Micro Power Inductive Proximity Sensor M18M3 3-Wire
6 μA Operating Current+2.5V DC Industry's Lowest

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Quick Selection Guide			
Technology:	Inductive. Responsive to metal proximity.	Output Options:	Normally Closed (NC) or Normally Open (NO)
Output Type:	NPN	Connection:	Cable leads. 3-Wire
Sensing Distance:	4 mm	Housing - Body:	Metal
Supply Voltage:	+2.5V to +27V	Package / Case	Cylinder, threaded, M18
Supply Current:	6 μA max.	Interface:	None
Shielding	Shielded	Indicator:	None

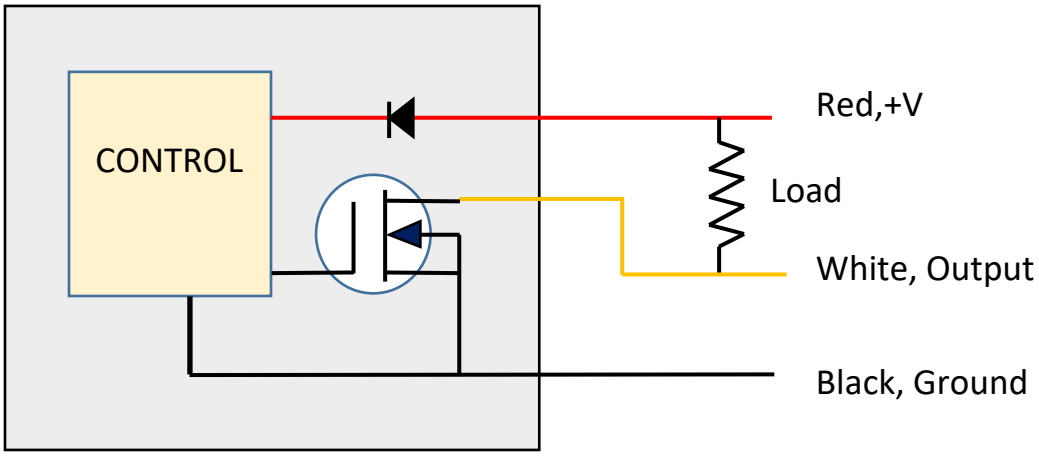
Description:

LPS (**I**nductive **P**roximity **S**ensor) **M18M3** series operates at the industry's lowest operating current (6 μA) level and lowest power supply voltage levels (+2.5V to +27V), making it ideal for portable/battery operated applications. The low minimum operating voltage of +2.5V also makes this sensor directly compatible with most types of computers for portable robotics, motor controls, and automation. Utilizing CMOS IC sensor technology, this sensor provides excellent results, even with difficult-to-detect objects, e.g. small or thin parts, or bright metals. Normally Closed (NC) or Normally Open (NO) sensor output functions are available utilizing NMOS switching.

PATENTED

A joint product with Mirrow Sensors, Inc.
www. MirowSensors.com

Wiring Diagram:



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6 μA Operating Current+2.5V DC Industry's Lowest

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Features:

- Ultra-low power supply current consumption: 6 μA max.
- Low power supply voltage: +2.5V to +27V
- Fast start-up time: 20 μ sec.
- Fast response time: 200 μ sec.
- Patent No. USA 9,140,579

Specifications: Ta=+25°C unless otherwise specified

Package / Case	Metal Cylinder. Threaded. M18.
Target	24 x 24 x 1 mm Aluminum. See correction factor table below for other metals. Ferrous metal: The sensing distance decreases with ferrous or high permittivity metal.
Correction Factors[Note 1]	Metal / Correction Factors Aluminum 1.00 Copper 0.89 Brass 0.88 Stainless steel 0.63 Iron 0.40
Power supply voltage (Operating Voltage Range)	+2.5 ~ +27 V D.C.
Power Supply Current Consumption	6 μA max.
Output Types[note 2]	NC (Normally Closed) or NO (Normally Open)
Shielding	Shielded
Output Voltage	27V max.
Output Leakage Current	2 μA max.
Output Load Current	250 mA max.
Output Voltage Drop	0.4 V max.
Sensing Distance[note 3]	4 mm ±10% at +25°C
Response Frequency	5 KHz (200 μ sec.) typical
Start-up Time	20 μ sec. typical
Hysteresis	None

Protection Circuit	Power source circuit reverse polarity protection
Ambient Humidity	Operating: 35% to 95%, Storage: 35% to 95%
Temperature Influence	±5% typical over -25°C to +70°C Referenced to sensing distance at +23°C
Supply Voltage Influence	±1% max. of sensing distance in rated voltage range
Operating Temperature Range	-25°C to +70°C
Storage Temperature Range	-40°C to 85°C (with no icing or condensation)
Ingress Protection	IP65
Termination Style	Pre-wired. 2 m cable leads. 3 conductors. 26 AWG. Conductor strand: 7/34.
Indicator	No indicator

Note 1 **Correction Factors** -A percentage of the rated operating distance (Al) that represents the operating distance for targets constructed from materials other than Aluminum. Deviations maybe due to variations in the oscillator frequency, alloy compositions, purity & target geometry.

Note 2 **Normally Closed ("NC"):** The output is **OFF** when the target is detected by the sensor.
Normally Open ("NO"): The output is **ON** when the target is detected by the sensor.

Note 3 **Sensing Distance**: A distance at which the target approaching the sensing face, along the reference axis, causes the output signal to change.

Absolute Maximum Ratings

Power Supply Voltage V_{DD}	0 V min;+30 V max. D.C.
Output Voltage	0 V min.; +30 V max.
Output Current	0.5 A max.
Temperature	-40°C min.; +85°C max.

How to Order:

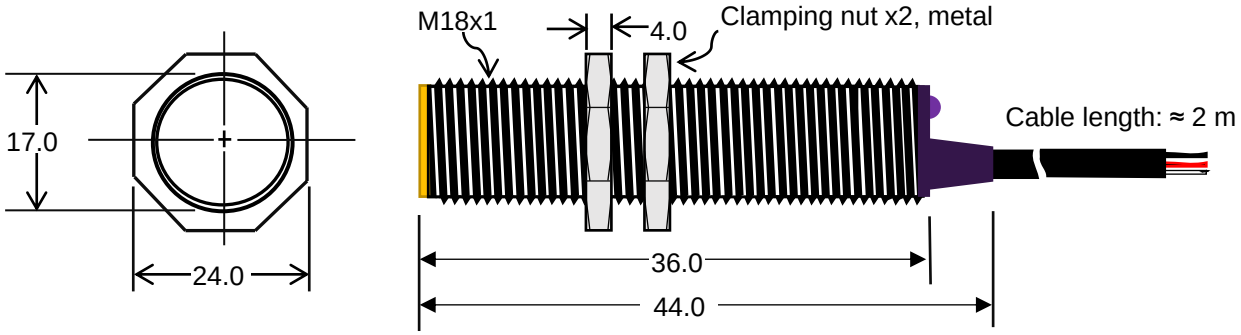
Ordering Code	Description; Product Variant
M18M3-NO4	Normally Open
M18M3-NC4	Normally Closed

Part Number explanation:

M18M3-xx4

- Cylinder Size: **M18** Cylinder Material: "**M**" for metal cylinder
  "**3**": For 3-wire connection
- Sensing distance in mm
- xx=NO: Normally Open
  xx=NC: Normally Closed

Outline Dimensions (mm)



Warranty

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