

K J 10 - M 30 M B 45 - D P S - V1 - X0000
 T T T T T T T T T T T T
 1 2 3 4 5 6 7 8 9 10 11 12

1= Working principle:

- J** inductive
 - JR** inductive ring
 - JF** inductive surface
 - JG** inductive slot
 - JD** full metal
- C** capacitive
- M** magnetoresistive

2= Switching distance / range

3= Design:

- M** cylindrical housings with metrical thread
- G** cylindrical housings without thread
- Q** square housings
- D** ring housings

catalogue
in revision

4= Housing diameter / edge length

5= Housing material:

- M** brass, nickel plated
- E** stainless steel 1.4305
- K** plastic
- A** aluminium

11= Kind of Connection:

- V1** M8 screw / snap in
- V2** M12 metal
- V2/1** M12 plastic
- V3** M5 metal
- V4** Amphenol Tuchel
- V6** Brad Harrison
- V7** valve connector type A
- V8** M8 only snap in
- V9** M12 only snap in
- V10** valve connector type C
- V11** AC-connector 1/2" UNF
- V12** M18 plastic
- VE** Euchner connector
- ZW** termination box 90°
- RS232** data interface
- PG** thread joint PG
- Mxx** thread joint metrical

6= Installation type:

- B** shielded
- N** non shielded

7= Tube length:

for cylindrical devices in mm

8= Operating voltage:

- D** DC direct-current voltage
- AZ** AC alternating-current voltage
- VZ** AC/DC all voltages

9= Type of the output signal:

- P** PNP
- N** NPN
- Z** two-wire
- AN** analog
 - ANI** current output
 - ANU** voltage output
- NA** Namur

more at inquiry

10= Function:

- S** N.O.
- Ö** N.C.
- A** changeover
- U** switchable
- I** impulse output
- D** data interface

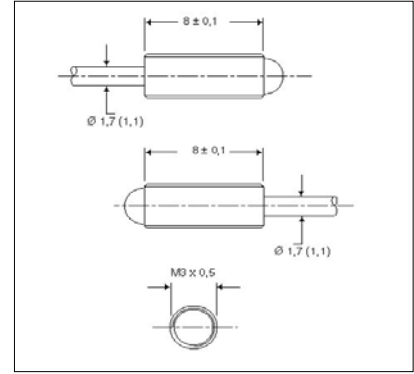
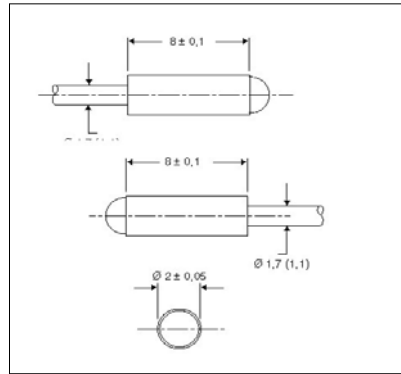
12= Addition mark:

- SF** weld field immune
- T** high temperature
- FE** reduction 1 to steel/iron
- NF** reduction 1 to aluminium
- X** customized design
- W** angled sensing face / angled cable exit
- AM** middle sensing face



Opposed Mode

Operation only with corresponding amplifier.



Type
Order no. (Match-Code)
Light
Sensing Distance ¹⁾ or ²⁾
Min. Object Size ¹⁾ or ²⁾

KOES300-G2EB8-X0301 IR
08363602000 (9960-2000)
Infrared Light 880 nm
¹⁾ 300 mm / ²⁾ 100 mm
¹⁾ 0,2 mm / ²⁾ 0,1 mm

KOES300-M3MB8-X0301 IR
08363102300 (9960-2300)
Infrared Light 880 nm
¹⁾ 300 mm / ²⁾ 100 mm
¹⁾ 0,2 mm / ²⁾ 0,1 mm

Type
Order no. (Match-Code)
Light
Sensing Distance ¹⁾ or ²⁾
Min. Object Size ¹⁾ or ²⁾

