

Characteristics		Series P8S-GR P8S-GE	Series P8S-GP
Characteristics	Unit	Description	
Electrical Characteristics			
Switching output / -function		Reed / NO Reed / NC	PNP / NO
Electrical configuration		2-wire	3-wire
Display LED yellow		yes (not Reed NC)	
Operating voltage U_b	V	10-30 AC/DC	10-30 DC
Ripple of U_b	%	≤ 10	≤ 10
Voltage drop	V	≤ 3	≤ 2
Power consumption @ $U_b = 24$ V switched on, without load	mA	-	≤ 10
Permanent current	mA	≤ 500	≤ 200
Breaking capacity	W	≤ 6	-
Switchable capacity load @ 100 W @ 24 V DC	nF	100	-
Switching frequency	Hz	≤ 400	$\leq 1,000$
Time delay before availability (on/off)	ms	1.5/0.5	0.5/0.5
Repeatability	mm	≤ 0.2	≤ 0.2
Switching distance	mm	approx. 15	approx. 15
Hysteresis	mm	2	2
EMC following EN 60947-5-2		yes	yes
Lifetime		$\geq 20 \times 10^6$ cycles	unlimited
Short-circuit protection		-	yes
Reverse polarity prot.		-	yes
Power-up pulse suppression		-	yes
Protection for inductive load		-	yes
ATEX-Certification		-	on request
Mechanical Characteristics			
Housing		PA12	
Cable type		PUR / black	
Cable cross section	mm ²	2 x 0.14	3 x 0.14
Bending radius fixed	mm	≥ 30	
Bending radius moving	mm	≥ 45	
Ambient			
Protection class to EN 60529	IP	68	
Ambient temperature range 1)	°C	-30 to +80	
Vibration to EN 60068-2-6	G	30, 11 ms, 10 to 55 Hz, 1 mm	
Shock to EN 60068-2-27	G	50, 11 ms	

1) for the magnetic switch temperature range, please take into account the surface temperature and the self-heating properties of the linear drive.

Linear Drive Accessories Ø 10 – 80 mm Magnetic Switches



Typ RST
EST

The next generation of T-slot switches is appealing due to its ease of attachment without the use of special tools. Due to the new electronics, the hysteresis is especially narrow, allowing for a highly accurate switching point.

Magnetic switches are used for electrical sensing of the position of the piston, e.g. at its end positions. They can also be used for sensing of intermediate positions.

Sensing is contactless, based on magnets which are built-in as standard. A yellow LED indicates operating status.

The magnetic switches are attached with an adapter directly in the dovetail groove of the OSP cylinder. For the Basic Guide BG, the magnetic switches are attached directly in the T-slot.

The possible operating speed of the load carrier or carrier bolt must account for the minimum response time of downstream devices. Accordingly, the switching distance is included in the calculation.

$$\text{Minimum response time} = \frac{\text{Switching distance}}{\text{Overrun speed}}$$



For linear drives see overview see page 9-13

Type RST

In the type RST contact is made by a mechanical **reed switch** encapsulated in glass.

Type EST

In the type EST contact is made by an **electronic switch** – without bounce or wear and protected from pole reversal. The output is short circuit proof and insensitive to shocks and vibrations.

A cable with connector and open end can be ordered separately.

Magnetic Switches RST and EST

Electrical Service Life, Protective Measures

Magnetic switches are sensitive to excessive currents and inductions. With high switching frequencies and inductive loads such as relays, solenoid valves or lifting magnets, service life will be greatly reduced.

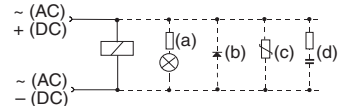
With **resistive and capacitive loads** with high switch-on current, such as light bulbs, a protective resistor should be fitted. This also applies to long cable lengths.

In the switching of inductive loads such as relays, solenoid valves and

lifting magnets, voltage peaks (transients) are generated which must be suppressed by protective diodes, RC loops or varistors.

Connection Examples

Load with protective circuits
 (a) Protective resistor for light bulb
 (b) Freewheel diode on inductivity
 (c) Varistor on inductivity
 (d) RC element on inductivity



For the type EST, external protective circuits are not normally needed.

