

Sensors for object detection

Series SK1 0600/0650

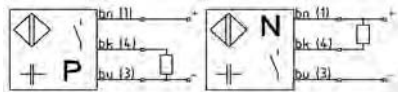
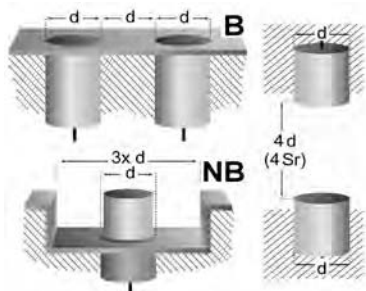
- Model with output stage from $\varnothing$ -6.5 mm
- Sensing distance adjustable
- Flush mounting
- Connecting lead or plug connector





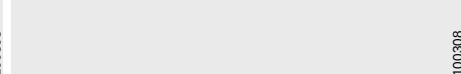
Type code (abstract)

SK	sensor capacitive, w/o amplifier
SKF	sensor cap., w/o amplifier, flexible
SK1	sensor capacitive, self-contained
SV(D)	sensor amplifier (dynamic)
SNG	sensor power pack
HT##	high temperature use
TM	pulse modulation technique (High noise immune)
## / FS(A)	max sensing distance / Fill-level switch (adaptive)
M30	model and/or dimension
P	output stage PNP, NPN, X (switchable)
B	mounting B=flush NB=non-flush
S	S=N.O. Ö=N.C. X=function switchable
(C)PTFE	Housing material, e.g. PTFE CPTFE=complete PTFE
1M2-Y2	cable & connector: Y# = connector 1M2 = 1.2m cable length



Typ / Type

SK1-1.5-6.5-PBS-VA/PTFE
SK1-1.5-6.5-PBO-VA/PTFE
SK1-1.5-6.5-NBS-VA/PTFE
SK1-1.5-6.5-NBO-VA/PTFE

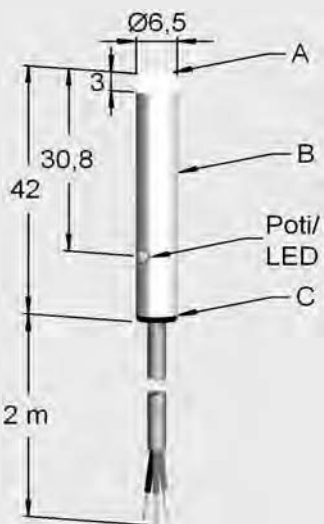


Typ / Type

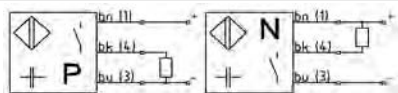
SK1-1.5-6.5-PBS-VA/PTFE-Y1
SK1-1.5-6.5-PBO-VA/PTFE-Y1
SK1-1.5-6.5-NBS-VA/PTFE-Y1
SK1-1.5-6.5-NBO-VA/PTFE-Y1

Mounting [flush / nonflush]		[B / NB]	B	B
Operating distance	Sn	[mm]	0,1...1,5	0,1...1,5
Hysteresis	H	[%SR]	15	15
Frequency of operating cycles	f	[Hz]	100	100
Repeat accuracy	R	[%SR]	2	2
Operating temperature range	Ta	[C°]	-10... 70	-10... 70
Temperature drift [range]		[%SR]	15 [-5... 55]	15 [-5... 55]
Protection class			IP 65	IP 65
Rated insulation voltage	Ui	[V]	75 d. c.	75 d. c.
Material of housing			A: PTFE; B: V2A; C: POM	A: PTFE; B: V2A; C: PA
Utilisation category				
Connection			2m / 3x 0,14mm ² PUR	Z10; Z11
Supply voltage range UB	Ub	[V]	11...30	11...30
No-load supply current	Iomax.	[mA]	10	10
Minimum operational current	Im	[mA]		
Operational current	Ie	[mA]	50	50
Off-state current	Ir	[mA]		
Voltage drop	Ud @ Ie	[V]	2	2
Time delay before availability	tv	[ms]		
Indicator [UB / Output]			- / •	- / •
Short circuit- overload-protection			• / •	• / •
Reverse polarity protection			•	•
Conformity	EMC EEC-direct.		IEC 60947-5-2 : 2004	IEC 60947-5-2 : 2004
EMC			IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.5-0.8 Mhz.	IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.5-0.8 Mhz.
Associated equipment				SNG-###AC...
Additional functionality				
Application				

0,1...3  **6,5Ø**



100308



Typ / Type

SK1-3-6.5-PNBS-VA/PTFE
SK1-3-6.5-PNBO-VA/PTFE
SK1-3-6.5-NNBS-VA/PTFE
SK1-3-6.5-NNBO-VA/PTFE

NB

0,1...3

15

100

2

-10... 70

15 [-5... 55]

IP 65

75 d. c.

A: PTFE; B: V2A; C: POM

2m / 3x 0,14mm² PUR

11...30

10

50

2

- / •

• / •

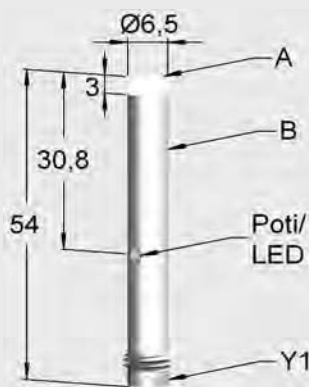
•

IEC 60947-5-2 : 2004

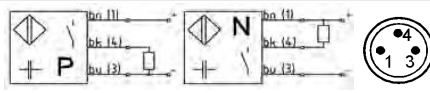


IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.3-1.1 Mhz. SNG-###AC...

0,1...3  **6,5Ø**



100308



Typ / Type

SK1-3-6.5-PNBS-VA/PTFE-Y1
SK1-3-6.5-PNBO-VA/PTFE-Y1
SK1-3-6.5-NNBS-VA/PTFE-Y1
SK1-3-6.5-NNBO-VA/PTFE-Y1

NB

0,1...3

15

100

2

-10... 70

15 [-5... 55]

IP 65

75 d. c.

A: PTFE; B: V2A; C: PA

DC13

Z10; Z11

11...30

10

50

2

- / •

• / •

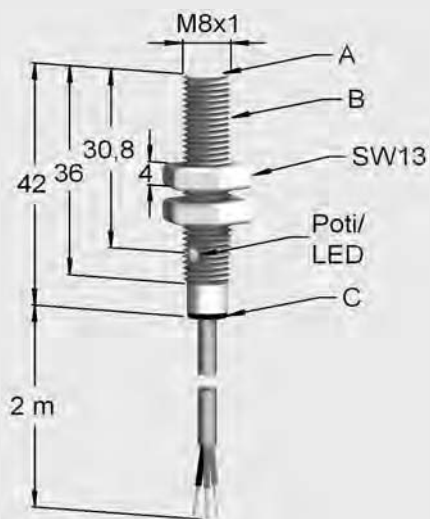
•

IEC 60947-5-2 : 2004

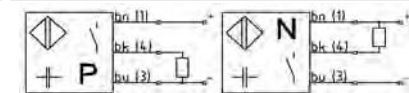
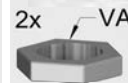


IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.3-1.1 Mhz. SNG-###AC...

0,1...1,5  **M8**



100308



Typ / Type

SK1-1.5-M8-PBS-VA/PTFE
SK1-1.5-M8-PBO-VA/PTFE
SK1-1.5-M8-NBS-VA/PTFE
SK1-1.5-M8-NBO-VA/PTFE

B

0,1...1,5

15

100

2

-10... 70

15 [-5... 55]

IP 65

75 d. c.

