

The use of remote systems is a proven solution wherever hard-wired sensors cannot be used, such as on rotary indexing tables, interchangeable stamping heads, etc. The sensors follow the motion of the machine members to which they are attached.

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**1.6**



**REMOTE**  
**SINGLE REMOTE**  
**MULTIPLE REMOTE**  
**POWER REMOTE**  
**G-POWER REMOTE**

Flexible automation often requires sensors that can follow the movements of the machine. Hard wiring of the sensors is a disadvantage in these applications, since both the contacts and the cable are stressed. Furthermore, not all locations are easily accessible.

Remote sensors from Balluff meet these requirements.

The system consists essentially of 3 components:


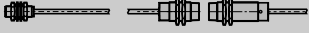
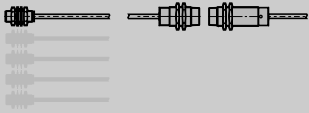



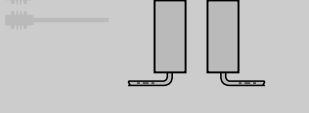



- The sensor: electromechanical, inductive, optical, magnetic or capacitive.
- The transmitter as the link for the output sensors. This is installed on the moving member. Depending on the version, various output sensors can be connected.
- The output sensor is the partner of the transmitter and inductively provides the necessary energy to the transmitter side while also inductively receiving the status information from the sensors in order to pass it along to the connector controller.

**Remote systems** can be used for mechanical switches or sensors in the RXD series. Single or up to 8 × signal transmission.

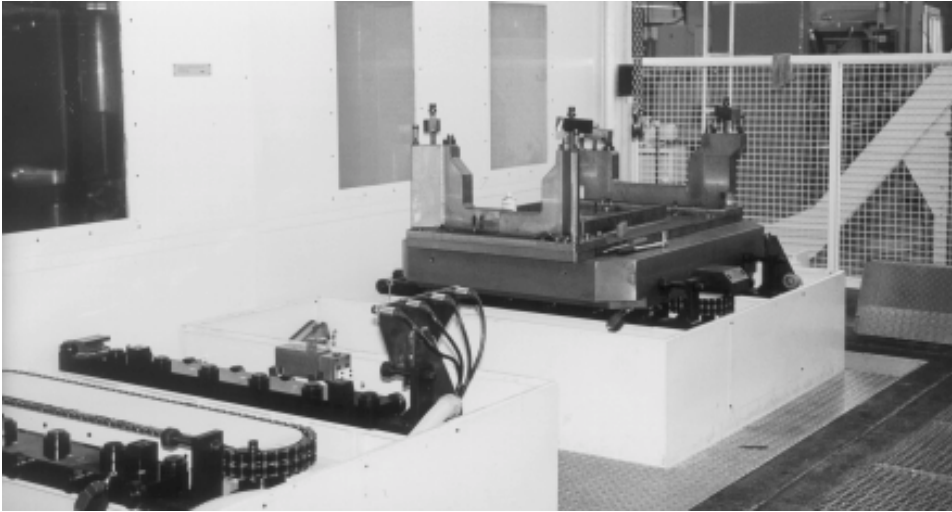
**Power remote systems** allow 2- or 3-wire sensors to be connected with low power requirements. The energy is provided by the transmitter. Designed for 4 or 8 signals.

**G-Power remote systems** are designed for higher power requirements. Up to 8 signals can be transmitted.

**Radial power remote systems** are a replacement for slip rings which transmit the sensor signals. The remote sensors still work non-contact, wear-free!

Series	
	Electronic cams
	Single remote
	Multiple remote
	Power remote 30 mA
	Power remote 40 mA
	Power remote 100 mA
	G-Power remote 150 mA
	G-Power remote 200 mA
	G-Power remote 300 mA
	Power remote radial 160 mA

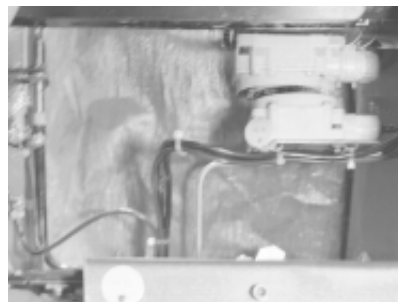
	Transmission distance	Transmitter	Output sensor	Compatible sensors	Remarks	Page
	4 mm	BPN 18M-F-02 BPN 18M-F-03	BES 516-326-B0-C BES 516-367-B0-C	mechanical switches	single signal transmission	<b>1.6.6</b>
	2 mm	RXT 1202	RXE 1202P	RXD 0801, RXD 1202, RXD 1805, RXD 3010M or mechanical switches	single signal transmission	<b>1.6.8</b>
	5 mm	RXT 1805	RXE 1805P		single signal transmission	<b>1.6.8</b>
	5 mm 10 mm	RFTA 1805 RFTA 3010	RFEA 1805P RFEA 3010P	RXD 0801, RXD 1202, RXD 1805, RXD 3010M or mechanical switches	8 × signal transmission 8 × signal transmission	<b>1.6.9</b> <b>1.6.9</b>
	3 mm	RPTA 1803	RPEA 1803P	2-wire and 3-wire sensors inductive, capacitive, optical or mechanical switches	4 × signal transmission	<b>1.6.10</b>
	5 mm	RPTA 3005	RPEA 3005P		4 × signal transmission	<b>1.6.10</b>
	15 mm	RPTA 8010	RPEA 8010P		8 × signal transmission	<b>1.6.11</b>
	5 mm	RGPT 3005-V1215	RGPE 3005-V1215P	2-wire and 3-wire sensors inductive, capacitive, optical or mechanical switches	8 × signal transmission	<b>1.6.12</b>
	8 mm	RGPT 4008-V1220	RGPE 4008-V1220P		8 × signal transmission	<b>1.6.12</b>
	12 mm	RGPT 9012-V2430	RGPE 9012-V2430P		8 × signal transmission	<b>1.6.13</b>
	2 mm	RPTM 4502P-S49	RPEM 4502P-ST	2-wire and 3-wire sensors inductive, capacitive, optical or mechanical switches	8 × signal transmission	<b>1.6.17</b>



**Workpiece position sensing in a machining center at MTU Friedrichshafen**

To manage the variety of parts, autonomous sensing of the workpieces on the existing pallet was implemented using a remote system. Up to 16 sensors detect the positions and recognize

the part to be machined based on certain features. After loading, the pallet is brought into the machining area. The information gathered is used to define the machining program in the machining center.