KOES300-G2EB8-X0301 RL
08363602100
Red Light 660 nm
¹⁾ 300 mm / ²⁾ 100 mm
¹⁾ 0,2 mm / ²⁾ 0,1 mm

KOES300-M3MB8-X0301 RL
08363102400
Red Light 660 nm
¹⁾ 300 mm / ²⁾ 100 mm
¹⁾ 0,2 mm / ²⁾ 0,1 mm

Type
Order no. (Match-Code)
Light
Sensing Distance ¹⁾ or ²⁾
Min. Object Size ¹⁾ or ²⁾

KOES800-G2EB8-X0301 IR
08363602200
Infrared Light 880 nm
¹⁾ 800 mm / ²⁾ 300 mm
¹⁾ 0,2 mm / ²⁾ 0,1 mm

KOES800-M3MB8-X IR
08363602500
Infrared Light 880 nm
¹⁾ 800 mm / ²⁾ 300 mm
¹⁾ 0,2 mm / ²⁾ 0,1 mm

Housing Material
Mounting
Connection
Type of Protection
Ambient Temperature

Stainless Steel
for Adhesion or Clamp Mounting
1m PUR-Cable with Connector
IP 65
-10°C bis +55°C

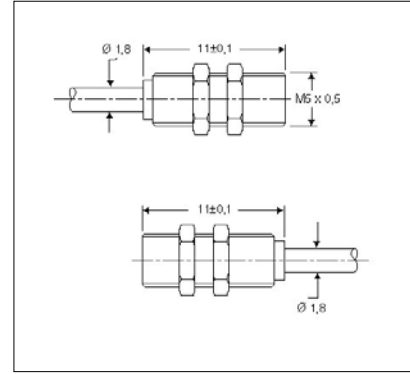
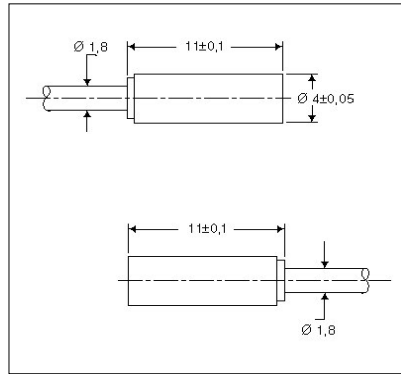
Brass, nickel plated
for Screw Mounting
1m PUR-Cable with Connector
IP 65
-10°C bis +55°C

	Amplifier Switchable	¹⁾ Standard Solution	²⁾ High Solution	
Order no.	08369614100	08369614200	08369614500	08369614600
Output Function	NPN	NPN	PNP	PNP
Connection	Connector M12	Connector M8	Connector M12	Connector M8
Specials	Alarm Output	Alarm Output	AlarmOutput	AlarmOutput
Order no.	08369614000	08369614300	08369614400	08369614700
Output Function	NPN	NPN	PNP	PNP
Connection	2m Cable	Connector M8	2m Cable	Connector M8



Opposed Mode

Operation only with corresponding amplifier.



Type
Order no. (Match-Code)
Light
Sensing Distance ¹⁾ or ²⁾
Min. Object Size ¹⁾ or ²⁾

KOES1000-G4EB11-X0301 IR
08363602600 (9960-2600)
Infrared Light 880 nm
¹⁾ 1000 mm / ²⁾ 350 mm
¹⁾ 0,3 mm / ²⁾ 0,15 mm

KOES1000-M5MB11-X0301 IR
08363602800 (9960-2800)
Infrared Light 880 nm
¹⁾ 1000 mm / ²⁾ 350 mm
¹⁾ 0,3 mm / ²⁾ 0,15 mm

Type
Order no. (Match-Code)
Light
Sensing Distance ¹⁾ or ²⁾
Min. Object Size ¹⁾ or ²⁾

KOES2000-G4EB11-X0301 IR
08363602700
Infrared Light 880 nm
¹⁾ 2000 mm / ²⁾ 700 mm
¹⁾ 0,3 mm / ²⁾ 0,15 mm