Electrical Connection Type RST-K

Reed 2-wire

Normally open

Normally closed

Electrical Connection Type EST-K

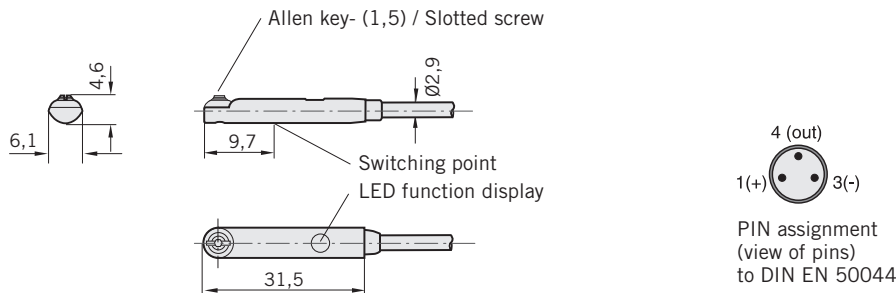
PNP 3-wire

Normally open

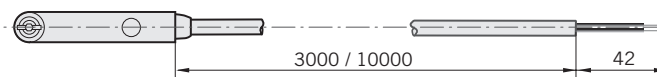
Electrical Connection Type RST-S

Electrical Connection Type EST-S

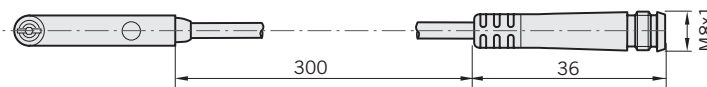
Dimensions (mm) - Typ RST-K, EST-K - Series P8S



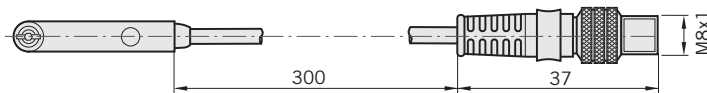
P8S-GxFLX, P8S-GxFOX, P8S-GxFTX, P8S-GxFKX cable with open end



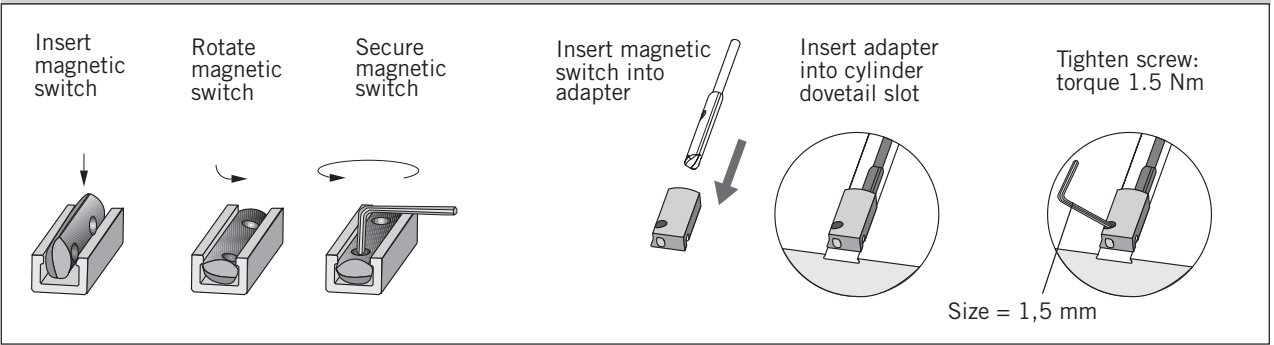
P8S-GxSHX, P8S-GxNHX cable with M8 Snap in connector



