



Instruction Manual

PS-12 **Inductive Proximity Sensor**



15 Columbia Drive
Amherst, NH 03031 USA
Phone: (603) 883-3390 • Fax: (603) 886-3300
E-mail: support@monarchinstrument.com
Website: www.monarchinstrument.com



SAFEGUARDS AND PRECAUTIONS



Read and follow all instructions in this manual carefully, and retain this manual for future reference.

Do not use this instrument in any manner inconsistent with these operating instructions or under any conditions that exceed the environmental specifications stated.

This instrument is not user serviceable. For technical assistance, contact the sales organization from which you purchased the product.



In order to comply with EU Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE): This product may contain material which could be hazardous to human health and the environment. DO NOT

DISPOSE of this product as unsorted municipal waste. This product needs to be RECYCLED in accordance with local regulations; contact your local authorities for more information. This product may be returnable to your distributor for recycling; contact the distributor for details.

Monarch Instrument's Limited Warranty applies.
See www.monarchinstrument.com for details.

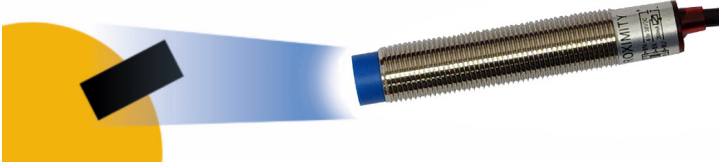
Warranty Registration and Extended Warranty Coverage information is available online at www.monarchinstrument.com.

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1.0 DESCRIPTION

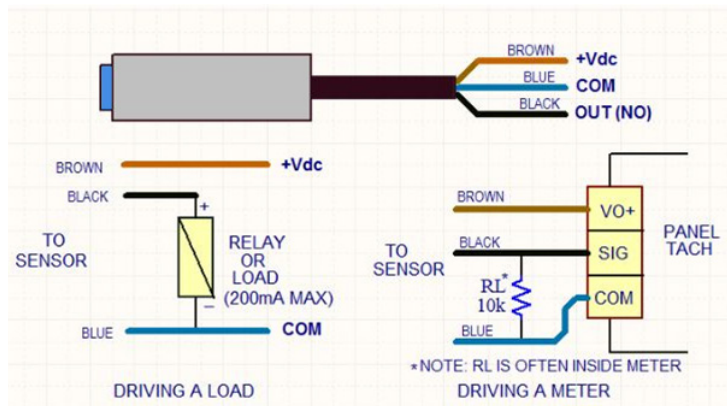
The PS-12 is a three-wire Inductive Proximity Sensor Switch that outputs an open collector PNP pulse. The sensor operates at a 0.15 inch [4 mm] gap with a 0.45 inch [12 mm] target and has a red LED On-Target Indicator. The sensor is housed in a threaded metal IP67 shell and is supplied with M12 mounting hardware and a 6-foot shielded cable with tinned wires.



2.0 OPERATING PRINCIPLE

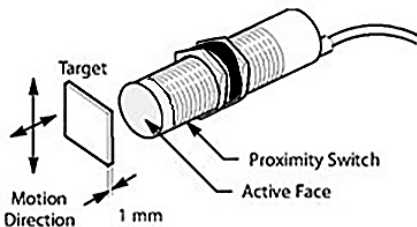
A Proximity Sensor is a type of sensor used to detect nearby objects without contact. A Proximity Switch is a specific type of Proximity Sensor with built-in contacts that directly open or close an electrical circuit (like a simple ON/OFF signal) when an object is detected, making it a complete sensing and switching unit in one. Proximity sensors rely on different technologies to sense the presence of objects. A widely used proximity sensor type is an inductive sensor, which uses electromagnetic waves to detect the metal object near the sensor detection surface. The operating principle is based on a coil and oscillator that create an electromagnetic field in the close surroundings of the sensing surface. The presence of a metallic object in the operating area causes a dampening of the oscillation amplitude. The rise or fall of such oscillation is identified by a threshold circuit that changes the output of the sensor. Current consumption of an inductive proximity sensor decreases proportionally to the metal object distance.

3.0 CONNECTION DETAIL



4.0 SETTING OPERATING DISTANCE

To ensure stable operation at environmental extremes, the sensing distance should be set to 80% of the rated distance. The detection distance is dependent upon the size and material of the target. The PS-12 is specified for an iron target. A stainless steel target will reduce the sensing distance to 50%. Brass, aluminum or copper targets will reduce the sensing distance to around 40%.



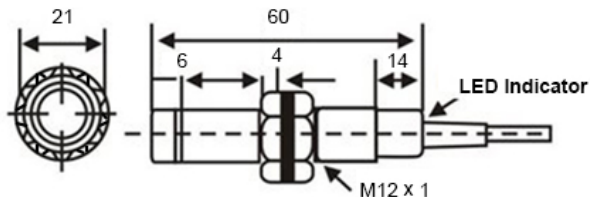
5.0 SPECIFICATIONS

Specifications*	PS-12 Inductive Proximity Sensor
Power Required	6 - 36 Vdc @ 15 mA
Output Signal	Open Collector PNP - normally open (NO)
Sensing Distance	0.15 in. [4 mm] Target should be at least = sensor diameter
Sense Indicator	LED indicates target present
Maximum Speed	24,000 RPM (400 Hz)
Operating Temperature	-13° to +167 °F [-25° to +75 °C]
Cable Length	Including sensor, 6 ft. [1.8 m]
Material	Threaded metal
Housing Protection	IP67
Mechanical	Standard size: M12
Dimensions	2.36 in. x 0.48 in. diameter [60 mm x 12 mm]

*Specifications are subject to change without notice.

5.1 Dimension Measurements

Measurements in mm.



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Tachometers*



Track-It™ Data Loggers



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*Fixed Mounted
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MONARCH
INSTRUMENT

15 Columbia Drive, Amherst NH 03031 USA

Tel.: (603) 883-3390 // 800-999-3390

Email: support@monarchinstrument.com

Website: www.monarchinstrument.com