

# ICP® LASER TACHOMETER

## LaserTach™ LT2



LaserTach LT2 shown with supplied mounting nuts

The LaserTach™ Model LT2 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 up to 100 000 RPM from distances as far as 20 in (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 LT2 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 - just 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 from 2 mA to 20 mA constant current source
- Easy to install - 20 in (51 cm) range in a standard bolt package offers additional flexibility during installation
- Continuous laser operation for jitter-free RPM measurements
- 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
- Narrowband optical filter for enhanced outdoor performance

Hochwertige Messtechnik und Beratung aus einer Hand

**PCB SYNOTECH** GmbH

PCB Synotech GmbH  
 Porschestra. 20 - 30 • 41836 Hückelhoven  
 Tel.: +49 (0) 24 33/44 44 40 - 0  
 E-Mail: info@synotech.de • www.synotech.de

**THE MODAL SHOP**  
 A PCB GROUP CO.

*"Simplifying with Smart Sensing Solutions"*



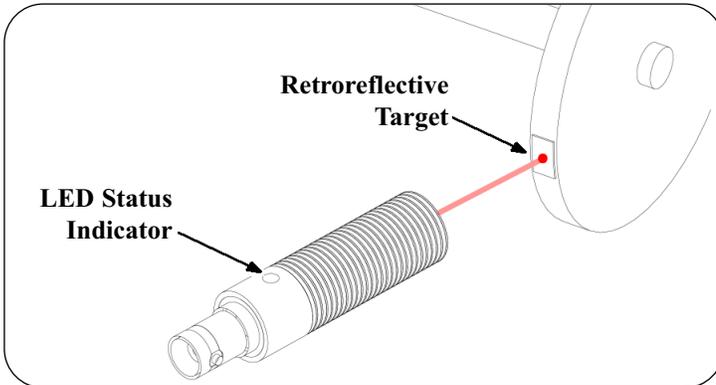
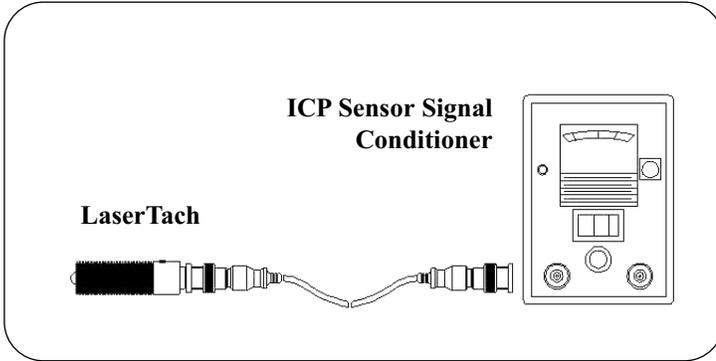
## Using The LaserTach

ICP® sensors are a popular family of dynamic transducers used for measuring acceleration, sound, 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 and data acquisition channels. While conventional tachometers require a special power supply, the ICP Laser Tachometer Model LT2 is powered from any industry standard 2 mA to 20 mA constant current IEPE 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 LT2 gives a visual indication of the passing target while the voltage pulse train is output on the BNC connector.

An available kit includes the LT2, BNC cable, mini-tripod with clip and extra retroreflective tape.



## SPECIFICATIONS:\*

### PERFORMANCE

Speed Range: <sup>[1]</sup>	Revs Per Minute (RPM)	100 000
	Revs Per Second (RPS)	1 666
	Revs Per Hour (RPH)	6 000 000
Output Amplitude		See chart at right
Operating Range: 90° Incidence		20 inches (51 cm) at 3 mA

### ENVIRONMENTAL

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

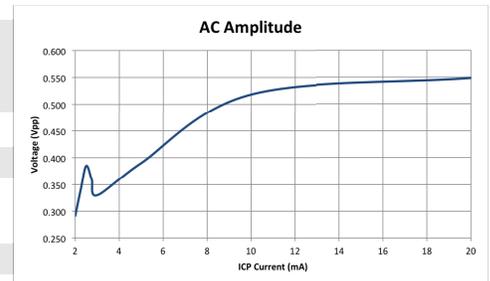
### ELECTRICAL

Excitation Voltage	18 to 30 VDC
Constant Current Excitation	2 to 20 mA
Output Impedance	< 100 Ω

### MECHANICAL

Size (Length x Diameter)	3.5 in x 0.625 in (88.9 mm x 15.9 mm)
Mounting Thread	5/8-18 UNF 2A
Weight: With Mounting Nuts	0.78 oz (22 grams)
Without Mounting Nuts	0.72 oz (20.5 grams)
Connector Type	BNC Jack

<sup>[1]</sup> Maximum Speed with reflector <10% of pulse duration



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Tel.: +49 (0) 24 33/44 44 40 – 0  
E-Mail: info@synotech.de ▪ www.synotech.de