

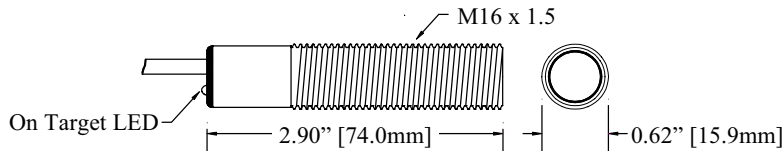


# ROS - Remote Optical Sensor



## SPECIFICATIONS:

<b>Speed Range:</b>	1-250,000 RPM	<b>Power Requirement:</b>	3.0 - 15 Vdc @ 40mA
<b>Illumination:</b>	Visible Red LED	<b>Output Signal:</b>	Negative pulse input voltage (+V) to 0
<b>Operating Temp.:</b>	14° to 158° F [-10° to 70° C]	<b>On-Target Indicator:</b>	Green LED on end cap
<b>Operating Range:</b>	up to 36" [0.9 m] and 45 degrees from target		
<b>Cable Length:</b>	ROS-W and ROS-P: 8 feet [2.4 m]; ROS-P-25: 25 feet [7.6 m]		
<b>Connection:</b>	Tinned wires (ROS-W); 3.5 mm [1/8 inch] male stereo plug (ROS-P, ROS-P-25)		
<b>Material:</b>	303 Stainless Steel supplied with two M16 Jam Nuts and Mounting Bracket		
<b>Lens:</b>	Acrylic Plastic		
<b>Dimensions:</b>	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):			CONNECTION DETAIL for Plug (ROS-P, ROS-P-25):	
Wire Color	Function			
Brown	Positive Power Supply	(+V)	Base (Common) - Blue	
Blue	Common	(Com)	Tip (Signal) - Black	
Black	Signal (+V to 0 Vdc Pulse)	(Sig)	Middle (+V) Excitation- Brown	
Shield	Housing Ground	(Com)	Shield (Common)	

## OPERATING INSTRUCTIONS:

The 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 1/2" [12 mm] square piece of Reflective Tape (T-5) should be applied to a clean area on the rotating object.

The ROS should be mounted (using the supplied jam nuts and aluminum mounting bracket) and optically aligned to illuminate the target once per revolution. The user must hold "steady" or mount the ROS 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 should 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 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-P-25). 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.

The ROS-W will work with all Monarch panel instruments that accept pulse inputs (e.g. ACT Series, DataChart 1250). The ROS-P and ROS-P-25 will work directly with all Monarch Handheld Tachometers, Deluxe Nova-Strobe models (DA+, DB+, dax, dbx) and Phaser Strobe (PB, pbx) Stroboscopes. A sensor power supply (SPS, SPSR) with BNC output is available for those applications that require a separate power source for the sensor.

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	SPSR-IM	Self Powered Sensor - Interface Module
WIRE	3-wire shielded Sensor Cable, bulk lengths	PLUG	3.5 mm [1/8 inch] male stereo plug

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# CE DECLARATION OF CONFORMITY

As Manufacturer:

## Monarch Instrument

Division of Monarch International Inc.  
15 Columbia Drive, Amherst NH 03031 USA

declares under Monarch's sole responsibility that the product:

<b>Name:</b>	<b>ROS - Remote Optical Sensor</b>
<b>Models:</b>	<b>ROS-W, ROS-P, ROS-P-25</b>

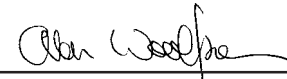
to which this declaration relates is in conformity with the following standards:

<b>EMC:</b>	EN55011:1991 Class B
	EN50082-1: 1992
	IEC 801-2: 1991
	IEC 801-3: 1984
	IEC 801-4: 1988

and therefore conforms with the requirements of Council Directive 89/336/EEC relating to electromagnetic compatibility when installed in accordance with the user guide.

The testing of this product was performed by Retlif Testing Laboratories, NH in August/September of 1995 (File R-2544N)

17<sup>th</sup> October 1995  
Manufacturer (Amherst,NH)



Alan Woolfson, VP Engineering (Authorized Signature)



### In order to comply with EU Directive 2002/96/EC 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.

### Para obedecer con EU Directiva 2002/96/EC en el Desecho el Equipo Eléctrico y Electrónico (WEEE):

Este producto puede contener la materia que podría ser la salud humana perjudicial para y el ambiente. NO se DESHAGA de este producto el desecho municipal como no clasificado. Estas necesidades del producto para SER RECICLADAS de acuerdo con las regulaciones locales, contactan su administración local para más información. Este producto puede ser retornable a su distribuidor para reciclar - contacta el distribuidor para detalles.

### Afin de respecter la directive européenne 2002/96/EC sur l'Équipement Electronique et les Déchets Electriques :

Ce produit pourrait contenir des matières qui peuvent être dangereuses pour la santé de l'homme et de l'environnement. Ne pas jeter ce produit dans un container municipal inapproprié. Ce produit doit être recyclé en accord avec les arrêtés locaux; contacter les autorités locales pour plus de renseignements. Ce produit peut être renvoyé au distributeur pour recyclage - Contacter votre distributeur pour plus de détails.

### Um den Vorschriften der EU-Direktive 2002/96/EC bezüglich elektrischer und elektronischer Abfallstoffe (WEEE) nachzukommen:

Dieses Produkt kann Materialien enthalten, welche gesundheitsgefährdend und umweltschädlich sind. Dieses Produkt DARF NICHT wie unsortierter Hausmüll entsorgt werden. Dieses Produkt muss gemaess den oertlichen Bestimmungen recycled werden, bitte kontaktieren Sie die lokalen Behoerden fuer weitere Informationen. Sie koennen dieses Produkt zum Recycling an Ihren Haendler zurueckgeben, bitte kontaktieren Sie den Haendler fuer weitere Details.