KOES2000-M5MB11-X0301 IR
08363602900
Infrared Light 880 nm
¹⁾ 2000 mm / ²⁾ 700 mm
¹⁾ 0,3 mm / ²⁾ 0,15 mm

Type
Order no. (Match-Code)

Housing Material
Mounting
Connection
Type of Protection
Ambient Temperature

Stainless Steel
for Adhesion or Clamp Mounting
1m PUR-Cable with Connector
IP 65
-10°C bis +55°C

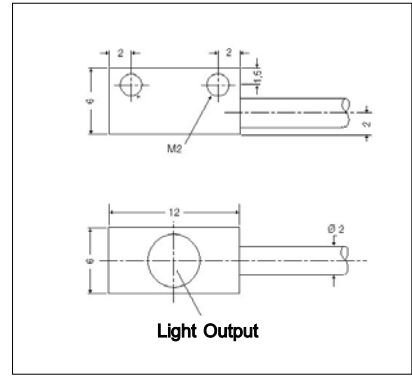
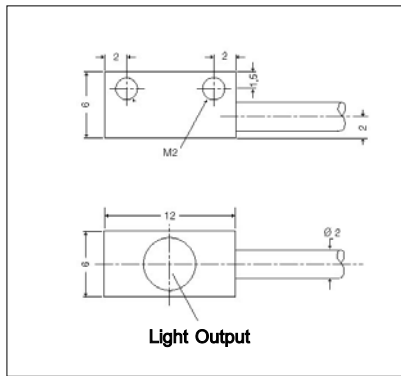
Brass, nickel plated
for Screw Mounting
1m PUR-Cable with Connector
IP 65
-10°C bis +55°C

	Amplifier Switchable		¹⁾ Standard Solution	²⁾ High Solution
Order no.	08369614100	08369614200	08369614500	08369614600
Output Function	NPN	NPN	PNP	PNP
Connection	Connector M12	Connector M8	Connector M12	Connector M8
Specials	Alarm Output	Alarm Output	Alarm Output	Alarm Output
Order no.	08369614000	08369614300	08369614400	08369614700
Output Function	NPN	NPN	PNP	PNP
Connection	2m Cable	Connector M8	2m Cable	Connector M8



Opposed Mode

Operation only with corresponding amplifier.



Type
Order no. (Match-Code)
Light
Sensing Distance ¹⁾ or ²⁾
Min. Object Size ¹⁾ or ²⁾

KOES1000-Q6MB12-X0301 IR
08363600500 (9960-0500)
Infrared Light 880 nm
¹⁾ 1000 mm / ²⁾ 350 mm
¹⁾ 0,3 mm / ²⁾ 0,15 mm

KOES4000-Q6MB12-X0301 IR
08363600700 (9960-0700)
Infrared Light 880 nm
¹⁾ 4000 mm / ²⁾ 1400 mm
¹⁾ 0,4 mm / ²⁾ 0,2 mm

Type
Order no. (Match-Code)
Light
Sensing Distance ¹⁾ or ²⁾
Min. Object Size ¹⁾ or ²⁾

KOES2000-Q6MB12-X0301 IR
08363602100
Infrared Light 880 nm
¹⁾ 2000 mm / ²⁾ 700 mm
¹⁾ 0,3 mm / ²⁾ 0,15 mm

Type
Order no. (Match-Code)

Housing Material
Mounting
Connection
Type of Protection
Ambient Temperature

Brass, nickel plated
for Screw Mounting
1m PUR-Cable with Connector
IP 65
-10°C bis +55°C

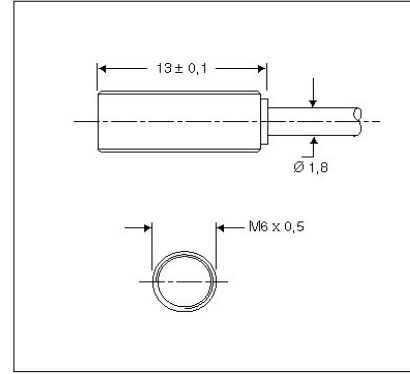
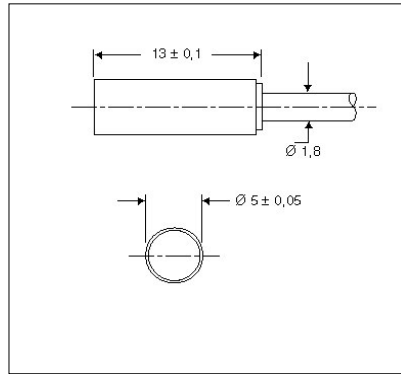
Brass, nickel plated
for Screw Mounting
1m PUR-Cable with Connector
IP 65
-10°C bis +55°C

