

# Proximity Sensors Capacitive High-temperature Type ECH, M 30



- 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:

Housing diameter

Rated operating dist. (mm)

Output type

Housing material

Connection type

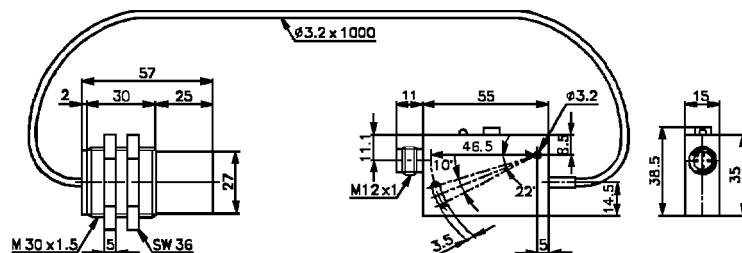
## Type Selection

Housing diameter	Rated operating dist. (S <sub>n</sub> )	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 <sub>a</sub> ) (U <sub>B</sub> )	12 to 36 VDC 10 to 40 VDC (ripple incl.)	Effective operating dist. (l <sub>i</sub> )	0.9 x S <sub>n</sub> ≤ S <sub>r</sub> ≤ 1.1 x S <sub>n</sub>
Ripple	≤ 25%	Usable operating dist. (S <sub>u</sub> )	0.9 x S <sub>r</sub> ≤ S <sub>u</sub> ≤ 1.1 x S <sub>r</sub>
No-load supply current (I <sub>o</sub> )	≤ 12 mA	Ambient temperature	
Rated operational current (I <sub>e</sub> )	≤ 200 mA	Amplifier	
OFF-state current (I <sub>i</sub> )	≤ 100 µA	Operating	-25° to +70°C (-13° to +158°F)
Voltage drop (U <sub>d</sub> )	≤ 2.0 V	Storage	-30° to +80°C (-22° to +176°F)
Protection	Reverse polarity, short-circuit, transients	Sensor	
Transient voltage	≤ 1 kV/0.5 J (prepared)	Operating	-196° to +180°C (-321° to +356°F)
Frequency of operating cycles (f)	5 pulses per s	Storage	-196° to +180°C (-321° to +356°F)
Indication for output ON	LED, yellow	Cable	-55° to +200°C (-67° to +392°F)
Rated operating dist. (S <sub>n</sub> ) (adjustable)	4 to 15 mm factory set: 10 mm Reference object: Grounded steel plate. Other objects: Refer to "Reduction Factors", Technical information.	Degree of protection	IP 67 (Nema 1, 3, 4, 6, 13)
Assured operating dist. (S <sub>a</sub> )	0 < S <sub>a</sub> < 0.81 x S <sub>n</sub>	Housing material	
Repeat accuracy (R)	<10%	Amplifier	Yellow thermoplastic polyester
Hysteresis (H) (Differential travel)	1 to 20% of sensing distance	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.