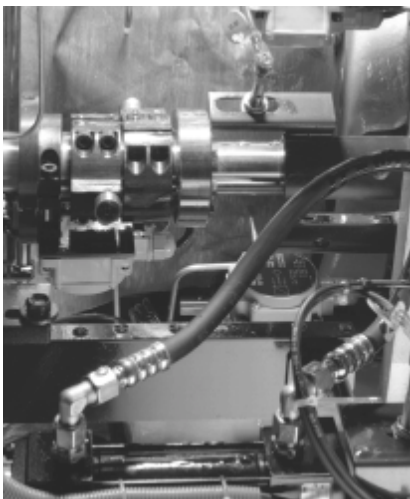
**Monitoring gripper position on handling equipment**

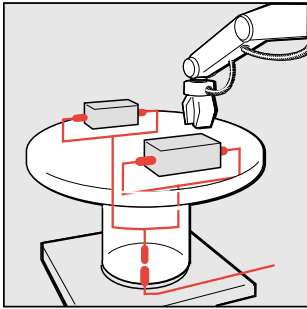
... exemplified on a PITTNER-TORNOS machine tool. The task was to monitor the gripper position of the handling mechanism on a machine tool. Because of the presence of aggressive coolants and lubricants, there were always problems with the cables on the sensors used for gripper sensing (cable breakage due to the high bending and flexing conditions).

By using two RPEA 8010P (output sensors) wired in parallel, the required turning movement of 162° as well as the length extension can be carried out without any cable to stress and in very short cycles.

Components used:

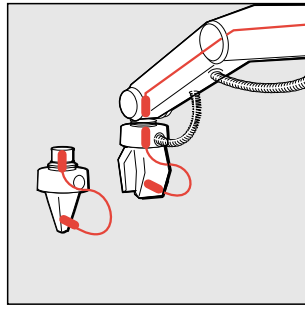
- 1 terminal box RPK 2101
- 2 output sensors RPEA 8010P
- 1 transmitter RPTA 8010





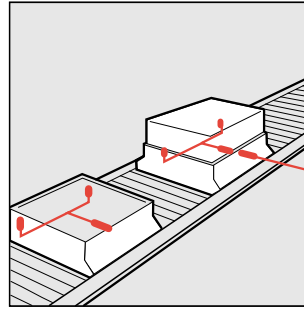
#### Indexing table

The sensor determines whether the workpiece is in the correct position and sends the signals without contact.



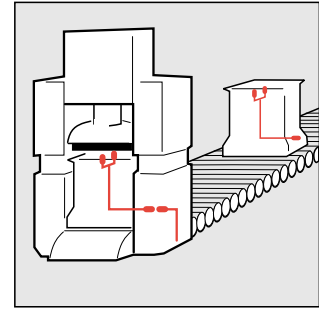
#### Robot gripper

The sensor determines whether the workpiece was captured by the gripper. The switching state of the sensors is transmitted without contact.



#### Material flow

The sensor detects the presence of parts on moving objects.



#### Presses

The sensor detects the presence of the material, sends the signals back without contact and together with the controller positions the sheet in the proper location.

1.6



#### Secure connection – application at Böhlinger Ingelheim Pharma KG

The distribution of liquid products in chemical plants is often associated with risk, since different materials have to be filled into tanks using hose terminals and coupling stations.

A valveless circuit without the proper connection of the hose can lead to disastrous results.

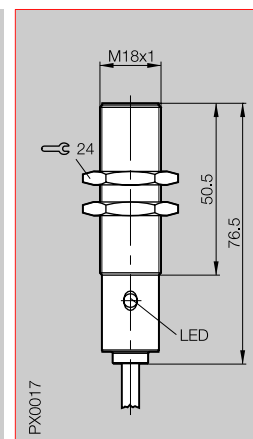
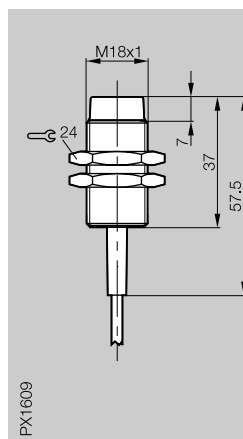
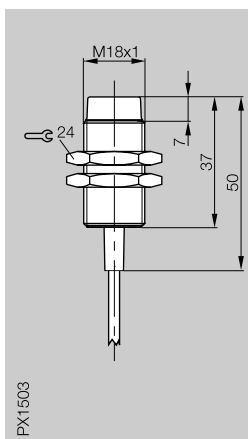
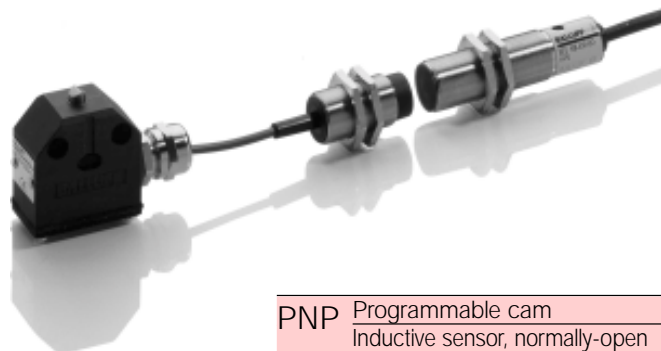
By using a remote system – for automatic process monitoring – assurance can be provided that the hose is

in fact connected.

Signal transmission is made without contact between the moving drum and the associated stand in two latchable positions. The connection is verified by an inductive sensor.



Housing size	<b>M18×1</b>	<b>M18×1</b>	<b>M18×1</b>
Mounting	non-flush	non-flush	flush
Rated operating distance $s_n$	<b>4 mm</b>	<b>4 mm</b>	<b>5 mm</b>
Assured operating distance $s_a$	1...3.5 mm	1...3.5 mm	

