

Micro Power Inductive Proximity Sensor M18M2 Series
2-Wire True-Off™ Industry's Lowest 3 μ A (typ.) Leakage Current
 and 2.5V DC Supply Voltage



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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. 2-Wire
Sensing Distance:	4 mm	Housing - Body:	Metal
Supply Voltage:	+2.3V to +27V	Package / Case	Cylinder, threaded, M18
Residual Current:	5 μ A max.	Interface:	None
Shielding	Shielded	Indicator:	None

Description:

M18M2 series 2-wire True-Off™ LPS(**I**nductive **P**roximity **S**ensor) operates at the industry's lowest off-state leakage current or residual current (3 μ A) level and lowest power supply voltage levels (+2.3V to +27V), making it ideal for low current 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.

Features:

- Ultra-low off-state leakage current: 3 μ A typ. Outperform competitors' 456 μ A. As the name implies, It is a True-Off™ when off. To see the video demonstration, please search "M18M2" at YouTube.
- Ultra-low on-state holding current: 20 μ A min.
- Low power supply voltage: +2.3V to +27V

PATENTED
 USA 9,140,579



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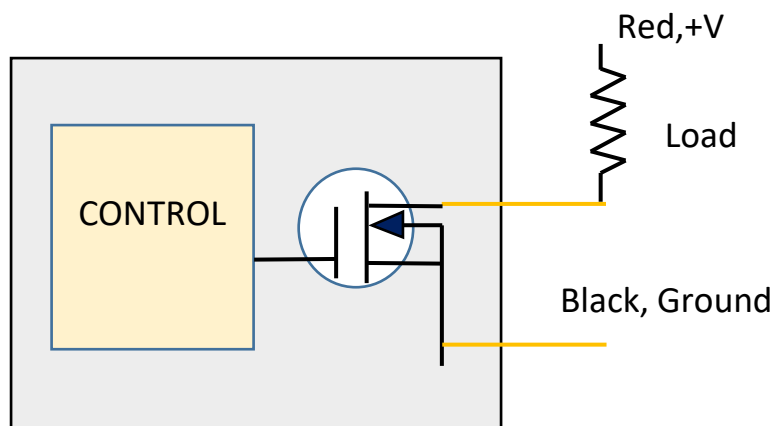


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Absolute Maximum Ratings

Power Supply Voltage V_{DD}	0 V min; +30 V max. D.C.
Output Voltage	0 V min.; +30 V max.
Output Current	0.03 A max.
Temperature	-40°C min.; +85°C max.

Wiring Diagram:



Specifications: $T_a = +25^\circ\text{C}$ unless otherwise specified

Package / Case	Plastic 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 <small>Note 1</small>	Metal	Correction Factors
	Aluminum	1.00
	Copper	0.89
	Brass	0.88
	Stainless steel	0.63
	Iron	0.40

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Power supply voltage (Operating Voltage Range)	+2.3 ~ +27 V D.C.
Power Supply Current Consumption	5 μ A max.
Output Types ^{note 2}	NC (Normally Closed) or NO (Normally Open)
Shielding	Shielded
Output Voltage	27V max.
Output Leakage Current (off)	6 μ A max.
Output Load Current (on)	0.020 mA min. to 20 mA max.
Output Voltage Drop	2.6 V max.
Sensing Distance ^{note 3}	4 mm \pm 10% at +25°C
Response Frequency	5 KHz (200 μ sec.) typical
Hysteresis	Yes
Protection Circuit	None
Ambient Humidity	Operating: 35% to 95%, Storage: 35% to 95%
Temperature Influence	\pm 5% typical over -20°C to +60°C Referenced to sensing distance at +23°C
Supply Voltage Influence	\pm 1% max. of sensing distance in rated voltage range
Operating Temperature Range	-20°C to +60°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. 2 conductors. 22 AWG. Conductor strand: 7/304.
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.

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

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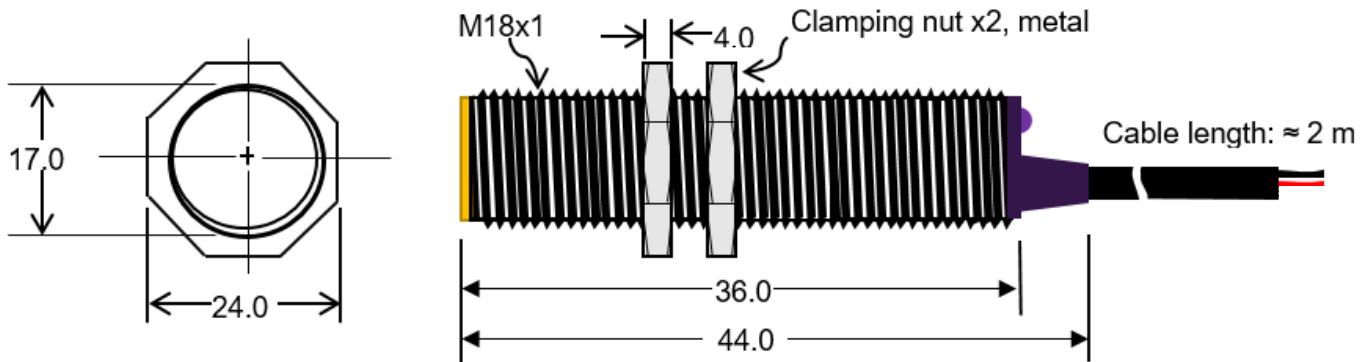
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How to Order:

Part Number:

Normally Closed: LPS-M18M2-NC

Outline Dimensions (mm)



Warranty:

Mercury United does not assume any liability arising out of the application or use of any product or circuit described herein. Our products are not authorized for use as components in devices used for life support or other critical application where failure can cause death or bodily injury. In the case of this product being defective in manufacturing, labeling, packaging or shipping, it will be replaced with a satisfactory unit or the purchase price refunded. This is the exclusive remedy, even if the defect or damage is caused by negligence or other fault.