

Sensor amplifiers

Series SV, SNG...-K-... 0400

- For sensors SK and SKF
- Sensing distance adjustable
- DC or AC versions
- Logic amplifier
- Min-Max control



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

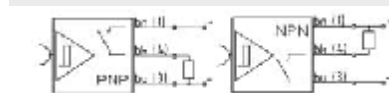
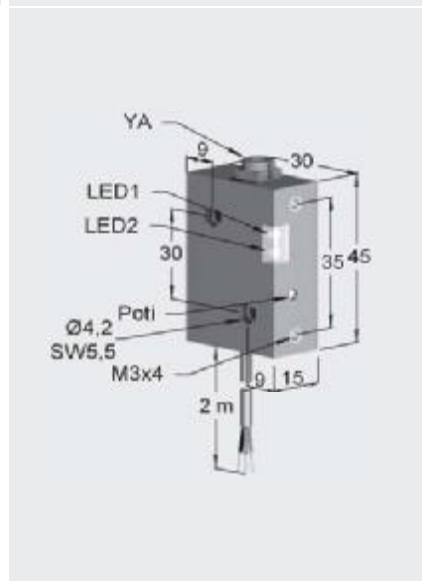
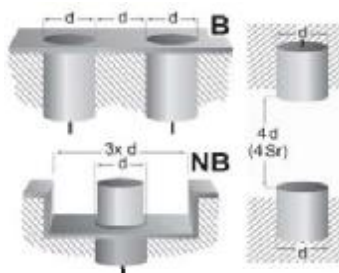
P output stage PNP, NPN, X (switchable)

B mounting B=flush
NB=non-flush

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

(C)PTFE Housing material, e.g. PTFE
CPTFE=complete PTFE

1M2-Y2 cable & connector:
Y2 = connector
1M2 = 1.2m cable length



Typ / Type

SV-45/30/15-PS

SV-45/30/15-PO

SV-45/30/15-NS

SV-45/30/15-NO

application notes

Function overview

LED 1: Control state indicator

LED 2: Indicated operating voltage present

Pos. 1: Through-hole Ø4.2 (4.2 mm in diameter), hexagonal on both sides, for inserting an M3 nut in each case

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Mounting [flush / nonflush] [B / NB]

Operating distance Sn [mm]

Hysteresis H [%SR]

Frequency of operating cycles f [Hz]

Repeat accuracy R [%SR]

Operating temperature range Ta [C°]

Temperature drift [range] [%SR]

Protection class

Rated insulation voltage Ui [V]

Material of housing

Utilisation category

Connection

Supply voltage range UB [V]

No-load supply current Iomax. [mA]

Minimum operational current Im [mA]

Operational current Ie [mA]

Off-state current Ir [mA]

Voltage drop Ud @ Ie [V]

Time delay before availability tv [ms]

Indicator [UB / Output]

Short circuit- overload-protection

Reverse polarity protection

Conformity

EMC
EEC-direct.

EMC

Associated equipment

Additional functionality

Application

IP 67

75 d. c.

