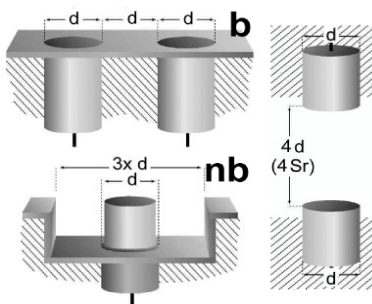


microLEVEL

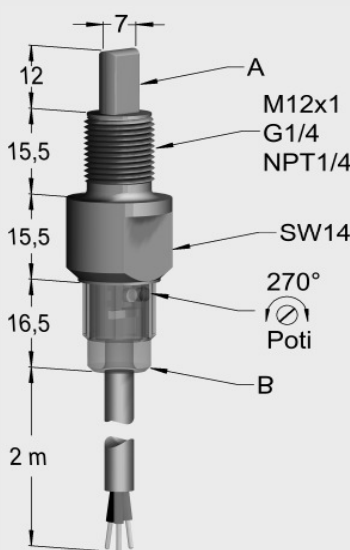
application notes

**Type code (abstract)**

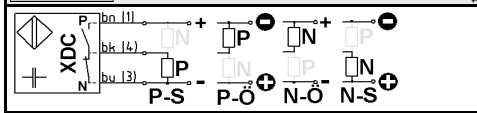
SK sensor capacitive, w/o amplifier  
 SKF sensor cap., w/o amplifier, flexible  
 SK1 sensor capacitive, self-contained  
 SV(D) sensor amplifier (dynamic)  
 SNG sensor power pack  
 HT### high temperature use  
 TM pulse modulation technique (High noise immune)  
 ## / FS(A) max sensing distance / Fill-level switch (adaptive)  
 M30 model and/or dimension  
 P output stage PNP, NPN, 2-wire AC/DC, 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



- mLM12
- 1x PA
- M12x1
- 1x EPDM
- Ø10 x 2



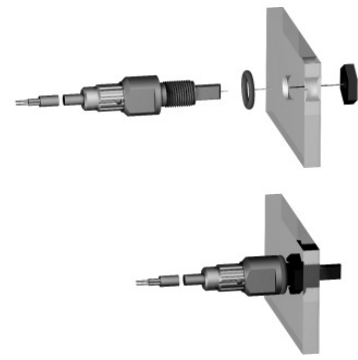
1511106



Typ / Type	Nr./No.
SK1-FS-mLM12-XDC-PSU	07305
SK1-FS-mLG1/4-XDC-PSU	07306
SK1-FS-mLNPT1/4-XDC-PSU	07307

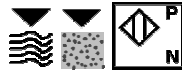
**Standard Level Sensors**  
 can detect solids like sand, granules and pellets as well as all nonconductive liquids.

**Mounting**  
 Standard through hole mounting can be done using the enclosed nut. It is not required but recommended while mounted in a female thread. Sealing can be done using an O-ring or flat type gasket. We recommend to close the pot access hole by the use of the circular clip.



mounting [flush / nonflush]	[ b / nb ]	nb
operating distance	Sd [mm]	FS
Hysteresis	H [%Sr]	
frequency of operating cycles	f [Hz]	5
repeat accuracy	R [%Sr]	
Operating temperature range	[°C]	-10... 70
temperature drift [range]	[%Sr] [°C]	
protection class (EN 60529)		A : IP 68 / 10bar; B : IP 69K
rated insulation voltage	Ui [V]	75 d. c.
material of housing		PSU
utilisation category		DC13
connection		2m / 3x 0,34mm <sup>2</sup> PUR
supply voltage range UB	UB [V]	10... 35
no-load supply current	Io [mA]	20
minimum operational current	Im [mA]	-
operational current	Ie [mA]	50 / 50 XDC
off-state current	Ir [mA]	-
voltage drop [50mA/ Ie]	Ud [V]	3
time delay before availability	tv [ms]	< 300
Indicator [UB / Output]		• / •
Short circuit- overload-protection		• / •
Reverse polarity Protection		!
Conformity	EMC EEC-direct.	IEC 60947-5-2 : 2000
EMC		
associated equipment		
additional functionality		
Application		

1..8

**M12**

application notes

**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

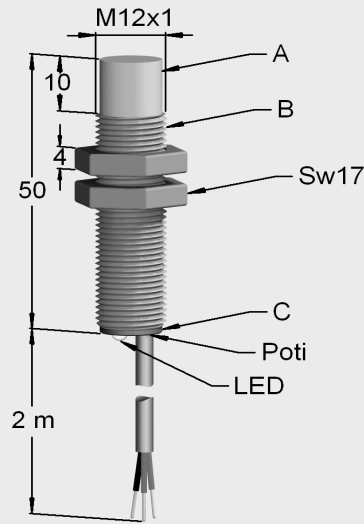
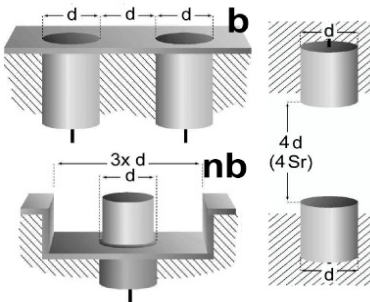
P output stage **PNP**, **NPN**,  
 2-wire **AC/DC**, **X** (switchable)

b mounting **b**=flush  
**nb**=non-flush

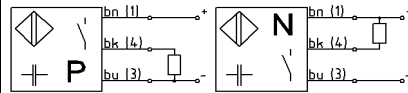
S **S**=N.O. **Ö**=N.C.  
**X**=function switchable

(c)PTFE Housing material, e.g. **PTFE**  
**cPTFE**=complete PTFE

1m2-Y2 cable & connector:  
 Y# = connector  
 1m2 = 1.2m cable length



160106



Typ / Type	Nr./No.
SK1-8-M12-P-nb-S	07001
SK1-8-M12-P-nb-Ö	07002
SK1-8-M12-N-nb-S	07003
SK1-8-M12-N-nb-Ö	07004

mounting [flush / nonflush]	[ b / nb ]	nb
operating distance	Sd [mm]	1... 8
Hysteresis	H [%Sr]	15
frequency of operating cycles	f [Hz]	100
repeat accuracy	R [%Sr]	2
Operating temperature range	[°C]	-30... 60
temperature drift [range]	[%Sr] [°C]	15 [-5... 55]
protection class (EN 60529)		IP 65
rated insulation voltage	Ui [V]	75 d. c.
material of housing		A. PVC; B: PVC; C: PVC
utilisation category		DC13
connection		2m / 3x 0,14mm <sup>2</sup> PUR

supply voltage range UB	UB [V]	12... 35
no-load supply current	Io [mA]	10
minimum operational current	Im [mA]	
operational current	Ie [mA]	200
off-state current	Ir [mA]	
voltage drop [50mA/ Ie]	Ud [V]	0,8
time delay before availability	tv [ms]	
Indicator [UB / Output]		- / •
Short circuit- overload-protection		• / •
Reverse polarity Protection		•

Conformity EMC IEC 60947-5-2 : 2000



EMC

associated equipment  
 additional functionality

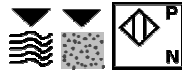
SNG-###AC...

Application

General note:  
 Application notes not available. Please follow the  
 general requirements given in the product catalog.

Notes:

1..6

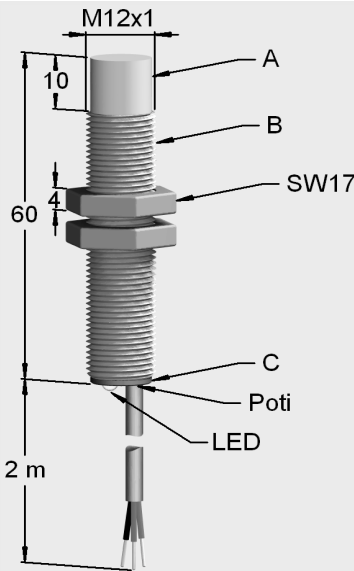
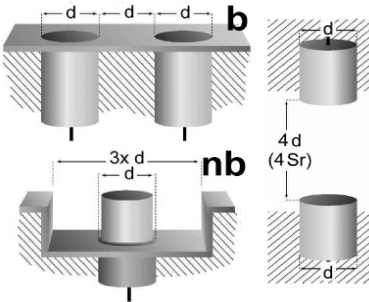


**M12**

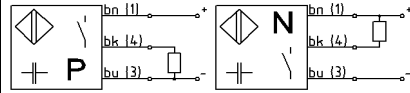
application notes

*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, 2-wire AC/DC, 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