	Amplifier Switchable	¹⁾ Standard Solution	²⁾ High Solution	
Order no.	08369614100	08369614200	08369614500	08369614600
Output Function	NPN	NPN	PNP	PNP
Connection	Connector M12	Connector M8	Connector M12	Connector M8
Specials	Alarm Output	Alarm Output	Alarm Output	Alarm Output
Order no.	08369614000	08369614300	08369614400	08369614700
Output Function	NPN	NPN	PNP	PNP
Connection	2m Cable	Connector M8	2m Cable	Connector M8



Opposed Mode

Operation only with corresponding amplifier



Type
Order no. (Match-Code)
Light
Sensing Distance ¹⁾ or ²⁾
Min. Object Size ¹⁾ or ²⁾

KOES4000-G5EB13-X0301 IR
08363603000 (9960-3000)
Infrared Light 880 nm
¹⁾ 4000 mm / ²⁾ 1400 mm
¹⁾ 0,4 mm / ²⁾ 0,2 mm

KOES4000-M6EM13-X0301 IR
08363603100 (9960-3100)
Infrared Light 880 nm
¹⁾ 4000 mm / ²⁾ 1400 mm
¹⁾ 0,4 mm / ²⁾ 0,2 mm

Type
Order no. (Match-Code)

Type
Order no. (Match-Code)

Housing Material
Mounting
Connection
Type of Protection
Ambient Temperature

Stainless Steel
for Adhesion or Clamp Mounting
1m PUR-Cable with Connector
IP 65
-10°C bis +55°C

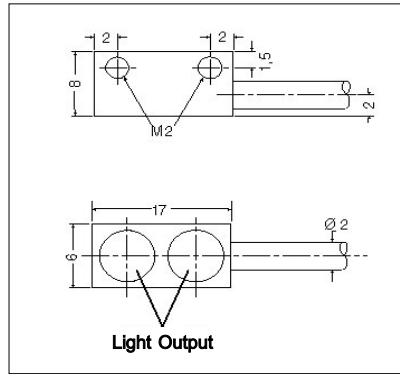
Brass, nickel plated
for Screw Mounting
1m PUR-Cable with Connector
IP 65
-10°C bis +55°C

	Amplifier Switchable ¹⁾ Standard Solution		²⁾ High Solution	
Order no.	08369614100	08369614200	08369614500	08369614600
Output Function	NPN	NPN	PNP	PNP
Connection	Connector M12	Connector M8	Connector M12	Connector M8
Specials	Alarm Output	Alarm Output	Alarm Output	Alarm Output
Order no.	08369614000	08369614300	08369614400	08369614700
Output Function	NPN	NPN	PNP	PNP
Connection	2m Cable	Connector M8	2m Cable	Connector M8



**Retro-Reflectiv Mode
Clear-Glass-Detection**

Operation only with
corresponding amplifier.



Type
Order no. (Match-Code)
Light
Sensing Distance to Reflector
with Polarizing Filter ¹⁾ or ²⁾

KORS1500-Q6MB17-X0301 RL
08361600400 (9960-0400)
Red Light 660 nm
¹⁾ 1500 mm / ²⁾ 500 mm

Type
Order no. (Match-Code)

Type
Order no. (Match-Code)

