



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

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 "Universal Serial Bus Controllers") of the Computer Management Console displays the name "Meas-Spec Digital LBB Serial Converter", 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.

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

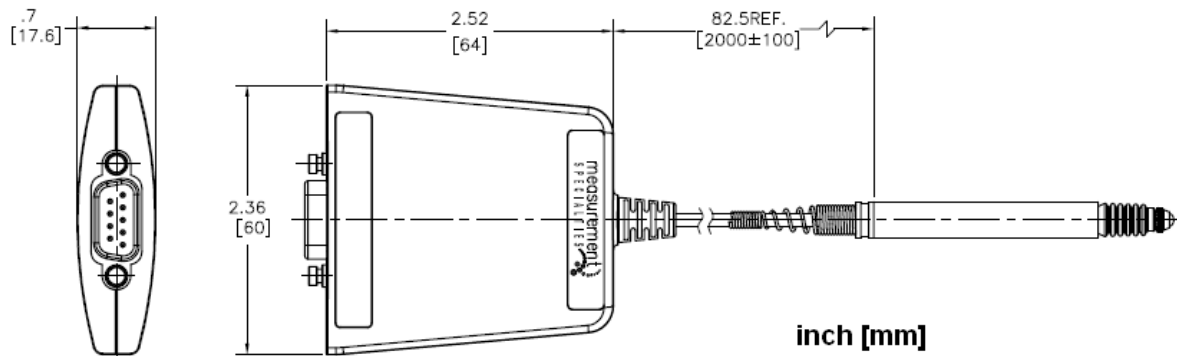
- ✦ Wobble/run-out of rotating parts (i.e. rotors, axles)
- ✦ Free-form measurements (i.e. airfoils, windshields, crankshafts, camshafts)
- ✦ Factory automated inspection systems (i.e. engine pistons, bearings, etc.)
- ✦ Optics Inspection Systems (i.e. mirrors, lenses)
- ✦ SPC data collection
- ✦ Metrology

SPECIFICATIONS

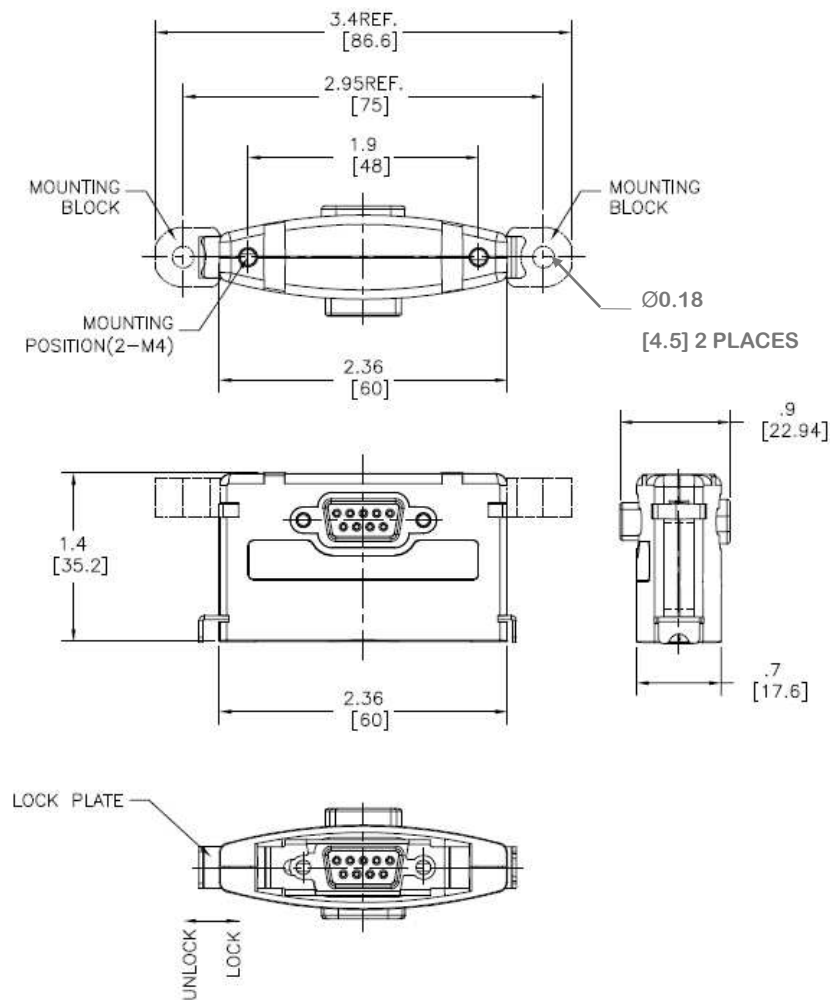
| Parameter | Specification | Comment |
|--|--------------------------------|-----------------------------|
| Measurement ranges | 1, 2, and 5 mm | |
| Accuracy | 0.1% of reading or 1µm | Whichever is greater |
| Repeatability | 0.0065% of range or 0.15µm | Whichever is greater |
| Calibration temperature | 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