PC

DC13

YA - 2m / 3x 0,14mm² / PUR

12... 35

20

300

0,8

< 300

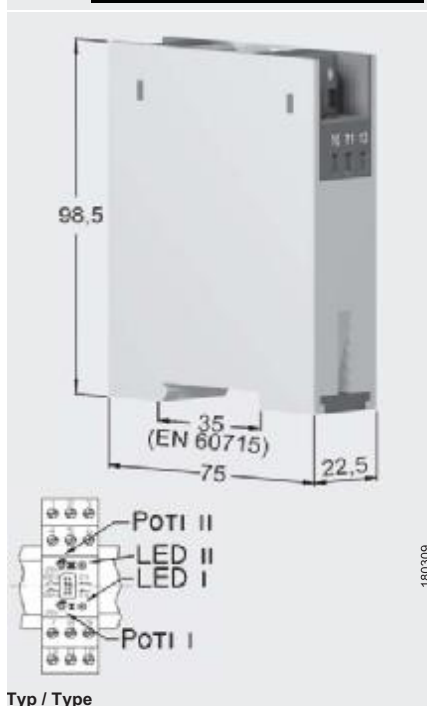
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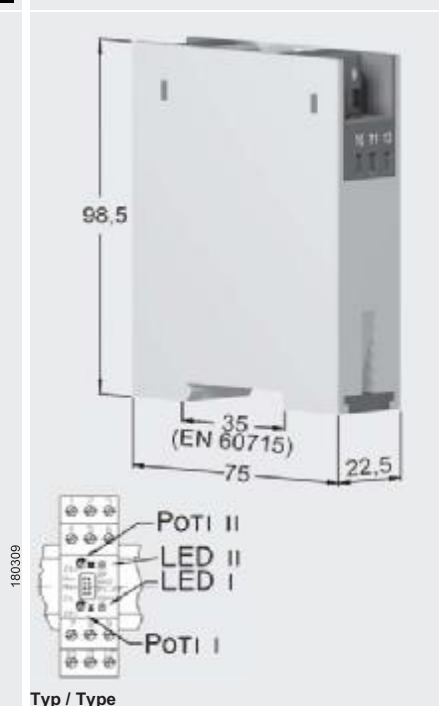
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EMC

SK-...



Typ / Type
SV-2VX-LDG12



Typ / Type
SV-X2L-LDG12

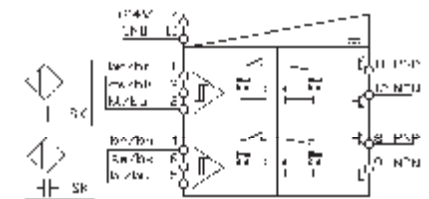
100	100
-30... 70	-30... 70
IP 40 / 20	
75 d. c.	75 d. c.
PC	PC
DC13	DC13
max. 2,5mm ² / AWG 14	
10... 35	10... 35
15	25
PNP: 300 / NPN: 300	PNP: 300 / NPN: 300
0,8	0,8
< 300	< 300
• / •	- / •
• / •	• / •
•	•
IE	

SK-...	SL-YA-m20	SK-...	SL-YA-m20
S / Ö			
NO / NC			
10ms / 2s			
2x SV = 1x 2VX			
P / N - A/Q per SV		P / N - A/Q & P / N Ainv/Qinv	

application notes

SV-2VX

- Two separate sensor amplifiers in one housing
- Connection for two Mini-SK or SKF Sensors
- PNP and NPN transistor output
- Function switchable between N.O. / N.C.
- Pick-up delay (N.O. contact) switchable between 10 ms / 2 s
- Drop-out delay (N.C. contact) switchable between 10 ms / 2 s
- Clamp terminals
- Sensing distance of sensors can be adjusted separately
- Control state signalled by two separate LED indicators



SV-X2L

- Sensor amplifier with logic
- Connection for two Mini-SK or SKF sensors
- Two outputs each (PNP/NPN) for Q and Q̄
- Pick-up delay switchable between 10 ms / 2 s
- Function selectable between OR/AND/RS-FF / Min-Max
- Clamp terminals
- Sensing distance of sensors can be adjusted separately
- Control state signalled by two separate LED indicators

OR function

Output Q active when one or both sensors are activated.

AND function

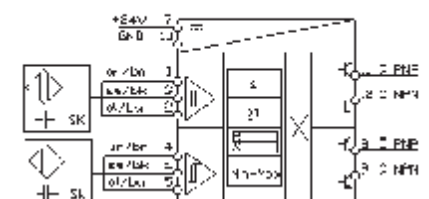
Output Q active only when both sensors are activated

RS-FF function

Output Q active when sensor is activated once at the set input. This state is retained until the sensor is activated at the reset input.