160106

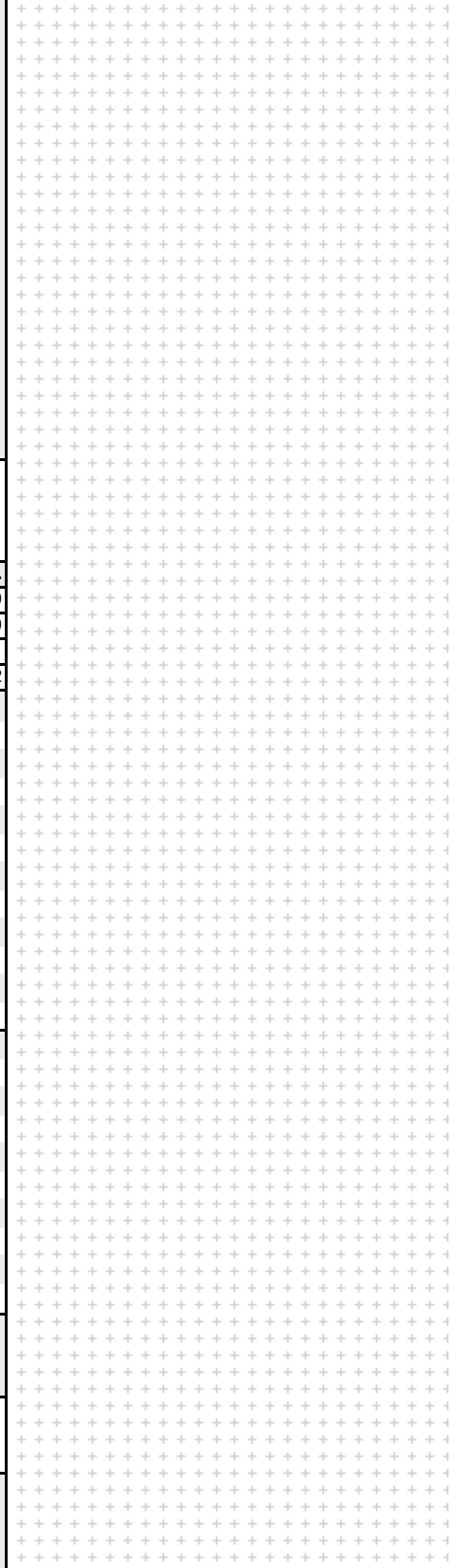


Typ / Type	Nr./No.
SK1-TM-6-M12/60-P-nb-S-PVC	07069
SK1-TM-6-M12/60-P-nb-Ö-PVC	07070
SK1-TM-6-M12/60-N-nb-S-PVC	07071
SK1-TM-6-M12/60-N-nb-Ö-PVC	07072

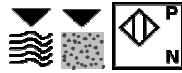
mounting [flush / nonflush]	[ b / nb ]	nb
operating distance	Sd [mm]	1... 6
Hysteresis	H [%Sr]	15
frequency of operating cycles	f [Hz]	25
repeat accuracy	R [%Sr]	2
Operating temperature range	[°C]	-30... 60
temperature drift [range]	[%Sr] [°C]	15 [-5... 55]
protection class (EN 60529)		IP 65
rated insulation voltage	Ui [V]	75 d. c.
material of housing		A: PVC; B: PVC; C: PVC
utilisation category		DC13
connection		2m / 3x 0,14mm <sup>2</sup> PUR
supply voltage range UB	UB [V]	13... 35
no-load supply current	Io [mA]	15
minimum operational current	Im [mA]	
operational current	Ie [mA]	200
off-state current	Ir [mA]	
voltage drop [50mA/ Ie]	Ud [V]	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 : 2000
EMC		
associated equipment		SNG-###AC...
additional functionality		
Application		

General note:  
Application notes not available. Please follow the general requirements given in the product catalog.

Notes:



1..8

**M12**

application notes

*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

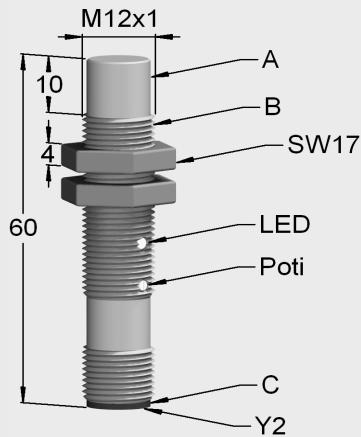
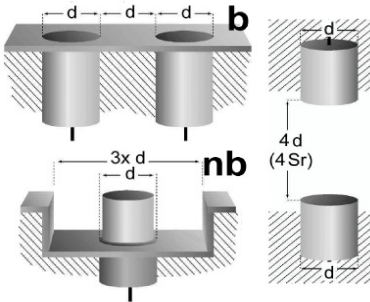
P output stage **PNP**, **NPN**,  
 2-wire **AC/DC**, **X** (switchable)

b mounting **b**=flush  
**nb**=non-flush

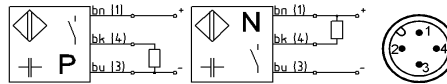
S **S**=N.O. **Ö**=N.C.  
**X**=function switchable

(c)PTFE Housing material, e.g. **PTFE**  
**cPTFE**=complete PTFE

1m2-Y2 cable & connector:  
 Y# = connector  
 1m2 = 1.2m cable length



160106



Typ / Type	Nr./No.
SK1-8-M12-P-nb-S-Y2	07037
SK1-8-M12-P-nb-Ö-Y2	07038
SK1-8-M12-N-nb-S-Y2	07039
SK1-8-M12-N-nb-Ö-Y2	07040

mounting [flush / nonflush] [ b / nb ]

operating distance Sd [mm] 1... 8

Hysteresis H [%Sr] 15

frequency of operating cycles f [Hz] 100

repeat accuracy R [%Sr] 2

Operating temperature range [°C] -30... 60

temperature drift [range] [%Sr] [°C] 15 [-5... 55]

protection class (EN 60529) IP 65

rated insulation voltage Ui [V] 75 d. c.

material of housing A: PVC; B: PVC; C: PA

utilisation category DC13

connection Z20; Z21

supply voltage range UB UB [V] 12... 35

no-load supply current Io [mA] 10

minimum operational current Im [mA]

operational current Ie [mA] 200

off-state current Ir [mA]

voltage drop [50mA/ Ie] Ud [V] 0,8

time delay before availability tv [ms]

Indicator [UB / Output] - / •

Short circuit- overload-protection • / •

Reverse polarity Protection •

Conformity EMC IEC 60947-5-2 : 2000

EEC-direct.

EMC

associated equipment SNG-###AC...

additional functionality

Application

General note:

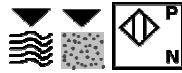
Application notes not available. Please follow the general requirements given in the product catalog.

Notes:





1..8

**M12**

application notes

*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

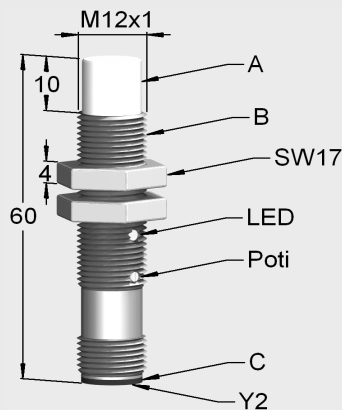
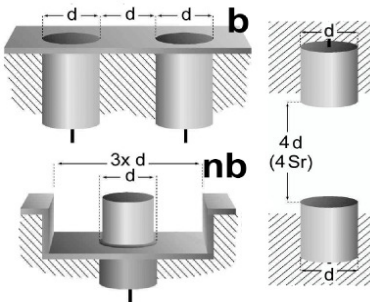
P output stage **PNP**, **NPN**,  
 2-wire **AC/DC**, **X** (switchable)

b mounting **b**=flush  
**nb**=non-flush

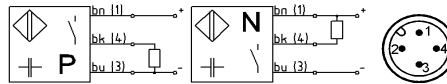
S **S**=N.O. **Ö**=N.C.  
**X**=function switchable

(c)PTFE Housing material, e.g. **PTFE**  
**cPTFE**=complete PTFE

1m2-Y2 cable & connector:  
 Y# = connector  
 1m2 = 1.2m cable length



191006



Typ / Type	Nr./No.
SK1-8-M12-PnbS-VA/PTFE-Y2	07041
SK1-8-M12-PnbÖ-VA/PTFE-Y2	07042
SK1-8-M12-NnbS-VA/PTFE-Y2	07043
SK1-8-M12-NnbÖ-VA/PTFE-Y2	07044

mounting [flush / nonflush]	[ b / nb ]	nb
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operating distance	Sd [mm]	1... 8
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Hysteresis	H [%Sr]	15
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frequency of operating cycles	f [Hz]	100
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repeat accuracy	R [%Sr]	2
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Operating temperature range	[°C]	-30... 70
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temperature drift [range]	[%Sr] [°C]	15 [-5... 55]
---------------------------	------------	---------------

protection class (EN 60529)		IP 65
-----------------------------	--	-------

rated insulation voltage	Ui [V]	75 d. c.
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material of housing		A: PTFE; B: VA; C: PA
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utilisation category		DC13
----------------------	--	------

connection		Z20; Z21
------------	--	----------

supply voltage range UB	UB [V]	12... 35
-------------------------	--------	----------

no-load supply current	Io [mA]	10
------------------------	---------	----

minimum operational current	Im [mA]	
-----------------------------	---------	--

operational current	Ie [mA]	200
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off-state current	Ir [mA]	
-------------------	---------	--

voltage drop [50mA/ Ie]	Ud [V]	0,8
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time delay before availability	tv [ms]	
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Indicator [UB / Output]		- / •
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Short circuit- overload-protection		• / •
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Reverse polarity Protection		•
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Conformity	EMC	IEC 60947-5-2 : 2000
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	EEC-direct.	
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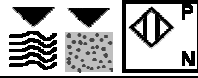
EMC		
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associated equipment		SNG-###AC...
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additional functionality		
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Application		
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1..8

