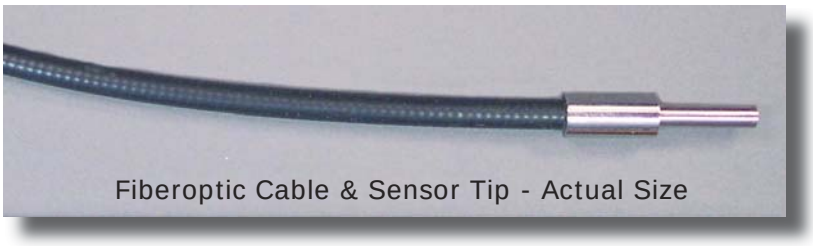
Fiberoptic Sensor - *Reflectance Compensated**

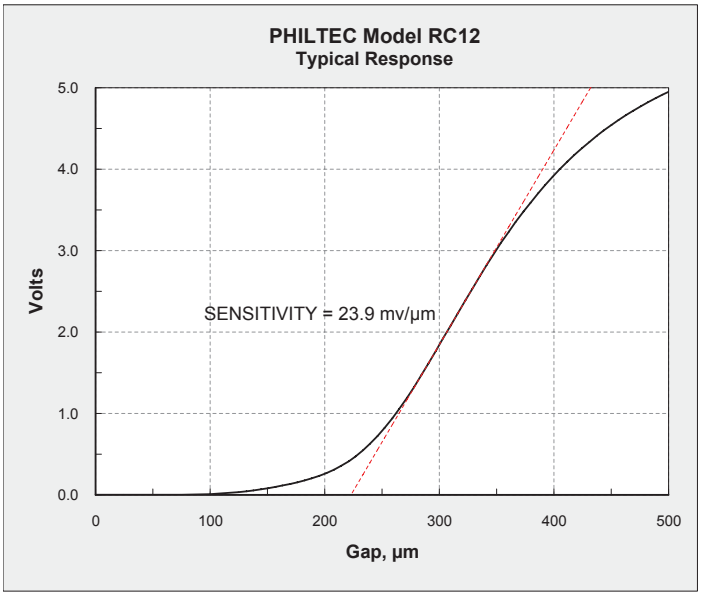
Model RC12


Fiberoptic Cable & Sensor Tip - Actual Size

For The Measurement of Distance, Displacement and Vibration

Features

- Reflectance Compensated Output
- Compact Tip Design
- 0.5 mm Operating Range (0.020 inch)
- 22 mv/µm Sensitivity (555 mv/mil)
- 0.3 mm Standoff Distance (0.012 inch)



FEATURE	mm	inch
Tip Outer Diameter, Ø C	3.175	0.125
Fiberoptic Area	0.3 x 1.57	0.012 x 0.062
Tip Length, C	13.97	0.55
Collar Length, B	12.7	0.5
Collar Diameter, Ø B	6.35	0.25
Cable Length, A	915	36
Cable Diameter, Ø A	4.2	0.165
Cable Min. Bend Radius	12.7	0.5

*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***.

Two Instrument Packages To Choose From

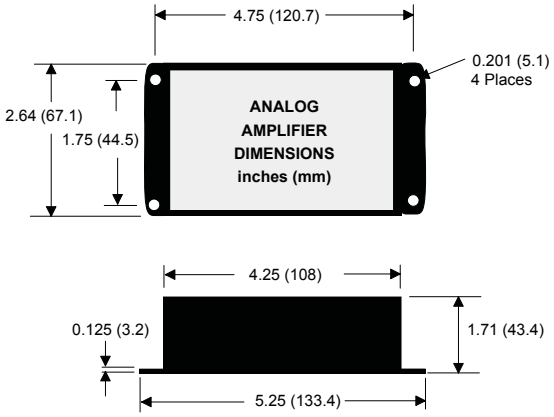
This sensor can be provided as an analog or as a digital instrument.
For available options and how to order go to www.philtec.com

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:

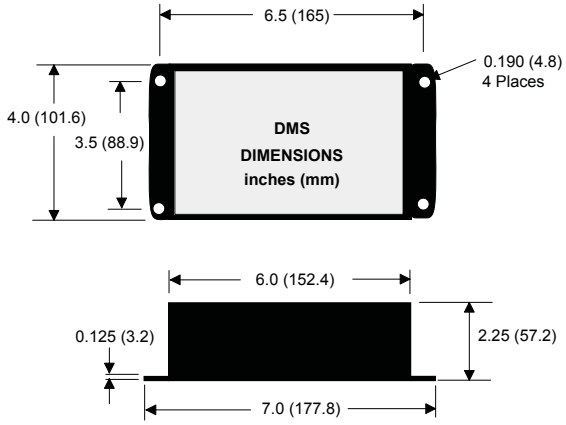
- Electronics with 0 to +5 VDC output
- 3 foot long fiberoptic cable



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 - RC12

Electronics			Fiberoptics		Outputs				
	Analog	DMS	Light Beam spread	66°	Analog Voltage			DMS RS232**	
Light Source	LED, 850 nm		Cable Sheathing	PVC over Steel Monocoil	Total Range	0.020 in.	0.51 mm	Total Range	0.51 mm
Input Voltage	+12 to +24 VDC	+12 VDC	Tip Material	300 Series SS	Linear Range	0.003 in.	.076 mm	Distance	16 bit resolution (8nm, 0.3 µinch))
Input Current	125 ma max	500 ma max	Tip Epoxy Outgas	0.3% @ 200°C 2.4% @ 300°C	Nominal Standoff	0.012 in.	0.3 mm	Reflectance	8 bit resolution
Band-width	DC-20 KHz 3 db down	5 KHz max	Tip Operat-ing Pressure	35 bar	Sensitivity	555 mv/mil	22 mv/µm	Amplifier Temperature	12 bit resolution
Iso-thermal Drift	0.5%	0.05%	Tip Operating Temperature	-55 to 175°C continuous; to 350°C intermit-tent 1-2 hours	Noise DC - 200KHz DC - 20 KHz DC - 100 Hz	20 µin 11 µin 1.6 µin	0.5 µm 0.27 µm 40 nm	Noise Pk-Pk Units/Second at Mid Range using 50% Signal Power	ADC AVG = 1 pk-pk = 425 nm ADC AVG = 16 pk-pk = 140 nm ADC AVG = 256 pk-pk = 25 nm ADC AVG = 4096 pk-pk = 10 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.

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