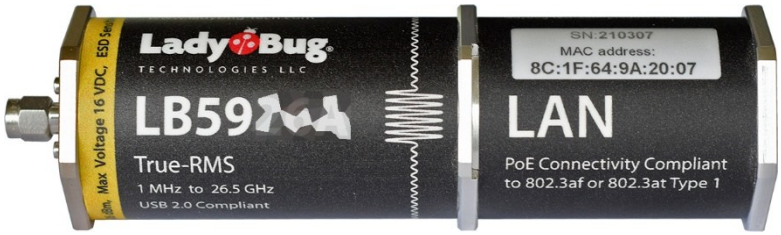


LadyBug Technologies, LLC

LB59XXX-LAN

True-RMS Power Sensor
With HiSLIP LAN and Sockets Interface

LB5900x-LAN Family Data Sheet



LB5900-LAN Series Sensor Models

Model	Frequency Range	RF Connector	Typical VSWR	Other
LB5908A-LAN	1 MHz to 8 GHz	Type-N male[1] Opt: SMA, 3.5mm	<1.07:1	
LB5908L-LAN	9 kHz to 8 GHz	Type-N male[1] Opt: SMA, 3.5mm	<1.07:1	
LB5912A-LAN	1 MHz to 12 GHz	Type-N male[1] Opt: SMA, 3.5mm	<1.09:1	
LB5918A-LAN	1 MHz to 18 GHz	Type-N male[1] Opt: SMA, 3.5mm	<1.1:1	
LB5918L-LAN	9 kHz to 18 GHz	Type-N male[1] Opt: SMA, 3.5mm	<1.1:1	
LB5926A-LAN	1 MHz to 26.5 GHz	3.5mm male[1] Opt: SMA	<1.28:1	
LB5926L-LAN	9 kHz to 26.5 GHz	3.5mm male[1] Opt: SMA	<1.28:1	
LB5940A-LAN	1 MHz to 40 GHz	2.92mm male[2]	<1.28:1	
LB5940L-LAN	9 kHz to 40 GHz	2.92mm male[2]	<1.28:1	
LB5944A-LAN	1 MHz to 44 GHz	2.4mm male[2] 2.92mm	<1.28:1	Option 050 for 50Ghz calibration[3]
LB5944L-LAN	9 kHz to 44 GHz	2.4mm male[2] 2.92mm	<1.28:1	Option 050 for 50Ghz calibration
LB5954L-LAN	9 kHz to 54 GHz	2.4 mm male2	<1.28:1@44Ghz <1.94:1@54GHz	
LB5967L-LAN	9 kHz to 67 GHz	1.8 mm male	<1.27:1	

Notes: 1. SMA, Type-N female options available; 2. Female option available; 3. Option 050 requires 2.4mm connector

LB5900x-LAN Family Data Sheet

General information

- **Dynamic Range: -60 dBm to +26 dBm**
  (LB5967L -60 dBm to +18 dBm)
- **Industry leading VSWR**
- **Leading measurement accuracy**
  (Example RSS calculations on each sensor datasheet)
- **Connector options available**
- **RMS Responding & modulation independent**
- **Interface: HiSLIP over Ethernet, LAN with PoE**
- **Industry compatible IEEE 488.2 SCPI Command Set**
- **Thermally Stable - no drift**
- **No User Zero required before use**
- **Full dynamic range processed with each sample**
- **Optional unattended autonomous capability & measurement storage**
- **Security Options**

LB5900x-LAN Family Data Sheet

Overview – LB5900 Series with Option LAN

This document describes the LAN interface option for the LB5900 series of True-RMS power sensors. It applies to all LB59XXX-LAN models; for sensor-specific specifications and uncertainties, refer to the individual sensor datasheets.

The LB59XXX-LAN sensors provide high-accuracy True-RMS power measurement with a LAN interface for ATE, remote monitoring, and general purposes. The sensors utilize a thermally stabilized, two-path, square-law diode detection scheme that delivers accurate measurements on any signal, independent of modulation bandwidth.

Patented thermally stable technology eliminates measurement drift and removes the need for user zeroing or pre-use calibration. Automatic calibration interruptions are also eliminated, improving ATE throughput and reliability. The sensor never requires disconnecting the source to zero.

The sensors support standard SCPI commands and are compatible with common VISA I/O libraries. Advanced triggering features include level-controlled internal triggering, external triggering, programmable delays, hold-off, and more.

Optional features supported by sensors with Option LAN:

- All standard sensor supported features such as triggering, offsets, frequency dependent offsets.
- Option MIL – Prevents writes to non-volatile memory to ensure data security.
- Option SAN (Secure Erase) – Erases all user-set non-volatile memory, including customer calibration, presets, offsets, FDOs, and UOP data.
- Analog Recorder Out (Option 001) – Calibrated analog output for leveling and control. Configuration and measurement are LAN-based; using the analog output requires SCPI setup via Interactive I/O or an automated ATE system.
- Unattended Operation (Option UOP) – On-sensor storage and retrieval of measurement data; no PC or power meter required after setup. Includes a high-accuracy real-time clock.

