



# Instrumented Steering Wheel System

For Ride and Handling Test Applications

## Highlights

- Telemetry provides friction-free wireless transmission
- Inertial moment and weight comparable to OEM steering wheels
- Two ranges of each measurement available at all times (steering moment, angle, and angle velocity)
- Fast, easy, and backlash-free mounting
- Automated adjustment of all components
- Highly accurate and reliable
- Integrated wireless power supply
- Small, compact display system

## Applications

- Ride and Handling
- Legislative Testing
- Steering System Development
- Brake Pull Testing



Model 5610-10A

PCB Load & Torque, Inc., Model 5610-10A Instrumented Steering Wheel Systems for vehicles are developed from a standard steering wheel to enable true-to-life data measurements. The telemetry-based steering wheel with supplied adaptors can be installed in the same position as the OEM steering wheel to provide similar ergonomic feel and driving dynamics. The unit is equipped with integrated sensors to measure angle, angular rate, and torque. The vehicle's active Electronic Stability Program (ESP) is fully supported and not compromised. Model 5610-10A units provide advanced integrated function keys, which include autozero for both steering angle and steering torque, shunt calibration, and function lock. Four switches allow the unit multiple user-programmable controlling options. Equipped with an integrated inductive power supply, Model 5610-10A Instrumented Steering Wheel Systems provide continuous running wireless operation.

The accompanying compact signal conditioning unit is designed for use where space is at a premium. Measured signals are retrieved directly from the signal conditioner via electrically isolated connectors. An optional CAN interface, for integration with data acquisition systems, or a USB interface used with computers, are available for further data recording and analysis.

As with all PCB® instrumentation, these sensors are complemented with toll-free applications assistance, 24-hour technical support, and are backed by a no-risk policy that guarantees total customer satisfaction or your money refunded.



**Instrumented Steering Wheel System**

<b>Model Number</b>	<b>5610-10A</b>
<b>Torque</b>	
Range	±88.5, ±885 lbf-in ±10, ±100 Nm
Accuracy	0.2% FS
Bandwidth	DC to 800 Hz
<b>Angle</b>	
Range	±100, ±1000 °
Resolution	0.036, 0.36 °
Bandwidth	DC to 800 Hz
<b>Rate</b>	
Range	±500, ±1000 °/s
Resolution	0.5, 1 °/s
Bandwidth	DC to 800 Hz
Excessive Torque	> 100% of Nominal Torque
Mechanical Overstress (Mechanical Locking)	> 4425 lbf-in > 500 Nm
Outer Diameter	15 in 380 mm
Overall Height	5.8 in 147.5 mm
Weight	7.3 lb 3.3 kg
Mass Inertia	639 lb in <sup>2</sup> 290 kg cm <sup>2</sup>
Standard Operating Temperature	-4 to +176 °F -20 to +80 °C
User Programmable Functions	4



CE

CE



**Signal Conditioner**

Torque [1]	±88.5, ±885 lbf-in ±10, ±100 Nm
Angle [1]	±100, ±1000 °
Rate [1]	±500, ±1000 °/s
Output Filter	800 Hz
Power Supply	9 to 32 VDC ~10 W
Dimensions (L x W x H)	7.9 x 4.1 x 3.3 in 200 x 105 x 85 mm
Weight	2.6 lb 1.2 kg
<b>Note</b>	
[1] Signal Output ±10 V	

**PCB LOAD & TORQUE**  
A PCB GROUP COMPANY

**Corporate Headquarters**

3425 Walden Avenue, Depew, NY 14043-2495 USA

**Toll-Free in USA 866-684-7107**

**24-hour SensorLine<sup>SM</sup> 716-684-0001**

**Fax 716-684-0987 E-mail ltinfo@pcbloadtorque.com**

**www.pcbloadtorque.com**

ISO 9001 CERTIFIED ■ A2LA ACCREDITED to ISO 17025

© 2012 PCB Group, Inc. In the interest of constant product improvement, specifications are subject to change without notice. PCB, ICP, Modally Tuned, Spindler, Swiveler and TORKDISC are registered trademarks of PCB Group. SoundTrack LXT, Spark and Blaze are registered trademarks of PCB Piezotronics. SensorLine is a service mark of PCB Group. All other trademarks are property of their respective owners.

LT-5610-10A-0412

Printed in U.S.A.

**PCB Load & Torque, Inc.**, an ISO 9001 registered company, designs and manufactures high quality, precision load cells, wheel force transducers, torque sensors, electronic hand torque wrenches, OEM sensors, and fastener torque-tension test systems. Offering A2LA Accredited Calibration Services for torque, force, and related instrumentation, as well as an A2LA Accredited Threaded Fastener Testing Laboratory. Industries served include: material testing, textile, process control, robotics and automation, and more. From ready-to-ship stock products, to custom-made specials, PCB Load & Torque, Inc. proudly stands behind all products with services you value most, including 24-hour technical support, a global distribution network, and the industry's only commitment to **Total Customer Satisfaction.**

Visit [www.pcb.com](http://www.pcb.com) to locate your nearest sales office