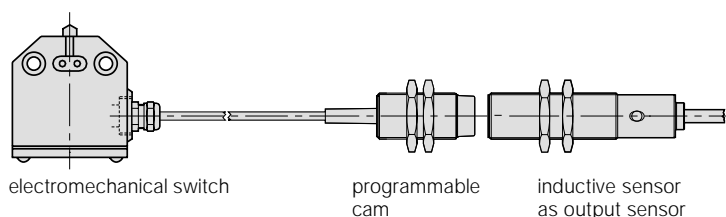


PNP	Programmable cam	BPN 18M-F-02-03	BPN 18M-F-03-PU-03	
	Inductive sensor, normally-open			BES 516-326-B0-C-
	Inductive sensor, normally-closed			BES 516-367-B0-C-
<hr/>				
Rated operational voltage $U_e$				24 V DC
Supply voltage $U_B$				10...30 V DC
Voltage drop $U_d$ at $I_e$				≤ 1.5 V
Rated insulation voltage $U_i$				250 V AC
Rated operational current $I_e$				200 mA
No-load supply current $I_0$ max.				≤ 8 mA
Off-state current $I_r$				≤ 10 µA
Protected against polarity reversal				yes
Short circuit protected				yes
Load capacity				≤ 0.8 µF
<hr/>				
Repeat accuracy R				≤ 5 %
Ambient temperature range $T_a$		-25...+70 °C	-25...+70 °C	-25...+70 °C
Frequency of operating cycles f				900 Hz
Utilization category				DC 13
Function indication				yes
<hr/>				
Degree of protection per IEC 60529		IP 67	IP 67	IP 68 per BWN Pr. 20
Insulation class				□
Housing material		CuZn nickel plated	CuZn nickel plated	CuZn nickel plated
Material of sensing face				PA 12
Connection		3 m cable, PVC	3 m cable, PUR	cable
No. of wires × conductor cross section		2 × 0.14 mm <sup>2</sup>	2 × 0.34 mm <sup>2</sup>	3 × 0.34 mm <sup>2</sup>
Approval				cULus

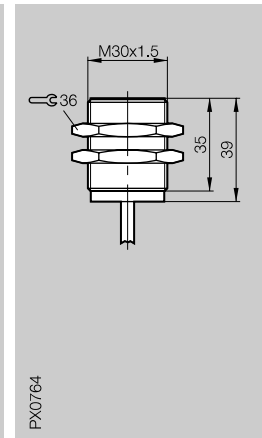
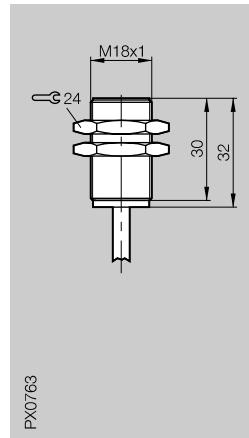
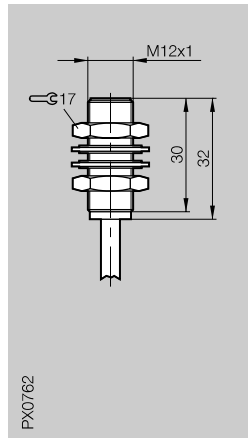
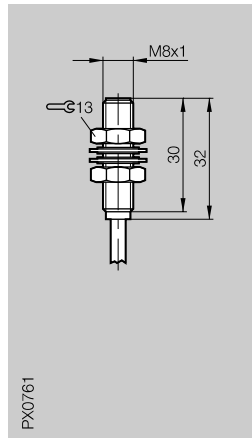
For **inductive sensors** add the cable length to ordering code!  
 03, 05 = PVC, length 3 m or 5 m  
 PU-03, PU-05 = PUR, length 3 m or 5 m

Simple principle for non-contact transmission of the switching state of a mechanical switch.

- Switch open, sensor damped
- Switch closed, sensor undamped



Housing size	<b>M8×1</b>	<b>M12×1</b>	<b>M18×1</b>	<b>M30×1.5</b>
Mounting	flush	flush	flush	flush
Rated operating distance $s_n$	<b>1.5 mm</b>	<b>2 mm</b>	<b>5 mm</b>	<b>10 mm</b>
Assured operating distance $s_a$	1.2 mm	1.6 mm	4.1 mm	8.1 mm

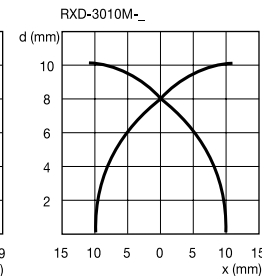
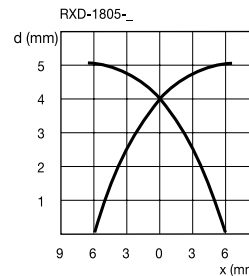
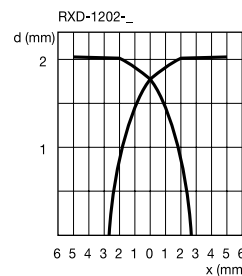
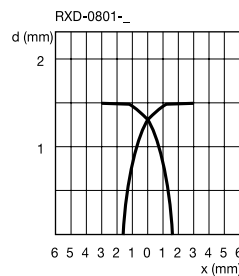


Normally-open	RXD 0801-	RXD 1202-	RXD 1805-	RXD 3010M-
Switching hysteresis H	≤ 20 % of sr	≤ 20 % of sr	≤ 20 % of sr	≤ 20 % of sr
Housing material	stainless steel	CuZn nickel plated	CuZn nickel plated	CuZn nickel plated
Degree of protection per IEC 60529	IP 67	IP 67	IP 67	IP 67
Ambient temperature range $T_a$	-25...+75 °C	-25...+75 °C	-25...+75 °C	-25...+75 °C

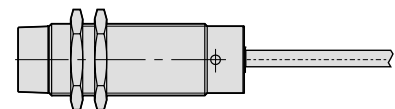
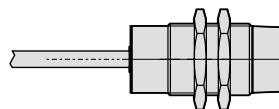
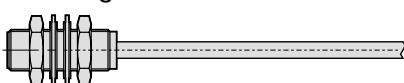
Add standard cable length to ordering code!

