

## ICP® LASER TACHOMETER

### LaserTach™



LaserTach shown with provided mounting nuts

The LaserTach™ ICP® tachometer from The Modal Shop senses the speed of rotating equipment and outputs an analog voltage pulse train for referencing vibration signals to shaft speed. The sensor allows for measurements in excess of 30,000 RPM from distances as far as 20 inches (51 cm). A status LED provides positive, visual indication of proper signal pickup. The standard BNC jack connects the sensor to all constant current, ICP conditioned data acquisition systems and signal conditioners. Unlike magnetic tachometer pickups, the LaserTach does not require the rotating equipment to be a ferrous material - only a retroreflective target needs to be attached to the shaft.

The unit powers from standard ICP sensor signal conditioning, requiring only a single coaxial or twisted pair cable connection - like your ICP accelerometers! No additional or specialized power source is needed. This facilitates deployment of multiple speed sensors using the same cabling and signal conditioning as your other ICP sensor arrays. Given that the LaserTach operates using the standard constant current supplied by many data acquisition systems it greatly simplifies your test system's cabling and configuration.

### **BENEFITS:**

---

- Operates with standard ICP sensor signal conditioning.
- Easy to install - 20 inch range in a standard bolt package offers flexibility.
- One pulse per revolution eliminates need to oversample all channels for a high frequency tach signal.
- Simplifies cable management for dynamic testing of rotating equipment.



# MODEL LASERTACH™

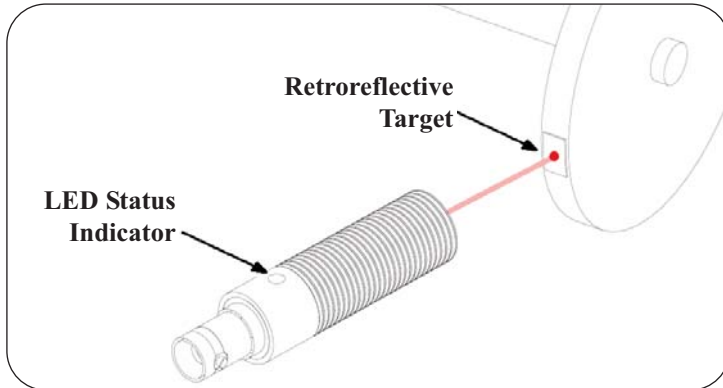
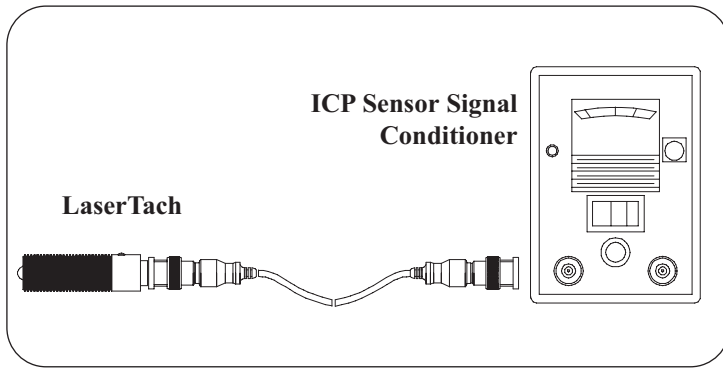
## Using The LaserTach

ICP® sensors are a popular family of dynamic transducers used for measuring acceleration, force, pressure, shock, and strain. They rely upon a constant current excitation to the sensor from a signal conditioner.

Rotating shaft speed can now be measured using these same signal conditioning/data acquisition channels. While conventional tachometers require a special power supply, the ICP LaserTach is powered from an ICP sensor signal conditioner, and outputs a voltage pulse train at the frequency of the shaft speed.

Simply connect the LaserTach BNC connector to an ICP sensor signal conditioner and point the laser at a retroreflective target on the rotating shaft. The LED on the LaserTach gives a visual indication of the passing target while the voltage pulse train is output on the BNC connector.

An available LaserTach Kit includes LaserTach, BNC cable, mini-tripod with clip and retroreflective tape.



## SPECIFICATIONS:\*

### PERFORMANCE

Speed Range:	Revs Per Minute (RPM)	30,000
	Revs Per Second (RPS)	500
	Revs Per Hour (RPH)	1,800,000
Output Amplitude		See chart at right
Operating Range: 90° Incidence		20 inches (51 cm)

### ENVIRONMENTAL

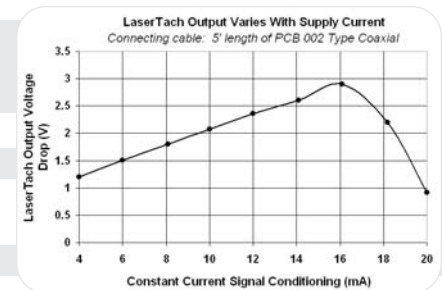
Operating Temperature Range	14° to 122° F (-10° to 50° C)
Storage Temperature Range	-40° to 185° F (-40° to 85° C)

### ELECTRICAL

Excitation Voltage	18 to 30 VDC
Constant Current Excitation	3 to 20 mA
Output Impedance	< 100 Ohms

### MECHANICAL

Size (Length x Diameter)	3.5 inches x 0.625 inches (88,9 mm x 15,9 mm)
Mounting Thread	5/8-18 UNF 2A
Weight: With Mounting Nuts	0.85oz (24 grams)
Without Mounting Nuts	0.6 oz (17 grams)
Connector Type	BNC Jack



The Modal Shop 3149 E Kemper Road, Cincinnati, OH 45241  
Toll free 800-860-4867 / Phone 513-351-9919 / Fax 513-458-2172  
E-mail [info@modalshop.com](mailto:info@modalshop.com) Web site [www.modalshop.com](http://www.modalshop.com)

© 2006 PCB Group, Inc. In the interest of constant product improvement, specifications are subject to change without notice.

\*The specifications on this sheet are typical, operating range may vary slightly depending on the optical contrast available in operating environment. PCB and ICP are registered trademarks of PCB Group, Inc. LaserTach is a trademark of The Modal Shop, Inc.