

# M18 Inductive DC Proximity Switch AK1



Compact inductive proximity switch for DC operation

- ø18 x 50mm
- Shielded and unshielded models
- IP67 nickel-plated brass housing
- 2 wire DC
- Short-circuit protection
- LED status indicator 360° visible
- Additional cable exit options available
- Nominal sensing range: Shielded 5mm  
Unshielded 8mm
- Long distance: Shielded 8mm  
Unshielded 12mm
- UL and CUL approved



## Options and ordering codes

<b>AK1</b>	/	<b>AN</b>	-	<b>1A</b>	
Standard proximity				<b>1</b>	Shielded
				<b>2</b>	Unshielded
NO output state		<b>A</b>		<b>3</b>	Long distance shielded
NC output state		<b>C</b>		<b>4</b>	Long distance unshielded
NPN output type		<b>N</b>		<b>A</b>	Standard cable exit
PNP output type		<b>P</b>		<b>H</b>	M12 plug cable exit
2 wire DC		<b>O</b>			

## Specification

Model	AK1
Hysteresis	10% maximum
Repeatability	5%
Supply voltage	10-30 VDC
Ripple	10% maximum
Maximum consumption	20mA
Switching frequency	0.5kHz
Output type	NPN or PNP
Output state	NO or NC
Load current	≤ 400mA
Residual output voltage	1.2V max. I <sub>L</sub> =100mA
Leakage current	<10μA
Time before switch operation	200ms
Output current limit	450-500mA
Short circuit protection	autoreset
Polarity reversal protection	yes
Inductive loads protection	yes
LED status indicator	yes (at the rear)
Insulation resistance	>1000mΩ to 1000VDC
Dielectric strength	1500VAC 50Hz for 1 min
Protection degree	IP67
Temperature range	-25° +70 °C
Temperature drift	10% Sn
Housing material	nickel-plated brass
Front material	POM
Tightening torque	40 Nm max
Ambient humidity	35%-85% r.h.
Weight (approx.)	cable: 120g, plug: 60g

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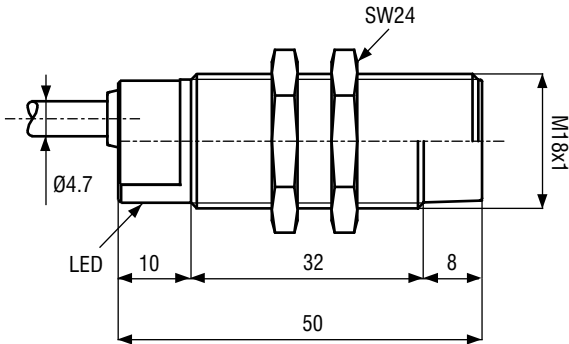


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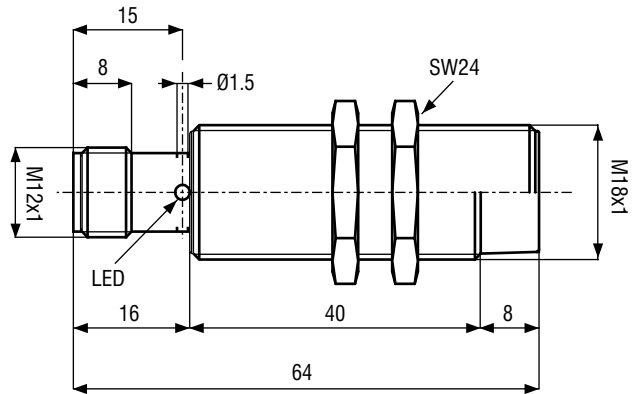
## Dimensions (mm)

### AK1/\*\*-\*A standard cable exit

Cable:  $\phi 4.75\text{mm}$ , 2m length  
 0.34mm<sup>2</sup> conductor section, PVC material

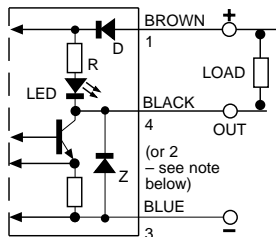


### AK1/\*\*-\*H M12 plug cable exit

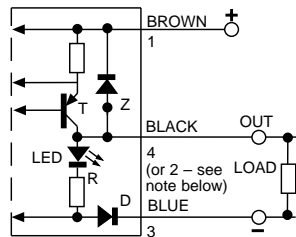


## Output circuit - wiring connections

### NPN output

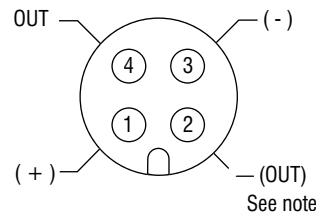


### PNP output



NOTE: in case of combined load, i.e. resistive and capacitive, the maximum admissible capacity (C) is 1 $\mu$ F for maximum output voltage and current.

## M12 plug - pin connections Cable exit option H



**Other cable options:**  
 Right angle cable  
 Customised cables  
 Please contact IMO for  
 price and availability

NOTE: (pin connections): At present, all plug exit sensors have the output on pin 4. According to EEC Directives, the output of NC plug exit models will be changing to pin 2 (NO will remain on pin 4). A plug cable to match these NC sensors MUST be a 4-wire type as 3-wire cables are connected to pins 1, 3 and 4 – contact IMO to check stock types.