

# Linear Drive Accessories

## ø 10-80 mm Magnetic Switches



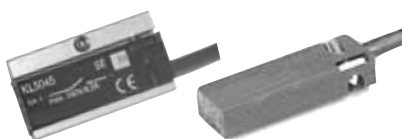
**B**

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.

**Piston, speed and switching distance affect signal duration and should be considered in conjunction with the minimum reaction time of ancillary control equipment.**

$$\text{Min. reaction time} = \frac{\text{Switching distance}}{\text{Piston speed}}$$



Characteristics			
Characteristics	Unit	Description	
<b>Electrical Characteristics</b>		<b>Type RS</b>	<b>Type ES</b>
Switching output		Reed	PNP, NPN
Operating voltage	V	10-240 AC/DC (NO) 10-150 AC/DC (NC)	10-30 DC
Residual voltage	V	<3	<3
Connection		Two wire	Three wire
Output function		normally open normally closed	normally open
Permanent current	mA	200	200
Max. switching capacity	VA (W)	10 VA	—
Power consumption without load	mA	—	< 20
Function indicator		LED, yellow	
Typical switching time	ms	On: <2	On: <2
Switch-off delay	ms	—	ca. 25
Pole reversal does not work		LED	—
Pole reversal protection		—	Built in
Short-circuit protection		—	Built in
Switchable capacity load		µF	0.1 at 100 Ω, 24
VDC			
Switching point accuracy	mm	± 0,2	
Switching distance	mm	ca. 15	ca. 15
Hysteresis for OSP	mm	ca. 8	ca. 3
Lifetime		3 x 10 <sup>6</sup> , up to 6 x 10 <sup>6</sup> cycles	Theoretically unlimited
<b>Mechanical Characteristics</b>			
Housing		Makrolon, smoke color	
Cable cross section	mm <sup>2</sup>	2 x 0.14	3 x 0.14
Cable type *)		PVC	PUR, black
Bending radius fixed	mm	≥ 20	
moving	mm	≥ 70	
Weight (Mass)	kg	0.012	
Degree of protection	IP	67 to DIN EN 60529	
Ambient temperature range *) <sup>1)</sup>	°C °C	-25 other temperature ranges +80 on request	
Shock resistance	m/s <sup>2</sup>	100 (contact switches)	500

\*) other versions on request

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

## Type RS

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

Direct connection with 2-pole cable, 5 m long, open ended (**Type RS-K**).

## Type ES

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. Connection is by 3-pole connector for easy disconnection. Fitted with connection cable 100 mm long with connector.

A 5 m cable with connector and open end can be ordered separately, or use the Order No. for the complete Type ES with 5 m cable.

## Magnetic Switches RS and ES

### 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.

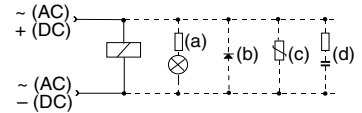
With **resistive and capacitive loads** with high switch-on current, such as light bulbs, a protective resistor should be fitted. This also applies to long cable lengths and voltages over 100 V.

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 inductively
  - (c) Varistor on inductively
  - (d) RC element on inductively

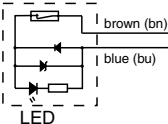


For the type ES, external protective circuits are not normally needed.

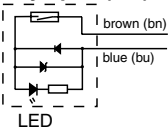
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### Electrical Connection, Type RS

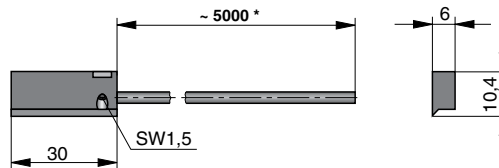
#### Normally closed (NC)



#### Normally open (NO)



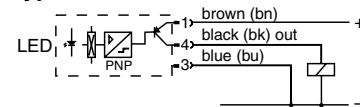
### Dimensions (mm) – Type RS-K



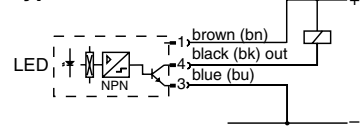
\* Length with possible minus tolerance, see chart below