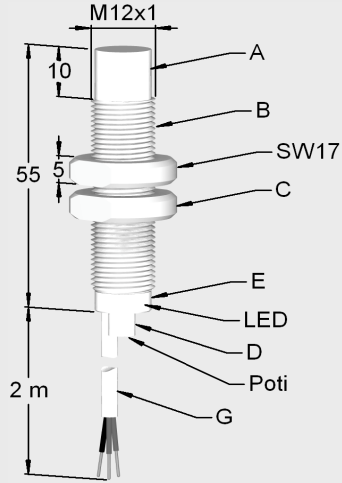
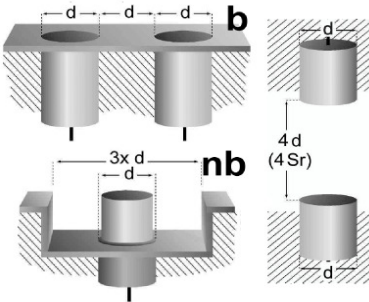


**M12**

application notes

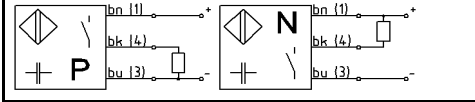
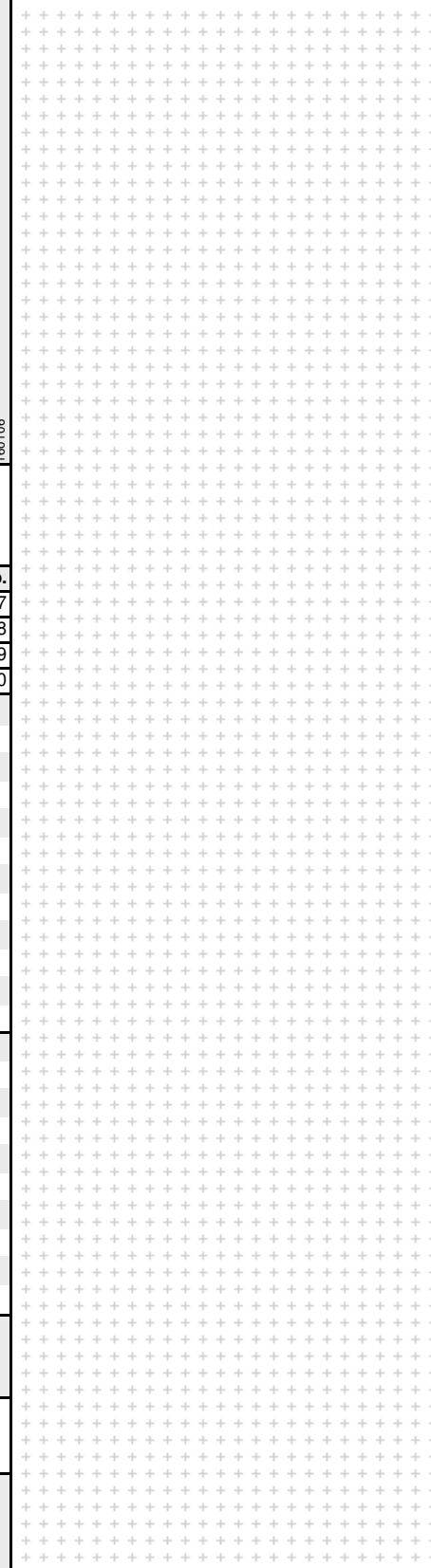
*Type code (abstract)*

- 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, 2-wire AC/DC, 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



General note:  
Application notes not available. Please follow the general requirements given in the product catalog.

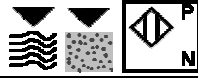
Notes:



Typ / Type	Nr./No.
SK1-8-M12-P-nb-S-cPTFE	07077
SK1-8-M12-P-nb-Ö-cPTFE	07078
SK1-8-M12-N-nb-S-cPTFE	07079
SK1-8-M12-N-nb-Ö-cPTFE	07080

mounting [flush / nonflush]	[ b / nb ]	nb
operating distance	Sd [mm]	1... 8
Hysteresis	H [%Sr]	15
frequency of operating cycles	f [Hz]	100
repeat accuracy	R [%Sr]	2
Operating temperature range	[°C]	-30... 70
temperature drift [range]	[%Sr] [°C]	15 [-5... 55]
protection class (EN 60529)		IP 65
rated insulation voltage	Ui [V]	75 d. c.
material of housing		A - G: PTFE
utilisation category		DC13
connection		2m / 3x 0,2mm <sup>2</sup> PTFE
supply voltage range UB	UB [V]	12... 35
no-load supply current	Io [mA]	10
minimum operational current	Im [mA]	
operational current	Ie [mA]	200
off-state current	Ir [mA]	
voltage drop [50mA/ Ie]	Ud [V]	0,8
time delay before availability	tv [ms]	
Indicator [UB / Output]		- / • LED int.
Short circuit- overload-protection		• / •
Reverse polarity Protection		•
Conformity	EMC EEC-direct.	IEC 60947-5-2 : 2000
EMC		
associated equipment		SNG-###AC...
additional functionality		
Application		

1..6

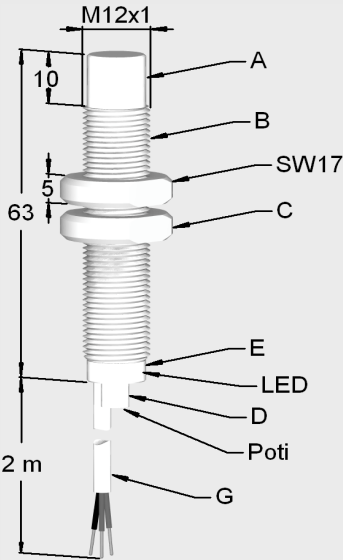
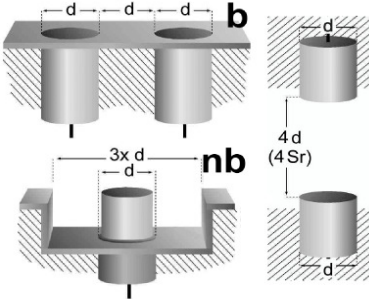


**M12**

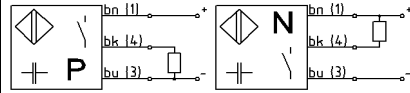
application notes

*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, 2-wire AC/DC, 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



160106

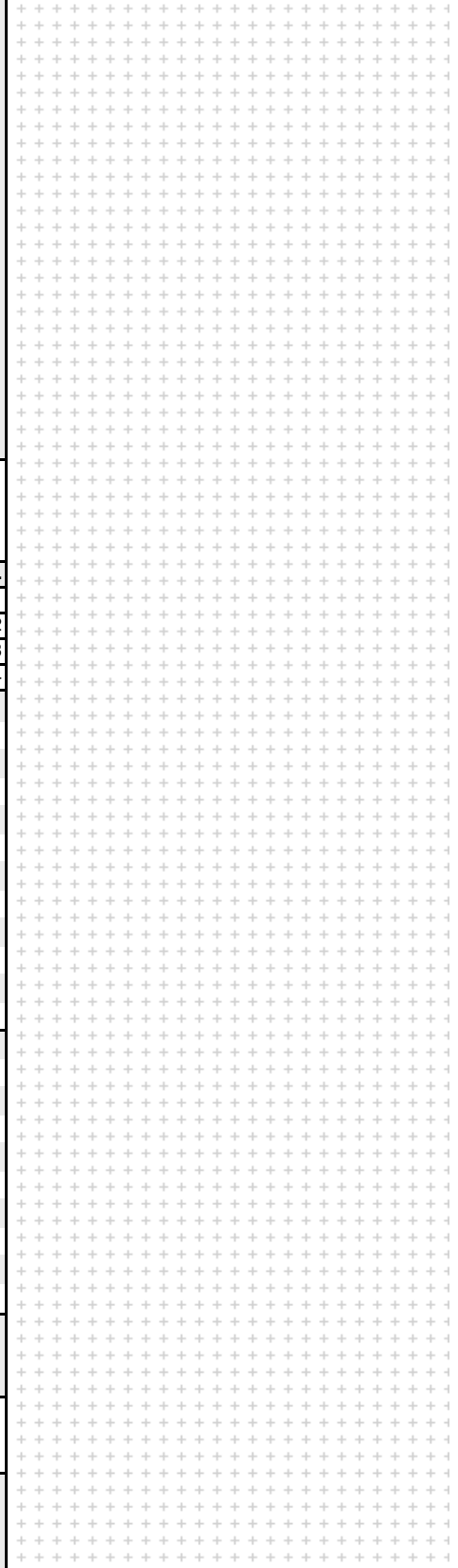


Typ / Type	Nr./No.
SK1-TM-6-M12/63-P-nb-S-cPTFE	07301
SK1-TM-6-M12/63-P-nb-Ö-cPTFE	07302
SK1-TM-6-M12/63-N-nb-S-cPTFE	07303
SK1-TM-6-M12/63-N-nb-Ö-cPTFE	07304