A: PTFE; B: V2A; C: POM

DC13

2m / 3x 0,14mm² PUR

PUR

11...30

10

50

2

- / •

• / •

•

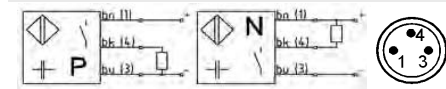
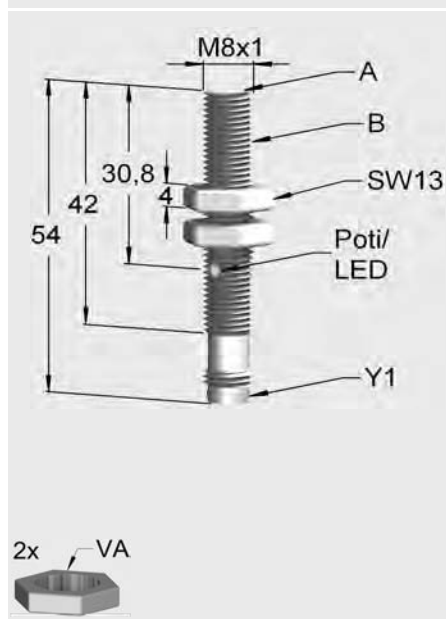
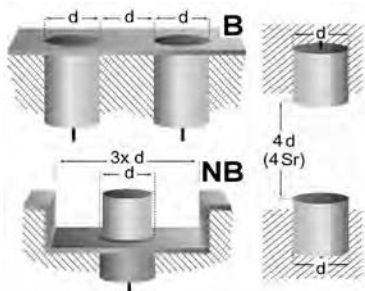
IEC 60947-5-2 : 2004



IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.5-0.8 Mhz. SNG-###AC...

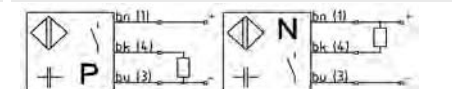
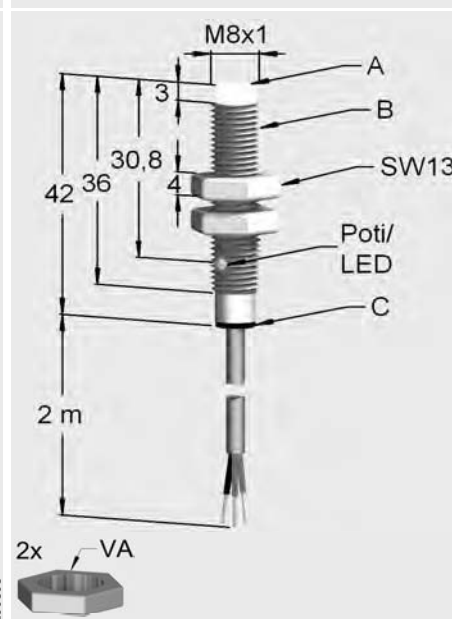
Type code (abstract)

SK	sensor capacitive, w/o amplifier
SKF	sensor cap., w/o amplifier, flexible
SK1	sensor capacitive, self-contained
SV(D)	sensor amplifier (dynamic)
SNG	sensor power pack
HT###	high temperature use
TM	pulse modulation technique (High noise immune)
## / FS(A)	max sensing distance / Fill-level switch (adaptive)
M30	model and/or dimension
P	output stage PNP, NPN, X (switchable)
B	mounting B=flush NB=non-flush
S	S=N.O. Ö=N.C. X=function switchable
(C)PTFE	Housing material, e.g. PTFE CPTFE=complete PTFE
1M2-Y2	cable & connector: Y# = connector 1M2 = 1.2m cable length



Typ / Type

SK1-1.5-M8-PBS-VA/PTFE-Y1
SK1-1.5-M8-PBO-VA/PTFE-Y1
SK1-1.5-M8-NBS-VA/PTFE-Y1
SK1-1.5-M8-NBO-VA/PTFE-Y1

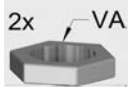
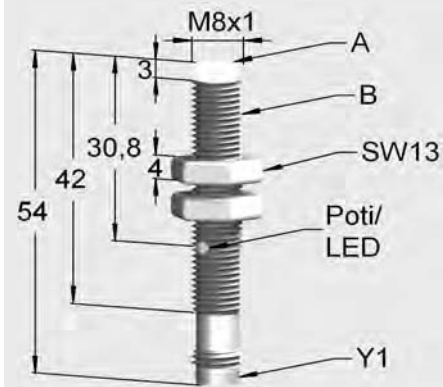


Typ / Type

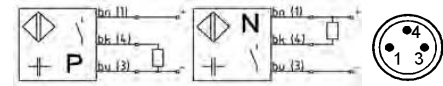
SK1-3-M8-PNBS-VA/PTFE
SK1-3-M8-PNBO-VA/PTFE
SK1-3-M8-NNBS-VA/PTFE
SK1-3-M8-NNBO-VA/PTFE

Mounting [flush / nonflush]		[B / NB]	B	NB
Operating distance	Sn	[mm]	0,1...1,5	0,1...3
Hysteresis	H	[%SR]	15	15
Frequency of operating cycles	f	[Hz]	100	100
Repeat accuracy	R	[%SR]	2	2
Operating temperature range	Ta	[C°]	-10... 70	-10... 70
Temperature drift [range]		[%SR]	15 [-5... 55]	15 [-5... 55]
Protection class			IP 65	IP 65
Rated insulation voltage	Ui	[V]	75 d. c.	75 d. c.
Material of housing			A: PTFE; B: V2A	A: PTFE; B: V2A; C: POM
Utilisation category			DC13	DC13
Connection			Z10; Z11	2m / 3x 0,14mm² PUR
Supply voltage range UB	Ub	[V]	11...30	11...30
No-load supply current	Iomax.	[mA]	10	10
Minimum operational current	Im	[mA]		
Operational current	Ie	[mA]	50	50
Off-state current	Ir	[mA]		
Voltage drop	Ud @ Ie	[V]	2	2
Time delay before availability	tv	[ms]		
Indicator [UB / Output]			- / •	- / •
Short circuit- overload-protection			• / •	• / •
Reverse polarity protection			•	•
Conformity	EMC EEC-direct.		IEC 60947-5-2 : 2004	IEC 60947-5-2 : 2004
EMC			IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.5-0.8 Mhz.	IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.25-1.1 Mhz.
Associated equipment			SNG-###AC...	SNG-###AC...
Additional functionality				
Application				

0,1...3

**M8**

100308

**Typ / Type**

SK1-3-M8-PNBS-VA/PTFE-Y1
 SK1-3-M8-PNBO-VA/PTFE-Y1
 SK1-3-M8-NNBS-VA/PTFE-Y1
 SK1-3-M8-NNBO-VA/PTFE-Y1

NB

0,1...3

15

100

2

-10... 70

15 [-5... 55]

IP 65

75 d. c.

A: PTFE; B: V2A

DC13

Z10; Z11



11...30

10

50

2

- / •

• / •

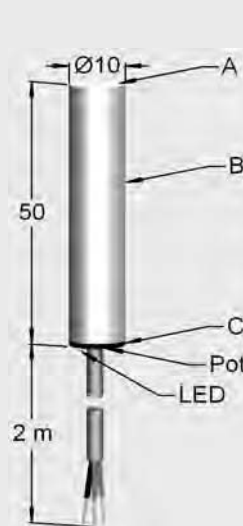
•

IEC 60947-5-2 : 2004

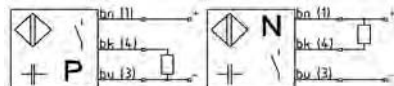


IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.25-1.1 Mhz. SNG-###AC...