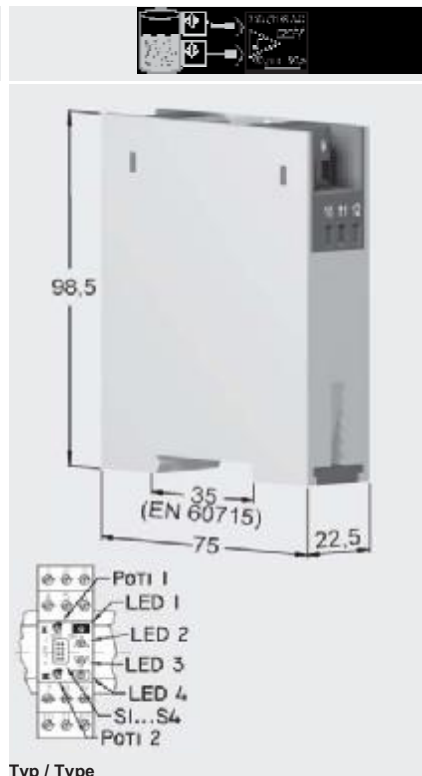
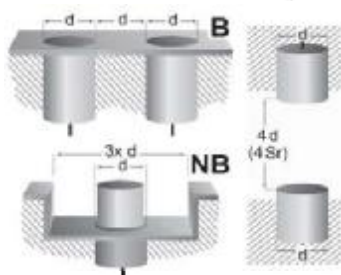
Min-Max function

Output Q is active when both sensors are activated. The output is reset only when both sensors are no longer activated



Type code (abstract)

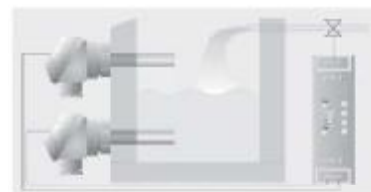
SK	sensor capacitive, two amplifier
SKF	sensor cap., two amplifier, flexible
SK1	sensor capacitive, self-contained
SV(D)	sensor amplifier (dynamic)
SNG	sensor power pack
HT##	high temperature use
TM	pulse modulation technique (High noise immune)
## / FS(A)	max sensing distance / Fill-level switch (adaptive)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



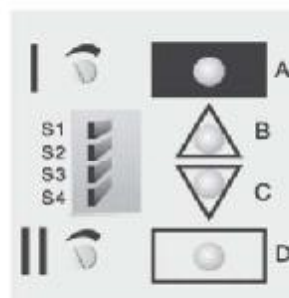
Typ / Type
SNG-230AC-K-MinMax
SNG-115AC-K-MinMax

application notes

Function



When both sensors are de-activated, the relay switches on "LED-empty" lights up (contact 7/9 locked out). When the minimum sensor gives a closed signal, the "LED-filling" illuminates. As soon as both sensors are activated, the relay switches off "LED-full" lights up (contact 7/9 open). When the maximum sensor signals open, the "LED indicating empty" will light up. The relay will not switch on again until both sensors are de-activated. Further functions are possible with the Mini-Dip-Switch (see below).



Dip-switch function

Sensor setting (sketch) = as-delivered condition

S1 Time-delay max-sensor

(off: approx. 0.2 s; on: approx. 5 s)

S2 Time-delay min-sensor

(off: approx. 0.2 s; on: approx. 5 s)

S3 Power-on set-up (off: filling; on: emptying)

S4 Output (relay inverts)

