

Capacitive Proximity Sensor **multicomp**^{PRO}

**RoHS
Compliant**



Description

These Series comprises cylindrical capacitive proximity sensors for non-contact detection of metallic and non-metallic materials, including glass, timber, oil, water and plastics. Because detection takes place without physical contact, the sensors do not cause mechanical wear or damage to the target. The selected range operates from a 10 V to 30 V DC supply and provides normally open NPN, PNP or NPN/PNP outputs, with nominal sensing distances from 10 mm to 30 mm. Thermally compensated sensing electronics support stable switching as ambient temperature changes, while the polypropylene housing provides IP67 protection for general industrial sensing applications.

Features

- 10mm, 20mm and 30mm nominal sensing distances
- NPN, PNP and NPN/PNP normally open output versions
- 10V to 30V DC operating voltage
- Detects metallic and non-metallic materials
- No sensitivity adjustment on M12 models
- 14-turn sensitivity adjustment on M18 and M30 models
- Thermally compensated for improved switching stability
- Short-circuit and reverse-polarity protection
- IP67-rated polypropylene housing
- 100 Hz response frequency

Specifications

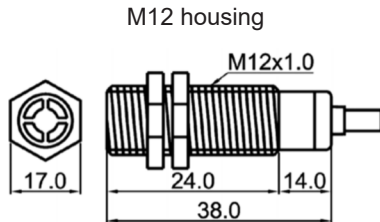
Unit of Supply	: Capacitive proximity sensor with integral lead
Sensor Type	: Capacitive
Housing Style	: Cylindrical, threaded
Output Function	: Normally open
Operating Voltage	: 10V to 30V DC
Current Consumption	: 20 mA Max.
Output Current	: 150 mA Max.
Response Frequency	: 100 Hz
Leakage Current	: 0.8 mA max
Residual Voltage	: 0.8V max
Protection Circuits	: Short-circuit and reverse-polarity protection
Reference Target	: Earthed metal plate, 50mm × 50mm × 1mm
Housing Material	: Polypropylene (PP)
Operating Temperature	: -25°C to +80°C
Operating Humidity	: 35% to 95% RH
Protection Plating	: IP67

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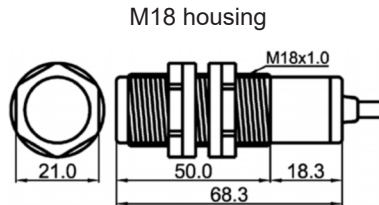
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Housing dimensions



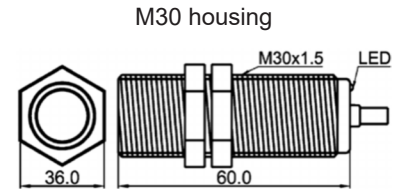
MPCP12-10N/CP12-10P

M12 × 1.0 thread; 17 mm across flats; 38mm body length.



MPCP18-30N/CP18-30P

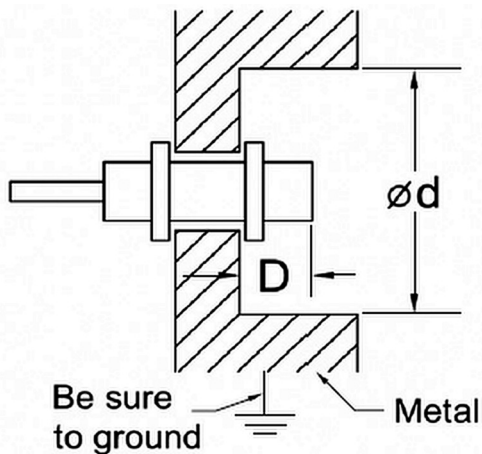
M18 × 1.0 thread, 21 mm across flats; 68.3mm body length



MPCP30-50C

M30 × 1.5 thread, 36mm across flats: 60 mm body length.

Installation near metalwork



Nearby metalwork can affect the capacitive sensing field and may cause unstable or unintended switching. Earth the metal mounting bracket and maintain the minimum dimensions shown. Dimension D is the axial clearance from the sensing face to surrounding metal; dimension d is the clear diameter around the sensing face.

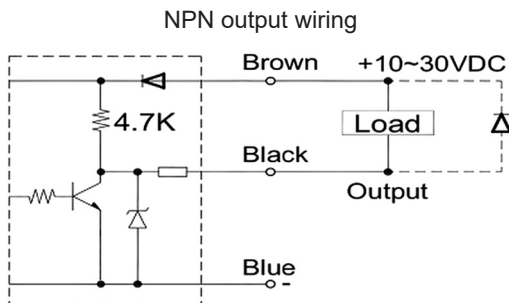
Housing	D minimum	Clear diameter d
M12 / CP12	12mm	36mm
M18 / CP18	24mm	48mm
M30 / CP30	24mm	60mm

Part Numbers and Wiring

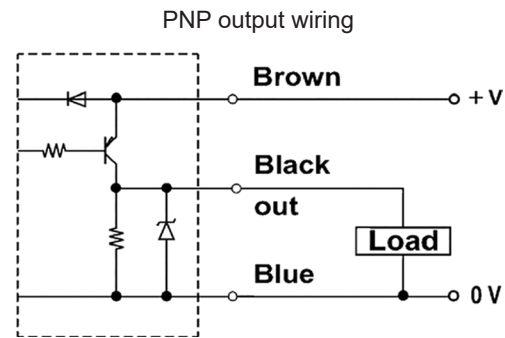
Part Number	Thread	Output	Sensing Distance	Sensitivity	Housing
MP-CP12-10N	M12 × 1.0	NPN, NO	10mm	No sensitivity adjustment	PP
MP-CP12-10P	M12 × 1.0	PNP, NO	10mm	No sensitivity adjustment	PP
MP-CP18-30N	M18 × 1.0	NPN, NO	20mm	14-turn trimmer	PP
MP-CP18-30P	M18 × 1.0	PNP, NO	20mm	14-turn trimmer	PP
MP-CP30-50C	M30 × 1.5	NPN & PNP, NO	30mm	14-turn trimmer	PP

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Wiring



Applicable models: CP12-10N and CP18-30N



Applicable models: CP12-10P and CP18-30P

General installation guidance

- Disconnect the supply before wiring or servicing the sensor.
- Connect the load as shown for the applicable NPN or PNP output type and do not exceed the 150 mA output rating.
- Use the M18 and M30 sensitivity trimmer to suit the target material and confirm reliable switching under actual operating conditions.
- Capacitive sensors can respond to moisture and nearby objects; confirm adequate switching margin in the final installation.
- These sensors are intended for object and level detection and are not safety-rated protective devices.

Part Number Table

Description	Part Number
Capacitive Proximity Sensor, M12, NPN, NO, 10mm	MP-CP12-10N
Capacitive Proximity Sensor, M12, PNP, NO, 10mm	MP-CP12-10P
Capacitive Proximity Sensor, M18, NPN, NO, 30mm	MP-CP18-30N
Capacitive Proximity Sensor, M18, PNP, NO, 30mm	MP-CP18-30P
Capacitive Proximity Sensor, M30, NPN and PNP, NO, 50mm	MP-CP30-50C

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