Housing Material
Mounting
Connection
Type of Protection
Ambient Temperature

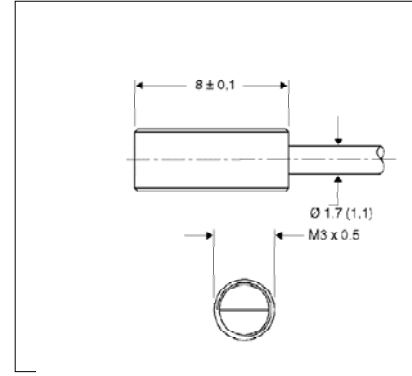
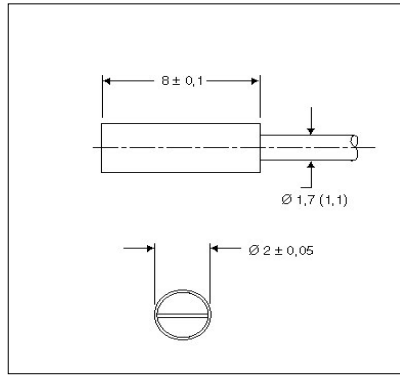
Brass, nickel plated
for Screw Mounting
1m PUR-Cable with Connector
IP 65
-10°C bis +55°C

	Amplifier Switchable	¹⁾ Standard Solution	²⁾ High Solution	
Order no.	08369614100	08369614200	08369614500	08369614600
Output Function	NPN	NPN	PNP	PNP
Connection	Connector M12	Connector M8	Connector M12	Connector M8
Specials	Alarm Output	Alarm Output	Alarm Output	Alarm Output
Order no.	08369614000	08369614300	08369614400	08369614700
Output Function	NPN	NPN	PNP	PNP
Connection	2m Cable	Connector M8	2m Cable	Connector M8



Convergent Mode

Operation only with corresponding amplifier.



Type
Order no. (Match-Code)
Light
Sensing Distance ¹⁾ or ²⁾
Sensing Distance to Reflector ¹⁾ or ²⁾

KORT12-G2EB8-X0301 IR
08361601100 (9960-1100)
Infrared Light 880 nm
¹⁾ 12 mm / ²⁾ 3 mm
¹⁾ 250 mm / ²⁾ 80 mm

KORT12-M3MB8-X0301 IR
08361601200 (9960-1200)
Infrared Light 880 nm
¹⁾ 12 mm / ²⁾ 3 mm
¹⁾ 250 mm / ²⁾ 80 mm

Type
Order no. (Match-Code)

Type
Order no. (Match-Code)

Housing Material
Mounting
Connection
Type of Protection
Ambient Temperature

Stainless Steel
for Adhesion or Clamp Mounting
1m PUR-Cable with Connector
IP 65
-10°C bis +55°C

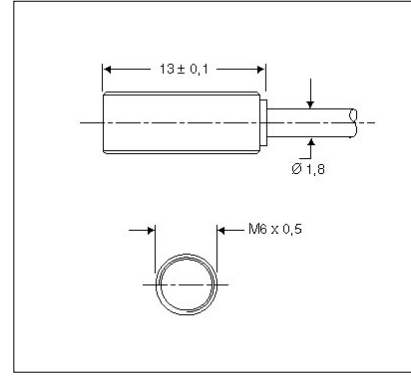
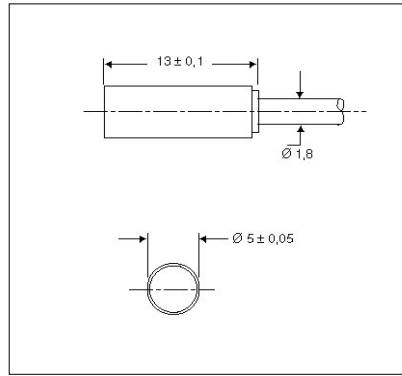
Brass, nickel plated
for Screw Mounting
1m PUR-Cable with Connector
IP 65
-10°C bis +55°C

	Amplifier Switchable		¹⁾ Standard Solution	²⁾ High Solution
Order no.	08369614100	08369614200	08369614500	08369614600
Output Function	NPN	NPN	PNP	PNP
Connection	Connector M12	Connector M8	Connector M12	Connector M8
Specials	Alarm Output	Alarm Output	Alarm Output	Alarm Output
Order no.	08369614000	08369614300	08369614400	08369614700
Output Function	NPN	NPN	PNP	PNP
Connection	2m Cable	Connector M8	2m Cable	Connector M8



Convergent Mode

Operation only with corresponding amplifier.