01 = PVC, length 1 m

PU-01 = PUR, length 1 m



## Switching and transmission distances



## Sensors

Ordering code	Housing size	Rated operating distance
RXD 0801	M8	1.5 mm
RXD 1202	M12	2 mm
RXD 1805	M18	5 mm
RXD 3010M	M30	10 mm

## Transmitter

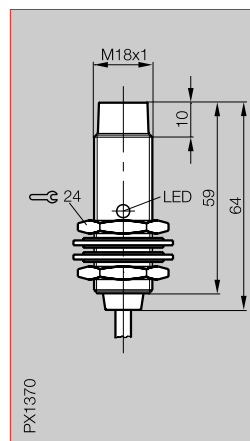
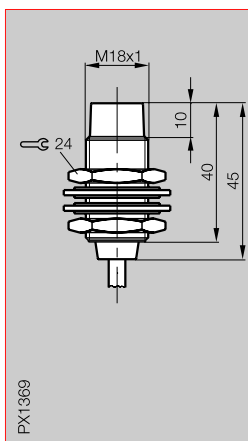
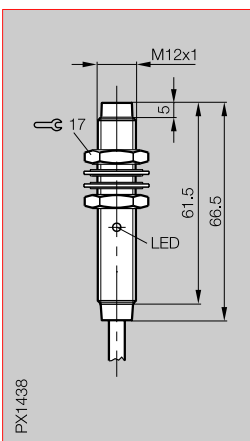
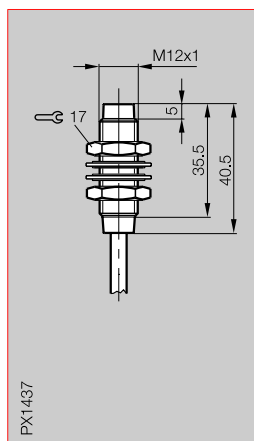
Ordering code	Housing size	Transmission distance
RXT 1202	M12	2 mm
RXT 1805	M18	5 mm
RFTA 1805	M18	5 mm
RFTA 3010	M30	10 mm

## Output sensor

Ordering code	Housing size	Output circuit
RXE 1202P	M12	PNP/NO
RXE 1805P	M18	PNP/NO
RFEA 1805P	M18	PNP/NO
RFEA 3010P	M30	PNP/NO



Housing size	<b>M12×1</b>	<b>M12×1</b>	<b>M18×1</b>	<b>M18×1</b>
Type	transmitter ←.....→ output sensor	transmitter ←.....→ output sensor	transmitter ←.....→ output sensor	transmitter ←.....→ output sensor
Transmission distance	<b>2 mm</b>		<b>5 mm</b>	
Mounting	flush/non-flush	flush/non-flush	flush/non-flush	flush/non-flush



Transmitter	RXT 1202-PU-05	RXT 1805-PU-05	RXT 1805-PU-05	RXT 1805-PU-05
Output sensor PNP	RXE 1202P-PU-05	RXE 1202P-PU-05	RXE 1805P-PU-05	RXE 1805P-PU-05
Assured transmission distance	0...1.6 mm flush 0...2 mm non-flush	0...1.6 mm flush 0...2 mm non-flush	0...4 mm flush 0...5 mm non-flush	0...4 mm flush 0...5 mm non-flush
Supply voltage $U_B$ incl. ripple		24 V $\pm$ 5 %		24 V $\pm$ 5 %
Rated insulation voltage $U_i$	75 V DC		75 V DC	
Rated operational current $I_e$		$\leq$ 100 mA		$\leq$ 100 mA
No-load supply current $I_0$ max.		$\leq$ 25 mA		$\leq$ 25 mA
Off-state current $I_r$		$\leq$ 80 $\mu$ A		$\leq$ 80 $\mu$ A
Short circuit protected		yes		yes
Contamination class	3	3	3	3
Tightening torque	40 Nm	40 Nm	40 Nm	40 Nm
Ambient temperature range $T_a$	0...+50 °C	0...+50 °C	0...+50 °C	0...+50 °C
Frequency of operating cycles $f$		25 Hz		25 Hz
Function indication		yes		yes
Degree of protection per IEC 60529	IP 67	IP 67	IP 67	IP 67
Housing material	CuZn nickel plated	CuZn nickel plated	CuZn nickel plated	CuZn nickel plated
Material of sensing face	ABS/PBT	ABS/PBT	PA 12	PA 12
Connection	5 m cable, PUR	5 m cable, PUR	5 m cable, PUR	5 m cable, PUR
No. of wires $\times$ conductor cross section	2 $\times$ 0.5 mm <sup>2</sup>	3 $\times$ 0.3 mm <sup>2</sup>	2 $\times$ 0.5 mm <sup>2</sup>	3 $\times$ 0.3 mm <sup>2</sup>

For your electrical planning,  
please ask for the user's guide!



### Switching and transmission distances

Sensors			Transmitter			Output sensor		
Ordering code	Housing size	Rated operating distance	Ordering code	Housing size	Transmission distance	Ordering code	Housing size	Output circuit
RXD 0801	M8	1.5 mm	RXT 1202	M12	2 mm	RXE 1202P	M12	PNP/NO
RXD 1202	M12	2 mm	RXT 1805	M18	5 mm	RXE 1805P	M18	PNP/NO
RXD 1805	M18	5 mm	RFTA 1805	M18	5 mm	RFEA 1805P	M18	PNP/NO
RXD 3010M	M30	10 mm	RFTA 3010	M30	10 mm	RFEA 3010P	M30	PNP/NO



# MULTIPLE REMOTE

## Inductive Transmission Systems

Multiple Remote Sensors  
Transmitter/Output Sensor  
for max. 8 RXD-Sensors

M18×1 transmitter ←.....→ output sensor	M18×1 transmitter ←.....→ output sensor	M30×1.5 transmitter ←.....→ output sensor	M30×1.5 transmitter ←.....→ output sensor
5 mm		10 mm	
flush/non-flush	flush/non-flush	flush/non-flush	flush/non-flush

RFTA 1805-02	RFEA 1805P-02	RFTA 3010-02	RFEA 3010P-02
1...4 mm flush 1...5 mm non-flush	1...4 mm flush 1...5 mm non-flush 24 V ±5 %	2...8 mm flush 2...10 mm non-flush	2...8 mm flush 2...10 mm non-flush 24 V ±5 %
75 V DC	≤ 50 mA per output ≤ 25 mA ≤ 80 µA yes	75 V DC	≤ 50 mA per output ≤ 25 mA ≤ 80 µA yes
3	3	3	3
40 Nm	40 Nm	40 Nm	40 Nm
0...+50 °C	0...+50 °C 3.2 Hz yes	0...+50 °C	0...+50 °C 3.2 Hz yes
IP 67	IP 67	IP 67	IP 67
CuZn nickel plated PA 12	CuZn nickel plated PA 12	CuZn nickel plated PA 12	CuZn nickel plated PA 12
2 m cable, PVC 12 × 0.18 mm²	2 m cable, PVC 12 × 0.18 mm²	2 m cable, PVC 12 × 0.18 mm²	2 m cable, PVC 12 × 0.18 mm²

Also available with PUR cable,  
but with other housing dimensions.