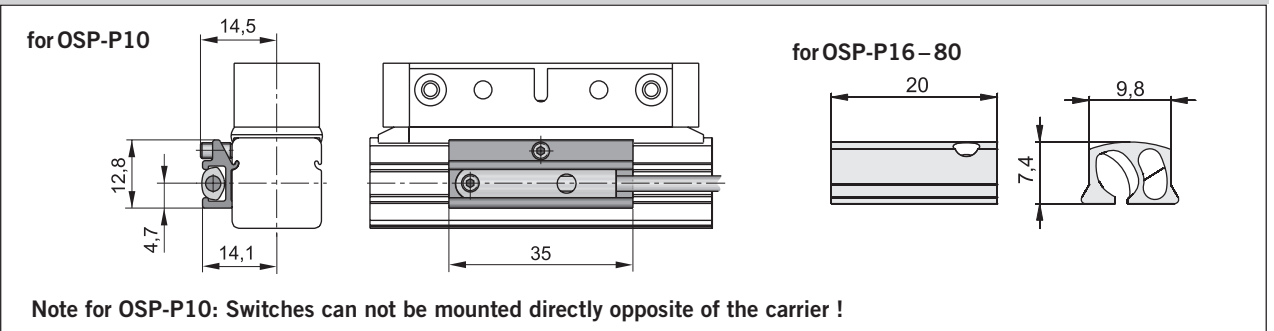
P8S-GxCHX cable with M8 screw connector



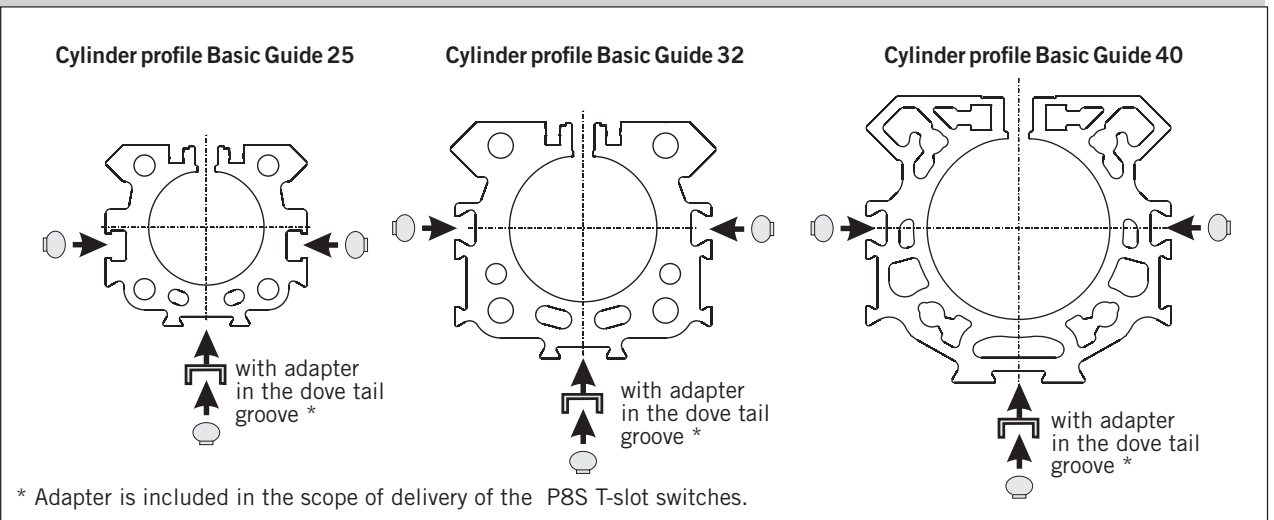
Installation instructions for the RST/EST magnetic switches series P8S



Dimensions adapters for RST/EST magnetic switch series P8S



P8S mounting positions in the Basic Guide cylinder profile



Dimensions for P8S T-Slot magnetic switches with adapter in the cylinder profile of the Basic Guide 25-40

Series	Dimension [mm] RD
OSPP-BG25	27
OSPP-BG32	33,5
OSPP-BG40	39

The right to introduce technical modifications is reserved

Order Instructions			
Version	Voltage	Type	Order No.
Magnetic switch, reed contact, normally open, LED indicator, cable 3 m	10-30 V AC / DC	RST-K	P8S-GRFLX
Magnetic switch, reed contact, normally open, LED indicator, cable 10 m	10-30 V AC / DC	RST-K	P8S-GRFTX
Magnetic switch, reed contact, normally open, snap connector M8, LED indicator, cable 0.3 m	10-30 V AC / DC	RST-S	P8S-GRSHX
Magnetic switch, reed contact, normally open, screw connector M8, LED indicator, cable 0.3 m	10-30 V AC / DC	RST-S	P8S-GRCHX
Magnetic switch, reed contact, normally closed, cable 10 m	10-30 V AC / DC	RST-K	P8S-GEFKX
Magnetic switch, electronic, PNP LED indicator, cable 3 m	10-30 V DC	EST-K	P8S-GPFLX
Magnetic switch, electronic, PNP LED indicator, cable 10 m	10-30 V DC	EST-K	P8S-GPFTX
Magnetic switch, electronic, PNP snap connector M8, LED indicator, cable 0.3 m	10-30 V DC	EST-S	P8S-GPSHX
Magnetic switch, electronic, PNP screw connector M8, LED indicator, cable 0.3 m	10-30 V DC	EST-S	P8S-GPCHX

Included in delivery: 1 magnetic switch, 1 adapter for T-slot magnetic switch for type OSP-P16 up to OSP-P80.