1..4

**10Ø**

100308

**Typ / Type**

SK1-4-10-PBS-VA/PTFE
 SK1-4-10-PBO-VA/PTFE
 SK1-4-10-NBS-VA/PTFE
 SK1-4-10-NBO-VA/PTFE

B

1... 4

15

100

2

-30... 70

20 [-5... 55]

IP 65

75 d. c.

A: PTFE; B: V2A; C: POM

DC13

2m / 3x 0,14mm² PUR

12... 35

10

200

0,8

- / •

• / •

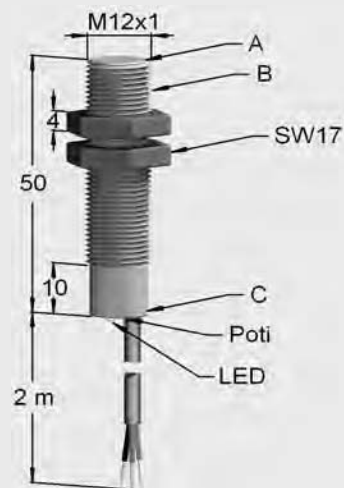
•

IEC 60947-5-2 : 2004

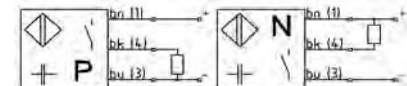


IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.5-0.8 Mhz. SNG-###AC...

1..4

**M12**

100308

**Typ / Type**

SK1-4-M12-PBS-PVC
 SK1-4-M12-PBO-PVC
 SK1-4-M12-NBS-PVC
 SK1-4-M12-NBO-PVC

B

1... 4

15

100

2

-30... 60

20 [-5... 55]

IP 65

75 d. c.

A: PVC; B: PVC; C: PVC

DC13

2m / 3x 0,14mm² PUR

12... 35

10

200

0,8

- / •

• / •

•

IEC 60947-5-2 : 2004

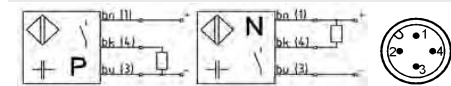
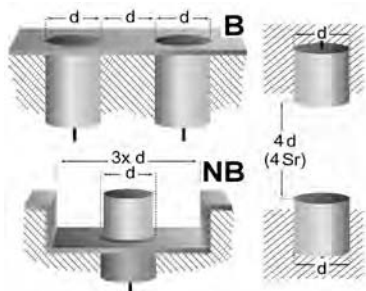


IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.4-1.3 Mhz. SNG-###AC...



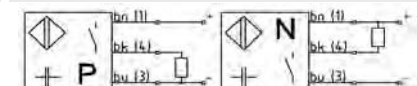
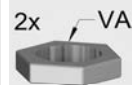
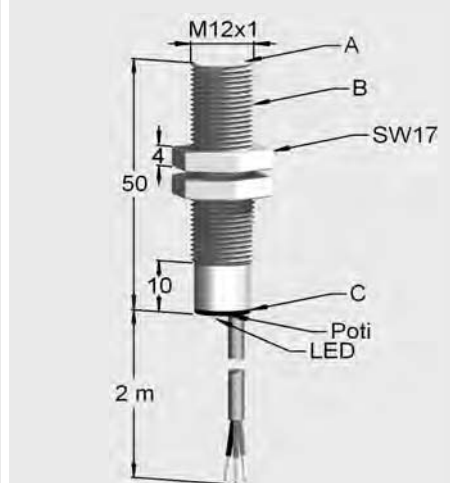
Type code (abstract)

SK	sensor capacitive, w/o amplifier
SKF	sensor cap., w/o amplifier, flexible
SK1	sensor capacitive, self-contained
SV(D)	sensor amplifier (dynamic)
SNG	sensor power pack
HT##	high temperature use
TM	pulse modulation technique (High noise immune)
## / FS(A)	max sensing distance / Fill-level switch (adaptive)
M30	model and/or dimension
P	output stage PNP, NPN, X (switchable)
B	mounting B=flush NB=non-flush
S	S=N.O. Ö=N.C. X=function switchable
(C)PTFE	Housing material, e.g. PTFE CPTFE=complete PTFE
1M2-Y2	cable & connector: Y# = connector 1M2 = 1.2m cable length



Typ / Type

SK1-4-M12-PBS-PVC-Y2
SK1-4-M12-PBO-PVC-Y2
SK1-4-M12-NBS-PVC-Y2
SK1-4-M12-NBO-PVC-Y2

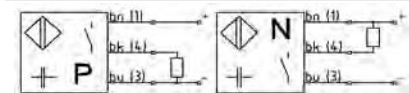
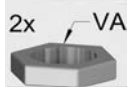
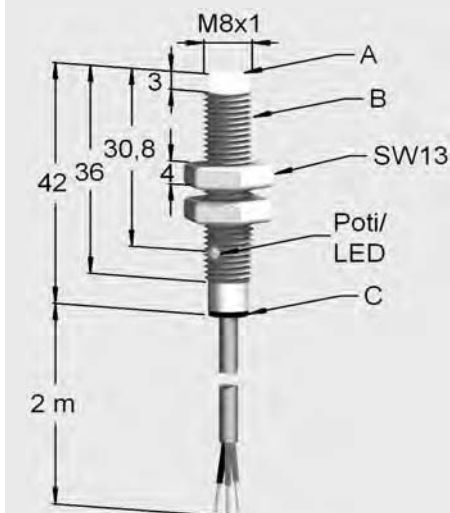


Typ / Type

SK1-4-M12-PBS-VA/PTFE
SK1-4-M12-PBO-VA/PTFE
SK1-4-M12-NBS-VA/PTFE
SK1-4-M12-NBO-VA/PTFE

Mounting [flush / nonflush]		[B / NB]		B		B	
Operating distance	Sn	[mm]		1... 4		1... 4	
Hysteresis	H	[%SR]		15		15	
Frequency of operating cycles	f	[Hz]		100		100	
Repeat accuracy	R	[%SR]		2		2	
Operating temperature range	Ta	[C°]		-30... 60		-30... 70	
Temperature drift [range]		[%SR]		20 [-5... 55]		20 [-5... 55]	
Protection class				IP 65		IP 65	
Rated insulation voltage	Ui	[V]		75 d. c.		75 d. c.	
Material of housing				A: PVC; B: PVC; C:PA		A: PTFE; B: VA; C: POM	
Utilisation category				DC13		DC13	
Connection				Z20; Z21		2m / 3x 0,14mm² PUR	
Supply voltage range UB	Ub	[V]		12... 35		12... 35	
No-load supply current	Iomax.	[mA]		10		10	
Minimum operational current	Im	[mA]					
Operational current	Ie	[mA]		200		200	
Off-state current	Ir	[mA]					
Voltage drop	Ud @ Ie	[V]		1,6		0,8	
Time delay before availability	tv	[ms]					
Indicator [UB / Output]				- / •		- / •	
Short circuit- overload-protection				• / •		• / •	
Reverse polarity protection				•		•	
Conformity	EMC EEC-direct.			IEC 60947-5-2 : 2004		IEC 60947-5-2 : 2004	
EMC				IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.4-1.3 Mhz.		IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.5-0.8 Mhz.	
Associated equipment				SNG-###AC...		SNG-###AC...	
Additional functionality							
Application							

0,1...3

**M8****Typ / Type**

SK1-3-M8-PNBS-VA/PTFE
 SK1-3-M8-PNBO-VA/PTFE
 SK1-3-M8-NNBS-VA/PTFE
 SK1-3-M8-NNBO-VA/PTFE

NB

0,1...3

15

100

2

-10... 70

15 [-5... 55]

IP 65

75 d. c.