### Electrical Connection, Type ES

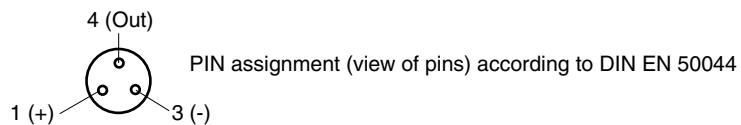
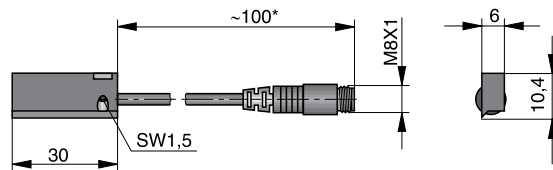
#### Standard Version: Type PNP



#### Optional Version Type NPN



### Dimensions (mm) – Type ES-S



\* Length with possible minus tolerance, see chart below

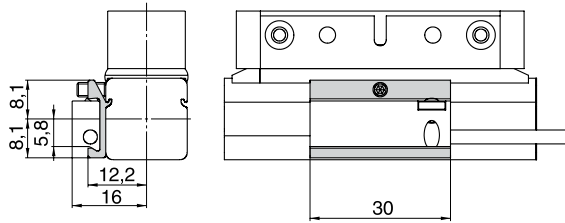
### Length of connection cable with length tolerance

Magnetic Switch Order No.	Nominal cable length	Length tolerance
KL3045	5000 mm	-50 mm
KL3048	5000 mm	-50 mm
KL3054	100 mm	-20 mm
KL3060	145 mm	±5 mm

**Dimensions & Ordering Information**

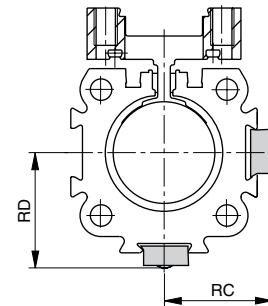
**OSP-P Sensors**

**Dimensions Series OSP-P10**



Note:  
Sensors can not be mounted directly opposite of the carrier

**Dimensions Series OSP-P16 to 80**



**B**

**Dimension Table (mm) and Order Instructions**

Series	Dimensions		Order No.						Adapter only for OSP-P10)
	RC	RD	RS closer Normally open	RS opener Normally closed	ES PNP	NPN	ES compl. with 5 m cable		
			Type:	Type:	Type:	Type:	Type:	Type:	
OSP-P10	–	–	Type: RS-K KL3045	Type: RS-K KL 3048	Type: ES-S KL 3054	Type: ES-S KL 3060	Type: ES-S KL 3054 + 4041	Type: ES-S KL 3060 + 4041	20968
OSP-P16	20	20.5							please order separately
OSP-P25	25	27							
OSP-P32	31	34							
OSP-P40	36	39							
OSP-P50	43	48							
OSP-P63	53	59							
OSP-P80	66	72							
Cable 5 m with connector and with open end for magnetic switches Type ES-S					4041				

Characteristics			
Characteristics	Unit	Description	
<b>Electrical Characteristics</b>		<b>Type RST</b>	<b>Type EST</b>
Switching output		Reed	PNP
Operating voltage	V	10-30 AC/DC	10-30 DC
Ripple		-	≤10%
Voltage drop	V	≤3	≤2
Electrical configuration		2 wire	3 wire
Output function		normally open normally closed	normally open
Permanent current	mA	≤ 100	≤ 100
Breaking capacity	W	≤ 6 peak	-
Power consumption, at $U_B = 24V$ , switched on, without load	mA	-	≤ 10
Function indicator		LED, yellow (not for normally closed)	
Response time	ms	≤2	≤0.5
Sensitivity	mT	2–4	2–4
Time delay before availability	ms	-	≤2
Reverse polarity prot.		yes	yes
Short-circuit protection		no	yes (pulsed)
Switchable capacity load	μF	0.1 at 100Ω, 24 VDC	
Switching frequency	Hz	≤400	≤5 k
Repeatability	mm	≤0.2	≤0.2
Hysteresis	mm	≤1.5	≤1.5
EMC	EN	60947-5-2	
Lifetime		≥35 Mio. cycles with PLC load	unlimited
Power-up pulse suppression		-	yes
Protection for inductive load		-	yes
<b>Mechanical Characteristics</b>			
Housing		Plastic/ PA66 + PA6I red	
Cable cross section	mm <sup>2</sup>	2x0.14	3x0.14
Cable type		PUR, black	PUR, black
Bending radius	mm	≥36	≥30
Weight	kg	ca. 0.030 RST-K ca. 0.010 RST-S	ca. 0.030 EST-K ca. 0.010 EST-S
Degree of protection	IP	67 to EN 60529	
Ambient temperature range <sup>1)</sup>	°C	-25 to +80	-25 to +75 at $U_B=10 - 30 V$ -25 to +80 at $U_B=10 - 28 V$
– with adapter	°C	-25 to +60	
Adapter tightening torque	Nm	0.15 (tightening torque of screwing adapter on to magnetic switch)	
<b>Shock resistance</b>			
Vibration to EN 60068-2-6	G	15, 11 ms, 10 to 55 Hz, 1 mm	
Shock to EN 60068-2-27 G	50, 11 ms		
Bump to EN 60068-2-29 G	30, 11 ms, 1000 bumps each axis		

