight	Fig. No.
		Model	Ordering No.			
1*	50	CRH8050CK	RN114070	3	1.2	【fig. -3C3A】
	63	CRH8063CK	RN114080			
	80	CRH8080CK	RN114090			
	100	CRH8100CK	RN114100			
	125	CRH8125CK	RN114110			
	160	CRH8160CK	RN114120			
	200	CRH8200CK	RN114130			
	250	CRH8250CK	RN114140			
	315	CRH8315CK	RN114150			
	350	CRH8350CK	RN114160			
	400	CRH8400CK	RN114170			
1	160	CRH1016CK	RN114180	3	1.8	
	200	CRH1020CK	RN114190			
	250	CRH1025CK	RN114200			
	315	CRH1031CK	RN114210			
	350	CRH1035CK	RN114220			
	400	CRH1040CK	RN114230			
	450	CRH1045CK	RN114240			
	500	CRH1050CK	RN114250			
	550	CRH1055CK	RN114260			
	630	CRH1063CK	RN114270			
2	250	CRH2025CK	RN114280	3	2.5	
	315	CRH2031CK	RN114290			
	350	CRH2035CK	RN114300			
	400	CRH2040CK	RN114310			
	450	CRH2045CK	RN114320			
	500	CRH2050CK	RN114330			
	550	CRH2055CK	RN114340			
	630	CRH2063CK	RN114350			
	700	CRH2070CK	RN114360			
	800	CRH2080CK	RN114370			
3	315	CRH3031CK	RN114380	1	1.25	
	350	CRH3035CK	RN114390			
	400	CRH3040CK	RN114400			
	450	CRH3045CK	RN114410			
	500	CRH3050CK	RN114420			
	550	CRH3055CK	RN114430			
	630	CRH3063CK	RN114440			
	700	CRH3070CK	RN114450			
	800	CRH3080CK	RN114460			
	900	CRH3090CK	RN114470			
	1000	CRH3100CK	RN114480			
	1100	CRH3110CK	RN114490			
	1250	CRH3125CK	RN114500			
	1400	CRH3140CK	RN114510			

【Dimension Figure】 1000V flush end size 1*/1/2/3 type 75K

Size	A	B	D	E	F	G	H
1*	72.5	74	61	43	M8	5	∅ 17.5
1	73.2	74	69	52	M8	8	∅ 20
2	73.2	74.4	77	59	M10	10	∅ 24
3	73.3	75.4	92	74	M12	10	∅ 30

Unit:mm



【fig. -3C3A】 : 1000V flush end size 1*/1/2/3 type 75K



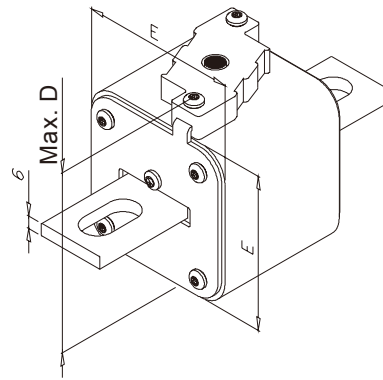
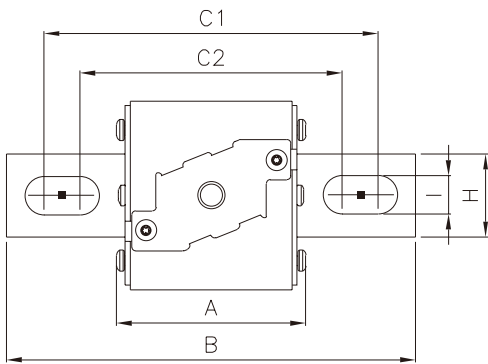
【Selection Table】 1000V US style size 1*/1/2/3 50-1400A

Size	Current	Type 115K with Microswitch		Min Packing	Packing Weight	Fig. No.
		Model	Ordering No.			
1*	50	CRE8050JK	RN114520	3	1.3	【fig. -3C4A】
	63	CRE8063JK	RN114530			
	80	CRE8080JK	RN114540			
	100	CRE8100JK	RN114550			
	125	CRE8125JK	RN114560			
	160	CRE8160JK	RN114570			
	200	CRE8200JK	RN114580			
	250	CRE8250JK	RN114590			
	315	CRE8315JK	RN114600			
	350	CRE8350JK	RN114610			
	400	CRE8400JK	RN114620			
1	160	CRE1016JK	RN114630	3	2.1	
	200	CRE1020JK	RN114640			
	250	CRE1025JK	RN114650			
	315	CRE1031JK	RN114660			
	350	CRE1035JK	RN114670			
	400	CRE1040JK	RN114680			
	450	CRE1045JK	RN114690			
	500	CRE1050JK	RN114700			
	550	CRE1055JK	RN114710			
	630	CRE1063JK	RN114720			
2	250	CRE2025JK	RN114730	3	2.25	
	315	CRE2031JK	RN114740			
	350	CRE2035JK	RN114750			
	400	CRE2040JK	RN114760			
	450	CRE2045JK	RN114770			
	500	CRE2050JK	RN114780			
	550	CRE2055JK	RN114790			
	630	CRE2063JK	RN114800			
	700	CRE2070JK	RN114810			
	800	CRE2080JK	RN114820			
3	315	CRE3031JK	RN114830	1	1.25	
	350	CRE3035JK	RN114840			
	400	CRE3040JK	RN114850			
	450	CRE3045JK	RN114860			
	500	CRE3050JK	RN114870			
	550	CRE3055JK	RN114880			
	630	CRE3063JK	RN114890			
	700	CRE3070JK	RN114900			
	800	CRE3080JK	RN114910			
	900	CRE3090JK	RN114920			
	1000	CRE3100JK	RN114930			
	1100	CRE3110JK	RN114940			
	1250	CRE3125JK	RN114950			
	1400	CRE3140JK	RN114960			

【Dimension Figure】 1000V US type size 1*/1/2/3 type 115K

Size	B	C1	C2	D	E	H	I
1*	156	130	101	59	45	20	10
1	160	127	102	69	53	25	14
2	160	127	102	77	61	25	14
3	159	128	101	92	76	36	16