Note: When using T-nut magnetic switches with the OSP-P10, please order the adapter Order No. 8872FIL separately.

Accessories		
Description	Type	Order No.
Cable M8, 2.5 m without lock nut	KS 25	KY 3240
Cable M8, 5.0 m without lock nut	KS 50	KY 3241
Cable M8, 10.0 m without lock nut	KS 100	KC 3140
Cable M8, 2.5 m with lock nut	KSG 25	KC 3102
Cable M8, 5.0 m with lock nut	KSG 50	KC 3104
Adapter for RST/EST magnetic switch – for type OSP-P10	HMTP010	8872FIL
Adapter for RST/EST magnetic switch – for type OSP-P16 up to OSP-P80 (pack of 10)		KL 3333

Characteristics			
Characteristics	Unit	Description	
Elektrical Characteristics		Type RS-K ATEX	Type ES-K ATEX
ATEX Certification		yes	yes
Category Type: RS-K		⊕ II 3GD EEX nC IIC T3 146 °C	
Category Type: ES-K		⊕ II 2GD EEX ib IIC T5 100 °C	
Switching output		Reed	NAMUR
Operating voltage	V	10-240 AC/DC	7-10 DC
Voltage drop	V	≤3	–
Electrical configuration		Two wire	Two wire
Output function		normally open	normally open
Permanent current	mA	≤ 200	≤ 3
Power consumption	W/VA	≤ 10/10 peak	–
Peak current	mA	≤ 500	–
Power consumption without load	mA	–	≤ 1
Function indicator		LED, yellow	
Response time On/Out	ms	≤2	≤0.5
Sensitivity	mT	2-4	2-4
Reverse polarity prot.		yes	yes
Short-circuit protection		no	yes
Repeatability	mm	≤0.2	≤0.2
Hysteresis	mm	≤1.5	≤1.5
EMC	EN	60947-5-2	
Lifetime		≥10 Mio. Cycles with PLC load	
Mechanical Characteristics			
Housing		Makrolon, smoke color	
Cable cross section	mm ²	2 x 0.14	2 x 0.14
Cable type		PVC, blau	PVC, blue
Weight	kg	ca. 0.075	
Degree of protection	IP	67 to EN 60529	
Ambient temperature range ¹⁾	°C	-25	-20
	°C	+80	+75
Surface temperature	°C	The maximum surface temperature T=146°C is referred to the max. ambiente temperature of 80°C	–
Shock resistance			
Vibration and Shock		50 G at 50 Hz and 1 mm	

¹⁾ for the magnetic switch temperature range, please take into account the surface temperature and the self-heating properties of the linear drive.

Components for EX-Areas



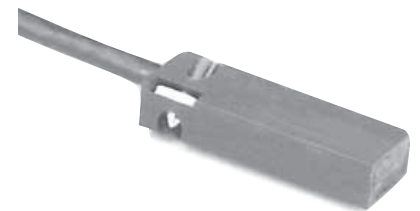
OSP
— ORIGA
— SYSTEM
— PLUS

Magnetic Switches ø 10 – 80 mm

Series: RS-K..ATEX
ES-K..ATEX

For electrical sensing of the carrier position, e.g. at the end positions, magnetic switches may be fitted. Position sensing is contactless and is based on magnets fitted as standard to the carrier. A yellow LED indicates operating status.

The universal magnetic switches are suitable for all Parker Origa OSP-Actuators and aluminum profile rod type cylinders.



For **Linear Drives in ATEX-Version** see page 35-36

Magnetic Switches Type RS-K ATEX-Version

In the type RS contact is made by a mechanical **reed switch** encapsulated in glass.

ATEX-Category Type: RS-K

⊕ II 3GD EEX nC IIC T3 146°C

Electrical Service Life Protective Measures

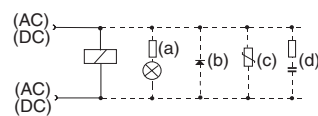
Magnetic switches are sensitive to excessive currents and inductions. With high switching frequencies and inductive loads such as relays, solenoid valves or lifting magnets, service life will be greatly reduced.

With **resistive and capacitive loads** with high switch-on current, such as light bulbs, a protective resistor should be fitted. This also applies to long cable lengths.

In the switching of inductive loads such as relays, solenoid valves and lifting magnets, voltage peaks (transients) are generated which must be suppressed by protective diodes, RC loops or varistors.