Type
Order no. (Match-Code)
Light
Sensing Distance ¹⁾ or ²⁾
Sensing Distance to Reflector ¹⁾ or ²⁾

KORT60-G5EB13-X0301 IR
08361601300 (9960-1300)
Infrared Light 880 nm
¹⁾ 60 mm / ²⁾ 15 mm
¹⁾ 800 mm / ²⁾ 200 mm

KORT60-M6MB13-X0301 IR
08361601600 (9960-1600)
Infrared Light 880 nm
¹⁾ 60 mm / ²⁾ 15 mm
¹⁾ 800 mm / ²⁾ 200 mm

Type
Order no. (Match-Code)
Light
Sensing Distance ¹⁾ or ²⁾
Sensing Distance to Reflector ¹⁾ or ²⁾

KORT60-M5EB13-X0301 RL
08361601400 (9960-1400)
Red Light 660 nm
¹⁾ 60 mm / ²⁾ 15 mm
¹⁾ 800 mm / ²⁾ 200 mm

KORT60-M6MB13-X0301 RL
08361601700 (9960-1700)
Red Light 660 nm
¹⁾ 60 mm / ²⁾ 15 mm
¹⁾ 800 mm / ²⁾ 200 mm

Type
Order no. (Match-Code)
Light
Sensing Distance ¹⁾ or ²⁾
Sensing Distance to Reflector ¹⁾ or ²⁾

KORT100-G5EB13-X0301 IR
08361601500 (9960-1500)
Infrared Light 880 nm
¹⁾ 100 mm / ²⁾ 25 mm
¹⁾ 1200 mm / ²⁾ 300 mm

KORT100-M6MB13-X0301 IR
08361601800 (9960-1800)
Infrared Light 880 nm
¹⁾ 100 mm / ²⁾ 25 mm
¹⁾ 1200 mm / ²⁾ 300 mm

Housing Material
Mounting
Connection
Type of Protection
Ambient Temperature

Stainless Steel
for Adhesion or Clamp Mounting
1m PUR-Cable with Connector
IP 65
-10°C bis +55°C

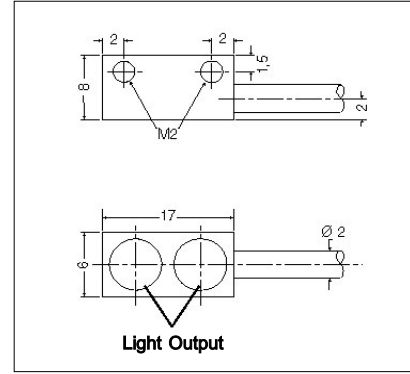
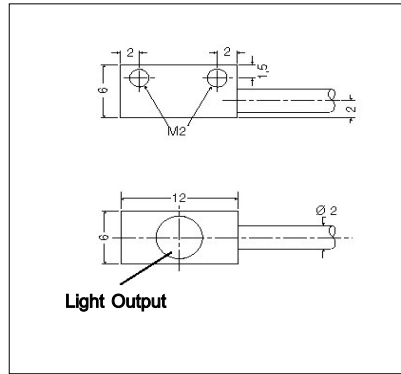
Brass, nickel plated
for Screw Mounting
1m PUR-Cable with Connector
IP 65
-10°C bis +55°C

	Amplifier Switchable		¹⁾ Standard Solution	²⁾ High Solution
Order no.	08369614100	08369614200	08369614500	08369614600
Output Function	NPN	NPN	PNP	PNP
Connection	Connector M12	Connector M8	Connector M12	Connector M8
Specials	Alarm Output	Alarm Output	Alarm Output	Alarm Output
Order no.	08369614000	08369614300	08369614400	08369614700
Output Function	NPN	NPN	PNP	PNP
Connection	2m Cable	Connector M8	2m Cable	Connector M8



Convergent Mode

Operation only with corresponding amplifier.



