ULTIMATE-PRECISION DIGITAL LBB



SPECIFICATIONS

- **High precision, 0.1% of reading or 1µm**
- **EMI and ESD protected (CE certified)**
- **Spring actuated probes**
- **Robust cast aluminum case (electronics)**
- **Stackable with T-Connectors for networking**
- **T-Connector available separately**
- **USB interface available (with COM libraries)**
- **Up to 31 devices on USB with external power**
- **External power supply available**

FEATURES

- High resolution 14-bit digitizing module
- Built-in digital linearity correction
- Robust probes with precision linear ball bearing
- Very easy to setup and use, plug-and-play
- USB bus or externally powered (both available)
- USB device name for easy WINDOWS® recognition
- Up to 31 probes on one network (external power)
- RoHS compliant and CE certified

APPLICATIONS

- Wobble/run-out of rotating parts (i.e. rotors, axles)
- Free-form measurements

  Factory automated inspection systems (i.e. engine pistons, bearings, etc.)
- Optics Inspection Systems (i.e. mirrors, lenses)
- SPC data collection
- Metrology

The **Ultimate-Precision Digital LBB** system consists of DLBB digital probes (or gage heads) daisy chained in a network, using T-Connectors (available separately) with DE-9 connectors. Each DLBB includes a highly repeatable analog AC LVDT (Linear Variable Differential Transformer) probe guided with a precision linear ball bearing, mated to an in-line digital I/O signal conditioning module. The circuitry and firmware feature digital calibration and linearity correction of the digital output position signal with extremely high accuracy.

The DLBB probes operate in conjunction with our available USB interface module. Our robust dimensional gaging probes are engineered to provide highly precise and repeatable measurements in various industrial, quality assurance and metrology applications.

The system is based on an RS-485 half duplex, multi-drop network providing plug-and-play functionality. The DLBB probes convert their position signal into digital data which is then transmitted by the RS-485 network using asynchronous transmission (poll/response). The devices support both standard and buffered modes. Our USB 2.0 full speed compliant interface module connects to this network (using a T-Connector) to communicate with and allow data transfer to a computer. When our USB module is plugged into a computer running a WINDOWS® operating system, the Device Manager (in the section clearly identifying our DLBB device amongst others.

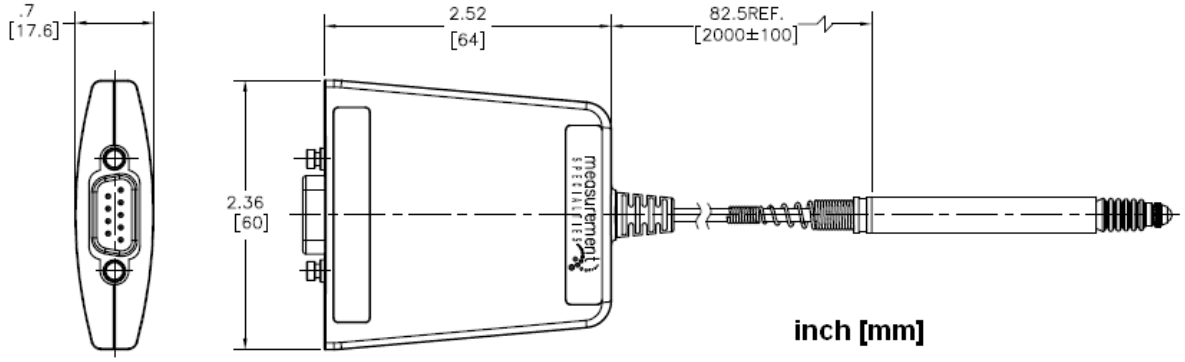
The available DLBB external power supply is capable of supplying 31 DLBB gaging probes (2 Amps). It features an integral T-Connector which is permanently attached to it. This special T-Connector will interrupt the bus power and switch it over to the external power supply, for all Digital LBB gaging probes connected downstream.

