



*Instruction Manual*

**ROS-HT-W-25**  
**High-Temperature Remote Optical Sensor**



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## SAFEGUARD 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.

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Monarch Instrument's Limited Warranty applies.  
See [www.monarchinstrument.com](http://www.monarchinstrument.com) for details.

Warranty Registration and Extended Warranty Coverage information is available online at [www.monarchinstrument.com](http://www.monarchinstrument.com).

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## 1.0 DESCRIPTION

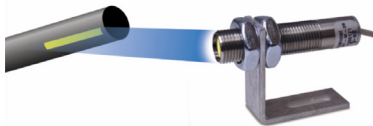
The High-Temperature Remote Optical Sensor has a visible incandescent white light source and can accurately measure speeds from 1-50,000 RPM from a distance of up to 24 inches with a maximum offset angle of 30 degrees from the rotating object. It is ideal for measuring rotational speed in high temperature environments up to 257 °F [125 °C]. The sensor is housed in a threaded 303 stainless steel tube and supplied with a 90 degree mounting bracket, jam nuts and a 25 ft. shielded cable terminated with tinned wires.

## 2.0 CONNECTION DETAIL

Wire Color	Function	Unit
Red	Positive Power Supply	(+V)
Black	Common	(Com)
White	Signal (0 to + VDC pulse)	(Sig)
Shield	Housing Ground	(Gnd)

## 3.0 OPERATING INSTRUCTIONS

The ROS-HT-W-25 High-Temperature Remote Optical Sensor is capable of detecting a reflected pulse from a target consisting of reflective tape at distances of up to 24 inches



[0.76 m] from the rotating object and angles up to 30 degrees. For most applications, a ½" [12 mm] square piece of T-5 Reflective Tape should be applied to a clean area on the rotating object.

**NOTE:** The T-5 tape supplied with the ROS-HT-W-25 is rated at 175 °F [79.4 °C] for continuous exposure and 250 °F [121 °C] for intermittent exposure (30 minutes).

The sensor should be mounted and optically aligned to illuminate the target once per revolution. The user must hold “steady” or mount the ROS-HT-W-25 to obtain an accurate measurement. It is recommended that the optical Sensor be placed at a slight angle (15 degrees) from perpendicular, so that the Sensor will receive only pulses from the reflective marker. The ROS-HT-W-25 should be at least 1 inch from the reflective target to avoid false triggering.

The ROS-HT-W-25 will work with all Monarch panel instruments that accept pulse inputs (e.g. ACT Series, F2A Frequency to Analog Converter/Tachometers, DataChart™ 1250, DataChart™ 6000).

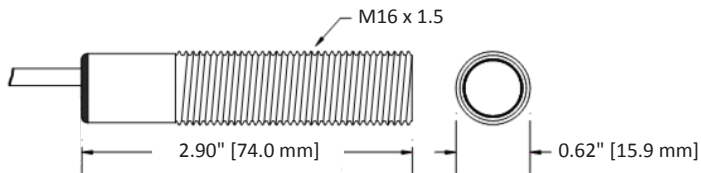


**CAUTION: DO NOT HANDLE SENSOR AT ELEVATED TEMPERATURES.**

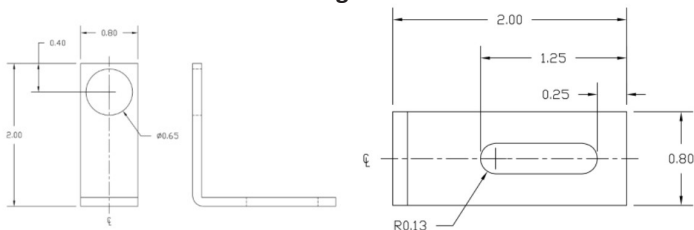
## 4.0 SPECIFICATIONS

Specifications*	ROS-HT-W-25
Speed Range	1-50,000 RPM
Operating Temperature	-13 °F to 257 °F [-25 °C to 125 °C]
Operating Range	up to 24" [0.76 m] and 30° offset from target
Power Required	6-24 V dc @ 48 mA
Illumination	Incandescent lamp
Output Signal	Positive pulse 0 to input voltage (+V)
Standard Cable	25 ft. [7.6 m]
Connection	Tinned wires
Material	303 stainless steel supplied with two M16 jam nuts and mounting bracket
Lens	Glass Pyrex
Dimensions	Threaded tube 2.90 in. x 1.5 in. x 0.62 in. diameter [M16 x 74 mm] long

\*Specifications are subject to change without notice.



## 4.1 Dimensions of Mounting Bracket (inches)



## 4.2 Compliance

- **CE Compliant**
- Low Voltage Directive (LVD) 2014/35/EU
- Electromagnetic Compatibility Directive (EMC) 2014/30/EU
- Restriction of Hazardous Substances (RoHS 3) Directive 2015/863/EU

## 5.0 ACCESSORIES

[See Accessories webpage for details.](#)

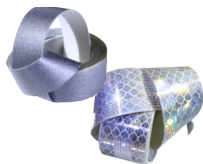
### Reflective Tape

T-5 (single pack), 5 feet - PN: 6180-070

T-5 (2-pack), 5 feet each - PN: 6180-069

T-50, 50 feet - PN: 6180-072

T-5WP (waterproof), 5 feet - PN: 6180-079



ROS Mounting Bracket

PN: 1052-4350-112

ROS M16 Jam Nut

PN: 1053-0189-001

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