terminal box  
RFK 3101 optional  
see page 1.6.14

electromechanical  
switch

RXD-sensors

transmitter

output sensor

to controller

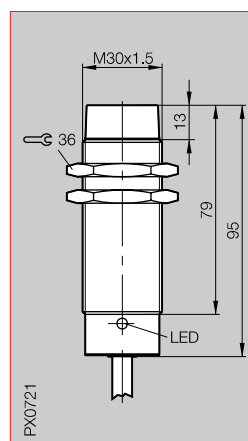
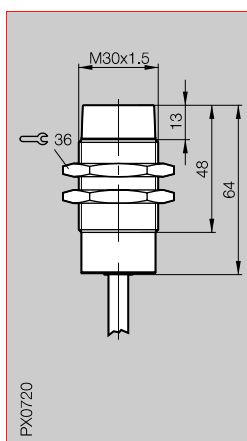
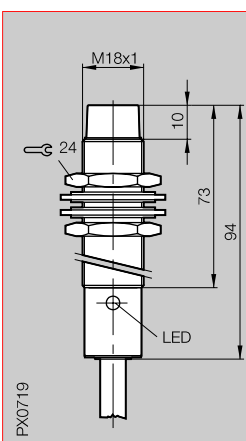
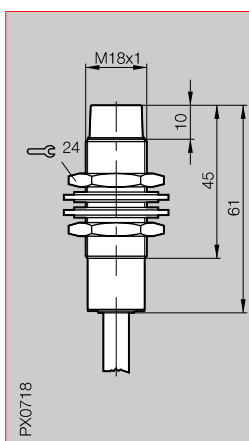
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6

Clamps ...  
page 6.2 ...

Power Remote Sensors  
Transmitter/Output Sensor  
for max. 4 Sensors

Housing size	<b>M18×1</b>	<b>M18×1</b>	<b>M30×1,5</b>	<b>M30×1.5</b>
Type	transmitter ←.....→ output sensor	transmitter ←.....→ output sensor	transmitter ←.....→ output sensor	transmitter ←.....→ output sensor
Transmission distance	<b>3 mm</b>		<b>5 mm</b>	
Mounting	non-flush	non-flush	non-flush	non-flush



Transmitter	RPTA 1803-05	RPEA 1803P-05	RPTA 3005-05	RPEA 3005P-05
Output sensor PNP				
Assured transmission distance	0.5...3 mm		1...5 mm	
Supply voltage U <sub>B</sub> incl. ripple		24 V DC ±5 %		24 V DC ±5 %
Voltage drop U <sub>d</sub> at I <sub>e</sub>		≤ 1.5 V		≤ 1.5 V
Rated operational current I <sub>e</sub>		≤ 50 mA per output		≤ 50 mA per output
No-load supply current I <sub>0</sub> max.		≤ 170 mA		≤ 150 mA
Off-state current I <sub>r</sub>		≤ 80 µA		≤ 80 µA
Short circuit protected		yes		yes
Contamination class	3	3	3	3
Tightening torque	40 Nm	40 Nm	40 Nm	40 Nm
Radial offset	±2.5 mm  ±2 mm		±6 mm  ±4 mm	
Operating current (for sensors)	≤ 20 mA  ≤ 30 mA		≤ 30 mA  ≤ 40 mA	
Output voltage (for sensors)	12 ±1.5 V DC		12 ±1.5 V DC	
Rated insulation voltage U <sub>i</sub>	75 V DC		75 V DC	
Ambient temperature range T <sub>a</sub>	0...+50 °C	0...+50 °C	0...+50 °C	0...+50 °C
Frequency of operating cycles f		30Hz		30 Hz
Function/supply voltage indication		yes/yes		yes/yes
Degree of protection per IEC 60529	IP 67	IP 67	IP 67	IP 67
Housing material	CuZn nickel plated	CuZn nickel plated	CuZn nickel plated	CuZn nickel plated
Material of sensing face	PA 12	PA 12	PA 12	PA 12
Connection	5 m cable, PVC	5 m cable, PVC	5 m cable, PVC	5 m cable, PVC
No. of wires × conductor cross section	7 × 0.3 mm <sup>2</sup>	7 × 0.3 mm <sup>2</sup>	7 × 0.3 mm <sup>2</sup>	7 × 0.3 mm <sup>2</sup>
	for max. 4 sensors			

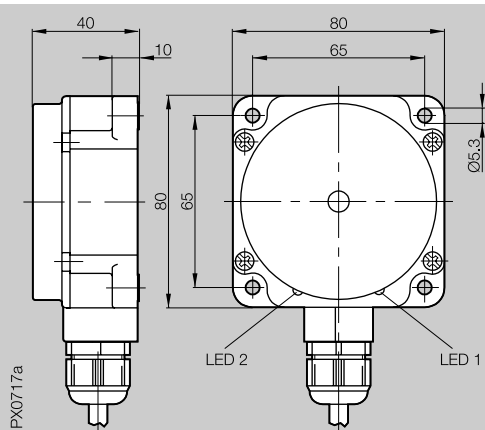
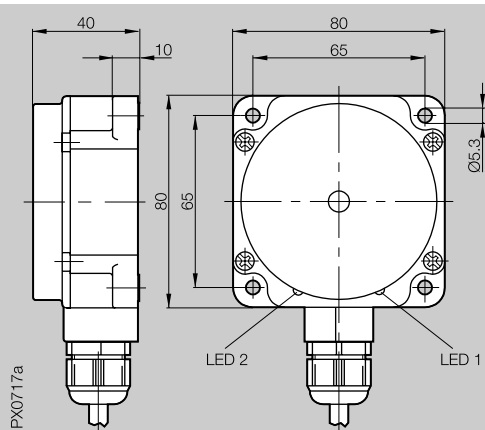
For your electrical planning,  
please ask for the user's guide!