# Linear Drive Accessories

## ø 10-80 mm Magnetic Switches for T-Slot



Series **RST**  
**EST**

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 universal magnetic switches are suitable for all PARKER-ORIGA OSP-Actuators and aluminum profile rod type cylinders.

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



## 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. Connection is by 3-pole connector for easy disconnection. Fitted with connection cable 100 mm long with connector. A 5 m cable with connector and open end can be ordered separately, or use the Order No. for the complete Type ES with 5 m cable.

## 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.

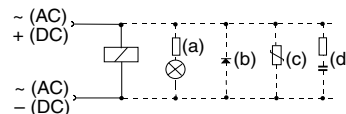
With **resistive and capacitive loads** with high switch-on current, such as light bulbs, a protective resistor should be fitted. This also applies to long cable lengths and voltages over 100 V.

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 inductively
- (c) Varistor on inductively
- (d) RC element on inductively

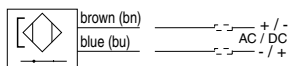


For the type EST, external protective circuits are not normally needed.

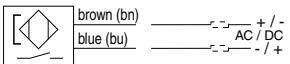
**B**

### Electrical Connection Type RST-K

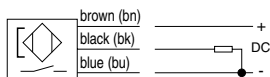
#### Normally closed



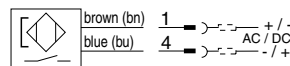
#### Normally open



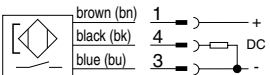
### Electrical Connection Type EST-K



### Electrical Connection Type RST-S

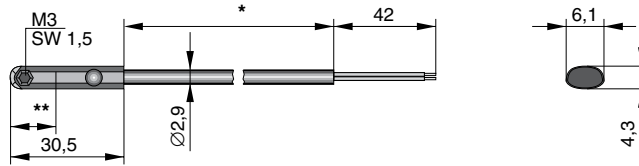


### Electrical Connection Type EST-S



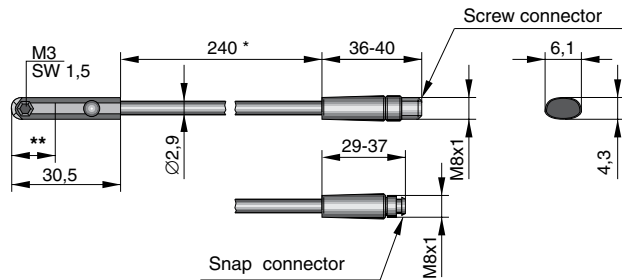
**Magnetic Switches – Dimensions**

**Dimensions (mm) – Type RST-K, EST-K**

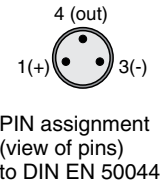


- \* Cable lengths available: 5000 mm ± 75 mm  
2000 mm ± 40 mm
- \*\* Switching point: Type RST-K Normally closed 14 mm  
Type RST-K Normally open 12.3 mm  
Type EST-K Normally open 8.1 mm