Unit:mm



【fig. -3C4A】 : 1000V flush end size 1*/1/2/3 type 115K



【Selection Table】 1250V DIN43653 size 1*/1/2/3 50-1400A

Size	Current	Type 110 with Indicator		Type 110T with Microswitch		Min Packing Qty	Packing Weight	Fig. No.
		Model	Ordering No.	Model	Ordering No.			
1*	50	CBU8050HI	RN114970	CBU8050HT	RN115450	3	1.2	
	63	CBU8063HI	RN114980	CBU8063HT	RN115460			
	80	CBU8080HI	RN114990	CBU8080HT	RN115470			
	100	CBU8100HI	RN115000	CBU8100HT	RN115480			
	125	CBU8125HI	RN115010	CBU8125HT	RN115490			
	160	CBU8160HI	RN115020	CBU8160HT	RN115500			
	200	CBU8200HI	RN115030	CBU8200HT	RN115510			
	250	CBU8250HI	RN115040	CBU8250HT	RN115520			
	315	CBU8315HI	RN115050	CBU8315HT	RN115530			
	350	CBU8350HI	RN115060	CBU8350HT	RN115540			
	400	CBU8400HI	RN115070	CBU8400HT	RN115550			
1	160	CBU1016HI	RN115080	CBU1016HT	RN115560	3	1.8	
	200	CBU1020HI	RN115090	CBU1020HT	RN115570			
	250	CBU1025HI	RN115100	CBU1025HT	RN115580			
	315	CBU1031HI	RN115110	CBU1031HT	RN115590			
	350	CBU1035HI	RN115120	CBU1035HT	RN115600			
	400	CBU1040HI	RN115130	CBU1040HT	RN115610			
	450	CBU1045HI	RN115140	CBU1045HT	RN115620			
	500	CBU1050HI	RN115150	CBU1050HT	RN115630			
	550	CBU1055HI	RN115160	CBU1055HT	RN115640			
	630	CBU1063HI	RN115170	CBU1063HT	RN115650			
2	250	CBU2025HI	RN115180	CBU2025HT	RN115660	3	2.4	【fig. -3D1A】
	280	CBU2028HI	RN115190	CBU2028HT	RN115670			
	315	CBU2031HI	RN115200	CBU2031HT	RN115680			
	350	CBU2035HI	RN115210	CBU2035HT	RN115690			
	400	CBU2040HI	RN115220	CBU2040HT	RN115700			
	450	CBU2045HI	RN115230	CBU2045HT	RN115710			
	500	CBU2050HI	RN115240	CBU2050HT	RN115720			
	550	CBU2055HI	RN115250	CBU2055HT	RN115730			
	630	CBU2063HI	RN115260	CBU2063HT	RN115740			
	700	CBU2070HI	RN115270	CBU2070HT	RN115750			
	800	CBU2080HI	RN115280	CBU2080HT	RN115760			
	900	CBU2090HI	RN115290	CBU2090HT	RN115770			
	1000	CBU2100HI	RN115300	CBU2100HT	RN115780			
3	315	CBU3031HI	RN115310	CBU3031HT	RN115790	1	1.25	
	350	CBU3035HI	RN115320	CBU3035HT	RN115800			
	400	CBU3040HI	RN115330	CBU3040HT	RN115810			
	450	CBU3045HI	RN115340	CBU3045HT	RN115820			
	500	CBU3050HI	RN115350	CBU3050HT	RN115830			
	550	CBU3055HI	RN115360	CBU3055HT	RN115840			
	630	CBU3063HI	RN115370	CBU3063HT	RN115850			
	700	CBU3070HI	RN115380	CBU3070HT	RN115860			
	800	CBU3080HI	RN115390	CBU3080HT	RN115870			
	900	CBU3090HI	RN115400	CBU3090HT	RN115880			
	1000	CBU3100HI	RN115410	CBU3100HT	RN115890			
	1100	CBU3110HI	RN115420	CBU3110HT	RN115900			
	1250	CBU3125HI	RN115430	CBU3125HT	RN115910			
	1400	CBU3140HI	RN115440	CBU3140HT	RN115920			

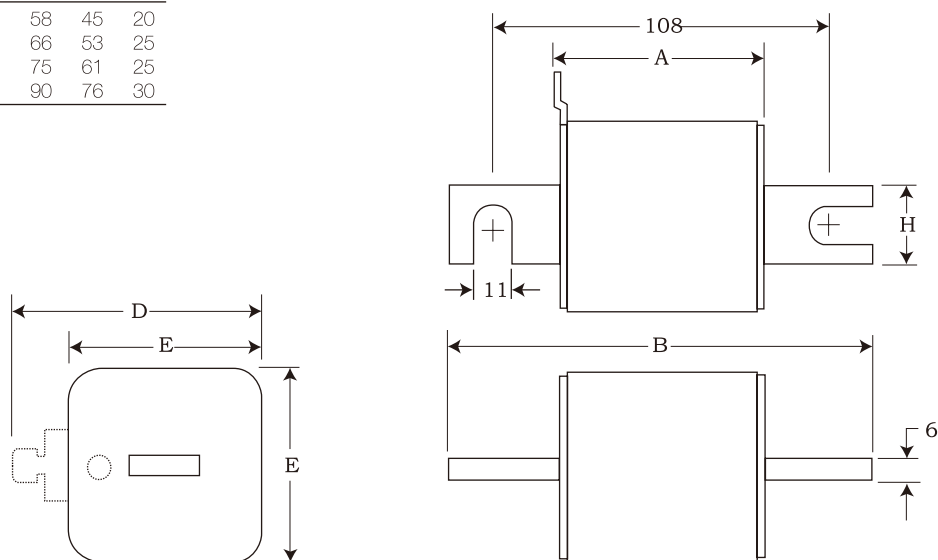
【Selection Table】 1250V DIN43653 size 1*/1/2/3 50-1400A

Size	Current	Type 110K with Microswitch		Min Packing	Packing Weight	Fig. No.
		Model	Ordering No.			
1*	50	CBU8050HK	RN115930	3	2.8	
	63	CBU8063HK	RN115940			
	80	CBU8080HK	RN115950			
	100	CBU8100HK	RN115960			
	125	CBU8125HK	RN115970			
	160	CBU8160HK	RN115980			
	200	CBU8200HK	RN115990			
	250	CBU8250HK	RN116000			
	315	CBU8315HK	RN116010			
	350	CBU8350HK	RN116020			
	400	CBU8400HK	RN116030			
1	160	CBU1016HK	RN116040	3	1.9	
	200	CBU1020HK	RN116050			
	250	CBU1025HK	RN116060			
	315	CBU1031HK	RN116070			
	350	CBU1035HK	RN116080			
	400	CBU1040HK	RN116090			
	450	CBU1045HK	RN116100			
	500	CBU1050HK	RN116110			
	550	CBU1055HK	RN116120			
	630	CBU1063HK	RN116130			
2	250	CBU2025HK	RN116140	3	2.5	【fig. -3D1B】
	280	CBU2028HK	RN116150			
	315	CBU2031HK	RN116160			
	350	CBU2035HK	RN116170			
	400	CBU2040HK	RN116180			
	450	CBU2045HK	RN116190			
	500	CBU2050HK	RN116200			
	550	CBU2055HK	RN116210			
	630	CBU2063HK	RN116220			
	700	CBU2070HK	RN116230			
	800	CBU2080HK	RN116240			
	900	CBU2090HK	RN116250			
	1000	CBU2100HK	RN116260			
3	315	CBU3031HK	RN116270	1	1.3	
	350	CBU3035HK	RN116280			
	400	CBU3040HK	RN116290			
	450	CBU3045HK	RN116300			
	500	CBU3050HK	RN116310			
	550	CBU3055HK	RN116320			
	630	CBU3063HK	RN116330			
	700	CBU3070HK	RN116340			
	800	CBU3080HK	RN116350			
	900	CBU3090HK	RN116360			
	1000	CBU3100HK	RN116370			
	1100	CBU3110HK	RN116380			
	1250	CBU3125HK	RN116390			
	1400	CBU3140HK	RN116400			


【Dimension Figure】 1250V DIN43653 size 1*/1/2/3 type 110/110T

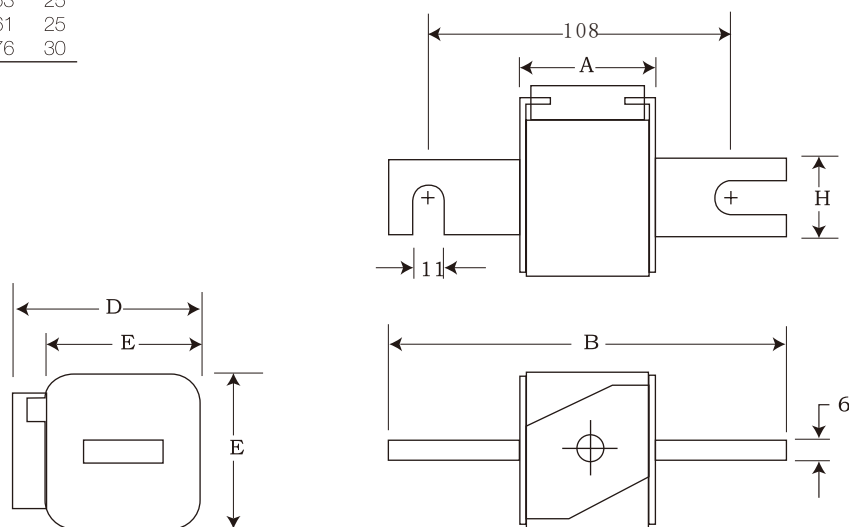
Size	A	B	D	E	H
1*	80	138	58	45	20
1	80	138	66	53	25
2	80	138	75	61	25
3	81	139	90	76	30

