

Fiberoptic Sensor - *Reflectance Compensated**

Model RC90

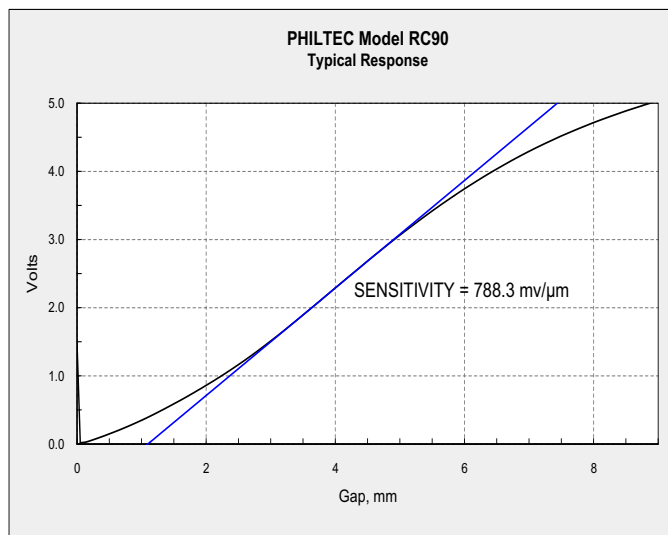
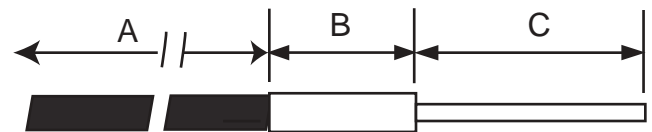
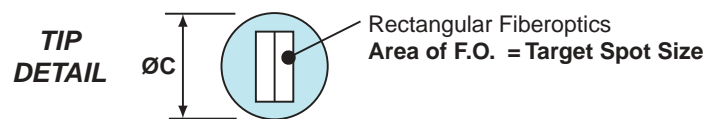
Fiberoptic Cable & Sensor Tip - Actual Size



For The Measurement of Distance, Displacement and Vibration

Features

- Reflectance Compensated Output
- Rugged Tip Design
- 9 mm Operating Range (0.350 inch)
- 800 mv/mm Sensitivity (20 mv/mil)
- 4 mm Standoff Distance (0.016 inch)



FEATURE	mm	inch
Tip Outer Diameter, Ø C	7.925	0.312
Fiberoptic Area	2.29 x 4.75	0.09 x 0.187
Tip Length, C	25.4	1
Collar Length, B	12.7	0.5
Collar Diameter, Ø B	7.925	0.312
Cable Length, A	915	36
Cable Diameter, Ø A	6.86	0.270
Cable Min. Bend Radius	25.4	1

*These are reflective type transducers based upon detecting the intensity of reflected light. RC Model sensors have a pair of adjacent fiberoptic detectors in the sensor tip. Light reflected off the target follows two separate paths back to the electronics where a ratiometric calculation provides the distance measurement which is independent of varying surface reflectance; i.e., *reflectance compensated*.

PHILTEC

A-tech Instruments Ltd. Ph: (416) 754-7008 Fax: (416) 754-2351 Email: sales@a-tech.ca Web: www.a-tech.ca

Precision Dynamic Measurements



Two Instrument Packages To Choose From

This sensor can be provided as an analog or as a digital instrument.
For available options and how to order go to www.philtec.com

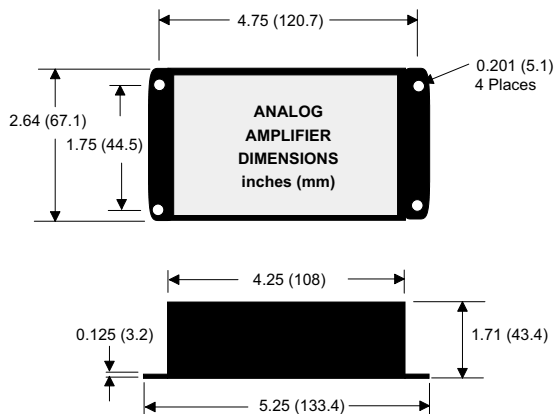


Analog sensors are fast responding units ideal for relative motion measurements in dynamic applications:

- DC-20 KHz is standard
- DC-200 KHz or higher is optional

Standard analog units include:

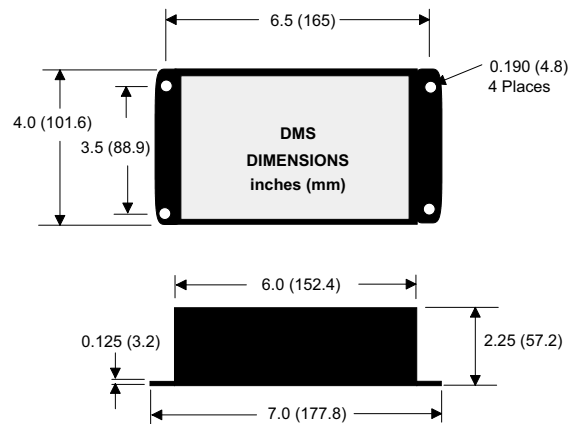
- Electronics with 0 to +5 VDC output
- 3 foot long fiberoptic cable



Displacement Measurement Systems (DMS) are the best choice for absolute distance measurements, multiplexing and process control applications, with data rates up to 5,000 readings/second.

Standard DMS units include:

- Electronics with RS-232 communication
- Keypad/LCD for local operation
- Temperature Stabilized Electronics



DMS dimensions shown are for single and for dual channel systems

Standard Specifications - RC90

Electronics		Fiberoptics		Outputs					
	Analog	DMS	Light Beam spread	25°	Analog Voltage			DMS RS232**	
Light Source	LED, 850 nm		Cable Sheathing	PVC over Steel Monocoil	Total Range	0.350 in.	8.9 mm	Total Range	8.9 mm
Input Voltage	+12 to +24 VDC	+12 VDC	Tip Material	300 Series SS	Linear Range	0.090 in.	2.3 mm	Distance	16 bit resolution (6 µinch; 136 nm)
Input Current	125 ma max	500 ma max	Tip Epoxy Outgas	0.3% @ 200°C 2.4% @ 300°C	Nominal Standoff	0.160 in.	4.1 mm	Reflectance	8 bit resolution
Bandwidth	DC-20 KHz 3 db down	5 KHz max	Tip Operating Pressure	35 bar	Sensitivity	20 mv/mil	800 mv/mm	Amplifier Temperature	12 bit resolution
Iso-thermal Drift	0.5%	0.05%	Tip Operating Temperature	-55 to 175°C continuous; to 350°C intermittent 1-2 hours	Noise	DC - 200KHz DC - 20 KHz DC - 100 Hz	450 µin 150 µin 20 µin	Noise Pk-Pk Units/Second at Mid Range using 50% Signal Power	ADC AVG = 1 pk-pk = 1.3 µm ADC AVG = 16 pk-pk = 0.5 µm ADC AVG = 256 pk-pk = 0.1 µm ADC AVG = 4096 pk-pk = 30 nm

** DMS are microprocessor based systems with gap calibrations stored on-board. They provide direct output of distance, reflectance and amplifier temperature via RS-232 protocol. 31 calibrations for various conditions can be stored per channel. Functions include tare, calibration scaling, and pk-pk readings.