mounting [flush / nonflush]	[ b / nb ]	nb
operating distance	Sd [mm]	1... 6
Hysteresis	H [%Sr]	15
frequency of operating cycles	f [Hz]	25
repeat accuracy	R [%Sr]	2
Operating temperature range	[°C]	-30... 60
temperature drift [range]	[%Sr] [°C]	15 [-5... 55]
protection class (EN 60529)		IP 65
rated insulation voltage	Ui [V]	75 d. c.
material of housing		A -G: PTFE
utilisation category		DC13
connection		2m / 3x 0,2mm <sup>2</sup> PTFE
supply voltage range UB	UB [V]	12... 35
no-load supply current	Io [mA]	10
minimum operational current	Im [mA]	
operational current	Ie [mA]	200
off-state current	Ir [mA]	
voltage drop [50mA/ Ie]	Ud [V]	0,8
time delay before availability	tv [ms]	
Indicator [UB / Output]		- / • LED int.
Short circuit- overload-protection		• / •
Reverse polarity Protection		•
Conformity	EMC EEC-direct.	IEC 60947-5-2 : 2000
EMC		
associated equipment		SNG-###AC...
additional functionality		
Application		RF

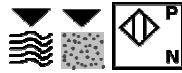
General note:  
Application notes not available. Please follow the general requirements given in the product catalog.

Notes:





2..15

**M18**

application notes

*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

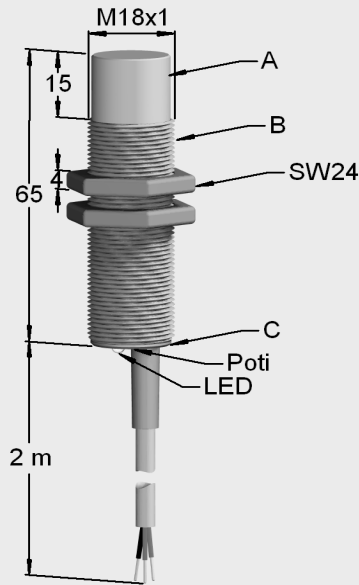
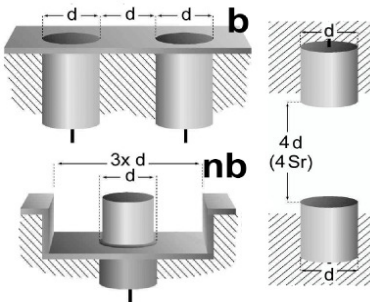
P output stage **PNP**, **NPN**,  
 2-wire **AC/DC**, **X** (switchable)

b mounting **b**=flush  
**nb**=non-flush

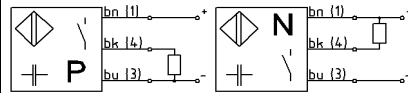
S **S**=N.O. **Ö**=N.C.  
**X**=function switchable

(c)PTFE Housing material, e.g. **PTFE**  
**cPTFE**=complete PTFE

1m2-Y2 cable & connector:  
 Y# = connector  
 1m2 = 1.2m cable length



160106



Typ / Type	Nr./No.
SK1-15-M18-P-nb-S	07013
SK1-15-M18-P-nb-Ö	07014
SK1-15-M18-N-nb-S	07015
SK1-15-M18-N-nb-Ö	07016

mounting [flush / nonflush]	[ b / nb ]	nb
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operating distance	Sd [mm]	2... 15
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Hysteresis	H [%Sr]	15
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frequency of operating cycles	f [Hz]	100
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repeat accuracy	R [%Sr]	2
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Operating temperature range	[°C]	-30... 60
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temperature drift [range]	[%Sr] [°C]	15 [-5... 55]
---------------------------	------------	---------------

protection class (EN 60529)		IP 67
-----------------------------	--	-------

rated insulation voltage	Ui [V]	75 d. c.
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material of housing		A: PVC; B: PVC; C: PBT
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utilisation category		DC13
----------------------	--	------

connection		2m / 3x 0,25mm <sup>2</sup> PVC
------------	--	---------------------------------

supply voltage range UB	UB [V]	10... 35
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no-load supply current	Io [mA]	10
------------------------	---------	----

minimum operational current	Im [mA]	
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operational current	Ie [mA]	300
---------------------	---------	-----

off-state current	Ir [mA]	
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voltage drop [50mA/ Ie]	Ud [V]	1,5
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time delay before availability	tv [ms]	
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Indicator [UB / Output]		- / •
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Short circuit- overload-protection		• / •
------------------------------------	--	-------

Reverse polarity Protection		•
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Conformity	EMC	IEC 60947-5-2 : 2000
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EEC-direct.		CE
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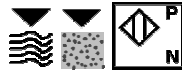
EMC

associated equipment	SNG-###AC...
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additional functionality	
--------------------------	--

Application	
-------------	--

2..15

**M18**

application notes

*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

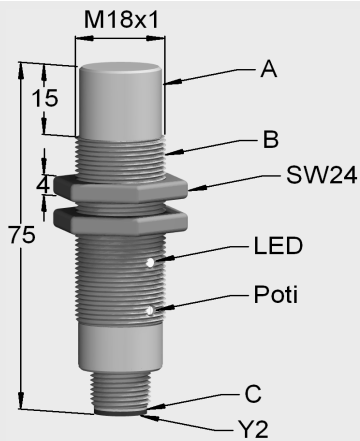
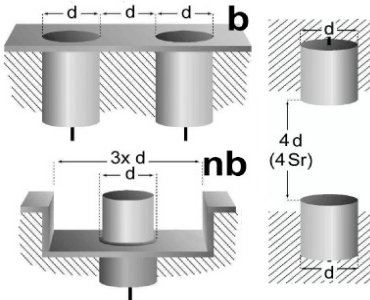
P output stage **PNP, NPN,**  
 2-wire **AC/DC, X** (switchable)

b mounting **b=flush**  
**nb=non-flush**

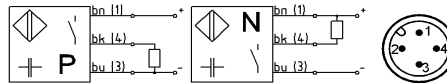
S **S=N.O. Ö=N.C.**  
**X=function switchable**

(c)PTFE Housing material, e.g. **PTFE**  
**cPTFE=complete PTFE**

1m2-Y2 cable & connector:  
 Y# = connector  
 1m2 = 1.2m cable length



160106



Typ / Type	Nr./No.
SK1-15-M18-P-nb-S-Y2	07045
SK1-15-M18-P-nb-Ö-Y2	07046
SK1-15-M18-N-nb-S-Y2	07047
SK1-15-M18-N-nb-Ö-Y2	07048

mounting [flush / nonflush]	[ b / nb ]	nb
-----------------------------	------------	----

operating distance	Sd [mm]	2... 15
--------------------	---------	---------

Hysteresis	H [%Sr]	15
------------	---------	----

frequency of operating cycles	f [Hz]	100
-------------------------------	--------	-----

repeat accuracy	R [%Sr]	2
-----------------	---------	---

Operating temperature range	[°C]	-30... 60
-----------------------------	------	-----------

temperature drift [range]	[%Sr] [°C]	15 [-5... 55]
---------------------------	------------	---------------

protection class (EN 60529)		IP 67
-----------------------------	--	-------

rated insulation voltage	Ui [V]	75 d. c.
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material of housing		A: PVC B: PVC; C: PA
---------------------	--	----------------------

utilisation category		DC13
----------------------	--	------

connection		Z20; Z21
------------	--	----------

supply voltage range UB	UB [V]	10... 35
-------------------------	--------	----------

no-load supply current	Io [mA]	10
------------------------	---------	----

minimum operational current	Im [mA]	
-----------------------------	---------	--

operational current	Ie [mA]	300
---------------------	---------	-----

off-state current	Ir [mA]	
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voltage drop [50mA/ Ie]	Ud [V]	1,5
-------------------------	--------	-----

time delay before availability	tv [ms]	
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Indicator [UB / Output]		- / •
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Short circuit- overload-protection		• / •
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Reverse polarity Protection		•
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Conformity	EMC	IEC 60947-5-2 : 2000
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EEC-direct.		
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EMC

associated equipment

SNG-###AC...

