

ROS - Remote Optical Sensor



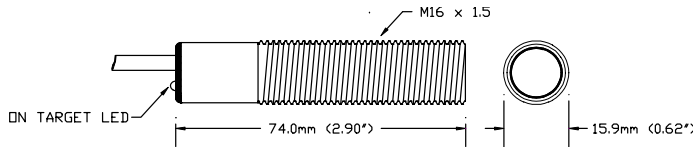
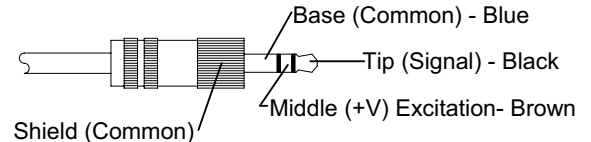
SPECIFICATIONS:

Speed Range:	1-250,000 RPM	Power Requirement:	3.3 - 15 Vdc @ 40mA
Illumination:	Visible Red LED	On-Target Indicator:	Green LED on end cap
Operating Temp.:	-40° to 180° F [-40° to 80° C]	Lens:	Acrylic Plastic
Operating Range:	up to 36" [0.9 m] and 45 degrees from target		
Cable Length:	ROS-P and ROS-W: 8 feet [2.4 m]; ROS-P25: 25 feet [7.6 m]		
Connection:	3.5 mm [1/8 inch] male stereo plug (ROS-P, ROS-P25); Tinned wires (ROS-W)		
Material:	303 Stainless Steel supplied with two M16 Jam Nuts and Mounting Bracket		
Dimensions:	Threaded Tube 2.90 in x 0.62 in diameter [M16 x 1.5 x 74 mm] long		

CONNECTION DETAIL for Tinned Wires (ROS-W):

Wire Color	Function	
Brown	Positive Power Supply	(+V)
Blue	Common	(Com)
Black	Signal (+V to 0 Vdc Pulse)	(Sig)
Shield	Housing Ground	(Com)

CONNECTION DETAIL for Plug (ROS-P):



OPERATING INSTRUCTIONS:

The ROS Remote Optical Sensor is capable of detecting a reflected pulse from a target consisting of 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 1/2" [12 mm] square piece of Reflective Tape (T-5) should be applied to a clean area on the rotating object. The Sensor should be mounted and optically aligned to illuminate the target once per revolution. The green LED On-Target Indicator will blink at the input frequency rate when the ROS is properly aimed. 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 should be at least 1 inch from the reflective target to avoid false triggering. The Sensor is supplied with a set of two M16 jam nuts and a 90° angle aluminum mounting bracket.

The ROS-P will work directly with all Monarch Handheld Tachometers and Nova-Strobe DA+/DB+ and PB Stroboscopes. A sensor power supply (SPS) with BNC output is available for those applications that require a separate power source for the sensor. The ROS-W will work with all Monarch panel instruments that accept pulse inputs (e.g. ACT Series).

The ROS is supplied with an 8 foot [2.4 m] cable terminated with 4 tinned wires (ROS-W) or a 3.5 mm [1/8 inch] male stereo plug (ROS-P) or optionally a 25 foot [7.6 m] cable terminated with a 3.5 mm [1/8 inch] male stereo plug (ROS-P25). The plug may be cut from the cable and the leads stripped and connected as shown in connection detail for tinned wire above. An optional 25 foot [7.6 mm] extension cable EC-25P is available with a female socket for the plug on one end, and a 3.5 mm [1/8 inch] male stereo plug on the other. Power requirement is 3.3 - 15 Vdc at 40 mA. The output pulse will be negative going at the applied voltage (+V).

The user must hold "steady" or mount the ROS to obtain an accurate measurement. The green LED on the ROS is the On-Target Indicator. **NOTE:** The green LED On-Target Indicator will blink on and off at slow speeds and remain on steady at high speeds.

Correct operation of the ROS can be checked at any time by aiming it at an original design fluorescent light and observing a 120 Hz or 100 Hz (two times your mains frequency) square wave on the signal output. If the sensor is being used with a tachometer, the tachometer will read 7200 RPM or 6000 RPM. The Sensor will not pick up newer "energy efficient" design fluorescent lights.

ACCESSORIES:

EC-25P	25 foot [7.6 m] Extension Cable	T-5	Reflective Tape - 5 foot [1.5 m] roll
ROS-NUT	Set of two M16 Jam Nuts	T-5WP	Waterproof Reflective Tape - 5 foot [1.5 m] roll
ROS-MNT	90° Slotted Mounting Bracket	SPS-IM	Self Powered Sensor - Interface Module
WIRE	3-wire shielded Sensor Cable, bulk lengths	PLUG	3.5 mm [1/8 inch] male stereo plug