Unit:mm


【fig. -3D1A】 : 1250V DIN43653 size 1*/1/2/3 type 110/110T
【Dimension Figure】 1250V DIN43653 size 1*/1/2/3 type 110K

Size	A	B	D	E	H
1*	80	138	59	45	20
1	80	138	69	53	25
2	80	138	77	61	25
3	81	139	92	76	30

Unit:mm


【fig. -3D1B】 : 1250V DIN43653 size 1*/1/2/3 type 110K

【Selection Table】 1250V flush end size 1*/1/2/3 50-1400A

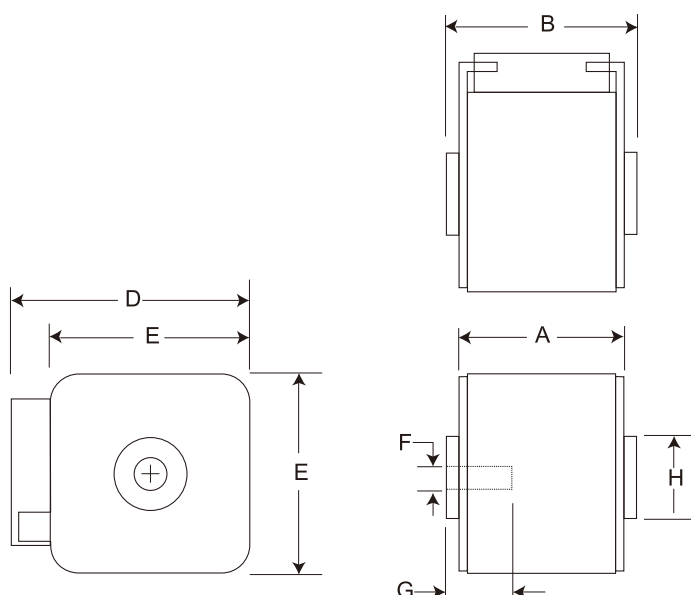
Size	Current	Type 75K with Microswitch		Type 80K with Microswitch		Type 90K with Microswitch		Min Packing Qty	Packing Weight	Fig. No.
		Model	Ordering No.	Model	Ordering No.	Model	Ordering No.			
1*	50	CBH8050CK	RN116410	CBH8050EK	RN116890	-	-	3	1.2	【fig. -3D2A】
	63	CBH8063CK	RN116420	CBH8063EK	RN116900	-	-			
	80	CBH8080CK	RN116430	CBH8080EK	RN116910	-	-			
	100	CBH8100CK	RN116440	CBH8100EK	RN116920	-	-			
	125	CBH8125CK	RN116450	CBH8125EK	RN116930	-	-			
	160	CBH8160CK	RN116460	CBH8160EK	RN116940	-	-			
	200	CBH8200CK	RN116470	CBH8200EK	RN116950	-	-			
	250	CBH8250CK	RN116480	CBH8250EK	RN116960	-	-			
	315	CBH8315CK	RN116490	CBH8315EK	RN116970	-	-			
	350	CBH8350CK	RN116500	CBH8350EK	RN116980	-	-			
	400	-	-	CBH8400EK	RN116990	-	-			
1	160	CBH1016CK	RN116520	CBH1016EK	RN117000	-	-	3	1.8	
	200	CBH1020CK	RN116530	CBH1020EK	RN117010	-	-			
	250	CBH1025CK	RN116540	CBH1025EK	RN117020	-	-			
	315	CBH1031CK	RN116550	CBH1031EK	RN117030	-	-			
	350	CBH1035CK	RN116560	CBH1035EK	RN117040	-	-			
	400	CBH1040CK	RN116570	CBH1040EK	RN117050	-	-			
	450	CBH1045CK	RN116580	CBH1045EK	RN117060	-	-			
	500	CBH1050CK	RN116590	CBH1050EK	RN117070	-	-			
	550	CBH1055CK	RN116600	CBH1055EK	RN117080	-	-			
	630	CBH1063CK	RN116610	CBH1063EK	RN117090	-	-			
2	250	CBH2025CK	RN116620	CBH2025EK	RN117100	-	-	3	2.7	
	280	CBH2028CK	RN116630	CBH2028EK	RN117110	-	-			
	315	CBH2031CK	RN116640	CBH2031EK	RN117120	-	-			
	350	CBH2035CK	RN116650	CBH2035EK	RN117130	-	-			
	400	CBH2040CK	RN116660	CBH2040EK	RN117140	-	-			
	450	CBH2045CK	RN116670	CBH2045EK	RN117150	-	-			
	500	CBH2050CK	RN116680	CBH2050EK	RN117160	CBH2050GK	RN117640			
	550	CBH2055CK	RN116690	CBH2055EK	RN117170	CBH2055GK	RN117650			
	630	CBH2063CK	RN116700	CBH2063EK	RN117180	CBH2063GK	RN117660			
	700	CBH2070CK	RN116710	CBH2070EK	RN117190	CBH2070GK	RN117670			
800	CBH2080CK	RN116720	CBH2080EK	RN117200	CBH2080GK	RN117680				
3	315	CBH3031CK	RN116750	CBH3031EK	RN117230	-	-	1	1.25	
	350	CBH3035CK	RN116760	CBH3035EK	RN117240	-	-			
	400	CBH3040CK	RN116770	CBH3040EK	RN117250	-	-			
	450	CBH3045CK	RN116780	CBH3045EK	RN117260	-	-			
	500	CBH3050CK	RN116790	CBH3050EK	RN117270	-	-			
	550	CBH3055CK	RN116800	CBH3055EK	RN117280	-	-			
	630	CBH3063CK	RN116810	CBH3063EK	RN117290	CBH3063GK	RN117770			
	700	CBH3070CK	RN116820	CBH3070EK	RN117300	CBH3070GK	RN117780			
	800	CBH3080CK	RN116830	CBH3080EK	RN117310	CBH3080GK	RN117790			
	900	CBH3090CK	RN116840	CBH3090EK	RN117320	CBH3090GK	RN117800			
	1000	CBH3100CK	RN116850	CBH3100EK	RN117330	CBH3100GK	RN117810			
	1100	CBH3110CK	RN116860	CBH3110EK	RN117340	CBH3110GK	RN117820			
	1250	-	-	-	-	CBH3125GK	RN117830			
	1400	-	-	-	-	CBH3140GK	RN117840			



【Dimension Figure】 1250V flush end size 1*/1/2/3 type 75K/80K/90K

Size	Type	A	B	D	E	F	G	H
1*	75K	74	75	59	45	M8	5	Ø 17
1*	80K	80	81	59	45	M8	5	Ø 17
1	75K	74	75	69	53	M8	8	Ø 20
1	80K	80	81	69	53	M8	8	Ø 20
2	75K	74	75	77	61	M10	10	Ø 24
2	80K	80	81	77	61	M10	10	Ø 24
2	90K	80	91	77	61	M10	10	Ø 24
3	75K	74	76	92	76	M12	10	Ø 30
3	80K	81	83	92	76	M12	10	Ø 30
3	90K	81	91	92	76	M12	10	Ø 30

Unit:mm



【fig. -3D2A】 : 1250V flush end size 1*/1/2/3 type 75K/80K/90K

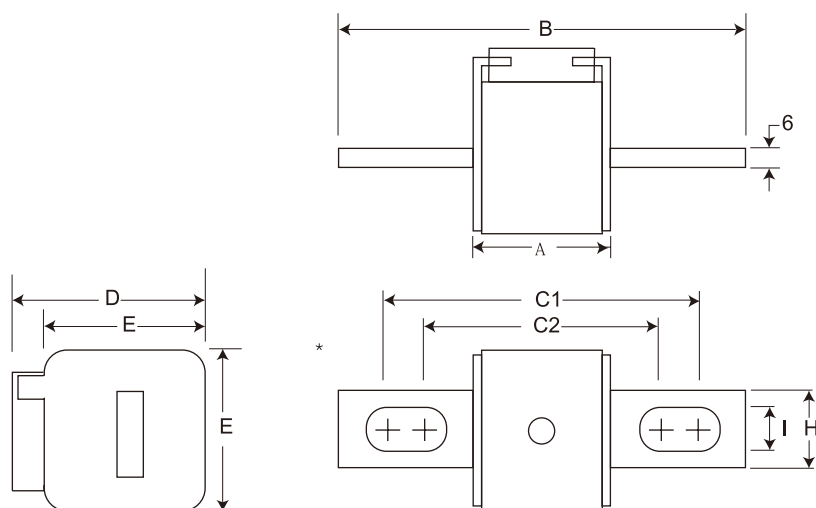
【Selection Table】 1250V US style size 1*/1/2/3 50-1400A