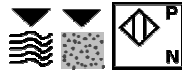
additional functionality

Application

General note:  
 Application notes not available. Please follow the  
 general requirements given in the product catalog.

## Notes:

2..15

**M18**

application notes

*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

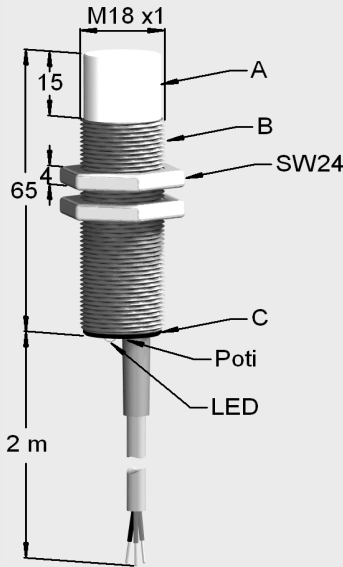
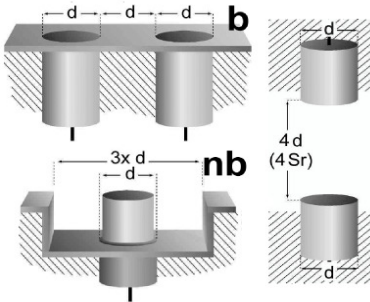
P output stage **PNP**, **NPN**,  
 2-wire **AC/DC**, **X** (switchable)

b mounting **b**=flush  
**nb**=non-flush

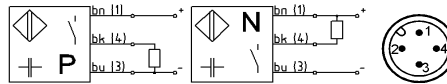
S **S**=N.O. **Ö**=N.C.  
**X**=function switchable

(c)PTFE Housing material, e.g. **PTFE**  
**cPTFE**=complete PTFE

1m2-Y2 cable & connector:  
 Y# = connector  
 1m2 = 1.2m cable length



191006



Typ / Type	Nr./No.
SK1-15-M18-PnbS-VA/PTFE	07017
SK1-15-M18-PnbÖ-VA/PTFE	07018
SK1-15-M18-NnbS-VA/PTFE	07019
SK1-15-M18-NnbÖ-VA/PTFE	07020

mounting [flush / nonflush]	[ b / nb ]	nb
-----------------------------	------------	----

operating distance	Sd [mm]	2... 15
--------------------	---------	---------

Hysteresis	H [%Sr]	15
------------	---------	----

frequency of operating cycles	f [Hz]	100
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repeat accuracy	R [%Sr]	2
-----------------	---------	---

Operating temperature range	[°C]	-30... 70
-----------------------------	------	-----------

temperature drift [range]	[%Sr] [°C]	15 [-5... 55]
---------------------------	------------	---------------

protection class (EN 60529)		IP 67
-----------------------------	--	-------

rated insulation voltage	Ui [V]	75 d. c.
--------------------------	--------	----------

material of housing		A: PTFE; B: VA; C: PA
---------------------	--	-----------------------

utilisation category		DC13
----------------------	--	------

connection		2m / 3x 0,25mm <sup>2</sup> PVC
------------	--	---------------------------------

supply voltage range UB	UB [V]	10... 35
-------------------------	--------	----------

no-load supply current	Io [mA]	10
------------------------	---------	----

minimum operational current	Im [mA]	
-----------------------------	---------	--

operational current	Ie [mA]	300
---------------------	---------	-----

off-state current	Ir [mA]	
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voltage drop [50mA/ Ie]	Ud [V]	1,5
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time delay before availability	tv [ms]	
--------------------------------	---------	--

Indicator [UB / Output]		- / •
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Short circuit- overload-protection		• / •
------------------------------------	--	-------

Reverse polarity Protection		•
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Conformity	EMC EEC-direct.	IEC 60947-5-2 : 2000
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EMC

associated equipment

SNG-###AC...

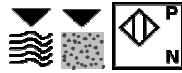
additional functionality

Application

General note:  
 Application notes not available. Please follow the  
 general requirements given in the product catalog.

## Notes:

2..15

**M18**

application notes

*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

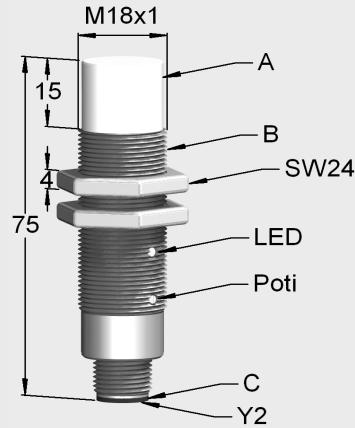
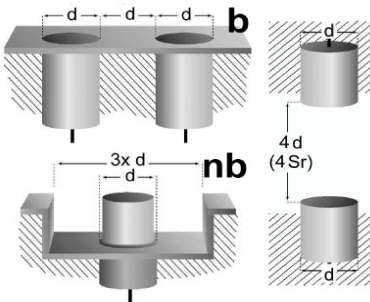
P output stage **PNP**, **NPN**,  
 2-wire **AC/DC**, **X** (switchable)

b mounting **b**=flush  
**nb**=non-flush

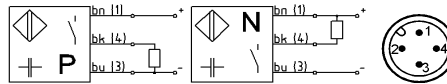
S **S**=N.O. **Ö**=N.C.  
**X**=function switchable

(c)PTFE Housing material, e.g. **PTFE**  
**cPTFE**=complete PTFE

1m2-Y2 cable & connector:  
 Y# = connector  
 1m2 = 1.2m cable length



191006



Typ / Type	Nr./No.
SK1-15-M18-PnbS-VA/PTFE-Y2	07049
SK1-15-M18-PnbÖ-VA/PTFE-Y2	07050
SK1-15-M18-NnbS-VA/PTFE-Y2	07051
SK1-15-M18-NnbÖ-VA/PTFE-Y2	07052

mounting [flush / nonflush]	[ b / nb ]	nb
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operating distance	Sd [mm]	2... 15
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Hysteresis	H [%Sr]	15
------------	---------	----

frequency of operating cycles	f [Hz]	100
-------------------------------	--------	-----

repeat accuracy	R [%Sr]	2
-----------------	---------	---

Operating temperature range	[°C]	-30... 70
-----------------------------	------	-----------

temperature drift [range]	[%Sr] [°C]	15 [-5... 55]
---------------------------	------------	---------------

protection class (EN 60529)		IP 67
-----------------------------	--	-------

rated insulation voltage	Ui [V]	75 d. c.
--------------------------	--------	----------

material of housing		A: PTFE; B: VA; C: PA
---------------------	--	-----------------------

utilisation category		DC13
----------------------	--	------

connection		Z20; Z21
------------	--	----------

supply voltage range UB	UB [V]	10... 35
-------------------------	--------	----------

no-load supply current	Io [mA]	10
------------------------	---------	----

minimum operational current	Im [mA]	
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operational current	Ie [mA]	300
---------------------	---------	-----

off-state current	Ir [mA]	
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voltage drop [50mA/ Ie]	Ud [V]	1,5
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time delay before availability	tv [ms]	
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Indicator [UB / Output]		- / •
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Short circuit- overload-protection		• / •
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Reverse polarity Protection		•
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Conformity	EMC	IEC 60947-5-2 : 2000
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	EEC-direct.	
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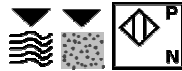
EMC		
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associated equipment		SNG-###AC...
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additional functionality		
--------------------------	--	--