A: PTFE; B: V2A; C: POM

DC13

2m / 3x 0,14mm² PUR

11...30

10

50

2

- / •

• / •

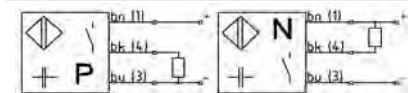
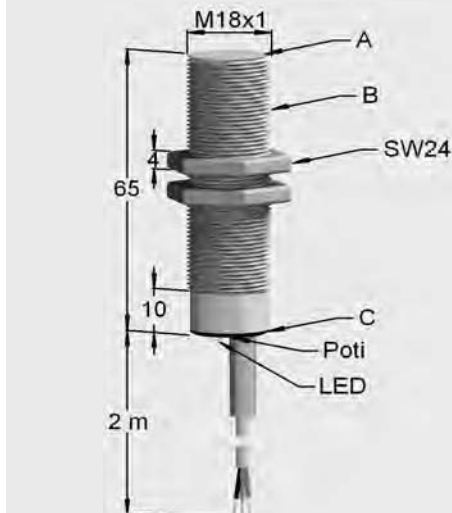
•

IEC 60947-5-2 : 2004



IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.25-1.1 Mhz.
 SNG-###AC...

2..8

**M18****Typ / Type**

SK1-8-M18-PBS-PVC
 SK1-8-M18-PBO-PVC
 SK1-8-M18-NBS-PVC
 SK1-8-M18-NBO-PVC

B

2... 8

15

100

2

-30... 60

15 [-5... 55]

IP 67

75 d. c.

A: PVC; B: PVC; C: PBT

DC13

2m / 3x 0,25mm² PVC

10... 35

10

300

1,5

- / •

• / •

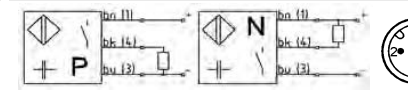
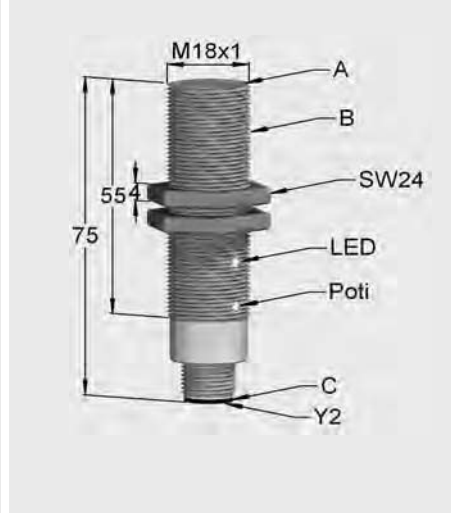
•

IEC 60947-5-2 : 2004



IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.45-1.2 Mhz.
 SNG-###AC...

2..8

**M18****Typ / Type**

SK1-8-M18-PBS-PVC-Y2
 SK1-8-M18-PBO-PVC-Y2
 SK1-8-M18-NBS-PVC-Y2
 SK1-8-M18-NBO-PVC-Y2

B

2... 8

15

100

2

-30... 60

15 [-5... 55]

IP 67

75 d. c.

A: PVC; B: PVC; C: PA

DC13

220; Z21

10... 35

10

300

1,5

- / •

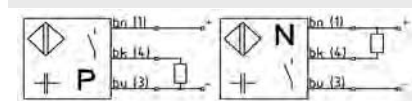
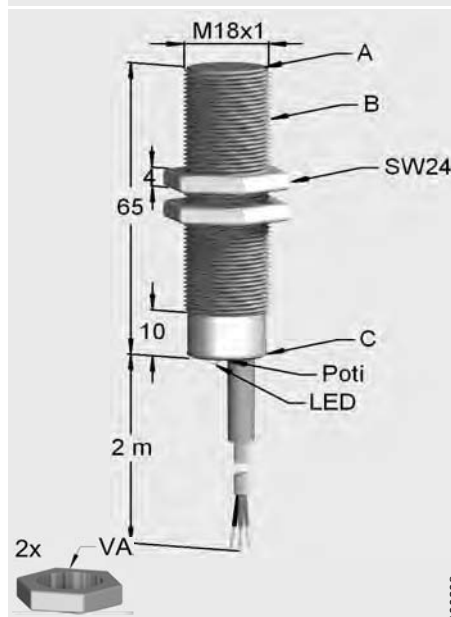
• / •

•

IEC 60947-5-2 : 2004



IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.55-2 Mhz.
 SNG-###AC...



Typ / Type

SK1-8-M18-PBS-VA/PBT
SK1-8-M18-PBO-VA/PBT
SK1-8-M18-NBS-VA/PBT
SK1-8-M18-NBO-VA/PBT

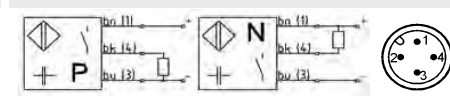
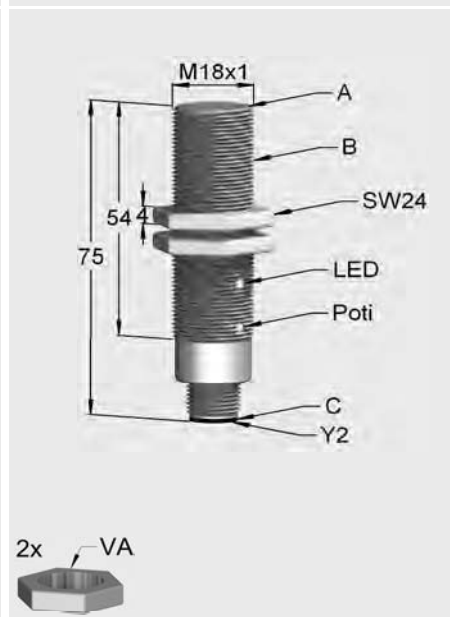
Mounting [flush / nonflush]	[B / NB]	B
Operating distance	Sn [mm]	2... 8
Hysteresis	H [%SR]	15
Frequency of operating cycles	f [Hz]	100
Repeat accuracy	R [%SR]	2
Operating temperature range	Ta [C°]	-30... 70
Temperature drift [range]	[%SR]	15 [-5... 55]
Protection class		IP 67
Rated insulation voltage	Ui [V]	75 d. c.
Material of housing		A: PBT; B: VA; C:PBT
Utilisation category		DC13
Connection		2m / 3x 0,25mm ² PVC
Supply voltage range UB	Ub [V]	10... 35
No-load supply current	Iomax. [mA]	10
Minimum operational current	Im [mA]	
Operational current	Ie [mA]	300
Off-state current	Ir [mA]	
Voltage drop	Ud @ Ie [V]	1,5
Time delay before availability	tv [ms]	
Indicator [UB / Output]		- / •
Short circuit- overload-protection		• / •
Reverse polarity protection		•
Conformity	EMC EEC-direct.	IEC 60947-5-2 : 2004

EMC

IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.5-0.8 Mhz.
SNG-###AC...