Functions description

A full - B filling - C emptying - D empty

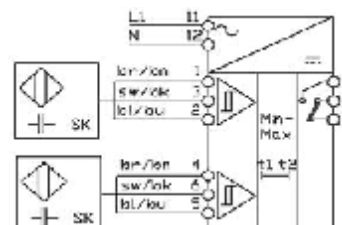
Sensoradjustment

Max-sensor: pot I

Min-sensor: pot II

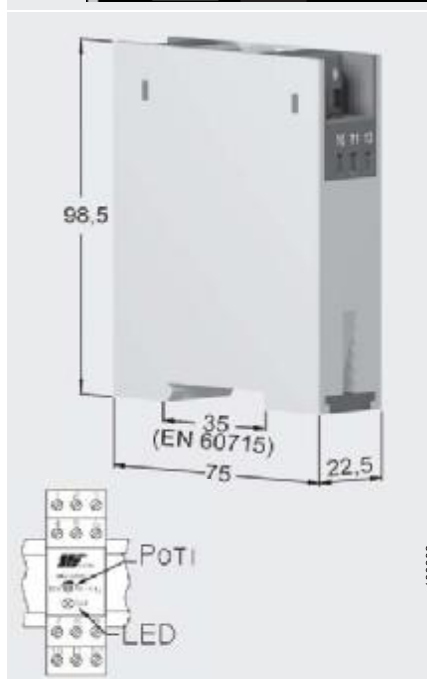
Features

- Min- and max-level sensor controls
- Connection points for the two SK- or SKF series sensors, with separate pot adjustment
- Short circuit proof on the DC side
- Separate switchable delays for either min- and max-sensor

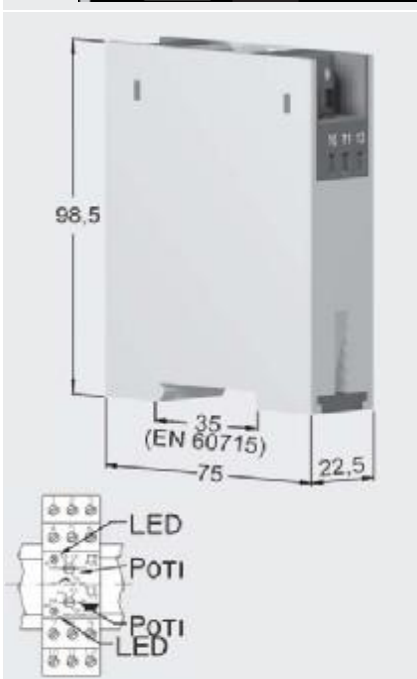


Mounting [flush / nonflush]	[B / NB]	
Operating distance	Sn [mm]	
Hysteresis	H [%SR]	
Frequency of operating cycles	f [Hz]	5
Repeat accuracy	R [%SR]	
Operating temperature range	Ta [°C]	-30... 70
Temperature drift [range]	[%SR]	
Protection class		IP 40 / 20
Rated insulation voltage	Ui [V]	250 a.c.
Material of housing		PC
Utilisation category		-
Connection		max. 2,5mm ² / AWG 14
Supply voltage range UB	Ub [V]	230 (115) V 40... 60 Hz
No-load supply current	Iomax. [mA]	20 / 40
Minimum operational current	Im [mA]	
Operational current	Ie [mA]	380VAC / 250VDC / 8A
Off-state current	Ir [mA]	
Voltage drop	Ud @ Ie [V]	
Time delay before availability	tv [ms]	< 300
Indicator [UB / Output]		- / •
Short circuit- overload-protection		-
Reverse polarity protection		-
Conformity	EMC EEC-direct.	IEC 603 73/23
EMC		
Associated equipment	SK-...	SL-YA m20
Additional functionality		Min Sensor: 0,2 s / 5s Max-Sensor: 0,2s / 5s INIT-set-up

Application

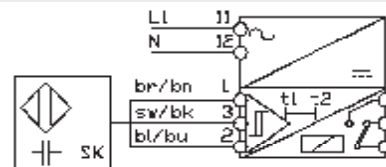


Typ / Type
SNG-230AC-K
SNG-115AC-K



Typ / Type
SNG-230AC-K-T
SNG-115AC-K-T

application notes



10
-30... 70
IP 40
250 a.c.
PC
-
max. 2,5mm ² / AWG 14
230 (115) V 40... 60 Hz
20
380VAC / 250VDC / 8A
< 300
- / •
-
-
73/23

SK-... SL-YA-m20

10
-30... 70
IP 40
250 a.c.
PC
-
max. 2,5mm ² / AWG 14
230 (115) V 40... 60 Hz
20
380VAC / 250VDC / 8A
< 300
- / •
-
-
73/23

SK-... SL-YA-m20

50ms...30s
50ms...30s