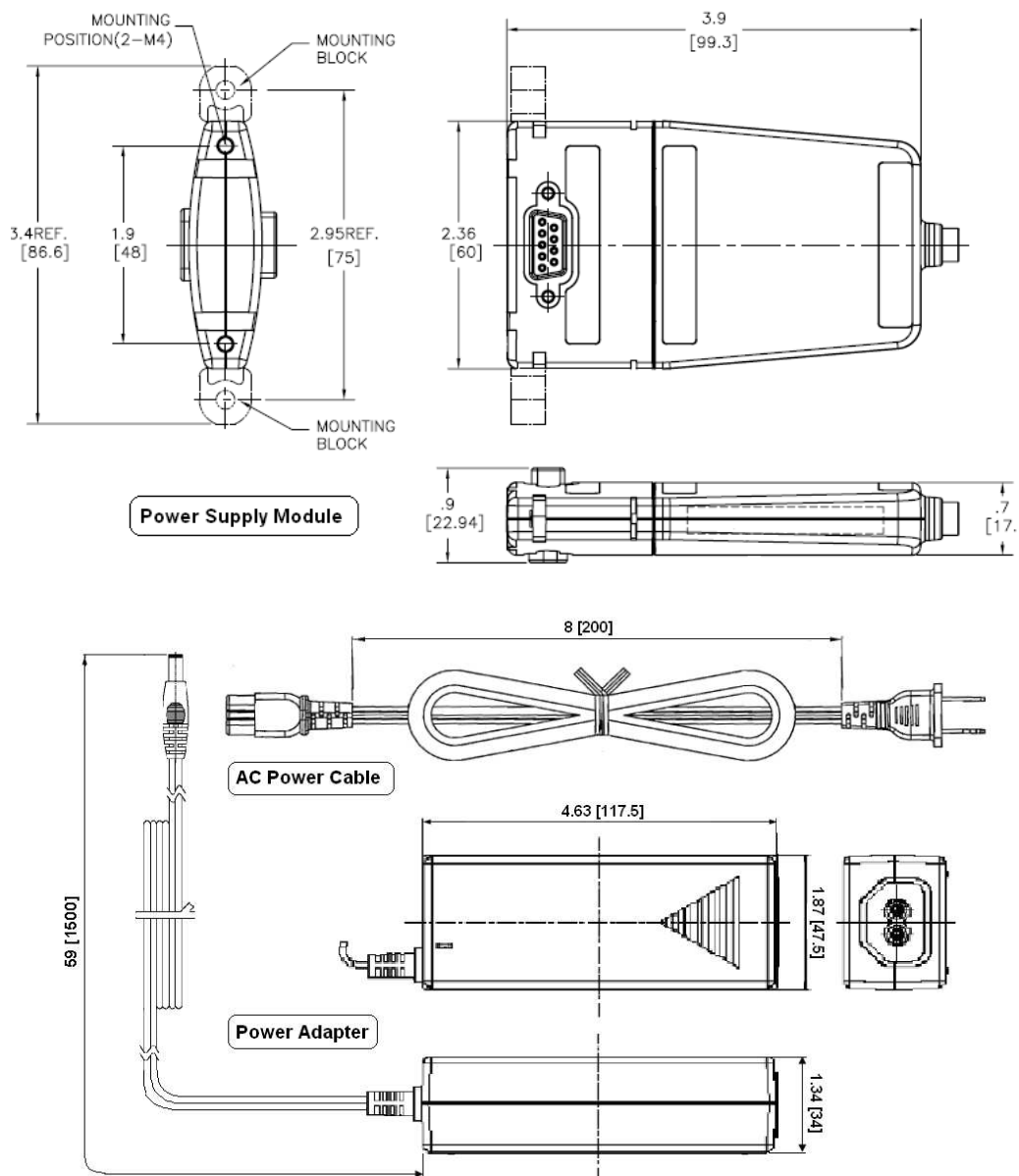
DIGITAL LBB GAGING PROBE



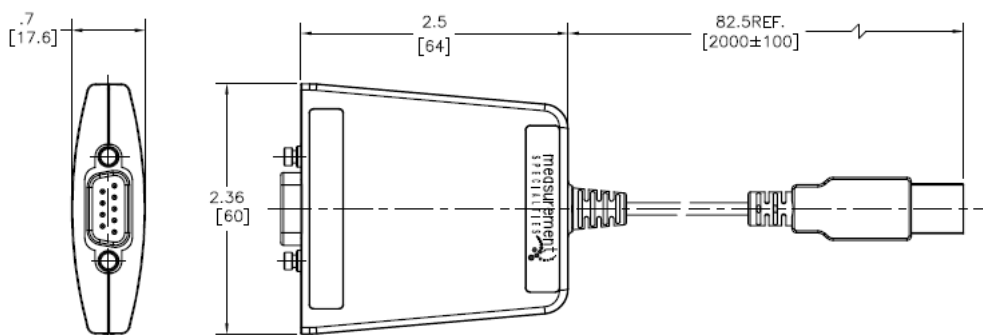
T-CONNECTOR



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 |

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