Associated equipment
Additional functionality

Application



Typ / Type

SK1-8-M18-PBS-VA/PBT-Y2
SK1-8-M18-PBO-VA/PBT-Y2
SK1-8-M18-NBS-VA/PBT-Y2
SK1-8-M18-NBO-VA/PBT-Y2

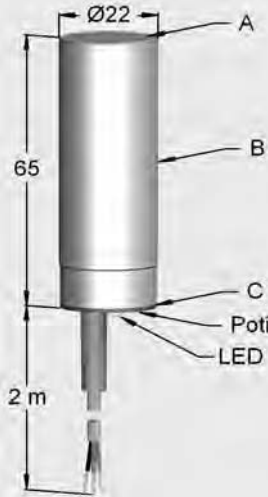
Mounting [flush / nonflush]	[B / NB]	B
Operating distance	Sn [mm]	2... 8
Hysteresis	H [%SR]	15
Frequency of operating cycles	f [Hz]	100
Repeat accuracy	R [%SR]	2
Operating temperature range	Ta [C°]	-30... 70
Temperature drift [range]	[%SR]	15 [-5... 55]
Protection class		IP 67
Rated insulation voltage	Ui [V]	75 d. c.
Material of housing		A: PBT; B: VA; C: PA
Utilisation category		DC13
Connection		Z20; Z21
Supply voltage range UB	Ub [V]	10... 35
No-load supply current	Iomax. [mA]	10
Minimum operational current	Im [mA]	
Operational current	Ie [mA]	300
Off-state current	Ir [mA]	
Voltage drop	Ud @ Ie [V]	1,5
Time delay before availability	tv [ms]	
Indicator [UB / Output]		- / •
Short circuit- overload-protection		• / •
Reverse polarity protection		•
Conformity	EMC EEC-direct.	IEC 60947-5-2 : 2004

IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.75-2.5 Mhz.
SNG-###AC...

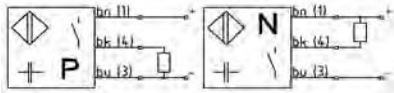
2..10



22Ø



100308

**Typ / Type**

SK1-10-22-PBS-VA/PVC
SK1-10-22-PBO-VA/PVC
SK1-10-22-NBS-VA/PVC
SK1-10-22-NBO-VA/PVC

B

2... 10

15

100

2

-30... 60

20 [-5... 55]

IP 67

75 d. c.

A: PVC; B: VA; C: PVC

DC13

2m / 3x 0,25mm² PVC

10... 35

10

300

1,5

- / •

• / •

•

IEC 60947-5-2 : 2004

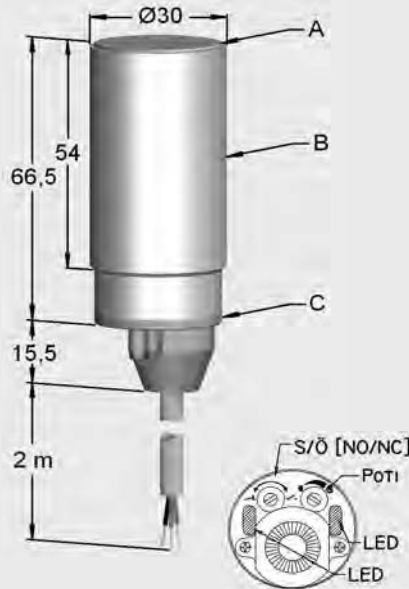


IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.5-0.8 Mhz. SNG-###AC...

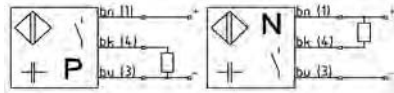
2..20



30Ø



100308

**Typ / Type**

SK1-20-30-PBX-VA/PBT
SK1-20-30-NBX-VA/PBT

B

2... 20

15

100

5

-30... 70

20 [-5... 55]

A, B: IP 66 / IP 68; C: IP 64

75 d. c.

A: PBT; B: VA; C: PBT/PE

DC13

2m / 3x 0,34mm² PUR

10... 35

<15

300

1,8

• / •

• / •

•

IEC 60947-5-2 : 2004



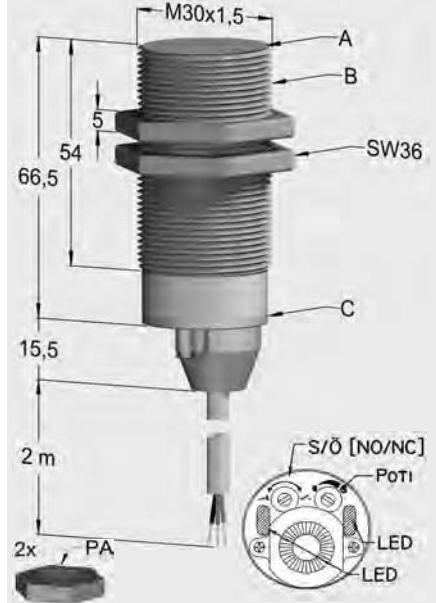
IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.15-2.5 Mhz. SNG-###AC...



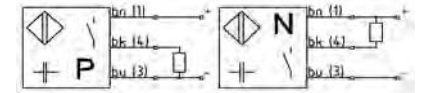
1..20



M30



100308

**Typ / Type**

SK1-20-M30-PBX-PBT
SK1-20-M30-NBX-PBT

B

1... 20

15

100

5

-30... 70

20 [-5... 55]

A, B: IP 66 / IP 68; C: IP 64

75 d. c.

A: PBT; B: PBT; C: PBT/PE

DC13

2m / 3x 0,34mm² PUR

10... 35

<15

300

1,8

• / •

• / •

•

IEC 60947-5-2 : 2004



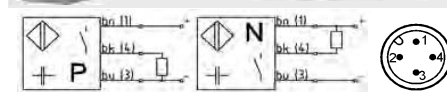
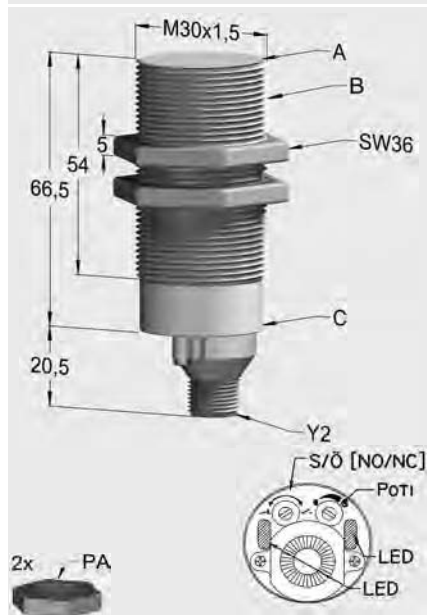
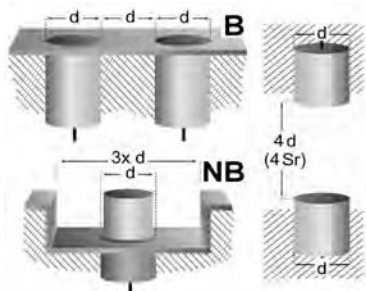
IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.15-2.5 Mhz. SNG-###AC...