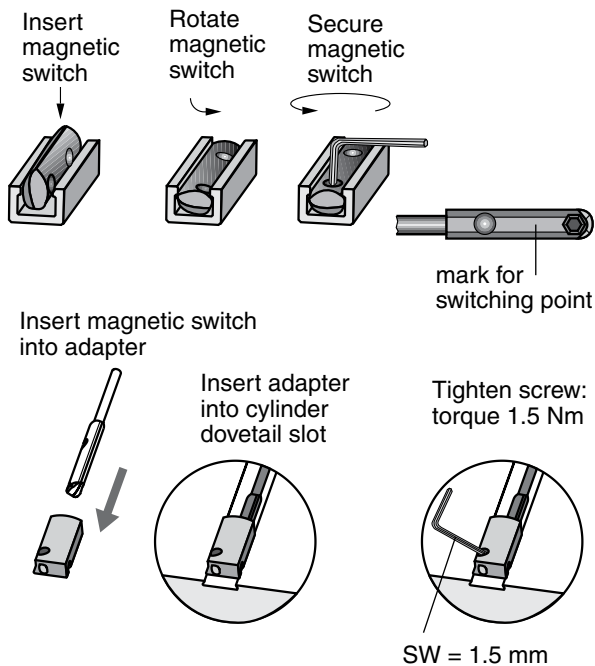
**Dimensions (mm) – Type RST-S, EST-S**



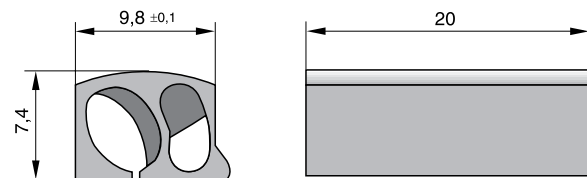
- \* ± 6 mm
- \*\* Switching point: Type RST-K Normally closed 14 mm  
Type RST-K Normally open 12.3 mm  
Type EST-K Normally open 8.1 mm