Size	Current	Type 115N without Indicator		Type 115K with Microswitch		Min Packing Qty	Packing Weight	Fig. No.
		Model	Ordering No.	Model	Ordering No.			
1*	50	CBE8050JN	RN117850	CBE8050JK	RN118330	1	0.43	
	63	CBE8063JN	RN117860	CBE8063JK	RN118340			
	80	CBE8080JN	RN117870	CBE8080JK	RN118350			
	100	CBE8100JN	RN117880	CBE8100JK	RN118360			
	125	CBE8125JN	RN117890	CBE8125JK	RN118370			
	160	CBE8160JN	RN117900	CBE8160JK	RN118380			
	200	CBE8200JN	RN117910	CBE8200JK	RN118390			
	250	CBE8250JN	RN117920	CBE8250JK	RN118400			
	315	CBE8315JN	RN117930	CBE8315JK	RN118410			
	350	CBE8350JN	RN117940	CBE8350JK	RN118420			
	400	CBE8400JN	RN117950	CBE8400JK	RN118430			
1	160	CBE1016JN	RN117960	CBE1016JK	RN118440	1	0.7	
	200	CBE1020JN	RN117970	CBE1020JK	RN118450			
	250	CBE1025JN	RN117980	CBE1025JK	RN118460			
	315	CBE1031JN	RN117990	CBE1031JK	RN118470			
	350	CBE1035JN	RN118000	CBE1035JK	RN118480			
	400	CBE1040JN	RN118010	CBE1040JK	RN118490			
	450	CBE1045JN	RN118020	CBE1045JK	RN118500			
	500	CBE1050JN	RN118030	CBE1050JK	RN118510			
	550	CBE1055JN	RN118040	CBE1055JK	RN118520			
	630	CBE1063JN	RN118050	CBE1063JK	RN118530			
2	250	CBE2025JN	RN118060	CBE2025JK	RN118540	1	0.8	【fig. -3D2A】
	280	CBE2028JN	RN118070	CBE2028JK	RN118550			
	315	CBE2031JN	RN118080	CBE2031JK	RN118560			
	350	CBE2035JN	RN118090	CBE2035JK	RN118570			
	400	CBE2040JN	RN118100	CBE2040JK	RN118580			
	450	CBE2045JN	RN118110	CBE2045JK	RN118590			
	500	CBE2050JN	RN118120	CBE2050JK	RN118600			
	550	CBE2055JN	RN118130	CBE2055JK	RN118610			
	630	CBE2063JN	RN118140	CBE2063JK	RN118620			
	700	CBE2070JN	RN118150	CBE2070JK	RN118630			
	800	CBE2080JN	RN118160	CBE2080JK	RN118640			
	900	CBE2090JN	RN118170	CBE2090JK	RN118650			
	1000	CBE2100JN	RN118180	CBE2100JK	RN118660			
3	315	CBE3031JN	RN118190	CBE3031JK	RN118670	1	1.25	
	350	CBE3035JN	RN118200	CBE3035JK	RN118680			
	400	CBE3040JN	RN118210	CBE3040JK	RN118690			
	450	CBE3045JN	RN118220	CBE3045JK	RN118700			
	500	CBE3050JN	RN118230	CBE3050JK	RN118710			
	550	CBE3055JN	RN118240	CBE3055JK	RN118720			
	630	CBE3063JN	RN118250	CBE3063JK	RN118730			
	700	CBE3070JN	RN118260	CBE3070JK	RN118740			
	800	CBE3080JN	RN118270	CBE3080JK	RN118750			
	900	CBE3090JN	RN118280	CBE3090JK	RN118760			
	1000	CBE3100JN	RN118290	CBE3100JK	RN118770			
	1100	CBE3110JN	RN118300	CBE3110JK	RN118780			
	1250	CBE3125JN	RN118310	CBE3125JK	RN118790			
	1400	CBE3140JN	RN118320	CBE3140JK	RN118800			


【Dimension Figure】 1250V US style size 1*/1/2/3 type 115N/115K

Size	B	C1	C2	D	E	H	I
1*	156	130	101	59	45	20	10
1	160	127	102	69	53	25	14
2	160	127	102	77	61	25	14
3	159	128	101	92	76	36	16

Unit:mm


【fig. -3D3A】 : 1250V US type size 1*/1/2/3 type 115N/115K

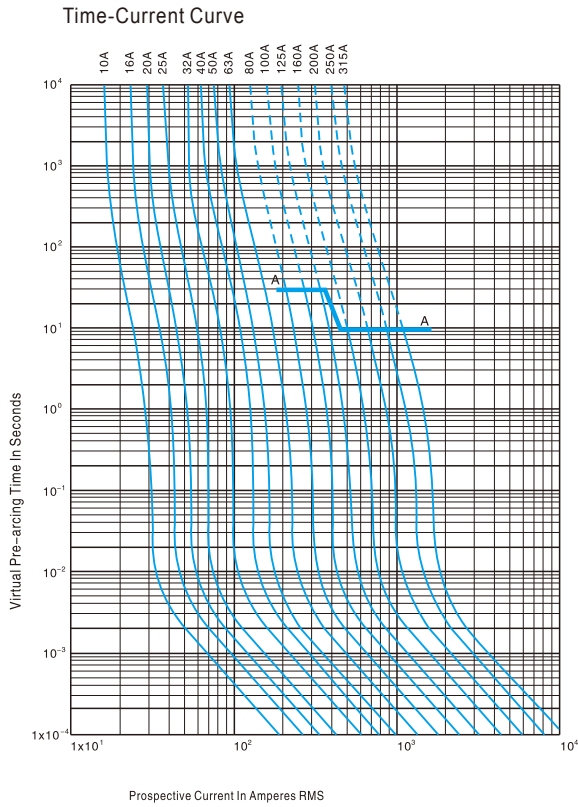
Auxiliary Contact:

【Selection Table】 250V type T-K 2A

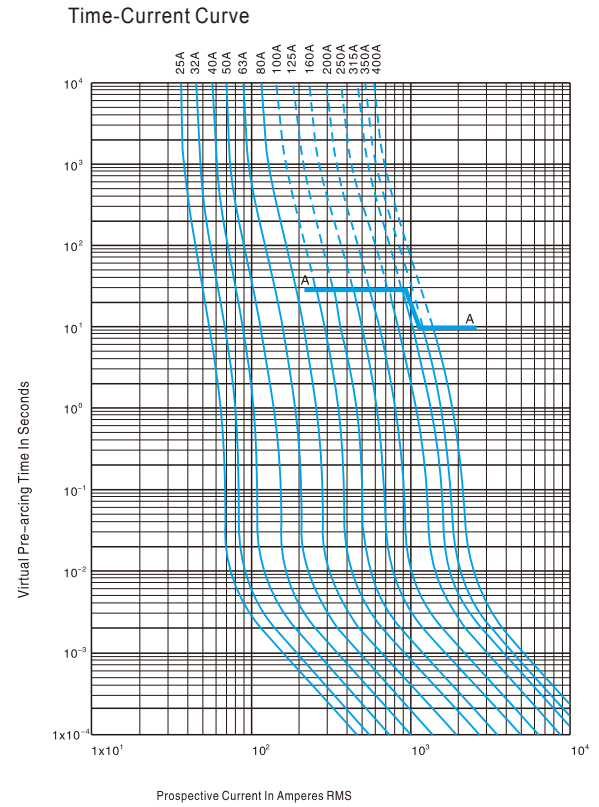
Voltage	Current	Model	Ordering No.	Matched Size	Type	Min Packing Qty	Packing Weight
250	2	IT35	RN110080	00,1*,1,2,3	T	3	0.7
250	2	IT36	RN110090	000	T		
250	2	IK69	RN110100	1*,1,2,3,4	K		