Application		
-------------	--	--

2..15



**M18**

application notes

*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

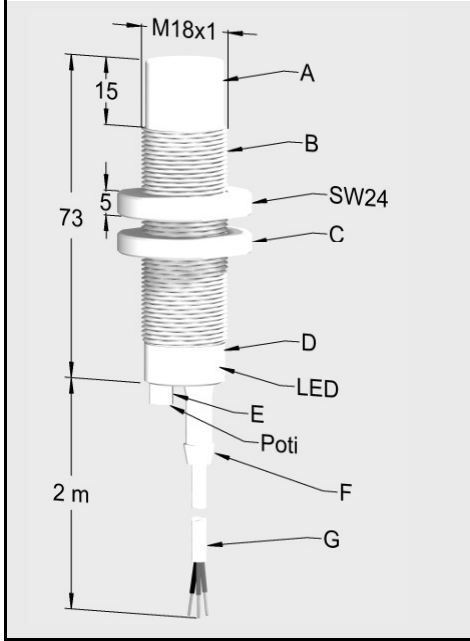
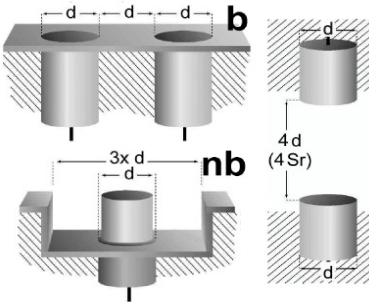
P output stage **PNP**, **NPN**, 2-wire **AC/DC**, **X** (switchable)

b mounting **b**=flush **nb**=non-flush

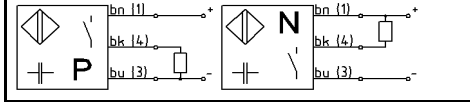
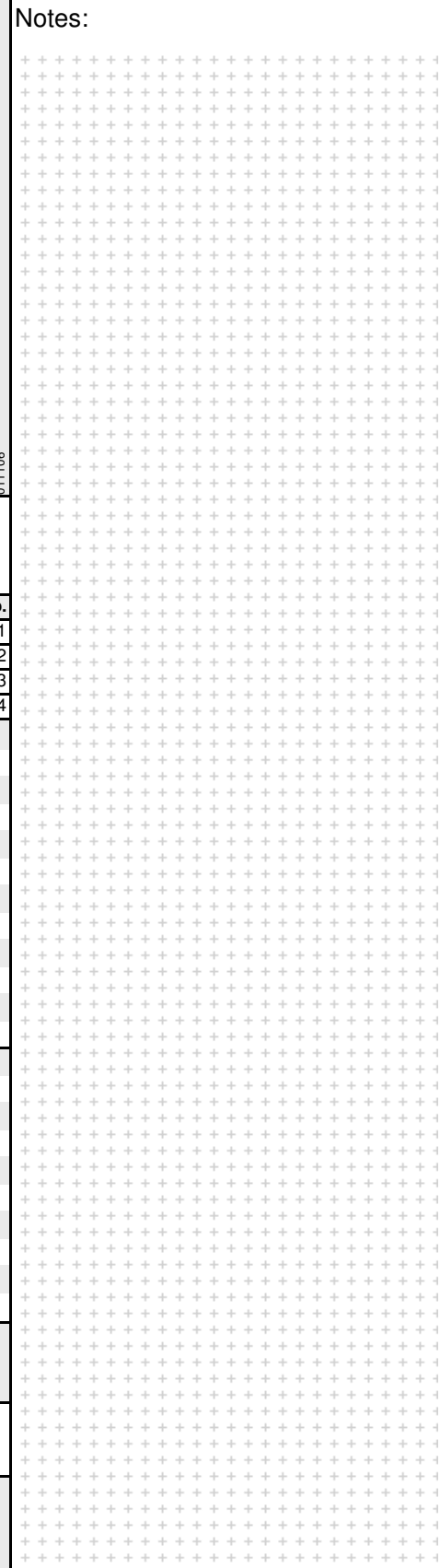
S **S**=N.O. **Ö**=N.C. **X**=function switchable

(c)PTFE Housing material, e.g. **PTFE** **cPTFE**=complete PTFE

1m2-Y2 cable & connector:  
 Y# = connector  
 1m2 = 1.2m cable length



General note:  
 Application notes not available. Please follow the general requirements given in the product catalog.

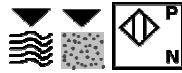


Typ / Type	Nr./No.
SK1-15-M18-P-nb-S-cPTFE	07081
SK1-15-M18-P-nb-Ö-cPTFE	07082
SK1-15-M18-N-nb-S-cPTFE	07083
SK1-15-M18-N-nb-Ö-cPTFE	07084

mounting [flush / nonflush]	[ b / nb ]	nb
operating distance	Sd [mm]	2... 15
Hysteresis	H [%Sr]	15
frequency of operating cycles	f [Hz]	100
repeat accuracy	R [%Sr]	2
Operating temperature range	[°C]	-30... 70
temperature drift [range]	[%Sr] [°C]	15 [-5... 55]
protection class (EN 60529)		IP 67
rated insulation voltage	Ui [V]	75 d. c.
material of housing		A-G : PTFE
utilisation category		DC13
connection		2m / 3x 0,2mm <sup>2</sup> PTFE
supply voltage range UB	UB [V]	10... 35
no-load supply current	Io [mA]	10
minimum operational current	Im [mA]	
operational current	Ie [mA]	300
off-state current	Ir [mA]	
voltage drop [50mA/ Ie]	Ud [V]	1,5
time delay before availability	tv [ms]	
Indicator [UB / Output]		- / • LED int.
Short circuit- overload-protection		• / •
Reverse polarity Protection		•
Conformity	EMC EEC-direct.	IEC 60947-5-2 : 2000
EMC		
associated equipment		SNG-###AC...
additional functionality		
Application		



1...30

**M30**

application notes

**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

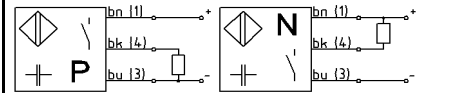
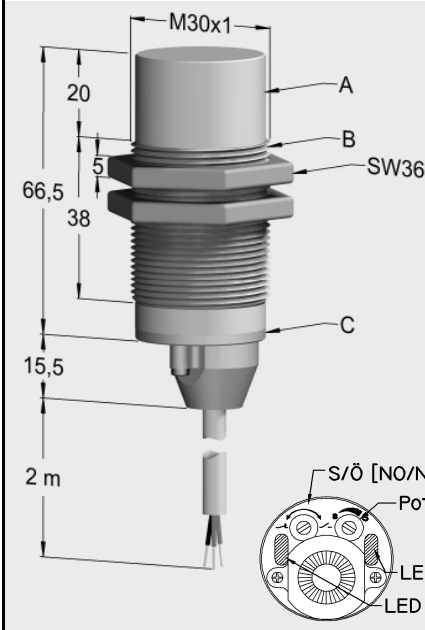
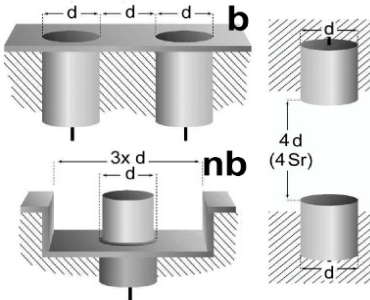
P output stage **PNP, NPN,**  
 2-wire **AC/DC, X** (switchable)

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	Nr./No.
SK1-30-M30-P-nb-X-PBT	07089
SK1-30-M30-N-nb-X-PBT	07090

**Power indicator:**  
 Green LED with steady light

**Output state indicator:**  
 Yellow LED lights up during switching operations

**Pot:**  
 20-turn-trimmer without stop position.  
 The sensitivity is increased by turning the potentiometer clockwise.  
 The sensitivity is diminished by turning the potentiometer anticlockwise

**Rotary switch:**  
 Right-hand position = N.O. function  
 Left-hand position = N.C. function

**Note:**  
**Please turn the switch towards the right or left-hand stop only until you feel a slight resistance, and no further. This will damage the switch.**

131106

mounting [flush / nonflush]	[ b / nb ]	nb
operating distance	Sd [mm]	1... 30
Hysteresis	H [%Sr]	15
frequency of operating cycles	f [Hz]	100
repeat accuracy	R [%Sr]	5
Operating temperature range	[°C]	-30... 70
temperature drift [range]	[%Sr] [°C]	15 [-5... 55]
protection class (EN 60529)		A, B: IP 66 / IP 68; C: IP 64
rated insulation voltage	Ui [V]	75 d. c.
material of housing		A: PBT; B: PBT; C: PBT/PE
utilisation category		DC13
connection		2m / 3x 0,34mm <sup>2</sup> PUR

supply voltage range UB	UB [V]	10... 35
no-load supply current	Io [mA]	15
minimum operational current	Im [mA]	
operational current	Ie [mA]	300
off-state current	Ir [mA]	
voltage drop [50mA/ Ie]	Ud [V]	1,8
time delay before availability	tv [ms]	
Indicator [UB / Output]		• / •
Short circuit- overload-protection		• / •
Reverse polarity Protection		•

Conformity EMC IEC 60947-5-2 : 2000



EMC ESD > 16kV

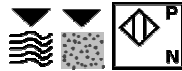
associated equipment SNG-###AC...