for max. 4 sensors



80×80  
transmitter  
15 mm  
non-flush

80×80  
Output sensor  
non-flush



RPTA 8010-

RPEA 8010P-

2...15 mm

4...10 mm

24 V DC  $\pm 5\%$   
 $\leq 1.5$  V  
 $\leq 50$  mA per output  
 $\leq 300$  mA  
 $\leq 80$   $\mu$ A  
yes  
3

3

$\pm 8$  mm  $\leq 50$  mA  $\pm 6$  mm  $\leq 100$  mA

12  $\pm 1.5$  V DC  
75 V DC

0...+50 °C

0...+50 °C  
30 Hz  
yes/yes

IP 67

IP 67

PBT

PBT

PBT

PBT

cable

cable

12  $\times$  0.18 mm<sup>2</sup>

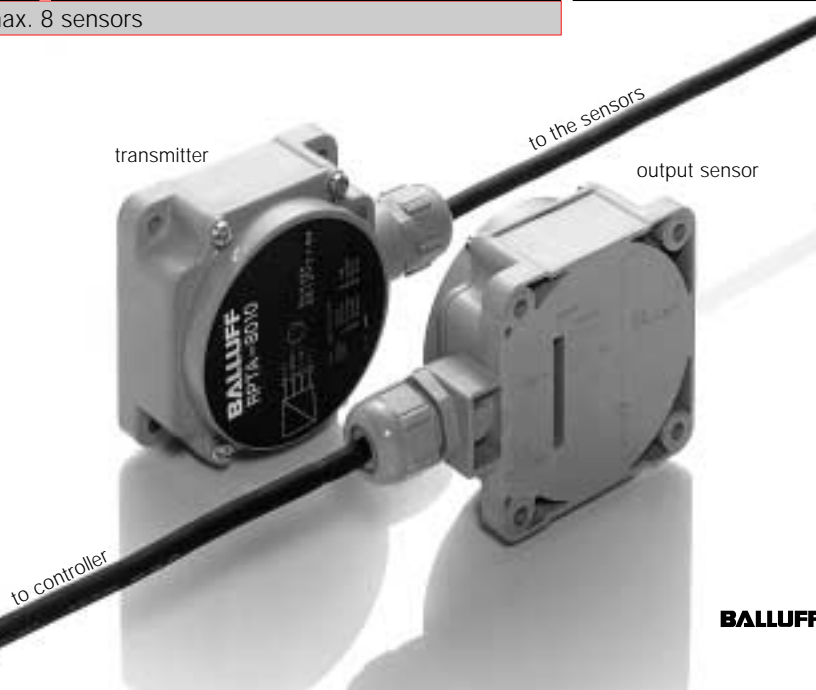
12  $\times$  0.18 mm<sup>2</sup>

for max. 8 sensors

Add standard cable length to ordering code!

05 = PVC, length 5 m

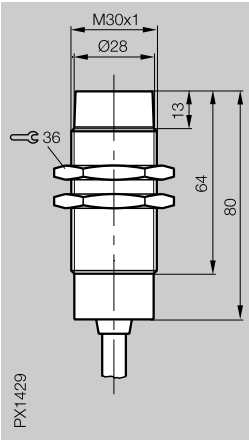
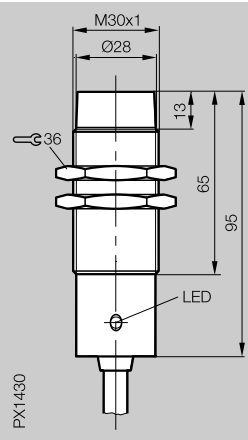
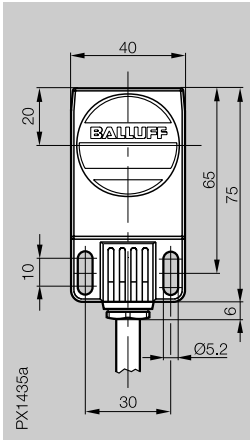
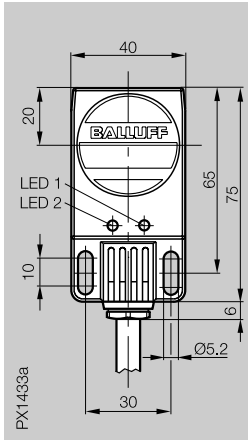
PU-05 = PUR, length 5 m



1.6

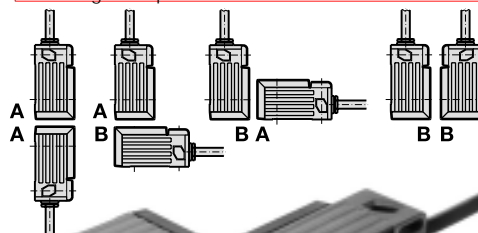
6

Clamps ...  
page 6.2 ...

Housing size	M30×1.5		M30×1.5		40×40		40×40	
Type	transmitter ←.....→ output sensor		transmitter ←.....→ output sensor		transmitter ←.....→ output sensor		transmitter ←.....→ output sensor	
Transmission distance	5 mm				8 mm			
Mounting	non-flush		non-flush		non-flush		non-flush	
<div>CE</div>								
	Transmitter		RGPT 3005-V1215-PU-05		RGPT 4008-V1220_-PU-05*			
	Output sensor PNP				RGPE 3005-V1215P-PU-05		RGPE 4008-V1220P_-PU-05*	
	Assured transmission distance		2...5 mm		3...8 mm			
	Supply voltage U <sub>B</sub> incl. ripple		24 V DC ±10 %		24 V DC ±10 %			
Voltage drop U <sub>d</sub> at I <sub>e</sub>		≤ 1.5 V		≤ 1.5 V				
Rated operational current I <sub>e</sub>		≤ 50 mA per output		≤ 50 mA per output				
No-load supply current I <sub>0</sub> max.		≤ 400 mA		≤ 400 mA				
Off-state current I <sub>r</sub>		≤ 80 µA		≤ 80 µA				
Short circuit protected		yes		yes				
Contamination class		3		3				
Tightening torque		40 Nm		40 Nm				
Radial offset		±3 mm		±3 mm				
Operating current (for sensors)		≤ 150 mA		≤ 200 mA				
Output voltage (for sensors)		12 ±1.5 V DC		12 ±1.5 V DC				
Rated insulation voltage U <sub>i</sub>		75 V DC		75 V DC				
Ambient temperature range T <sub>a</sub>		0...+50 °C		0...+50 °C				
Frequency of operating cycles f		60 Hz		60 Hz				
Function/supply voltage indication		yes/no		yes/yes				
Degree of protection per IEC 60529		IP 67		IP 67				
Housing material		CuZn nickel plated		CuZn nickel plated		Al		
Material of sensing face		ABS/PBT		ABS/PBT		ABS/PBT		
Connection		5 m cable, PUR		5 m cable, PUR		5 m cable, PUR		
No. of wires × conductor cross section		9 × 0.18 mm <sup>2</sup> + 2 × 0.5 mm <sup>2</sup>		9 × 0.18 mm <sup>2</sup> + 2 × 0.5 mm <sup>2</sup>		9 × 0.18 mm <sup>2</sup> + 2 × 0.5 mm <sup>2</sup>		
		for max. 8 sensors						

For your electrical planning,  
please ask for the user's guide!