SPECIFICATIONS

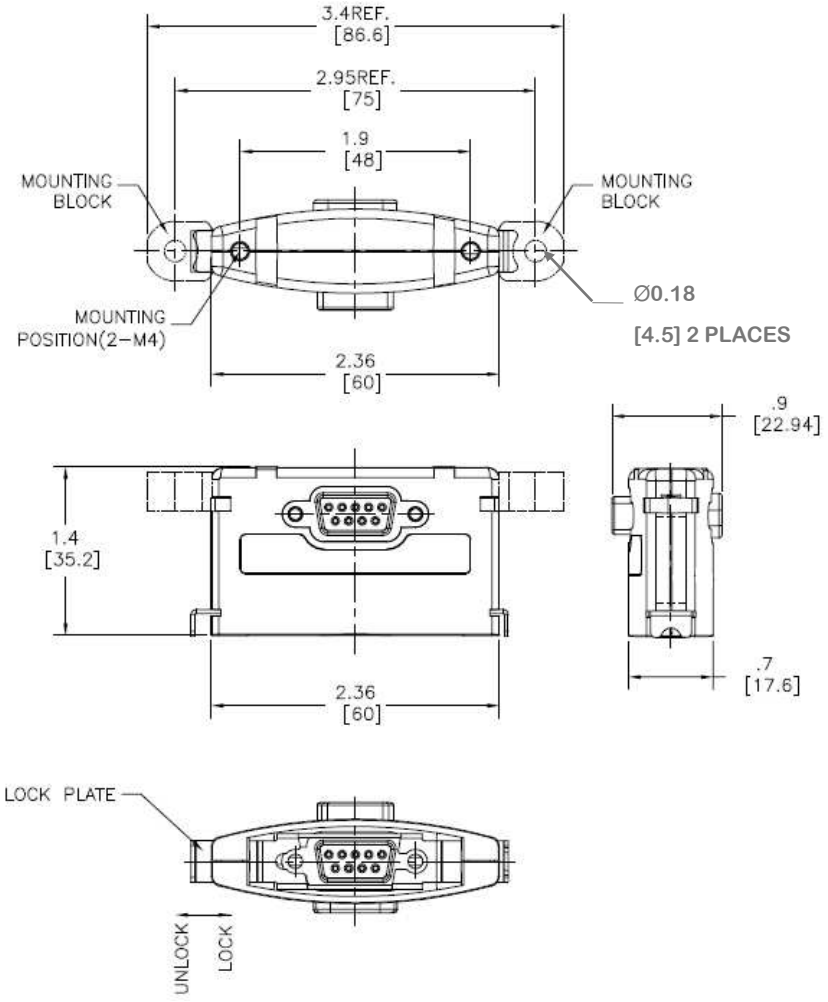
Parameter	Specification	Comment
Measurement ranges	1, 2, and 5 mm	
Accuracy	0.1% of reading or 1µm	Whichever is greater
Repeatability	0.0065% of range or 0.15µm	Whichever is greater
Calibration temperature	72 ± 7°F [22 ± 4°C]	
Resolution	14 bits	
Supply voltage	5.00 ± 0.25 Volts DC	
Supply current	60mA maximum	
Operating temperature	32 to 140°F [0 to 60°C]	
Storage temperature	-4 to +158°F [-20 to +70°C]	Dry air environment
Maximum operating relative humidity	60%	Non-condensing
Standard and Buffered mode sampling rate	240 readings per second	
Buffer size	3000 Samples	
Bus format	8 Bits, 1 Stop, Odd Parity	
Bus baud rate	187.5KBd	Standard & buffered modes
Bus protocol	Proprietary device addressable	
Bus interface	RS-485	
Max number of DLBB probes on USB	4 (on computer USB bus power)	Plus USB interface module
	31 (on external power)	USB powered by computer USB
Cable length	2 meters	
Cable jacket material	Polyurethane	
Housing material, electronics	Aluminum, epoxy powder coated	
Weight (device without T-Connector)	115 grams	
Weight of T-Connector	50 grams	Available separately
Weight of USB interface	115 grams	Available separately
External power supply output current	2 Amps	Available separately