Type
Order no. (Match-Code)
Light
Sensing Distance ¹⁾ or ²⁾
Sensing Distance to Reflector ¹⁾ or ²⁾

KORT60-Q6MB12-X0301 IR
08361600000 (9860-0000)
Infrared 880 nm
¹⁾ 60 mm / ²⁾ 15 mm
¹⁾ 800 mm / ²⁾ 200 mm

KORT200-Q6MB17-X0301 IR
08361600300 (9860-0300)
Infrared 880 nm
¹⁾ 60 mm / ²⁾ 15 mm
¹⁾ 3000 mm / ²⁾ 700 mm

Type
Order no. (Match-Code)
Light
Sensing Distance ¹⁾ or ²⁾
Sensing Distance to Reflector ¹⁾ or ²⁾

KORT60-Q6MB12-X0301 RL
08361600100 (9860-0100)
Red Light 660 nm
¹⁾ 60 mm / ²⁾ 15 mm
¹⁾ 800 mm / ²⁾ 200 mm

Type
Order no. (Match-Code)
Light
Sensing Distance ¹⁾ or ²⁾
Sensing Distance to Reflector ¹⁾ or ²⁾

KORT100-Q6MB12-X0301 IR
08361600200 (9860-0200)
Infrared Light 880 nm
¹⁾ 100 mm / ²⁾ 25 mm
¹⁾ 1200 mm / ²⁾ 300 mm

Housing Material
Mounting
Connection
Type of Protection
Ambient Temperature

Brass, nickel plated
for Screw Mounting
1m PUR-Cable with Connector
IP 65
-10°C bis +55°C

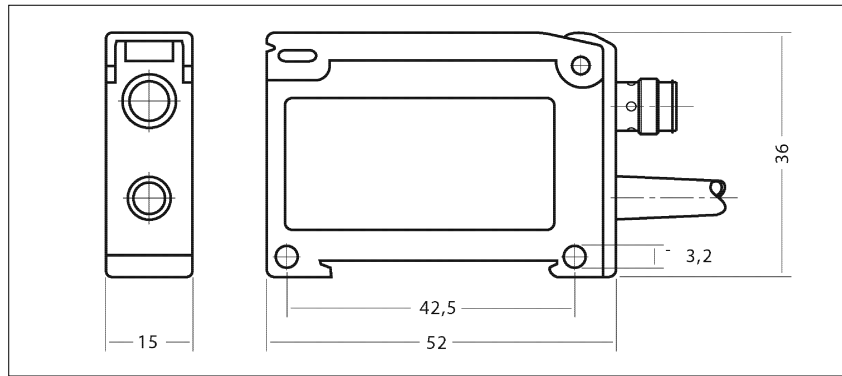
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Order no.	08369614100	08369614200	08369614500	08369614600
Output Function	NPN	NPN	PNP	PNP
Connection	Connector M12	Connector M8	Connector M12	Connector M8
Specials	Alarm Output	Alarm Output	Alarm Output	Alarm Output
Order no.	08369614000	08369614300	08369614400	08369614700
Output Function	NPN	NPN	PNP	PNP
Connection	2m Cable	Connector M8	2m Cable	Connector M8

Amplifier for optical Mini-Sensors



Operation with corresponding sensors.