【Curve Chart】

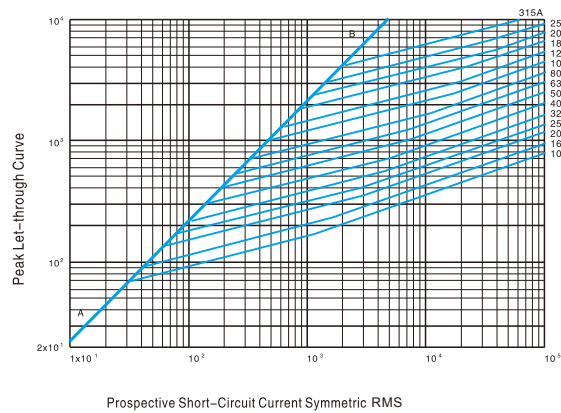
【Curve-321】: Size000 690V 10-315A



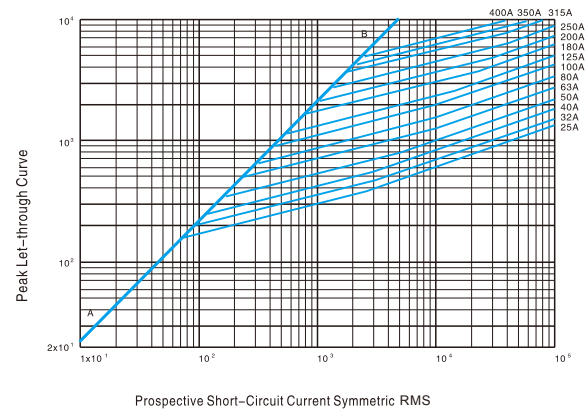
【Curve-322】: Size00 690V 25-400A



Peak Let-through Curve



Peak Let-through Curve

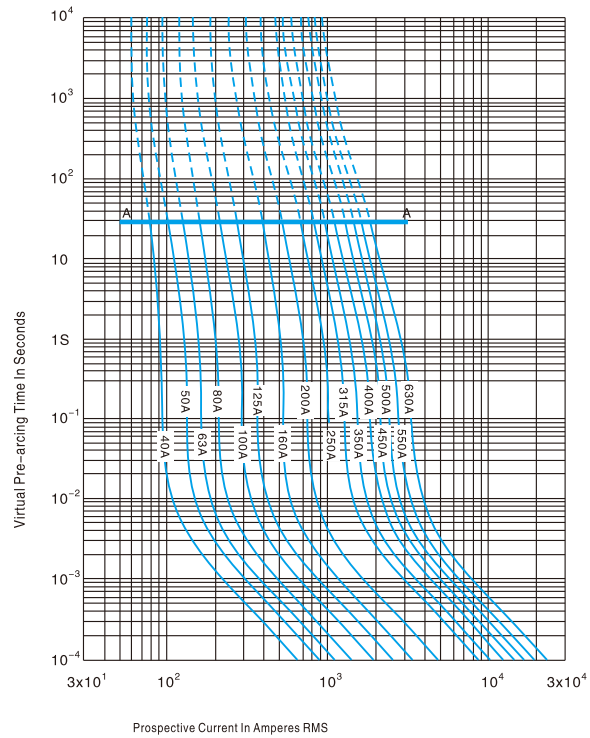




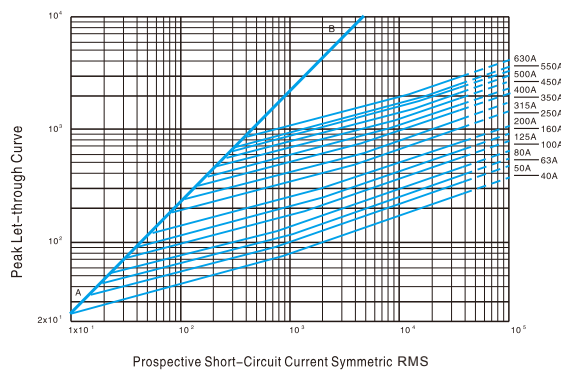
【Curve Chart】

【Curve-323】: Size1* 690V 40-630A

Time-Current Curve

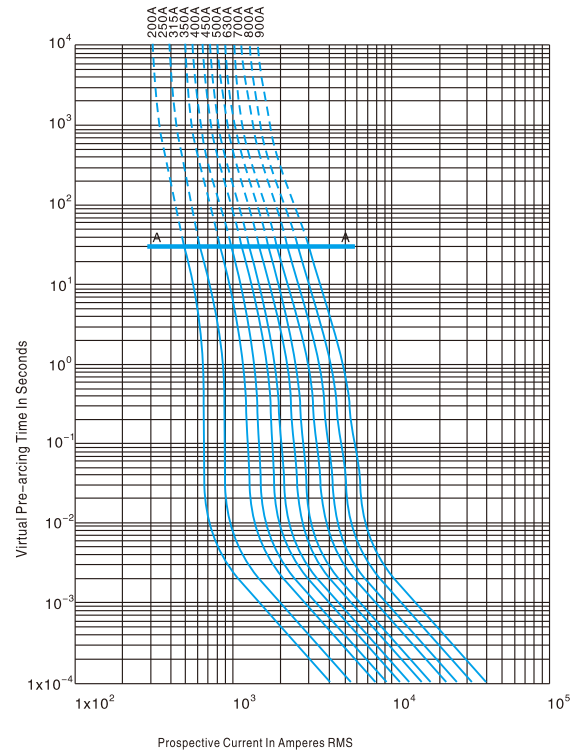


Peak Let-through Curve

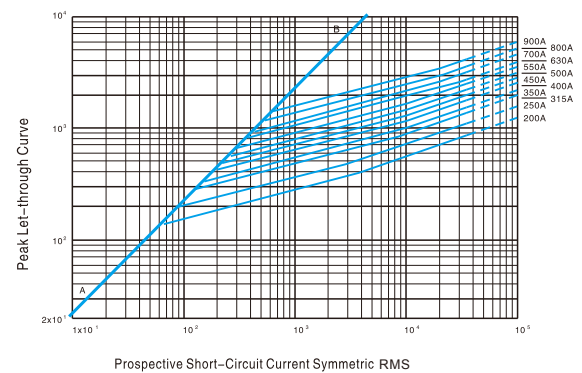


【Curve-324】: Size1 690V 200-900A

Time-Current Curve



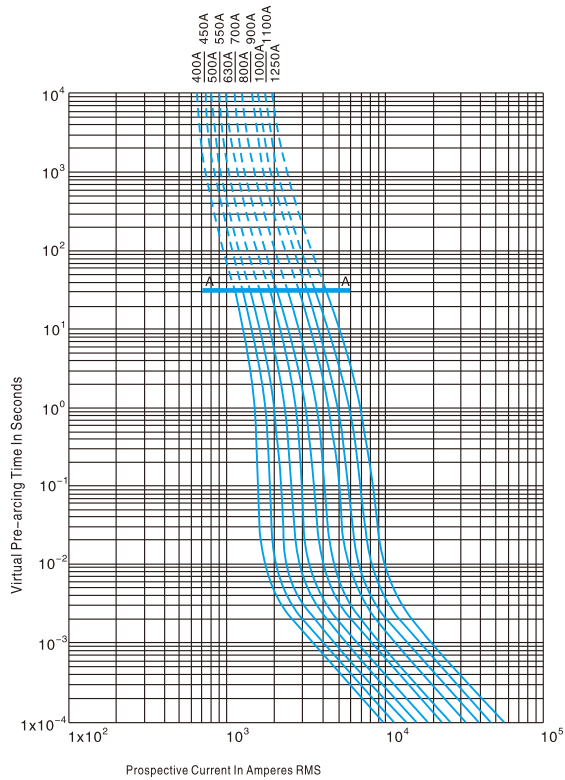
Peak Let-through Curve



【Curve Chart】

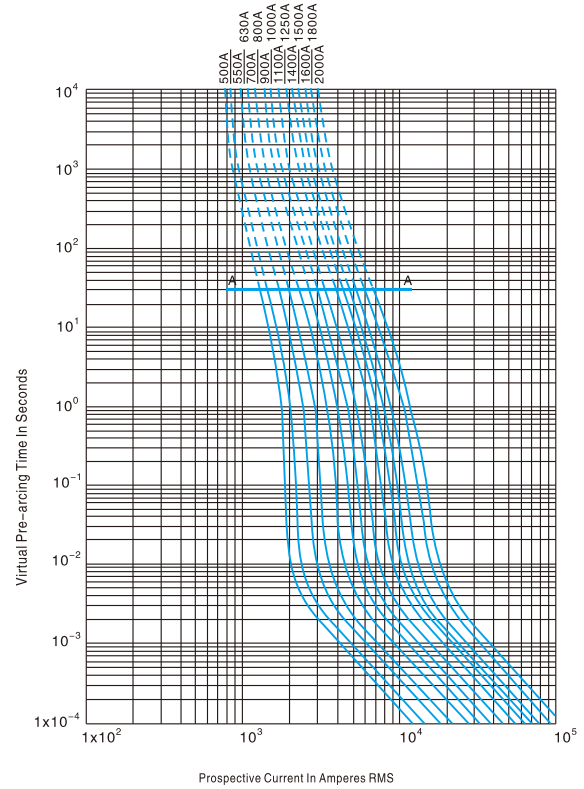
【Curve-325】: Size2 690V 400-1250A

Time-Current Curve

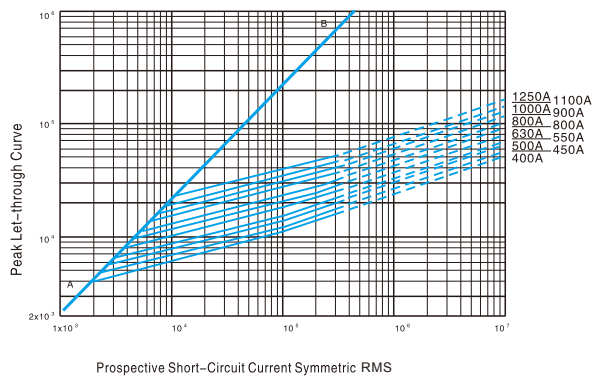


【Curve-326】: Size3 690V 500-2000A

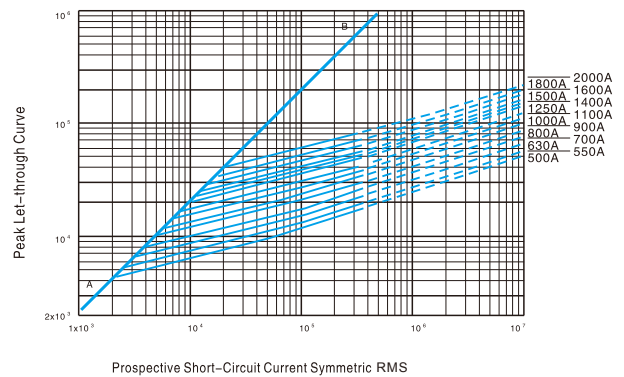
Time-Current Curve

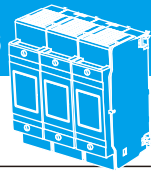


Peak Let-through Curve



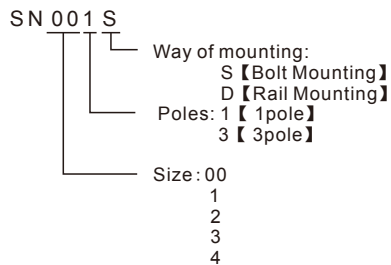
Peak Let-through Curve





Bases: Square Body Fuse Base

Product Model: Coding Illustration as follows



Rated Voltage: AC 690V/1000V/1250V

Rated Current: 160-1250A

Applied Size: 000/00/1/2/3/4

Way of Mounting: Bolt. Rail

Applied Series: NH Series, Square body blade type high speed series

Standards that conformed: IEC60269-1-2

VDE0636-1-2

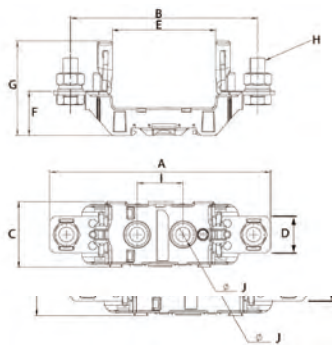
DIN43620

【Selection Table】 Bases for NH Fuses and DIN43620 Blade Type Fuse

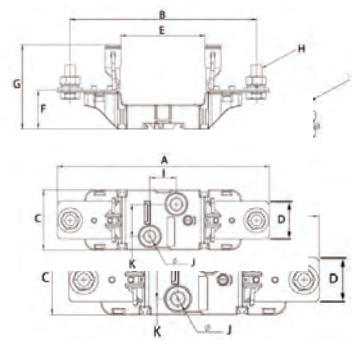
