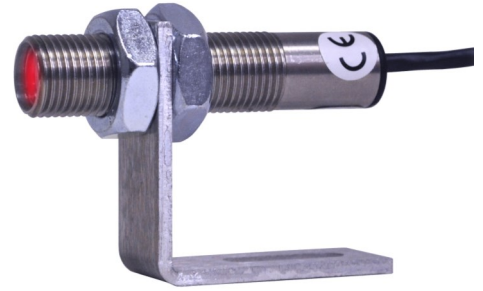# Remote Optical Sensor

HHT20-ROS

INSTRUCTION SHEET

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CE ☒

SAFEGUARDS AND PRECAUTIONS:

⚠ **Read and follow all instructions in this instruction sheet carefully, and retain this sheet 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.
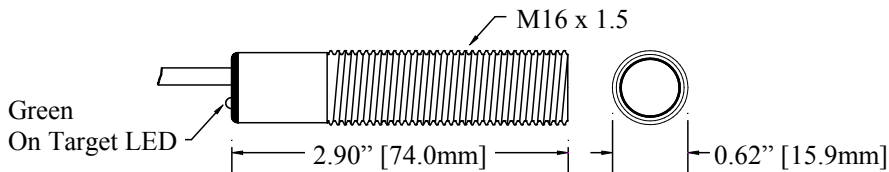
This instrument is not user serviceable. For technical assistance, contact the sales organization from which you purchased the product.
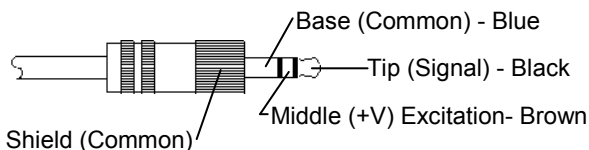
DESCRIPTION:

The HHT20-ROS Remote Optical Sensor has a visible red LED light source and green LED on-target indicator. The red LED light source acts as the aiming device during setup and can accurately measure speeds from 1-250,000 RPM from a distance of up to 36 inches with a maximum offset angle of 45 degrees from the rotating object. The sensor is housed in a threaded 303 stainless steel tube and supplied with a 90 degree mounting bracket, jam nuts and an 8 foot shielded cable terminated with a 3.5mm (1/8") male stereo plug.
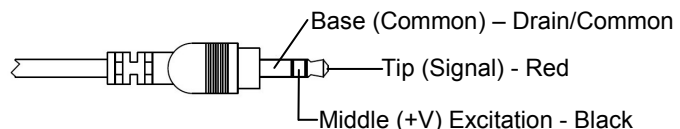
SPECIFICATIONS:

Speed Range:	1-250,000 RPM
Illumination:	Visible Red LED
On-Target Indicator:	Green LED on wire end cap
Operating Range:	up to 36" [0.9 m] and 45 degrees offset from target
Power Requirement:	3.0 - 15 Vdc @ 40mA
Output Signal:	Negative pulse input voltage (+V) to 0
Operating Temp.:	14° to 158° F [-10° to 70° C]
Humidity:	Maximum relative humidity 80% for temperature up to 88 °F [31 °C] decreasing linearly to 50% relative humidity at 104 °F [40 °C]
Connection:	3.5 mm [1/8 inch] male stereo plug
Cable Length:	8 feet [2.4 m]
Material:	303 Stainless Steel supplied with two M16 Jam Nuts and Mounting Bracket
Lens:	Acrylic Plastic
Dimensions:	Threaded Tube 2.90 in x 0.62 in diameter [M16 x 1.5 x 74 mm] long

M16 x 1.5

Green
On Target LED

2.90" [74.0mm]

0.62" [15.9mm]

CONNECTION DETAIL for Metal Plug:

Base (Common) - Blue

Tip (Signal) - Black

Middle (+V) Excitation- Brown

Shield (Common)

CONNECTION DETAIL for Molded Plug:

Base (Common) – Drain/Common

Tip (Signal) - Red

Middle (+V) Excitation - Black

OPERATING INSTRUCTIONS:

The HHT20-ROS Remote Optical Sensor is capable of detecting a reflected pulse from a target consisting of T-5 Reflective Tape at distances of up to 36 inches [1 m] from the rotating object and angles up to 45 degrees. For most applications, a ½" [12 mm] square piece of Reflective Tape (T-5) should be applied to a clean area on the rotating object.

The HHT20-ROS should be mounted (using the supplied jam nuts and aluminum mounting bracket) and optically aligned to illuminate the on-target indicator once per revolution. The user must hold "steady" or mount the HHT20-ROS to obtain an accurate measurement. The optical Sensor must be placed at a slight angle (15 degrees recommended) from perpendicular, so that the Sensor will receive only pulses from the reflective marker. The HHT20-ROS must be at least 1 inch from the reflective target to avoid false triggering. The green LED On-Target Indicator will blink at the input frequency rate when the ROS is properly aimed. **NOTE:** The green LED On-Target Indicator will blink on and off at slow speeds and remain on steady at high speeds.

The HHT20-ROS will work directly with all HHT13 and HHT21A-R Handheld Tachometers as well as the HHT31R and HHT32R portable Stroboscopes. An optional 25 foot [7.6mm] extension cable HHT-ROS-CABLE is available with a female socket for the plug on one end and a 3.5mm [1/8 inch] male stereo plug on the other.

ACCESSORIES:

HHT-ROS-CABLE 25 foot [7.6 m] Extension Cable for HHT20-ROS
HHT-RT-5   Reflective Tape - 5 foot [1.5 m] roll
T-5WP   Waterproof Reflective Tape - 5 foot [1.5 m] roll

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.

CE Compliant. RoHS Compliant. Meets the safety requirements of EN61010-1. This product is not waterproof.

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