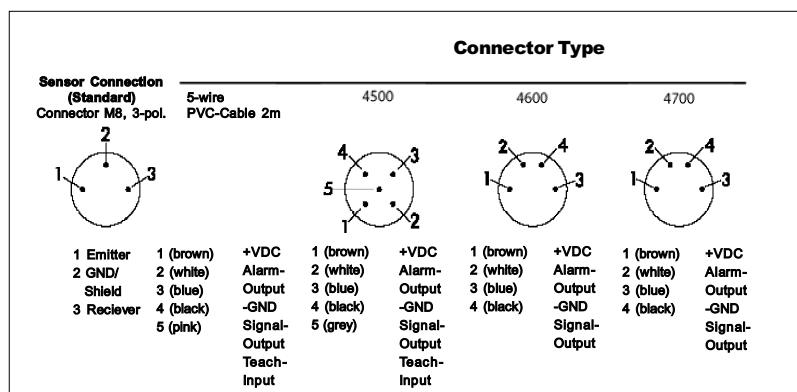
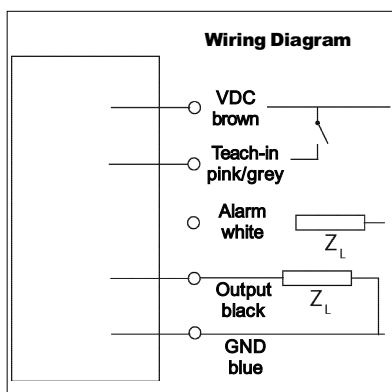
Operating Voltage	U_b
Output Current	I_o
Limiting Frequency	
Principle of Operation	
Pulse Extention	
Adjustment	
Function / Operating Indicator	
Operating Status	
Housing Material / Weight	
Ambient Temperature	
Type of Protection	
Current Consumption (no load)	
Mounting	
Order no.	
Output Function	
Connection	
Specials	
Order no.	
Output Function	
Connection	



General Specification of the Following Amplifier

Operating Voltage	10 ... +30 VDC
Output Current	100 mA, Short Circuit Protection
Limiting Frequency	500 Hz
Principle of Operation	Switched
Pulse Extention	0 ms, 10 ms, 20 ms, 50 ms, 100 ms oder 200 ms Selectable
Adjustment	Teach-Input
Function / Operating Indicator	yellow and red LED's
Operating Status	LED green
Housing Material / Weight	Plastic ABS, 55g
Ambient Temperature	-10 ... +55 °C
Type of Protection	IP 65
Current Consumption (no load)	max. 50 mA
Mounting	DIN - Rail

Order no.	08369614100	08369614200	08369614500	08369614600
Output Function	NPN	NPN	PNP	PNP
Connection	Connector M12	Connector M8	Connector M12	Connector M8
Specials	Alarm Output	Alarm Output	Alarm Output	Alarm Output
Order no.	08369614000	08369614300	08369614400	08369614700
Output Function	NPN	NPN	PNP	PNP
Connection	2m Cable	Connector M8	2m Cable	Connector M8



A large empty rectangular box with a black border, intended for taking notes.

Table of Contents

Type	Art-Nr.	Site
<u>Opposed Mode</u>		
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KOES800-G2EB8-X0301 IR	08363602200	3
KOES300-M3MB8-X0301 IR	08363102300	3
KOES300-M3MB8-X0301 RL	08363102400	3
KOES800-M3MB8-X0301 IR	08363102500	3
KOES1000-G4EB11-X0301 IR	08363602600	4
KOES2000-G4EB11-X0301 IR	08363602700	4
KOES1000-M5MB11-X0301 IR	08363602800	4
KOES2000-M5MB11-X0301 IR	08363602900	4
KOES1000-Q6MB12-X0301 IR	08363600500	5
KOES2000-Q6MB12-X0301 IR	08363600600	5
KOES4000-Q6MB12-X0301 IR	08363600700	5
KOES4000-G5EB13-X0301 IR	08363603000	6
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KORT12-M3MB8-X0301 IR	08361601200	8
KORT60-G5EB13-X0301 IR	08361601300	9
KORT60-M5EB13-X0301 RL	08361601400	9
KORT100-G5EB13-X0301 IR	08361601500	9
KORT60-M6MB13-X0301 IR	08361601600	9
KORT60-M6MB13-X0301 RL	08361601700	9
KORT100-M6MB13-X0301 IR	08361601800	9
KORT60-Q6MB12-X0301 IR	08361600000	10
KORT60-Q6MB12-X0301 RL	08361600100	10
KORT100-Q6MB12-X0301 IR	08361600200	10
KORT200-Q6MB17-X0301 IR	08361600300	10
<u>Amplifier for optical Sensors</u>		11