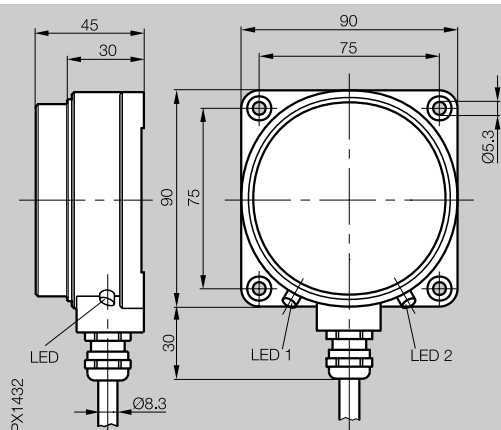
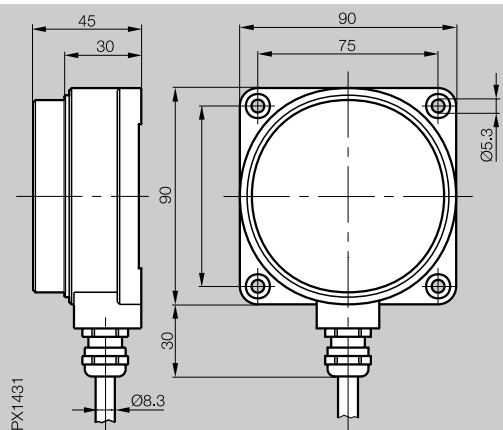
\*For Type RGPT4008/RGPE 4008  
select between version **A** or **B**  
Version A: active surface in front  
Version B: active surface on side  
Ordering example: RGPE 4008-V1220**A**-PU-05



90×90  
transmitter  
12 mm  
non-flush



90×90  
output sensor  
non-flush



RGPT 9012-V2430-PU-05

4...12 mm

3

±6 mm  
≤ 300 mA  
24 ±1.5 V DC  
75 V DC

0...+50 °C

IP 67

AI  
ABS/PBT

5 m cable, PUR  
9 × 0.18 mm<sup>2</sup> + 2 × 0.5 mm<sup>2</sup>

RGPE-9012-V2430P-PU-05

24 V DC ±10 %  
≤ 1.5 V  
≤ 50 mA per output  
≤ 800 mA  
≤ 80 µA  
yes  
3

0...+50 °C  
60 Hz  
yes/yes

IP 67

AI  
ABS/PBT

5 m cable, PUR  
9 × 0.18 mm<sup>2</sup> + 2 × 0.5 mm<sup>2</sup>

for max. 8 sensors

1.6

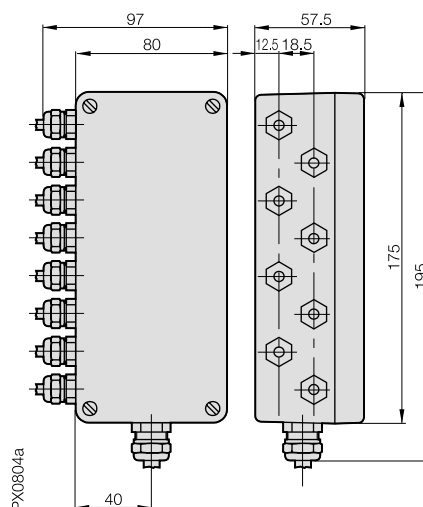
6

Clamps ...  
page 6.2 ...

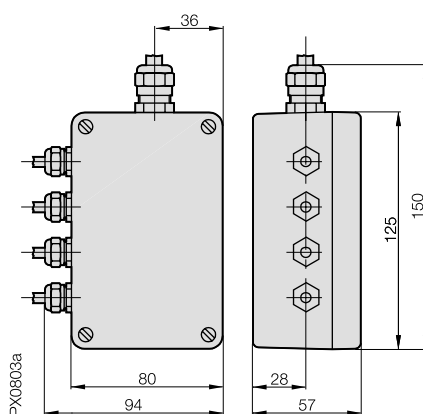
They can also be used when there is no other way to connect the sensors to the transmitter.



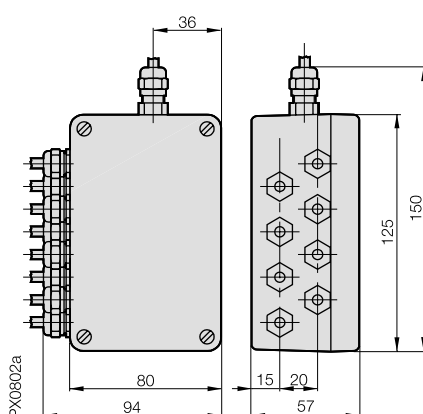
- 80 x 175 x 57 mm
- Aluminum housing
- IP 65
- with cable entries and clamps



- 4 x PG 7
- 1 x PG 9
- IP 65

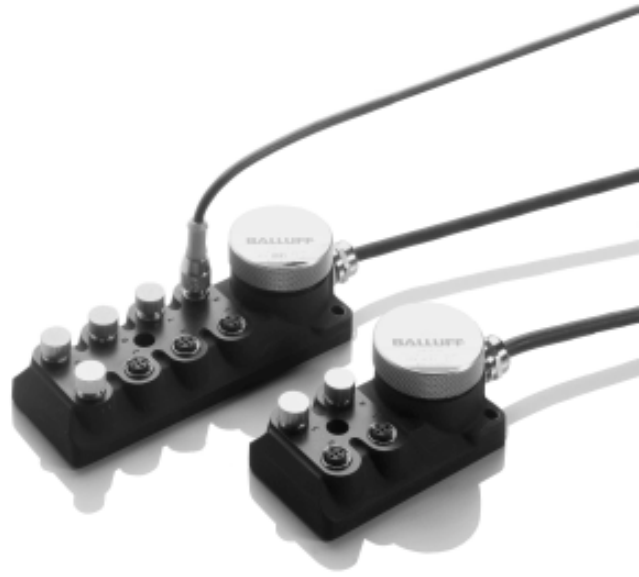


- 8 x M8
- 1 x PG 9
- IP 65

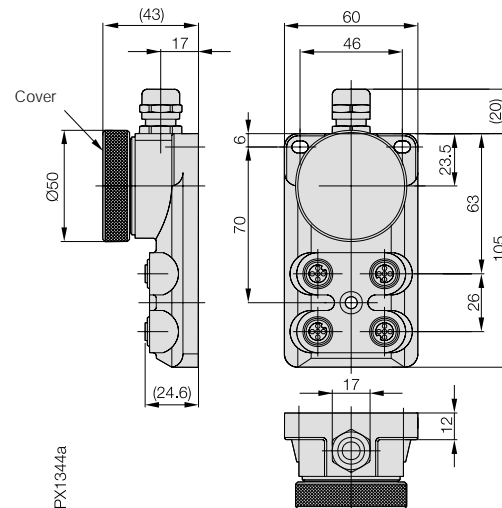


Rugged distribution boxes for easy connection of the sensors to the transmitter in a power remote system.