Size	Current	Pole	Bolt Mounting		Rail Mounting		Fig. No.
			Model	Ordering No.	Model	Ordering No.	
000/00	160	1	SN001S	RN119360	SN001D	RN119510	【fig. -4A1A】
	160	3	SN003S	RN119380	SN003D	RN119530	
1	250	1	SN11S	RN119390			【fig. -4A1B】
	250	3	SN13S	RN119410			
2	400	1	SN21S	RN119420			
	400	3	SN23S	RN119440			
3	630	1	SN31S	RN119450			【fig. -4A1C】
	630	3	SN33S	RN119470			
4	1250	1	SN41S	RN119480			【fig. -4A1C】

【Dimension Figure】

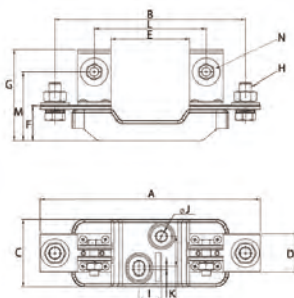
Size	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Fig.No.
SN001S	A20±1	A01.6±1.5	A5.5±0.5	A0	A6±2	A4	A1±1	A8×20	A5	A					【fig. -4A1A】
SN11S	A99±1	A75±1.5	A6±1	A5	A9±1.5	A7	A8.93±1	A10×25	A5	A0	A0				【fig. -4A1B】
SN21S	A24±1	A99±1.5	A6±1	A5	A9±1.5	A7.5	A7.5±1	A10×25	A5	A0	A0				
SN31S	A39±1	A09±1.5	A6±1	A6	A2±1.5	A7.5	A8±1	A12×30	A5	A0	A0				
SN41S	A95±1	A55±2	A0±1	A2	A05±1.5	A7	A21.7	A16×40	A0	A4	A0	A50±1.5	A2	A12×40	【fig. -4A1C】



【fig. -4A1A】



【fig. -4A1B】



【fig. -4A1C】

For detailed data, please contact with CFriend Electric or local dealer

Bases: Cylindrical Fuse Base

SP Series-10x38mm PCB Clip for Cylindrical Fuse use

Product Model:SP101/SP102

Rated Voltage: DC 1000V

Rated Current: 32A

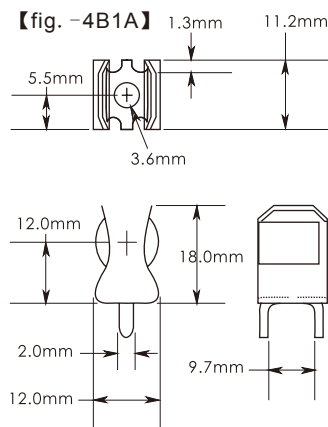
Applied Size:10X38mm

Way of Mounting: PCB

Applied Series: Solar PV series, Cylindrical R Series



Size	Pole	Model	Ordering No.	Material	Fig. No.
10x38	1	SP101	RN119340	phosphor bronze	【fig. -4B1A】
	1	SP102	RN119350	beryllium bronze	



