

Characteristics				
Characteristics	Symbol	Unit	Description	
Electrical Characteristics		Type RS		Type ES
Switching output			Reed	PNP, NPN
Operating voltage	U_B	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	I_{Dmax}	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			LED does not work	—
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	$\pm 0,2$	
Switching distance		mm	ca. 15	ca. 15
Hysteresis for OSP		mm	ca. 8	ca. 3
Lifetime			3 x 10 ⁶ , up to 6 x 10 ⁶ cycles	Theoretically unlimited
Mechanical Characteristics				
Housing			Makrolon, smoke color	
Cable cross section		mm ²	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 *) ¹⁾	ϑ_{min} ϑ_{max}	°C °C	-25 other temperature ranges +80 on request	
Shock resistance		m/s ²	100 (contact switches)	500

*) other versions on request

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

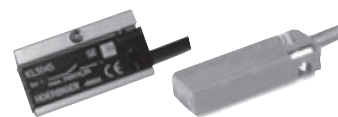


For electrical sensing of the carrier position, e.g. at the end positions, magnetic switches may be fitted. Position sensing is contactless and is based on magnets fitted as standard to the carrier. A yellow LED indicates operating status.

The universal magnetic switches are suitable for all HOERBIGER-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.

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



For linear drives see 1.10.002E

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.

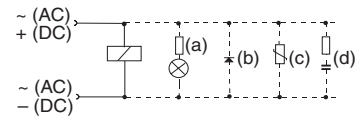
With **resistive and capacitive loads** with high switch-on current, such as light bulbs, a protective resistor should be fitted. This also applies to long cable lengths and voltages over 100 V.

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

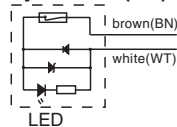
Load with protective circuits
(a) Protective resistor for light bulb
(b) Freewheel diode on inductivity
(c) Varistor on inductivity
(d) RC element on inductivity



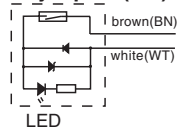
For the type ES, external protective circuits are not normally needed.

Electrical Connection, Type RS

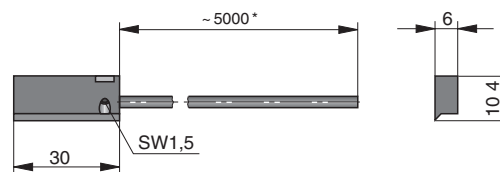
Normally closed (NC)



Normally open (NO)



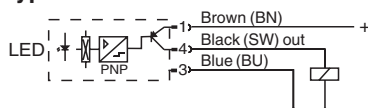
Dimensions (mm) – Type RS-K



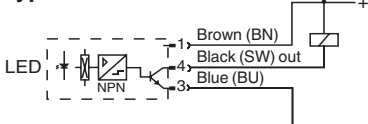
* Length with possible minus tolerance, see chart below

Electrical Connection, Type ES

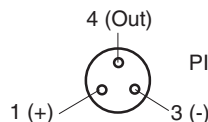
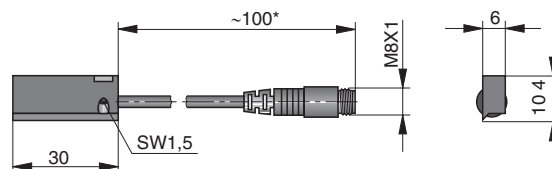
Standard Version: Type PNP



Optional Version Type NPN



Dimensions (mm) – Type ES-S



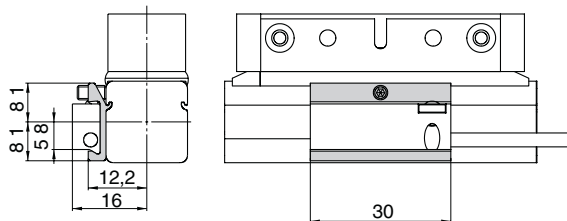
PIN assignment (view of pins) according to DIN EN 50044

* Length with possible minus tolerance, see chart below

Length of connection cable with length tolerance

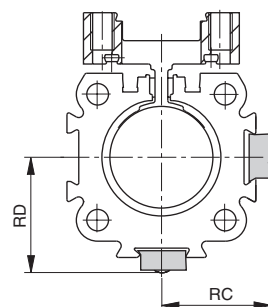
Magnetic Switch Order No.	Nominal cable length	Length tolerance
KL3045	5000 mm	– 50 mm
KL3048	5000 mm	– 50 mm
KL3054	100 mm	– 20 mm
KL3060	145 mm	± 5 mm

Dimensions Series OSP-P10



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

Dimensions Series OSP-P16 to 80



Dimension Table (mm) and Order Instructions

Series	Dimensions		Order No..						
	RC	RD	RS closer Normally open	RS opener Normally closed	ES PNP	NPN	ES compl. with 5 m cable PNP NPN		Adapter only for OSP-P10)
OSP-P10	–	–	Type: RS-K KL3045	Type: RS-K KL 3048	Type: ES-S KL 3054	Type: ES-S KL 3060	Type: ES-S 10750	Type: ES-S 10751	20968 please order separately
OSP-P16	20	20.5							
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				