DRAWINGS AND DIMENSIONS

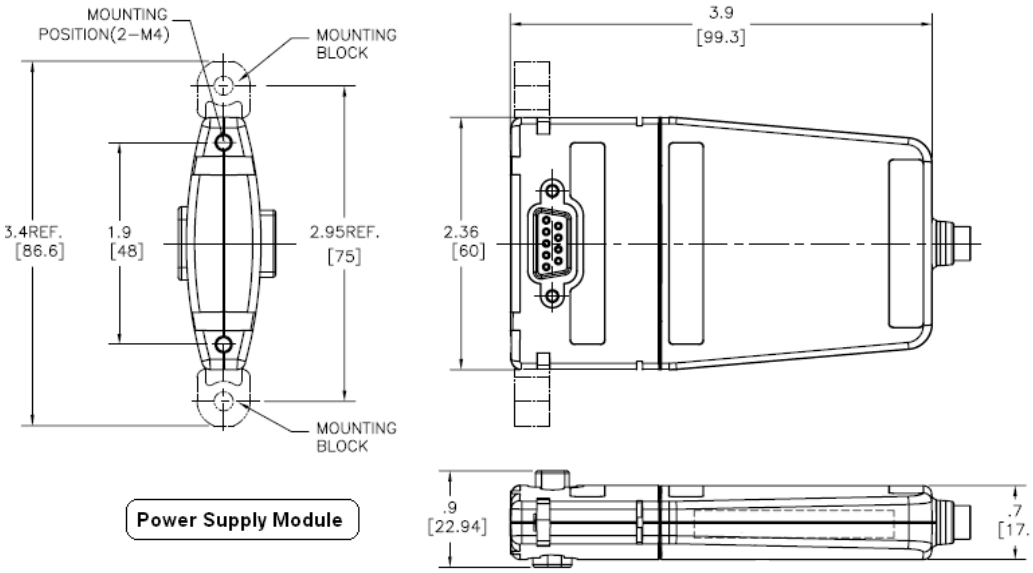
DIGITAL LBB GAGING PROBE

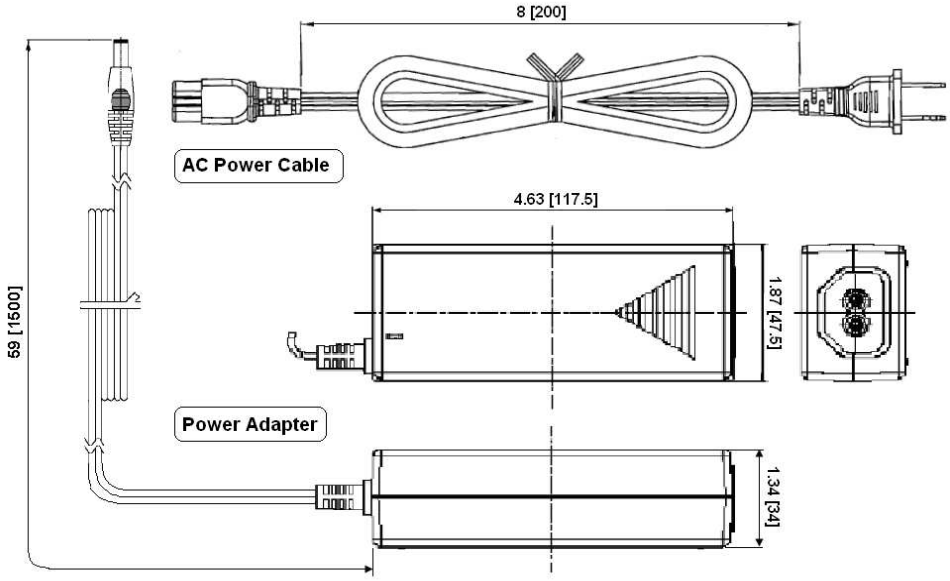


T-CONNECTOR

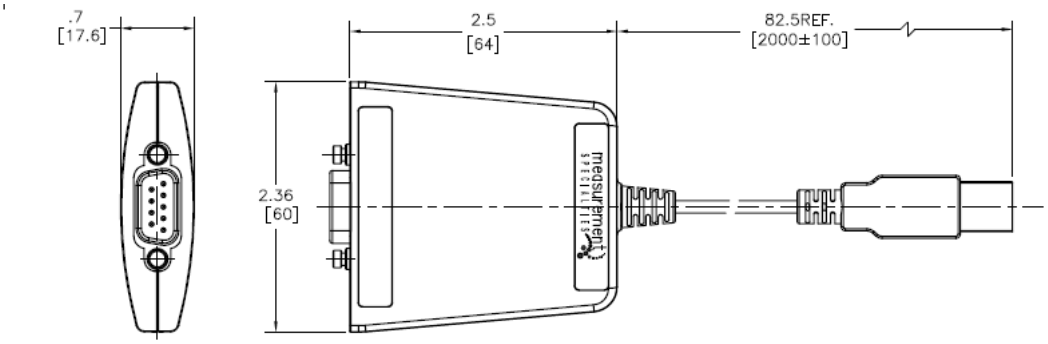


POWER SUPPLY KIT (3 COMPONENTS)





USB INTERFACE MODULE



ORDERING INFORMATION

Description	Probe or sleeve dia.	Actuation	Model	Part Number
1mm range probe	8mm	Spring	DLBB315PA-020	72350009-000
2mm range probe	8mm	Spring	DLBB315PA-040	72350012-000
5mm range probe	8mm	Spring	DLBB315PA-100	72350015-000
USB interface module for DLBB			DLBB USB INTERFACE	72290002-000
T-Connector for DLBB			DLBB T-CON	72290003-000
Power supply kit for DLBB (100-240VAC, 50/60Hz input; 5VDC, 2A out)			DLBB USB POWER SUPPLY	72290004-000

ASIA

ABOUT MACRO SENSORS

Macro Sensors, founded by Howard A. Schaevitz, has more than three hundred man-years of experience in just one thing: the design and manufacture of LVDTs. We believe that you need solutions, not simply products. When you call us, you get the benefit of our experience and our commitment.

Most products listed are in stock for immediate delivery, and we strive to offer the finest customer service in the industry: technical support from people who understand LVDTs and how to apply them to your benefit, and a commitment to excellent pricing, quality products, and deliveries that you can truly rely on. Macro Sensors also has a comprehensive network of representatives and distributors in the U.S. and around the world to provide you with local support.

We manufacture an enormous array of LVDTs, from modified standards to complete custom designs. Our customers consistently tell us it is Macro Sensors? quality and service that keeps them coming back. Let our experience go to work for you.

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