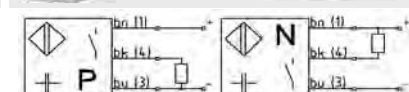
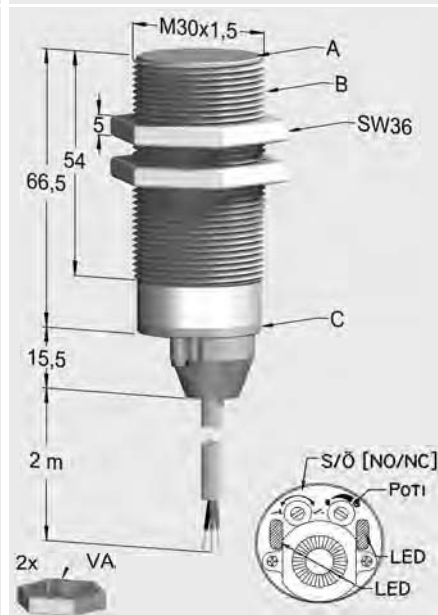


Type code (abstract)

SK	sensor capacitive, w/o amplifier
SKF	sensor cap., w/o amplifier, flexible
SK1	sensor capacitive, self-contained
SV(D)	sensor amplifier (dynamic)
SNG	sensor power pack
HT###	high temperature use
TM	pulse modulation technique (High noise immune)
## / FS(A)	max sensing distance / Fill-level switch (adaptive)
M30	model and/or dimension
P	output stage PNP, NPN, X (switchable)
B	mounting B=flush NB=non-flush
S	S=N.O. Ö=N.C. X=function switchable
(C)PTFE	Housing material, e.g. PTFE CPTFE=complete PTFE
1M2-Y2	cable & connector: Y# = connector 1M2 = 1.2m cable length



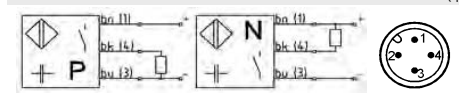
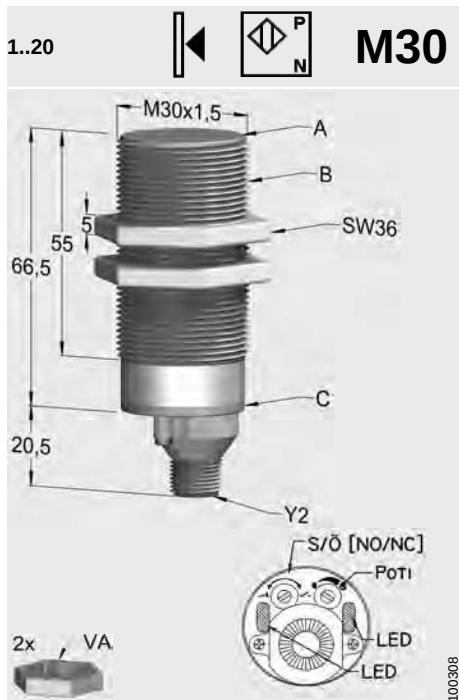
Typ / Type
SK1-20-M30-PBX-PBT-Y2
SK1-20-M30-NBX-PBT-Y2



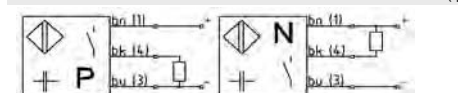
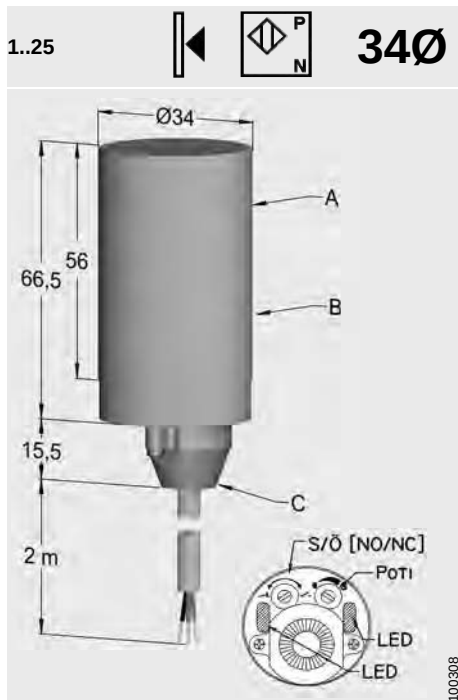
Typ / Type
SK1-20-M30-PBX-VA/PBT
SK1-20-M30-NBX-VA/PBT

Mounting [flush / nonflush]	[B / NB]	B	B
Operating distance	Sn [mm]	1... 20	1... 20
Hysteresis	H [%SR]	15	15
Frequency of operating cycles	f [Hz]	100	100
Repeat accuracy	R [%SR]	5	5
Operating temperature range	Ta [C°]	-30... 70	-30... 70
Temperature drift [range]	[%SR]	20 [-5... 55]	20 [-5... 55]
Protection class		A, B: IP 66 / IP 68; C: IP 64	A, B: IP 66 / IP 67; C: IP 64
Rated insulation voltage	Ui [V]	75 d. c.	75 d. c.
Material of housing		A: PBT; B: PBT; C: PBT/PE	A: PBT; B: VA; C: PBT/PE
Utilisation category		DC13	DC13
Connection		Z20; Z21	2m / 3x 0,34mm ² PUR
Supply voltage range UB	Ub [V]	10... 35	10... 35
No-load supply current	Iomax. [mA]	<15	<15
Minimum operational current	Im [mA]		
Operational current	Ie [mA]	300	300
Off-state current	Ir [mA]		
Voltage drop	Ud @ Ie [V]	1,8	1,8
Time delay before availability	tv [ms]		
Indicator [UB / Output]		• / •	• / •
Short circuit- overload-protection		• / •	• / •
Reverse polarity protection		•	•
Conformity	EMC EEC-direct.	IEC 60947-5-2 : 2004	IEC 60947-5-2 : 2004
EMC		IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.15-2.5 Mhz.	IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.15-2.5 Mhz.
Associated equipment		SNG-###AC...	SNG-###AC...
Additional functionality		S / Ö NO / NC	S / Ö NO / NC
Application			

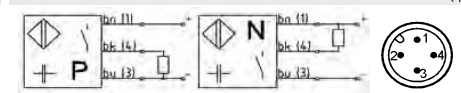
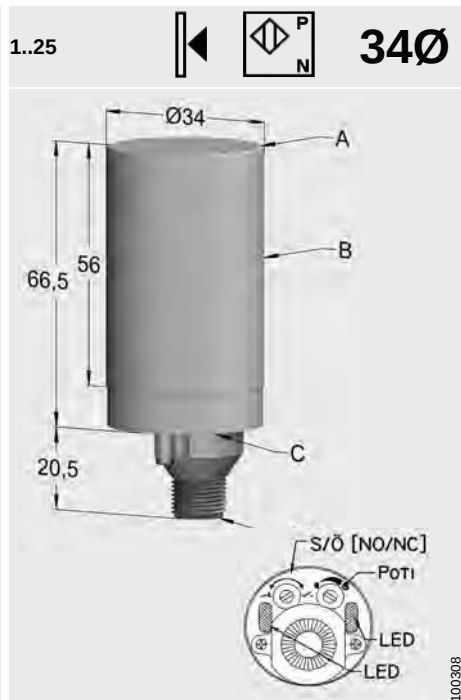




Typ / Type
SK1-20-M30-PBX-VA/PBT-Y2
SK1-20-M30-NBX-VA/PBT-Y2



Typ / Type
SK1-25-34-PBX-PVC
SK1-25-34-NBX-PVC



Typ / Type
SK1-25-34-PBX-PVC-Y2
SK1-25-34-NBX-PVC-Y2

B
1... 20
15
100
5
-30... 70
20 [-5... 55]
A, B: IP 66 / IP 67; C: IP 64
75 d. c.
A: PBT; B: VA; C: PBT/PE
DC13
Z20; Z21
10... 35
<15
300
1,8
•/•
•/•
•

IEC 60947-5-2 : 2004



IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.15-2.5 Mhz. SNG-###AC...

S / Ö NO / NC



B
1... 25
15
100
5
-30... 60
20 [-5... 55]
A, B: IP 66 / IP 68; C: IP 64
75 d. c.
A: PVC; B: PVC; C: PBT/PE
DC13
2m / 3x 0,34mm ² PUR
10... 35
<15
300
1,8
•/•
•/•
•

IEC 60947-5-2 : 2004



IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.15-2.4 Mhz. SNG-###AC...