**Installation**



**Dimensions of Adapter for Magnetic Switch**

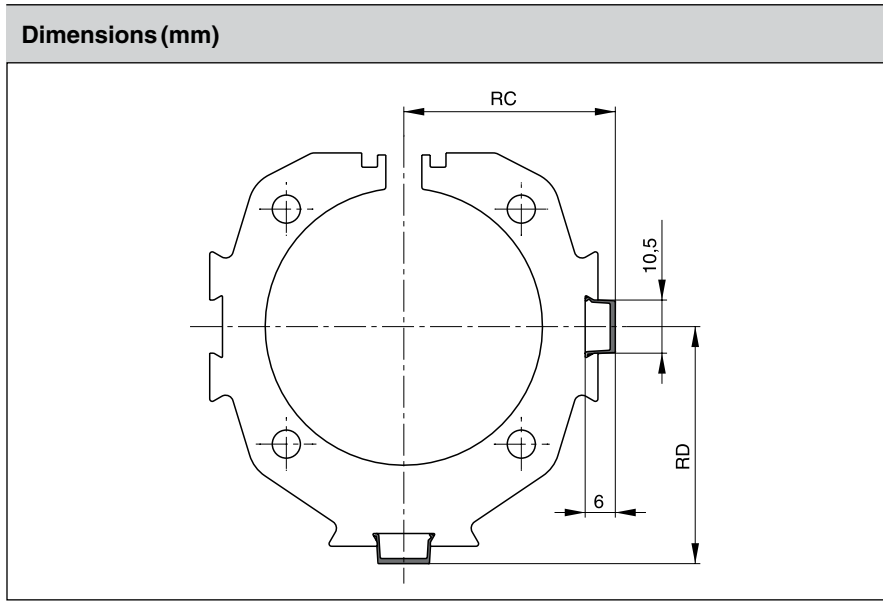


**Magnetic Switches – Ordering****OSP-P Sensors****B**

<b>Order Instructions</b>			
Version	Voltage	Type	Order No.
Magnetic switch, reed contact, normally open, LED indicator, cable 2 m	10-30 V AC / DC	RST-K	KL 3301
Magnetic switch, reed contact, normally open, LED indicator, cable 5 m	10-30 V AC / DC	RST-K	KL 3300
Magnetic switch, reed contact, normally open, snap connector M8, LED indicator, cable 0.24 m	10-30 V AC / DC	RST-S	KL 3302
Magnetic switch, reed contact, normally open, screw connector M8, LED indicator, cable 0.24 m	10-30 V AC / DC	RST-S	KL 3303
Magnetic switch, reed contact, normally closed, cable 5 m	10-30 V AC / DC	RST-K	KL 3305
Magnetic switch, electronic, PNP LED indicator, cable 2 m	10-30 V DC	EST-K	KL 3308
Magnetic switch, electronic, PNP LED indicator, cable 5 m	10-30 V DC	EST-K	KL 3309
Magnetic switch, electronic, PNP snap connector M8, LED indicator	10-30 V DC	EST-S	KL 3312
Magnetic switch, electronic, PNP screw connector M8, LED indicator	10-30 V DC	EST-S	KL 3306

**Included in delivery:** 1 magnetic switch  
1 adapter for dovetail groove mounting

<b>Accessories</b>		
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	KY 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 dovetail groove (pack of 10)		KL 3333



# Linear Drive Accessories

**ø 16-80 mm  
 Dovetail Cover**



**B**

**Dimension Table (mm) and Order Instructions**

Series	Dimensions (mm)		Order No.
	RC	RD	
OSP-P16	18.5	19	<b>13039</b>  Minimal length: 1m Max. profile length: 2m Multiple profiles can be used.
OSP-P25	23.5	25.5	
OSP-P32	29.5	32	
OSP-P40	34.5	37.5	
OSP-P50	41.5	46.5	
OSP-P63	51.5	57.5	
OSP-P80	64.5	70.5	

For clean guidance of magnetic switch cables along the cylinder body.

Contains a maximum of 3 cables with diameter 3 mm.

**Material:** Plastic

**Color:** Red

Temperature Range: -10 to +80°C

**Metric Conversion Fittings**

Order Number	Port Size	Bore Size
2521-1/8-02	G1/8 to 1/8" NPT	P25
2521-1/4-04	G1/4 to 1/4" NPT	P32, P40, P50
2521-3/8-06	G3/8 to 3/8" NPT	P63
2521-1/2-08	G1/2 to 1/2" NPT	P80





# Service Packs

		Bore Sizes							
		16mm	25mm	32mm	40mm	50mm	63mm	80mm	
<b>B</b>	<b>BUNA Service Pack Single Piston</b>	Part Number	11111	11112	11113	11114	11115	11116	11118
	<b>Viton Service Pack Single Piston</b>	Part Number	11121	11122	11123	11124	11125	11126	11128
	<b>BUNA Service Pack Single Piston - Slow Speed Grease</b>	Part Number	11131	11132	11133	11134	11135	11136	11138
	<b>Viton Service Pack Single Piston - Slow Speed Grease</b>	Part Number	11141	11142	11143	11144	11145	11146	11148

\*Behind part number, please add stroke length in mm

## Service Pack Information

Service Packs, containing all the components necessary to completely rebuild a Parker-Origa rodless cylinder, are available. Each pack contains a complete seal kit, inner and outer bands, Parker-Origa grease tube, cleaning tool and repair instructions. It's all packaged in an easy-to-ship, easy-to-store box clearly labeled to indicate the cylinder type, bore and stroke for which it is intended. Contact your local Parker-Origa distributor for more information.

# Seal Kits

		Bore Sizes						
		16mm	25mm	32mm	40mm	50mm	63mm	80mm
<b>BUNA Seal Kit - Standard Cylinder</b>	Part Number	11052	11053	11054	11055	11056	11057	11058
<b>Viton Seal Kit - Standard Cylinder</b>	Part Number	11059	11060	11061	11062	11063	11064	11065
<b>Seal Kit - Sideline Carriage</b>	Part Number	11066	11067	11068	11069	11070	–	–
<b>Seal Kit Active Brake - Standard Cylinder</b>	Part Number	–	11822	11823	11824	11825	11826	11827
<b>Seal Kit - Multibrake</b>	Part Number	–	11089	11090	11091	11092	11093	–