SC Series- Cylindrical Closed Base



Size	Pole	Without Indicator Light		With Indicator Light		Solar PV		Fig. No.
		Model	Ordering No.	Model	Ordering No.	Model	Ordering No.	
10x38	1	SC101D	RN119660	SC101DI	RN119690	SC101PV	RN119640	【fig. -4B2A】
	2	SC102D	RN119670	SC102DI	RN119700	SC102PV	RN119650	
	3	SC103D	RN119680	SC103DI	RN119710			
14x51	1	SC141D	RN119720	SC141DI	RN119750	SC141PV	RN119620	【fig. -4B2B】
	2	SC142D	RN119730	SC142DI	RN119760	SC142PV	RN119630	
	3	SC143D	RN119740	SC143DI	RN119770			
22x58	1	SC221D	RN119780	SC221DI	RN119810			【fig. -4B2C】
	2	SC222D	RN119790	SC222DI	RN119820			
	3	SC223D	RN119800	SC223DI	RN119830			
27x60	1	SC271D	RN119840	SC271DI	RN119870			Please contact with CFriend
	2	SC272D	RN119850	SC272DI	RN119880			
	3	SC273D	RN119860	SC273DI	RN119890			

Product Model: Coding Illustration as follows

SC101DI
 Function of indicating:
 No 【without indicating】 I 【with indicating】
 Way of mounting:
 D 【Rail Mounting】 PV 【for PV use】
 Poles: 1 【1pole】 2 【2pole】 3 【3pole】
 Size: 10 【10x38】 14 【14x51】
 22 【22x58】 27 【27x60】

Rated Voltage: IEC690V

Rated Current: 32A/63A/125A

Applied Size: 10X38/14X51/22X58/27X60mm

Way of Mounting: Rail (35mm)

Applied Series: Cylindrical R Series

Standards that conformed: IEC60269-2-1

UL4248-18

IEC60947-3

Temperature Range: Without Indicating -30℃~130℃

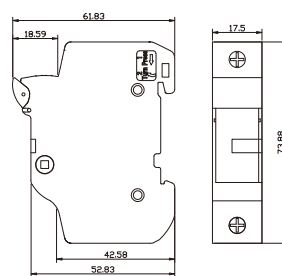
With Indicating -30℃~100℃

Product Characteristics: Flame Resistant Material

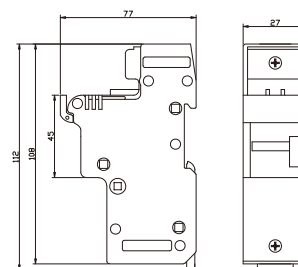
Finger Safe Protection

Special Design, Low Temperature Rise

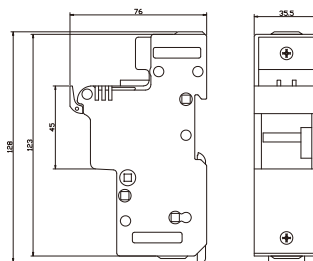
Compact Structure, Easy to Install



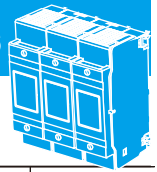
【fig. -4B2A】



【fig. -4B2B】

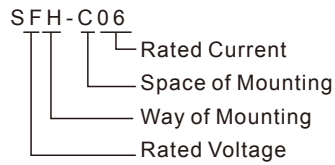


【fig. -4B2C】



Bases for DIN43653/Flush End/French Type/US Type Fuses

Product Model:



* Please refer to page 31 for coding rules 【Model Coding Rules】

Rated Voltage: AC690V/1000V/1300V

Rated Current: 400A-2000A

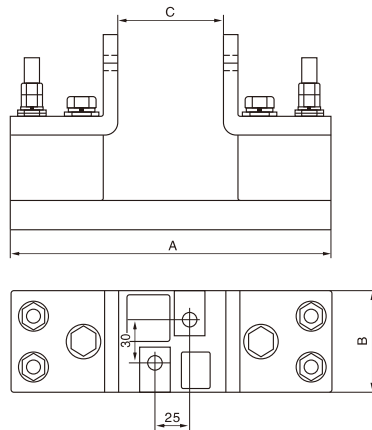
Applied Size: 000/001/2/3/4

Way of Mounting: Bolt

Applied Series: Square Body High Speed Fuses

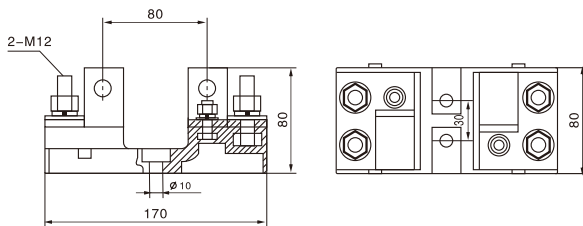
Standards that conformed: IEC60269-1-2 VDE0636-1-2

Mounting Application	Space of Mounting	Applied Voltage	Rated Current	Model	Ordering No.	Fig. No.
Flush End	51	690V	630A	SFH-A06	RN119900	【fig. -4C1A】
	51	690V	2000A	SFH-A20	RN119910	
	75	690V	630A	SFH-C06	RN119920	
	75	1000V	2000A	SRH-C20	RN119930	
	80	1000V	630A	SRH-E06	RN119940	
	80	1000V	2000A	SRH-E20	RN119950	
	90	1300V	630A	SBH-G06	RN119960	
	90	1300V	2000A	SBH-G20	RN119970	
DIN43653 French Style, US Style	80	690V	2000A	SFU-E20	RN119980	【fig. -4C1B】
	110	1300V	1400A	SBU-H14	RN119990	【fig. -4C1C】
Stool Style	80	1000V	400A	SRL-E04	RN120000	【fig. -4C1D】
DIN43653 French Style, US Style	Customized	1000V	630A	SRU-X06	RN120010	【fig. -4C1E】
		1000V	1400A	SRU-X14	RN120020	

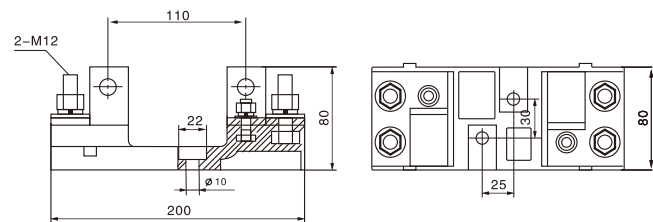


【fig. -4C1A】

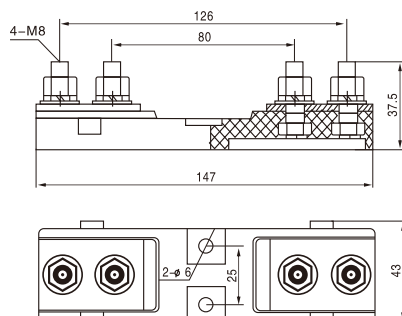
Model	Size	
	A	K
SFH-A06	50	51
SFH-A20	75	51
SFH-C06	50	75
SRH-C20	75	75
SRH-E06	50	80
SRH-E20	75	80
SBH-G06	50	90
SBH-G20	75	90



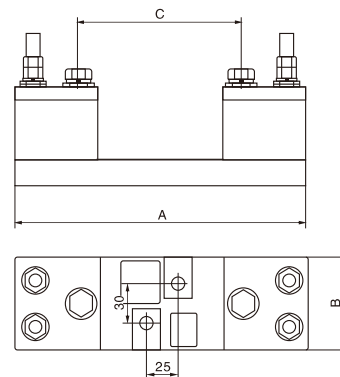
【fig. -4C1B】



【fig. -4C1C】



【fig. -4C1D】



【fig. -4C1E】

American Standard Bases

Model Illustration: BDX-XXX

Current
P: Matched with FDP Fuses
H: Matched with FDH Fuses
American Standard Bases