S / Ö NO / NC



B
1... 25
15
100
5
-30... 60
20 [-5... 55]
A, B: IP 66 / IP 68; C: IP 64
75 d. c.
A: PVC; B: PVC; C: PBT/PE
DC13
Z20; Z21
10... 35
<15
300
1,8
•/•
•/•
•

IEC 60947-5-2 : 2004



IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.15-2.5 Mhz. SNG-###AC...

S / Ö NO / NC



6 ±10%



22Ø/4

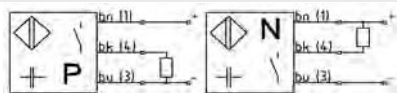
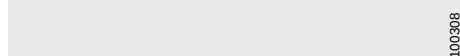
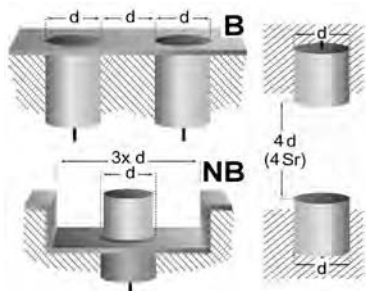
2..15



30Ø/4

Type code (abstract)

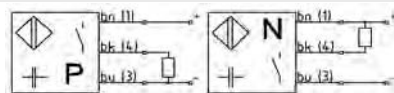
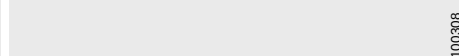
SK	sensor capacitive, w/o amplifier
SKF	sensor cap., w/o amplifier, flexible
SK1	sensor capacitive, self-contained
SV(D)	sensor amplifier (dynamic)
SNG	sensor power pack
HT##	high temperature use
TM	pulse modulation technique (High noise immune)
## / FS(A)	max sensing distance / Fill-level switch (adaptive)
M30	model and/or dimension
P	output stage PNP, NPN, X (switchable)
B	mounting B=flush NB=non-flush
S	S=N.O. Ö=N.C. X=function switchable
(C)PTFE	Housing material, e.g. PTFE CPTFE=complete PTFE
1M2-Y2	cable & connector: Y# = connector 1M2 = 1.2m cable length



Typ / Type

SK1-6F-22/4-PBS-VA/PTFE

SK1-6F-22/4-NBS-VA/PTFE



Typ / Type

SK1-15-30/4-PBS-VA/PTFE

SK1-15-30/4-PBO-VA/PTFE

SK1-15-30/4-NBS-VA/PTFE

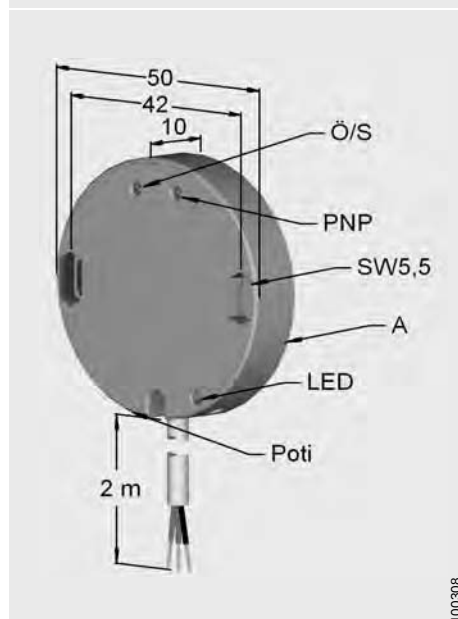
SK1-15-30/4-NBO-VA/PTFE

Mounting [flush / nonflush]	[B / NB]	B	B
Operating distance	Sn [mm]	6... ±10%	2... 15
Hysteresis	H [%SR]	15	15
Frequency of operating cycles	f [Hz]	100	100
Repeat accuracy	R [%SR]	2	2
Operating temperature range	Ta [C°]	-30... 70	-30... 70
Temperature drift [range]	[%SR]	10 [-5... 55]	10 [-5... 55]
Protection class		IP 67	IP 67
Rated insulation voltage	Ui [V]	75 d. c.	75 d. c.
Material of housing		A: PTFE; B: V2A	A:PTFE; B: V2A
Utilisation category		DC13	DC13
Connection		2m / 3x 0,14 mm ² PUR	2m / 3x 0,14 mm ² PUR
Supply voltage range UB	Ub [V]	12... 30	10... 35
No-load supply current	Iomax. [mA]	< 10	< 10
Minimum operational current	Im [mA]		
Operational current	Ie [mA]	300	300
Off-state current	Ir [mA]		
Voltage drop	Ud @ Ie [V]	0,8	0,8
Time delay before availability	tv [ms]		
Indicator [UB / Output]		- / -	- / •
Short circuit- overload-protection		• / •	• / •
Reverse polarity protection		•	•
Conformity	EMC EEC-direct.	IEC 60947-5-2 : 2004	IEC 60947-5-2 : 2004
EMC		IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.15-0.6 Mhz.	IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.15-1.7 Mhz.
Associated equipment		SNG-###AC...	SNG-###AC...
Additional functionality			
Application			

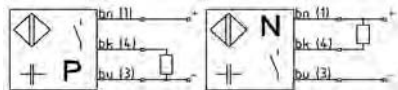
2..25



50Ø/10



100308

**Typ / Type**

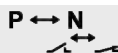
SK1-25-50/10-XBX-POM

B
2... 25
20
50
2
-30... 60
20 [-5... 55]
IP 67
75 d. c.
POM
DC13
2m / 3x 0,25mm ² PVC
10... 30
< 15
150
2
- / •
• / •
•
IEC 60947-5-2 : 2004



IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.55-1.6 Mhz. SNG-###AC...

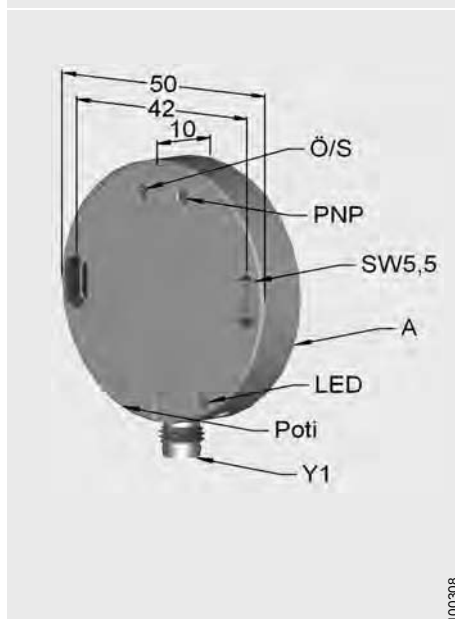
PNP / NPN
S / Ö NO / NC



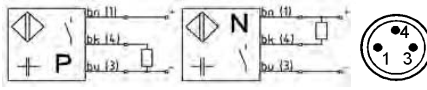
2..25



50Ø/10



100308

**Typ / Type**

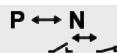
SK1-25-50/10-XBX-POM-Y1

B
2... 25
20
50
2
-30... 60
20 [-5... 55]
IP 65
75 d. c.
POM
DC13
Z10; Z11
10... 30
< 15
150
1,5
- / •
• / •
•
IEC 60947-5-2 : 2004



IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.55-1.6 Mhz. SNG-###AC...