Not supported: USB classes, no USB interface is available on LAN sensors

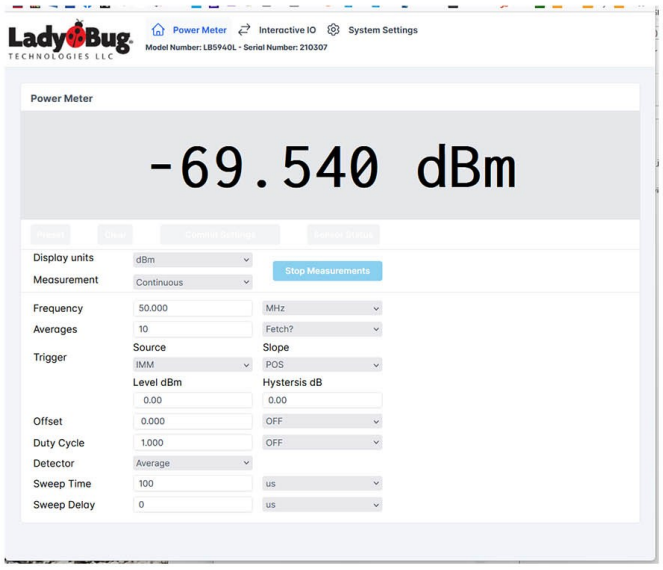
LB5900x-LAN Family Data Sheet

Web Based Power Meter Features

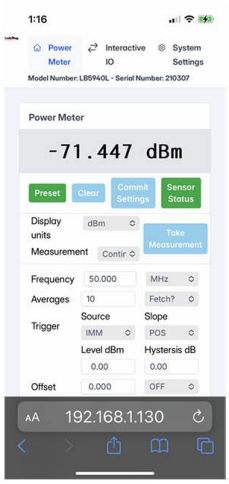
LB5900 series sensors with LAN can utilize the built in web power meter application. This browser based application includes measurement capabilities as well as an Interactive IO that allows users to send programmatic SCPI commands and queries.

WEB Based Power Meter features include

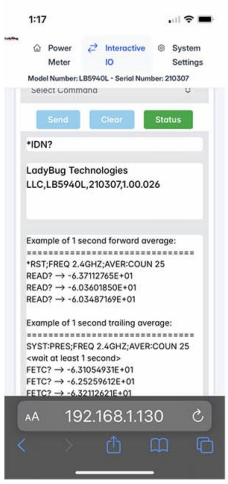
- Automatically size adjust to desktops, phones, and other screens
- Easily make and control average power measurements
- Utilize advanced measurement capabilities, such as triggering
- Easily default to standard settings
- Control the sensor's LAN settings
- Built into the sensor, nothing to download
- Set and enable simple offset
- Set and enable Duty Cycle correction



Power Meter on a PC



Power Meter on a small phone



Interactive IO

Example sensor Internal Webpages on desktop computer and small phone

Remote Programming

The sensor is designed for full programmatic control in ATE systems and other applications requiring remote programming. LB5900-LAN Series sensors use SCPI (Standard Commands for Programmable Instruments) commands.

Supporting Ports	Ethernet LAN
Command Set	SCPI (Standard Commands for Programmable Instruments)
Compatibility	Compatible with systems using HiSLIP such as, NI™ & Keysight™ Visa IO libraries using SCPI command set.*

* Keysignt is a trademark of Keysight Technologies Inc; NI is a trademark of National Instruments, Inc.

59XXX-LAN Outline drawings

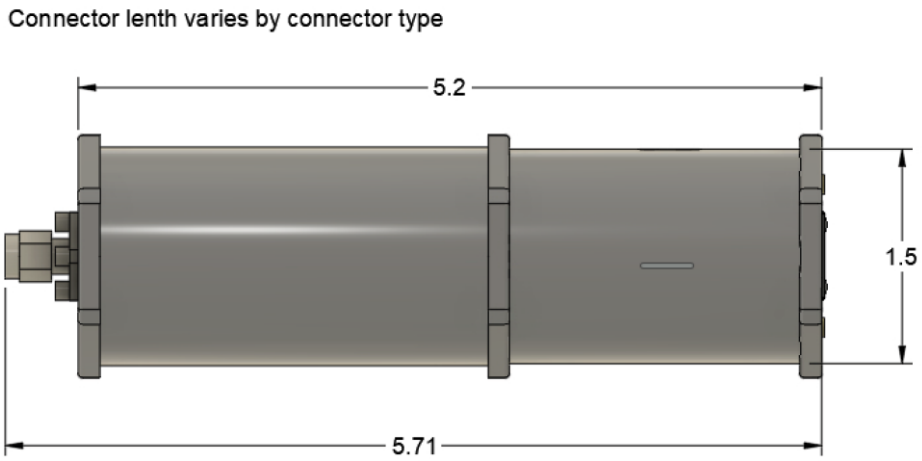


Figure 1- Side view showing SD reset card slot

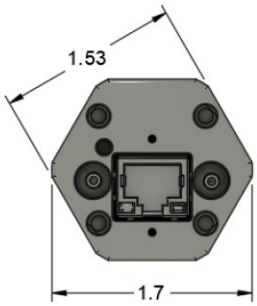


Figure 2 - Rear view showing LAN connector, Triggering & Recorder out SMB connectors

Refer to the product page for CAD drawings and additional information. www.ladybug-tech.com