additional functionality S / Ö NO / NC



Application

1...30

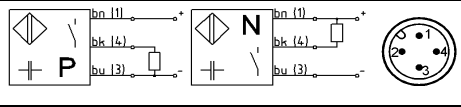
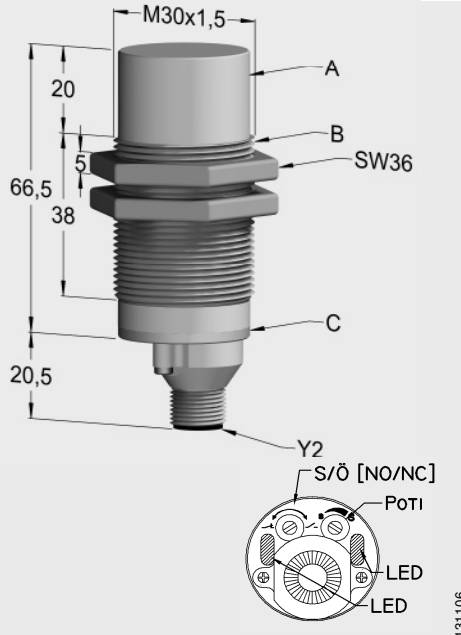
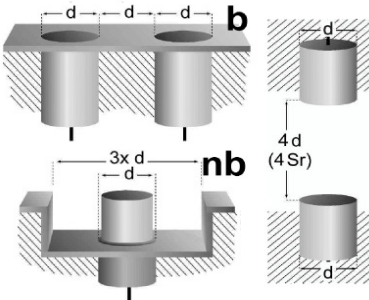


**M30**

application notes

*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, 2-wire AC/DC, 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	Nr./No.
SK1-30-M30-P-nb-X-PBT-Y2	07091
SK1-30-M30-N-nb-X-PBT-Y2	07092

**Power indicator:**  
Green LED with steady light

**Output state indicator:**  
Yellow LED lights up during switching operations

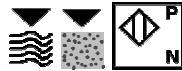
**Pot:**  
20-turn-trimmer without stop position. The sensitivity is increased by turning the potentiometer clockwise. The sensitivity is diminished by turning the potentiometer anticlockwise

**Rotary switch:**  
Right-hand position = N.O. function  
Left-hand position = N.C. function

**Note:**  
**Please turn the switch towards the right or left-hand stop only until you feel a slight resistance, and no further. This will damage the switch.**

mounting [flush / nonflush]	[ b / nb ]	nb
operating distance	Sd [mm]	1... 30
Hysteresis	H [%Sr]	15
frequency of operating cycles	f [Hz]	100
repeat accuracy	R [%Sr]	5
Operating temperature range	[°C]	-30... 70
temperature drift [range]	[%Sr] [°C]	15 [-5... 55]
protection class (EN 60529)		A, B: IP 66 / IP 68; C: IP 64
rated insulation voltage	Ui [V]	75 d. c.
material of housing		A: PBT; B: PBT; C: PBT/PE
utilisation category		DC13
connection		Z20; Z21
supply voltage range UB	UB [V]	10... 35
no-load supply current	Io [mA]	15
minimum operational current	Im [mA]	
operational current	Ie [mA]	300
off-state current	Ir [mA]	
voltage drop [50mA/ Ie]	Ud [V]	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 : 2000
	EMC	ESD > 16kV
associated equipment		SNG-###AC...
additional functionality		S / Ö NO / NC
Application		

1...30

**M30**

application notes

*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

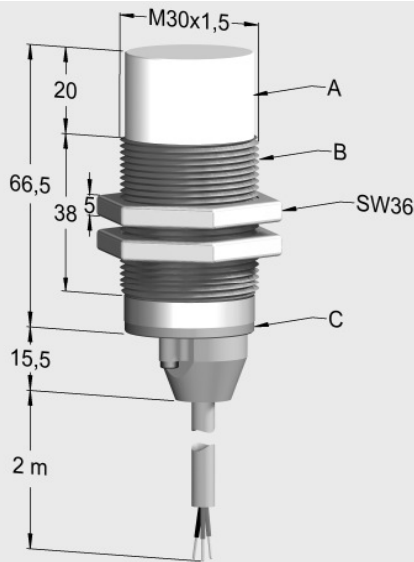
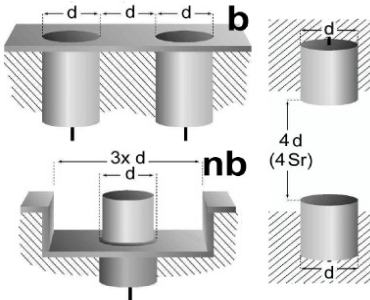
P output stage **PNP**, **NPN**,  
 2-wire **AC/DC**, **X** (switchable)

b mounting **b**=flush  
**nb**=non-flush

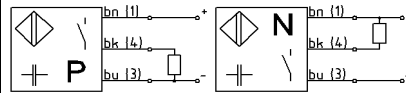
S **S**=N.O. **Ö**=N.C.  
**X**=function switchable

(c)PTFE Housing material, e.g. **PTFE**  
**cPTFE**=complete PTFE

1m2-Y2 cable & connector:  
 Y# = connector  
 1m2 = 1.2m cable length



131106



Typ / Type	Nr./No.
SK1-30-M30-PnbX-VA/PTFE	07093
SK1-30-M30-NnbX-VA/PTFE	07094

mounting [flush / nonflush]	[ b / nb ]	nb
operating distance	Sd [mm]	2... 30
Hysteresis	H [%Sr]	15
frequency of operating cycles	f [Hz]	100
repeat accuracy	R [%Sr]	5
Operating temperature range	[°C]	-30... 70
temperature drift [range]	[%Sr] [°C]	15 [-5... 55]
protection class (EN 60529)		A, B: IP 66 / IP 67; C: IP 64
rated insulation voltage	Ui [V]	75 d. c.
material of housing		A: PTFE; B: VA; C: PBT/PE
utilisation category		DC13
connection		2m / 3x 0,34mm <sup>2</sup> PUR

supply voltage range UB	UB [V]	10... 35
no-load supply current	Io [mA]	15
minimum operational current	Im [mA]	
operational current	Ie [mA]	300
off-state current	Ir [mA]	
voltage drop [50mA/ Ie]	Ud [V]	1,8
time delay before availability	tv [ms]	
Indicator [UB / Output]		• / •
Short circuit- overload-protection		• / •
Reverse polarity Protection		•

Conformity EMC IEC 60947-5-2 : 2000



EMC ESD > 16kV

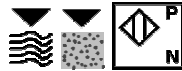
associated equipment SNG-###AC...

additional functionality S / Ö NO / NC



Application

1...30

**M30**

application notes

*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

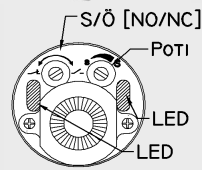
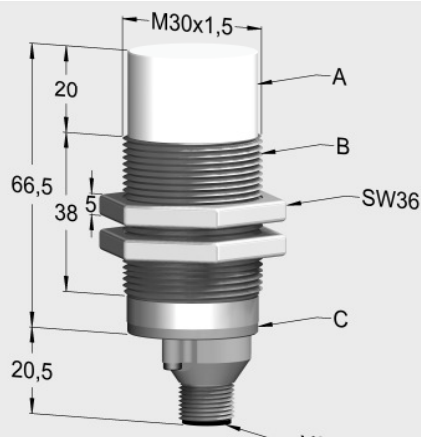
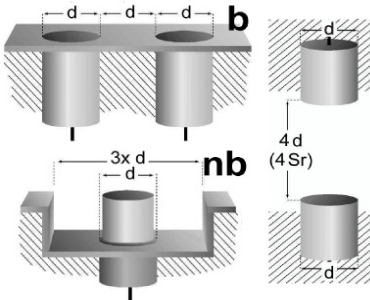
P output stage PNP, NPN,  
 2-wire AC/DC, X (switchable)

b mounting b=flush  
 nb=non-flush

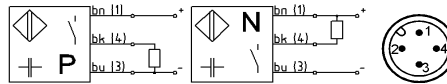
S S=N.O. Ö=N.C.  
 X=function switchable

(c)PTFE Housing material, e.g. PTFE  
 cPTFE=complete PTFE

1m2-Y2 cable & connector:  
 Y# = connector  
 1m2 = 1.2m cable length



131106



Typ / Type	Nr./No.
SK1-30-M30-PnbX-VA/PTFE-Y2	07095
SK1-30-M30-NnbX-VA/PTFE-Y2	07096

mounting [flush / nonflush]	[ b / nb ]	nb
operating distance	Sd [mm]	1... 30
Hysteresis	H [%Sr]	15
frequency of operating cycles	f [Hz]	100
repeat accuracy	R [%Sr]	5
Operating temperature range	[°C]	-30... 70
temperature drift [range]	[%Sr] [°C]	15 [-5... 55]
protection class (EN 60529)		A, B: IP 66 / IP 67; C: IP 64
rated insulation voltage	Ui [V]	75 d. c.
material of housing		A. PTFE; B: VA; C: PBT/PE
utilisation category		DC13
connection		Z20; Z21

supply voltage range UB	UB [V]	10... 35
no-load supply current	Io [mA]	15
minimum operational current	Im [mA]	
operational current	Ie [mA]	300
off-state current	Ir [mA]	
voltage drop [50mA/ Ie]	Ud [V]	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 : 2000	
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EMC	ESD > 16kV
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associated equipment	SNG-###AC...
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additional functionality	S / Ö NO / NC
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Application	
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**Power indicator:**  
 Green LED with steady light

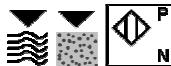
**Output state indicator:**  
 Yellow LED lights up during switching operations

**Pot:**  
 20-turn-trimmer without stop position.  
 The sensitivity is increased by turning the potentiometer clockwise.  
 The sensitivity is diminished by turning the potentiometer anticlockwise

**Rotary switch:**  
 Right-hand position = N.O. function  
 Left-hand position = N.C. function

**Note:**  
 Please turn the switch towards the right or left-hand stop only until you feel a slight resistance, and no further. This will damage the switch.