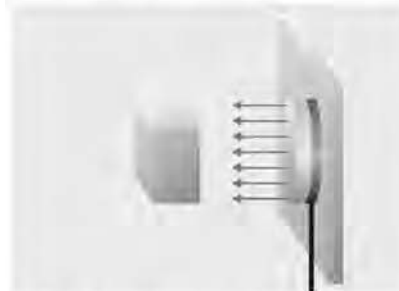
PNP / NPN
S / Ö NO / NC

**application notes****Range of use**

As a distance sensor with an adjustable sensing distance of up to 25 mm, the compact-size disk sensor, 50 mm diameter, is suitable for scanning plastics, glass, ceramics, wood, etc. This sensor's large active surface also enables it to be used as a fill level indicator, since it can detect liquids and granules through plastic or glass walls.

Applications**1. Object detection**

Detecting plastics, glass, ceramics, wood and all metals, etc.

**2. Fill level monitoring**

Level control of liquids and granules like water, blood, cereals, coffee beans, etc.



Glass- or plastic wall max. 4 mm, depending on the material of the container wall.

Adjustment

The sensor is adjusted using a flushmounted Potentiometer, adjustment instructions for flush sensor versions see on page 1.09.

Signal evaluation

The SNG series (page 12.01-12.03) of sensor devices is available for signal evaluation. Depending on the application involved, you can choose between a power supply, a power supply with timer function, or a MinMax control unit. The sensor can also be run from a PLC.

1...8 mm



microBOX

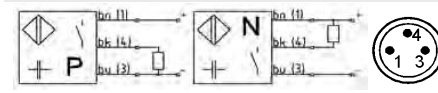
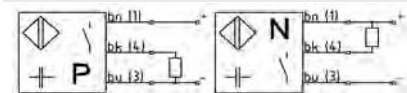
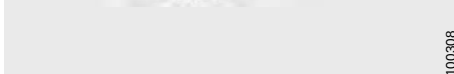
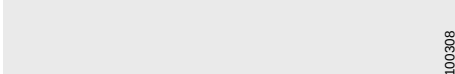
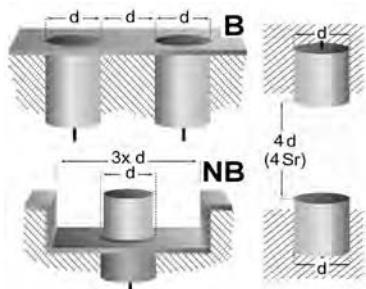
1...8 mm



microBOX

Type code (abstract)

SK	sensor capacitive, w/o amplifier
SKF	sensor cap., w/o amplifier, flexible
SK1	sensor capacitive, self-contained
SV(D)	sensor amplifier (dynamic)
SNG	sensor power pack
HT###	high temperature use
TM	pulse modulation technique (High noise immune)
## / FS(A)	max sensing distance / Fill-level switch (adaptive)
M30	model and/or dimension
P	output stage PNP, NPN, X (switchable)
B	mounting B=flush NB=non-flush
S	S=N.O. Ö=N.C. X=function switchable
(C)PTFE	Housing material, e.g. PTFE CPTFE=complete PTFE
1M2-Y2	cable & connector: Y# = connector 1M2 = 1.2m cable length



Typ / Type

SK1-8-34/16/8-PBS-PP
SK1-8-34/16/8-PBO-PP
SK1-8-34/16/8-NBS-PP
SK1-8-34/16/8-NBO-PP

Typ / Type

SK1-8-34/16/8-PBS-PP-M2/Y1
SK1-8-34/16/8-PBO-PP-M2/Y1
SK1-8-34/16/8-NBS-PP-M2/Y1
SK1-8-34/16/8-NBO-PP-M2/Y1

Mounting [flush / nonflush]	[B / NB]	B	
Operating distance	Sn [mm]	1...8	
Hysteresis	H [%SR]	15	
Frequency of operating cycles	f [Hz]	100	
Repeat accuracy	R [%SR]	5	
Operating temperature range	Ta [C°]	-30... 70	
Temperature drift [range]	[%SR]	20 [-5... 55]	
Protection class		IP 67	
Rated insulation voltage	Ui [V]	75 d. c.	
Material of housing		PP	
Utilisation category		DC13	
Connection		2m / 3x 0,14 mm ² PUR	
Supply voltage range UB	Ub [V]	12... 30	
No-load supply current	Iomax. [mA]	< 10	
Minimum operational current	Im [mA]	-	
Operational current	Ie [mA]	50	O.C.
Off-state current	Ir [mA]		
Voltage drop	Ud @ Ie [V]	1,5	
Time delay before availability	tv [ms]	< 100	
Indicator [UB / Output]		- / •	
Short circuit- overload-protection		• / •	
Reverse polarity protection		•	
Conformity	EMC EEC-direct.	IEC 60947-5-2 : 2004	CE

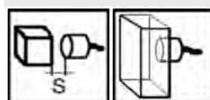
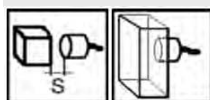
EMC

IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.25-3 Mhz. SNG-###AC...

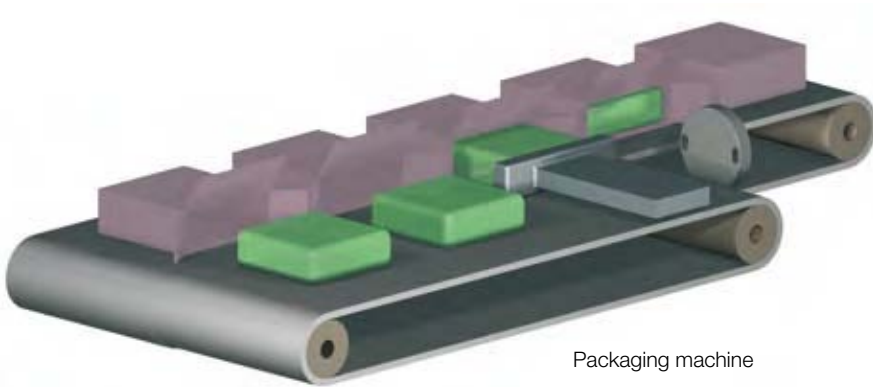
IEC 61000-4-6 (Testlevel 3V) Functional errors may occur in partition of working frequency 0.25-3 Mhz. SNG-###AC...

Associated equipment
Additional functionality

Application



Applications



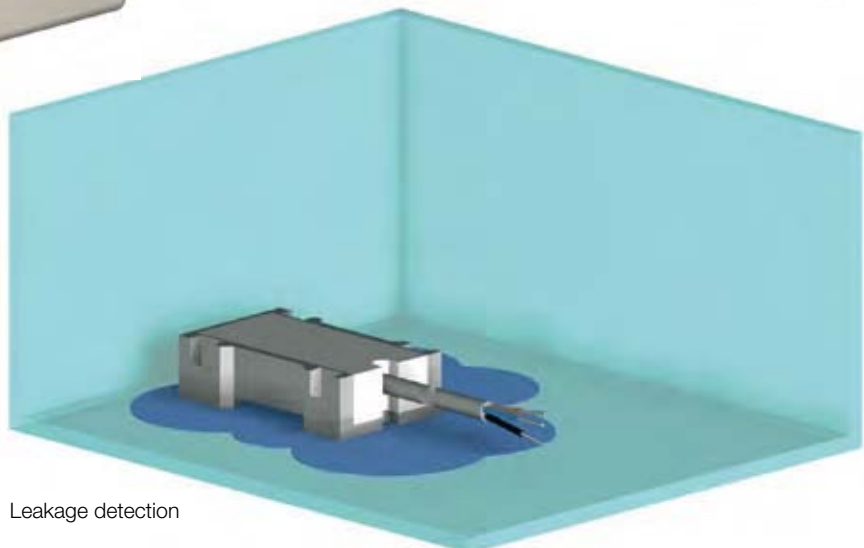
Packaging machine



Bulk material sensing through



Sensing small metal or plastic parts in a tube type feeder



Leakage detection