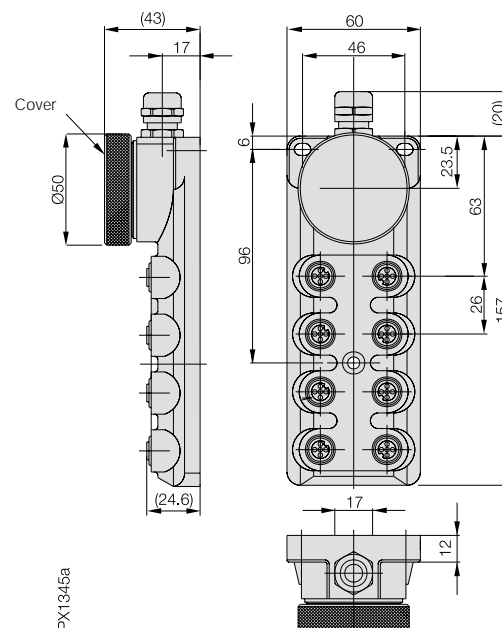
The power remote system is connected using a terminal block with spring clamps – no screws required. The sensors are connected using standard M12 connectors.



**Distribution box  
RPK-4C01-P (4 x)**



**Distribution box  
RPK-8C01-P (8 x)**





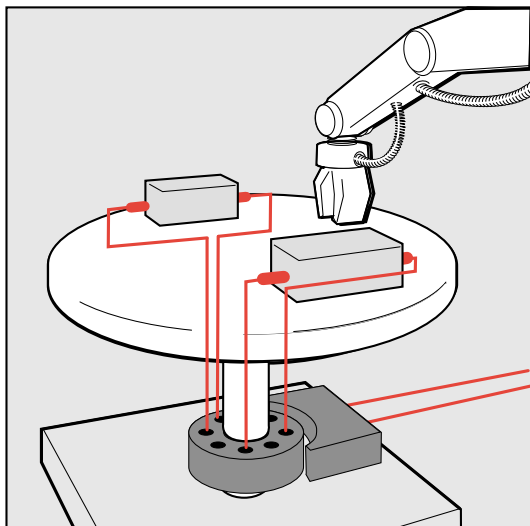
### Non-contact energy and data transmission

The system has a modular construction for non-contact energy transmission to power up to 8 binary PNP sensors on rotating shafts, axes or tables.

The switching state of each sensor is transmitted over the air gap to the stationary component. The system works independently of the rotation speed, and transmission is reliable even under the harshest ambient conditions.

Since no mechanically contacting parts are used, this technology completely eliminates all service and maintenance procedures.

- No-slip rings necessary
- Intelligent, compact and noise-immune system: inductive, non-contact, wear-free
- Connection for up to 8 sensors
- Integrated supply energy for the sensors
- Connect, turn on, process data



Housing size	
Type	
Transmission distance	
Mounting	



### \*Order as a set

#### Part number: RPEM 4502P-ST05

1 × output sensor RPEM 4502P-ST and

1 × connector BKS-S 96-PU-05 and

1 × connector BKS-S 97-PU-05

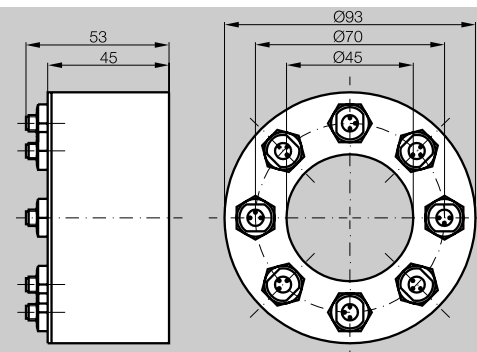
(connector with 5 m cable, PUR)

Transmitter	
Output sensor PNP	
Assured transmission distance	
Supply voltage $U_B$ incl. ripple	
Voltage drop $U_d$ at $I_e$	
Rated operational current $I_e$	
No-load supply current $I_0$ max.	
Off-state current $I_r$	
Short circuit protected	
Contamination class	
Axial/radial offset	
Operating current (for sensors)	
Output voltage (for sensors)	
Rated insulation voltage $U_i$	
Ambient temperature range $T_a$	
Frequency of operating cycles $f$	
Function/supply voltage indication	
Degree of protection per IEC 60529	
Insulation class	
Housing material	
Material of sensing face	
Connection	
Recommended connector	

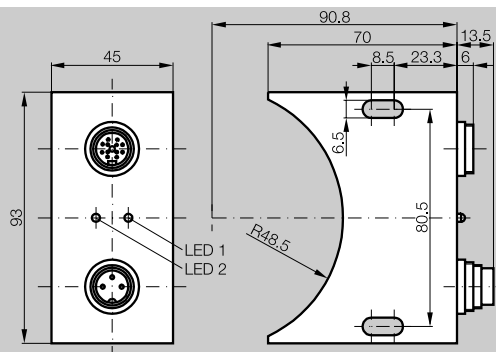
For your electrical planning,  
please ask for the user's guide!

Ø 93  
transmitter  
2 mm  
on Ø 45 mm shaft

93 × 83 × 45  
output sensor  
stationary



PX1398



PX1399

RPTM 4502P-S49

RPEM 4502P-ST\*

2 mm

24 V DC ± 5 %  
≤ 1.5 V  
≤ 30 mA per output  
≤ 700 mA  
≤ 50 µA  
yes  
3

yes  
3

±1 mm  
≤ 160 mA  
24 V DC  
75 V DC

0...+70 °C  
1000 Hz  
yes/yes

IP 67

IP 67



POM

POM

POM

POM

connector

connector

BKS-S 82-00/BKS-S 91-00

1 × BKS-S 96 and 1 × BKS-S 97

**Plugs M08/S49**  
for unused inputs  
(please order separately)



BKS-S 96-PU-05 (voltage)

BKS-S 97-PU-05 (data)

1.6

6

Connectors ...  
page 6.2 ...