2.30

**M30**

application notes

*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,  
 2-wire AC/DC, X (switchable)

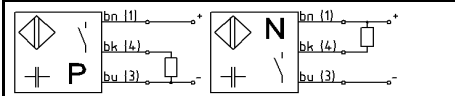
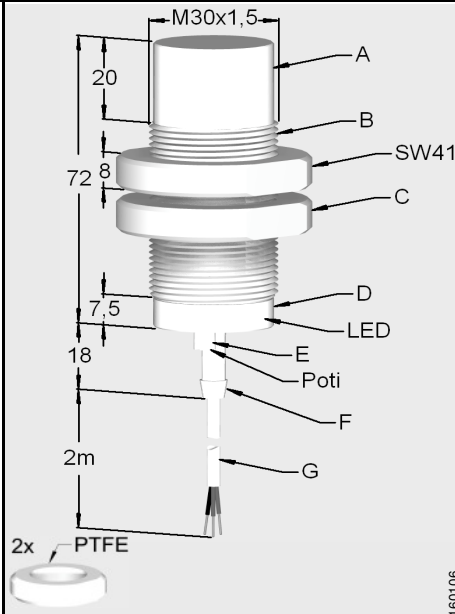
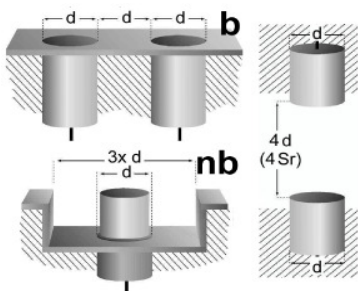
b mounting b=flush

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	Nr./No.
SK1-30-M30-PNBS-CPTFE	07085
SK1-30-M30-PNBO-CPTFE	07086
SK1-30-M30-NNBS-CPTFE	07087
SK1-30-M30-NNBO-CPTFE	07088

mounting [flush / nonflush]	[ b / nb ]	nb
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operating distance	Sd [mm]	2... 30
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Hysteresis	H [%Sr]	10
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frequency of operating cycles	f [Hz]	100
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repeat accuracy	R [%Sr]	2
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Operating temperature range	[°C]	-30... 70
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temperature drift [range]	[%Sr] [°C]	15 [-5... 55]
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protection class	(EN 60529)	IP 67
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rated insulation voltage	Ui [V]	75 d. c.
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material of housing		A-G : PTFE
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utilisation category		DC13
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connection		2m / 3x 0,2mm <sup>2</sup> PTFE
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supply voltage range UB	UB [V]	10... 35
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no-load supply current	Io [mA]	10
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minimum operational current	Im [mA]	
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operational current	Ie [mA]	300
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off-state current	Ir [mA]	
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voltage drop [50mA/ Ie]	Ud [V]	1,5
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time delay before availability	tv [ms]	
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Indicator [UB / Output]		- / • LED int.
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Short circuit- overload-protection		• / •
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Reverse polarity Protection		•
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Conformity	EMC	IEC 60947-5-2 : 2000
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EEC-direct.		CE
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EMC		IEC 61000-4-6 (Testlevel 3V) Functional errors in partition of working frequency possible.
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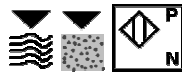
associated equipment		SNG-###AC...
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additional functionality		
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Application		 
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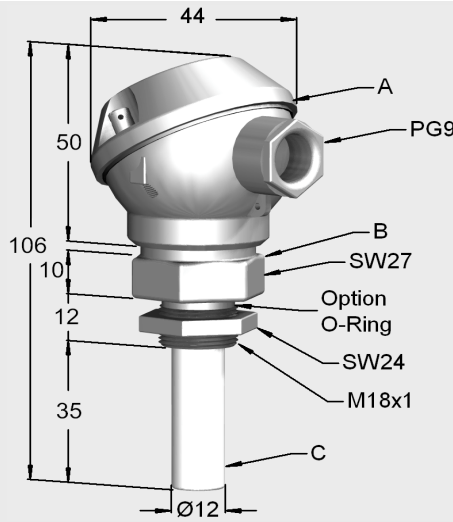
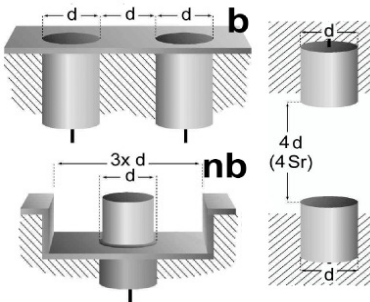


**DC  
M18**

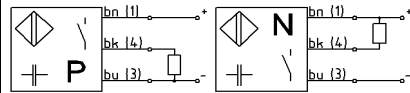
application notes

**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, 2-wire AC/DC, 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



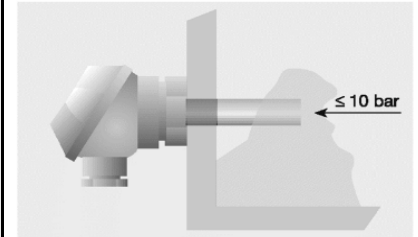
160106



Typ / Type	Nr./No.
SK1-HT125-FS-JM18-P-S-KL	07061
SK1-HT125-FS-JM18-P-Ö-KL	07062
SK1-HT125-FS-JM18-N-S-KL	07063
SK1-HT125-FS-JM18-N-Ö-KL	07064

**Sensor applicability**  
 This capacitive level sensor can detect liquids and other pourable products, even when installed in high-temperature surroundings. A sensor of such caliber can be used where there is a difficulty in managing or controlling product flows or levels.

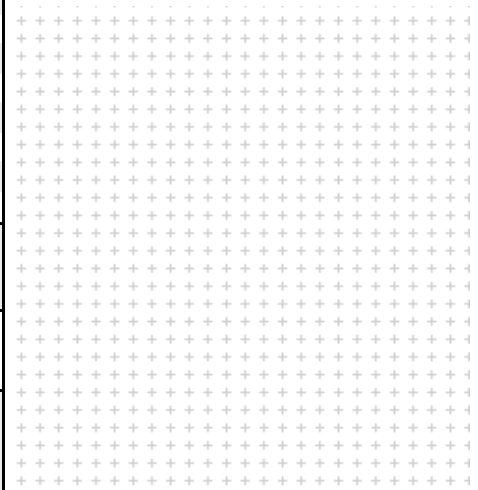
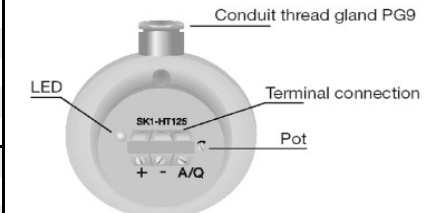
**Application examples**  
 Level sensing of nearly all products: viscous medium, grainy materials, powder and liquids.



**Adjustment**  
 The device is adjusted using the potentiometer. Note that a mean value between the switch-on and switch-off points of the tripped sensor must be set. In individual cases, when high temperature dynamic response and very adhesive media are involved, a slight re-adjustment may be necessary. The adjustment instructions for non-flush sensors on page 1.09 also apply.

**Signal evaluation**  
 The SNG series (page 12.01-12.03) 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. This level sensor can also be run from a PLC.

**Terminal connection**



mounting [flush / nonflush]	[ b / nb ]	
operating distance	Sd [mm]	
Hysteresis	H [%Sr]	
frequency of operating cycles	f [Hz]	5
repeat accuracy	R [%Sr]	
Operating temperature range	[°C]	-30... 125 [-30... 100]LED
temperature drift [range]	[%Sr] [°C]	
protection class (EN 60529)		IP 67 / IP 68 - 10 bar
rated insulation voltage	Ui [V]	75 d. c.
material of housing		A: Al-Druckguss; B: V2A; C: PTFE
utilisation category		DC13
connection		Klemmen
supply voltage range UB	UB [V]	10... 35
no-load supply current	Io [mA]	10
minimum operational current	Im [mA]	
operational current	Ie [mA]	100
off-state current	Ir [mA]	200
voltage drop [50mA/ Ie]	Ud [V]	2,7
time delay before availability	tv [ms]	
Indicator [UB / Output]		- / • LED int.
Short circuit- overload-protection		• / •
Reverse polarity Protection		•
Conformity	EMC EEC-direct.	IEC 60947-5-2 : 2000
EMC		
associated equipment		MA-M18/###/10-V2A
additional functionality		
Application		