Product Characteristics:

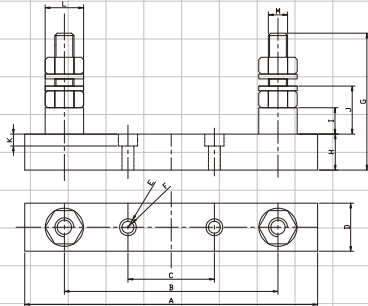
- ▶ Standard that conformed: IEC60269-1-2
- ▶ Easy to install, Space saved
- ▶ Environmental protection material

【Selection Table】 American Standard Bases

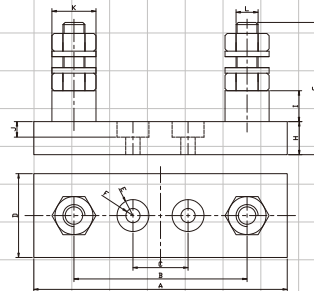
Model	Ordering No.	Voltage	Current	A	B	C	D	E	F	G	H	I	J	K	L	M	Fig. No.
BDP-030	RN121695	AC00V	30														【fig. -4D1A】
BDP-060	RN121700	AC00V	30	A22	A9±0.5	A6	A0	R4	R2.5	A7	A5	A1	A0	A	.16	M8	
BDP-100	RN121710	AC00V	100	A23	A1±0.5	A8	A5	R7.5	R4.5	A4.5	A0	A3.5	A0	A	16	M8	
BDP-200	RN121720	AC00V	200	A40	A8±0.5	A0	A8	R7.5	R4.5	A0	A0	A8.5	A0	A	20	M10	
BDP-400	RN121730	AC00V	400	A40	A00±0.5	A0	A1	R7.5	R4.5	A5	A0	A5	A0	A	20	M10	
BDP-600	RN121740	AC00V	600	A91	A26±0.5	A0	A3	R7.5	R4.5	A8	A0	A7	A0	A	20	M12	
BDH-060	RN121650	AC00V	30	A1	A1±1	A2.5	A0	R7	R4.5	A5	A5	A1	A0	16	M8		【fig. -4D1B】
BDH-100	RN121660	AC00V	100	A02	A1.5±1	A9	A5	R7	R4.5	A5	A5	A5	A0	16	M8		
BDH-200	RN121670	AC00V	200	A02	A1.5±1	A9	A0	R7	R4.5	A9	A5	A4	A0	16	M8		
BDH-400	RN121680	AC00V	400	A15	A8.5±1	A5	A8	R7	R4.5	A0	A5	A4	A0	20	M10		
BDH-600	RN121690	AC00V	600	A20	A0.5±1	A0	A1	R8.5	R5.5	A5	A0	A5	A0	20	M10		
ST5268-1	RN121750	AC00V	200	A3.9	M8												【fig. -4D1C】
ST5268-2	RN121760	AC00V	200	A2.9	M8												
ST5268-3	RN121770	AC00V	200	A7.5	M8												
ST5268-4	RN121780	AC00V	400	A3.9	M6												
ST5268-5	RN121790	AC00V	400	A2.9	M6												

* For data of BDP-30, please contact with CFriend Electric or local dealer

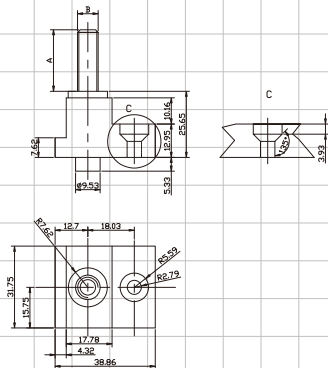
Dimension:



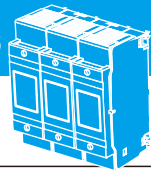
【fig. -4D1A】 BDP Bases 30-600A



【fig. -4D1B】 BDH Bases 60-600A



【fig. -4D1C】 ST5268 Bases 100-200A for dimension, please refer to the selection table



Isolated Switches for NH Fuses and DIN43620 Blade Type Fuses



Product Model: JFH003-100



Rated Voltage: AC690V

Rated Current: 100A-630A

Applied Size: 000/00/1/2/3/4

Way of Wire Connecting: Horizontal

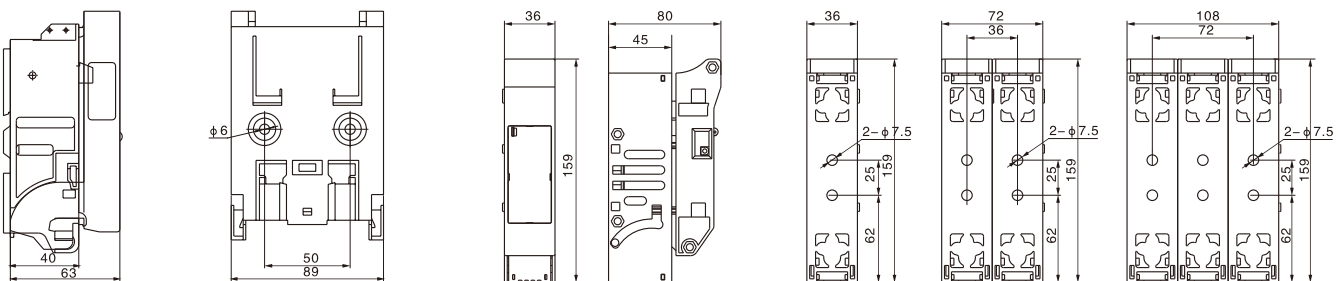
Applied Series: NH series, Square body high speed series

Standards that conformed: IEC60269-1-2 VDE0636-1-2

Protection Grade: IP20

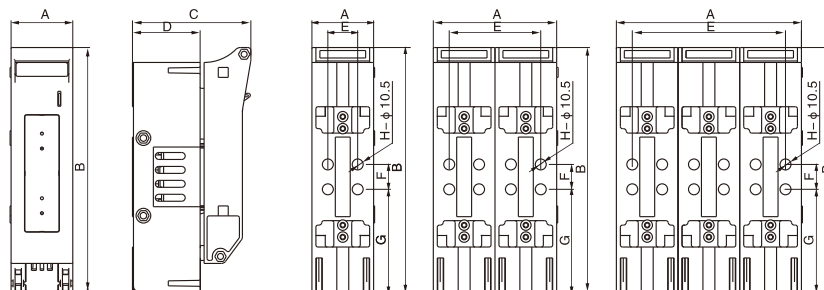
Model	Current	Model	Ordering No.	Size								Fig. No.
				A	B	C	D	E	F	G	H	
00	100	JFH001-100	RN120030									【fig. -4E1A】 【fig. -4E1B】
	100	JFH002-100	RN120040									
	100	JFH003-100	RN120050									
	160	JFH001-160	RN120060									
	160	JFH002-160	RN120070									
	160	JFH003-160	RN120080									
1	250	JFH11-250	RN120090	62	245	118	67	30	25	102.5	4	【fig. -4E1C】
	250	JFH12-250	RN120100	124	245	118	67	92	25	102.5	8	
	250	JFH13-250	RN120110	186	245	118	67	154	25	102.5	12	
2	400	JFH21-400	RN120120	70	272	133	81	30	25	115.5	4	
	400	JFH22-400	RN120130	140	272	133	81	100	25	115.5	8	
	400	JFH23-400	RN120140	210	272	133	81	170	25	115.5	12	
3	630	JFH31-630	RN120150	85	285	147	96	30	25	122.5	4	
	630	JFH32-630	RN120160	170	285	147	96	115	25	122.5	8	
	630	JFH33-630	RN120170	255	285	147	96	200	25	122.5	12	

* For products of four poles, please contact with CFriend Electric or local dealer



【fig. -4E1A】 Size00 100A

【fig. -4E1B】 Size00 160A



For dimension, please refer to the selection table

【fig. -4E1B】 Size1-3 250-630A

For detailed data, please contact with CFriend Electric or local dealer

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Dealer information