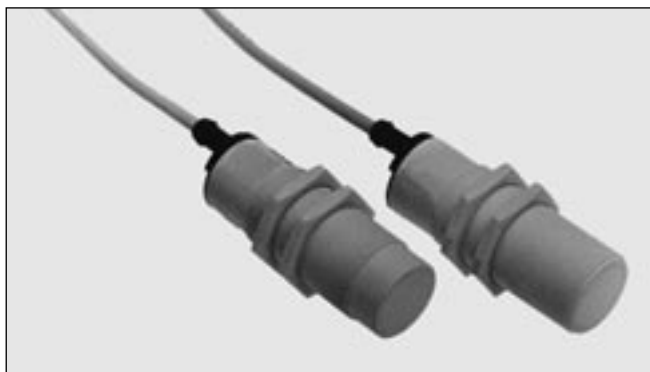


Proximity Sensors Capacitive Thermoplastic Polyester Housing Types EC, M18, M30, Cable

CARLO GAVAZZI



- Thermoplastic polyester housing, cylindrical
- Diameter: M18, M30
- Adjustable sensing distance
- Power supply: 10 to 40 VDC
20 to 250 VAC
- Output: Transistor NPN or PNP, make or break switching
SCR, make or break switching
- Protection: Reverse polarity and short-circuit
- LED-indication for output ON
- 2 m cable

Product Description

Proximity switch in M18 and M30 housings. NPN, PNP and AC outputs. Adjustable sensing distance. Polyester housing. Delivered with 2 m cable.

Ordering Key

EC 1808 NPO P

Capacitive proximity switch
Housing diameter (mm)
Rated operating dist. (mm)
Output type
Housing material

Type Selection, Transistor NPN/PNP Output DC Types

Housing diameter	Rated operating dist. (S _n) ²⁾	Ordering no. Transistor NPN Make switching	Ordering no. Transistor NPN Break switching	Ordering no. Transistor PNP Make switching	Ordering no. Transistor PNP Break switching
M18	8 mm ¹⁾	EC 1808 NPOP	EC 1808 NPCP	EC 1808 PPOP	EC 1808 PPCP
M30 ³⁾	15 mm ¹⁾	EC 3015 NNAP		EC 3015 PNAP	

¹⁾ For non-flush mounting

²⁾ Object: Grounded steel plate

³⁾ Not for new designs - for replacement part numbers contact sales office

Type Selection, SCR Output AC Types

Housing diameter	Rated operating dist. (S _n) ²⁾	Ordering no. SCR Make switching	Ordering no. SCR Break switching
M18	8 mm ¹⁾	EC 1808 TBOP	EC 1808 TBCP
M30 ³⁾	15 mm ¹⁾	EC 3015 TBOP	EC 3015 TBCP

¹⁾ For non-flush mounting

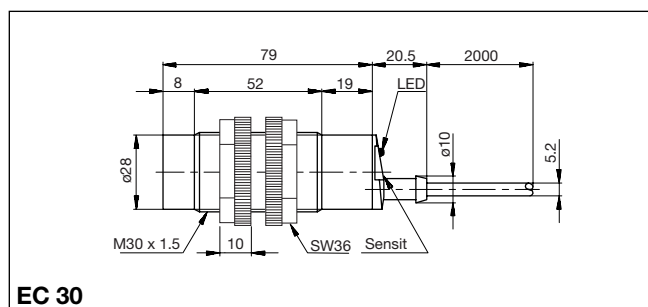
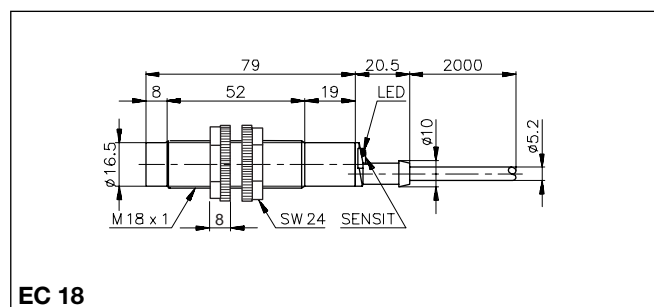
²⁾ Object: Grounded steel plate

³⁾ Not for new designs - for replacement part numbers contact sales office

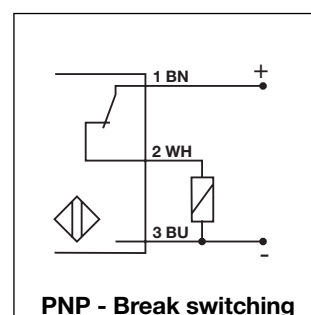
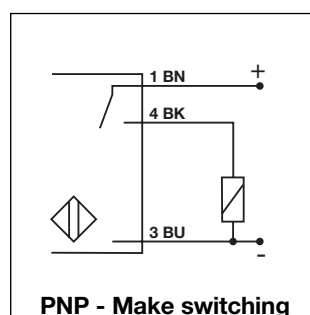
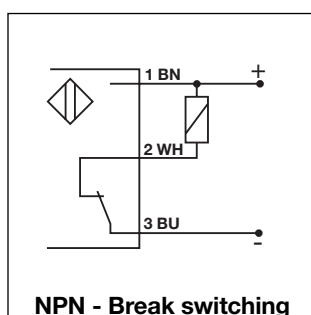
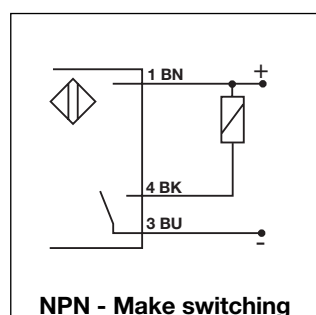
Specifications