Connection Examples

Load with protective circuits
(a) Protective resistor for light bulb
(b) Freewheel diode on inductivity
(c) Varistor on inductivity
(d) RC element on inductivity



Magnetic Switches Type ES-K ATEX-Version

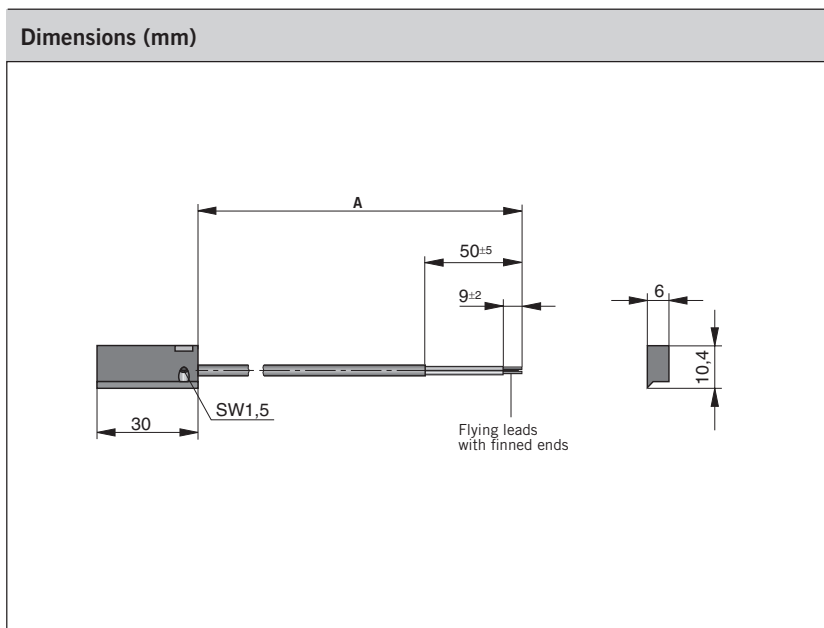
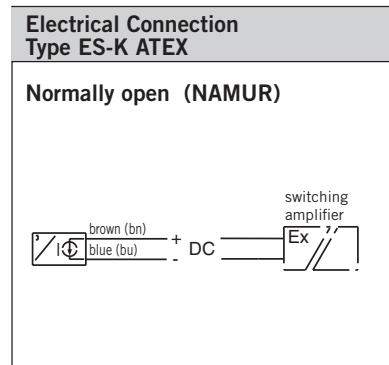
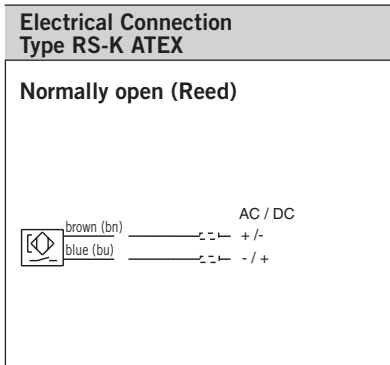
In the type ES contact is made by an **electronic switch** – without bounce or wear and protected from pole reversal. The output is short circuit proof and insensitive to shocks and vibrations.

ATEX-Category Type: ES-K

⊕ II 2GD EEX ib IIC T5 100°C

Note!

The connection of the magnetic switch Type ES-K ATEX must be realised by means of an EEX i switching amplifier (see Accessories).



Dimension Table (mm)

Magnetic switch Order No.	Nominal cable length A	Lengths tolerance
KL3240	5000	- 50
KL3241	10000	- 50
KL3250	5000	- 50
KL3251	10000	- 50

Order Instructions

Version	Voltage	Type	Order No.
Magnetic switch, reed contact, normally open LED indicator, cable 5 m	10-240 V AC/DC	RS-K ATEX	KL3240
Magnetic switch, reed contact, normally open LED indicator, cable 10 m	10-240 V AC/DC	RS-K ATEX	KL3241
Magnetic switch, electronic, NAMUR, normally open LED indicator, cable 5 m	7-10 V DC	ES-K ATEX	KL3250
Magnetic switch, electronic, NAMUR, normally open LED indicator, cable 10 m	7-10 V DC	ES-K ATEX	KL3251

Accessories

Description	for magnetic switch	Order No.
2 channel switching amplifier 24 V DC	ES-K ATEX	2876FIL
2 channel switching amplifier 220 V AC	ES-K ATEX	1546FIL

Note: 2 magnetic switches can be connected to each switching amplifier.