

Proximity Sensors Capacitive High-temperature Type ECH, M 30

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- For temperature applications, from -196°C to +180°C
- Sensor diameter: M 30, teflon and stainless steel
- Adjustable sensing distance: 4 to 15 mm, factory set for 10 mm
- Power supply: 10 to 40 VDC
- Output: transistor NPN or PNP, make & break switching
- Protection: Reverse polarity, short-circuit, transients
- LED-indication for output ON
- Separate amplifier and sensor
- Plug connection

Product Description

Capacitive proximity switch for non-flush mounting with NPN or PNP open collector output. The sensor is provided with a separate teflon sensor head in M 30 for temperature application within the

range of -196°C and +180°C ambient temperature, e.g. plastic pellet/resin detection in plastic injection moulding machines and drying equipment, and detection of hot wax as used in e.g. car manufacturing.

Ordering Key

ECH 3010 PPA T-1

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

Type Selection

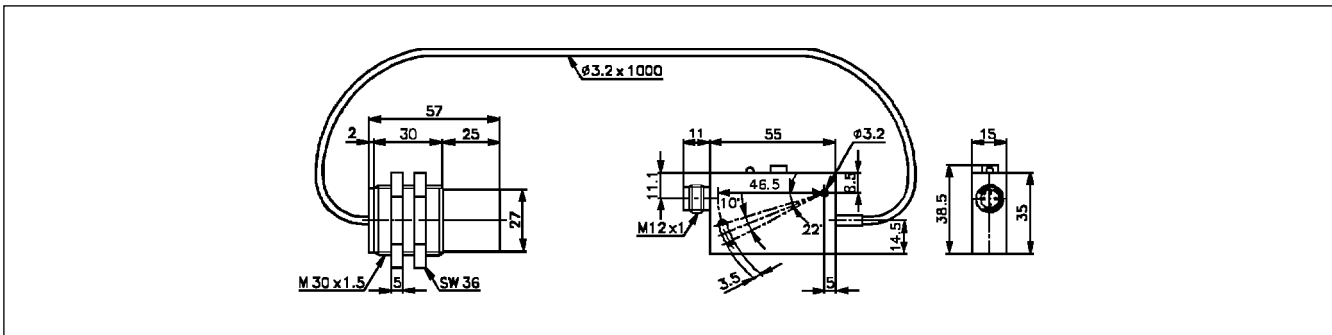
Housing diameter	Rated operating dist. (S _n)	Ordering no. NPN Make & break switching	Ordering no. PNP Make & break switching
M 30	4 to 15 mm	ECH 3010 NPAT-1	ECH 3010 PPAT-1

Specifications

Rated operational volt. (U _o)	12 to 36 VDC
(U _B)	10 to 40 VDC (ripple incl.)
Ripple	≤ 25%
No-load supply current (I _o)	≤ 12 mA
Rated operational current (I _o)	≤ 200 mA
OFF-state current (I _i)	≤ 100 μA
Voltage drop (U _d)	≤ 2.0 V
Protection	Reverse polarity, short-circuit, transients
Transient voltage	≤ 1 kV/0.5 J (prepared)
Frequency of operating cycles (f)	5 pulses per s
Indication for output ON	LED, yellow
Rated operating dist. (S _n) (adjustable)	4 to 15 mm factory set: 10 mm Reference object: Grounded steel plate. Other objects: Refer to "Reduction Factors", Technical information.
Assured operating dist. (S _a)	0 < S _a < 0.81 x S _n
Repeat accuracy (R)	<10%
Hysteresis (H) (Differential travel)	1 to 20% of sensing distance

Effective operating dist. (I _i)	0.9 x S _n ≤ S _r ≤ 1.1 x S _n
Usable operating dist. (S _u)	0.9 x S _r ≤ S _u ≤ 1.1 x S _r
Ambient temperature	
Amplifier	
Operating	-25° to +70°C (-13° to +158°F)
Storage	-30° to +80°C (-22° to +176°F)
Sensor	
Operating	-196° to +180°C (-321° to +356°F)
Storage	-196° to +180°C (-321° to +356°F)
Cable	-55° to +200°C (-67° to +392°F)
Degree of protection	IP 67 (Nema 1, 3, 4, 6, 13)
Housing material	
Amplifier	Yellow thermoplastic polyester
Sensor	Teflon
Sensor thread	M 30 x 1.5 stainless steel AISI 304
Cable (Sensor)	1 m teflon (shielded)
Plug (Amplifier)	CONH1A.. ◊
Weight	
Amplifier	45 g
Sensor	90 g
Nut	18 g
Tightening torque (Sensor)	Max. 80 Nm

Dimensions



ECH 3010 .PAT-1

Delivery Content

- Proximity switch:
ECH 3010...
- 2 nuts
- Screw driver
- Installation instructions
- Packaging: carton box

Wiring Diagrams

Refer to "Wiring Diagrams",
Technical information.

Accessories

Refer to "Accessories",
Technical information.