	Transistor NPN/PNP		SCR
Rated operational volt. (U_a) (U_B)	12 to 36 VDC 10 to 40 VDC (ripple included)		20 to 250 VAC, 50 to 60 Hz
Ripple	≤ 10%		
Rated operational current (I_o) Continuous Short-time	≤ 200 mA ≤ 200 mA		≤ 500 mA ≤ 2.5 A, max. 20 ms
No-load supply current (I_o)	EC 18 EC 3015	≤ 12 mA (no load) ≤ 20 mA (no load)	
Minimum load current			≤ 10 mA
OFF-state current (I_r)			≤ 2.6 mA
Voltage drop (U_d)	EC 18 EC 30	≤ 2.8 VDC at max. load ≤ 2.5 VDC at max. load	≤ 10 VAC at loads ≥ 20 mA
Protection	Reverse polarity, short-circuit (EC 18)		Transil (transient protection)
Transient voltage	EC 1808	≤ 3 kV/0.5 J (prepared)	≤ 5 kV/0.5 J (prepared)
Power ON delay			EC 18 ≤ 350 ms EC 3015 TBOP ≤ 300 ms EC 3015 TBOP ≤ 100 ms
Frequency of operating cycles (f)	EC 18 EC 3015	25 Hz 30 Hz	EC 18 10 Hz EC 30 10 Hz
Indication for output ON	LED, yellow		LED, yellow
Rated operating dist. (S_n) (adjustable)	EC 18 2 to 10 mm, factory set at 8 mm		EC 18 2 to 10 mm, factory set at 8 mm EC 30 5 to 15 mm, factory set at 15 mm
Rated operating dist. (S_n) (fixed)	EC 3015 15 mm Reference object: Grounded steel plate. Other objects: Refer to "Reduction Factors", Technical information		
Repeat accuracy (R)	≤ 10%		≤ 10%
Hysteresis (H) (Differential travel)	1 to 20% of sensing distance		1 to 20% of sensing distance
Effective operating dist. (S_r)	$0.9 \times S_n \leq S_r \leq 1.1 \times S_n$		$0.9 \times S_n \leq S_r \leq 1.1 \times S_n$
Usable operating dist. (S_u)	EC 18 EC 30	$0.9 \times S_r \leq S_u \leq 1.1 \times S_r$ $0.8 \times S_r \leq S_u \leq 1.15 \times S_r$	EC 18 $0.9 \times S_r \leq S_u \leq 1.1 \times S_r$ EC 30 $0.8 \times S_r \leq S_u \leq 1.15 \times S_r$
Ambient temperature Operating Storage	EC 18 EC 3015 EC 18 EC 30	-25° to +70°C (-13° to +158°F) 0° to +70°C (+32° to +158°F) -30° to +80°C (-22° to +176°F) -30° to +80°C (-22° to +176°F)	EC 18 -25° to +70°C (-13° to +158°F) EC 30 -25° to +70°C (-13° to +158°F) EC 18 -30° to +80°C (-22° to +176°F) EC 30 -30° to +80°C (-22° to +176°F)
Degree of protection	IP 67 (Nema 1, 3, 4, 6, 13)		IP 67 (Nema 1, 3, 4, 6, 13)
Housing material Body Back	Yellow thermoplastic polyester Black thermoplastic polyester		Yellow thermoplastic polyester Black thermoplastic polyester
Cable	2 m, 3 x 0.25 mm ² grey PVC, oil proof		2 m, 2 x 0.5 mm ² grey PVC, oil proof
Weight	EC 18 EC 30	120 g 170 g	EC 18 120 g EC 30 170 g
Tightening torque	EC 18 EC 30	2.6 Nm 7.5 Nm	EC 18 2.6 Nm EC 30 7.5 Nm
Approvals	UL, CSA		UL, CSA
CE-marking	Yes (only EC1808 NPOP and EC1808NPCP)		Yes

Dimensions



Wiring Diagrams



Installation Hints

<p>To avoid interference from inductive voltage/current peaks, separate the prox. switch power cables from any other power cables, e.g. motor, contactor or solenoid cables</p>	<p>Relief of cable strain</p> <p>Correct</p> <p>The cable should not be pulled</p>	<p>Protection of the sensing face</p> <p>A proximity switch should not serve as mechanical stop</p>	<p>Switch mounted on mobile carrier</p> <p>Any repetitive flexing of the cable should be avoided</p>
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Power Supplies

Power supplies VDC: > SS 130/140.

Power supplies with amplifier relays: > SV 190.