

# Palpadores inductivos LBB

Sondas palpadoras con muelle y rodamientos a bolas

## DESCRIPTION

The **Linear Ball Bearing (LBB) series** of dimensional gaging probes is engineered for highly precise and repeatable measurements in quality control and metrology applications.

LBB within the gaging probe minimize radial play and friction for ultra-precise measurement. Bearing assemblies utilize two circumferential rows of miniature balls held in position by a retainer. the balls ride on a non-rotating plunger hardened to Rockwell 65, hard-chromed plated and precision ground for optimal repeatability and resistance to brinnelling. the contact end of the plunger has a removable tungsten carbide ball tip, with an AGD standard 4-48 UNF-2A threading.

Plunger and bearings are enclosed in a cylindrical housing, hand-honed and fit to the ball bearing assembly. Precision fitting provides for exceptional gage head repeatability. With the bearings and housing essentially matched in hardness, the plungers can better tolerate side loads for a longer unit life.

### LVDT Configuration

A Linear Variable Differential Transformer (LVDT) is contained in the opposite end of the tubular housing. With no physical contact between its core and coils, the LVDT produces a highly repeatable, low noise output voltage linearly proportional to probe displacement. Output can be sensed, amplified and displayed with any Measurement Specialties (Schaevitz) LVDT compatible signal conditioner, digital readout or LVDT computer based system.

LBB gage heads feature a unique two-piece construction. Units, therefore, are repairable should either probe structure or cables become damaged. A bend relief spring prevents cable damage at lead exit.

Positive mechanical stops prevent damage to the LVDT from severe impacts t the end of the contact tip in cases of overstroke.



## FEATURES

- ◆ AC-operated
- ◆ Linear Ball Bearing Assemblies
- ◆ Removable Tungstend Carbide Contact Tip for Long-term Reliability and Interchangeability
- ◆ Double-shielded LVDT for Greater Protection from Effects of Magnetic Materials
- ◆ Polyurethan-jacketed Cable Enhances Flexibility and Improves Chemical Resistance
- ◆ Standard Viton Boot for Greater Resistance to Chemicals and High Temperatures

## APPLICATIONS

- ◆ Point-of-Manufacture status of production process standards
- ◆ On-line Inspection of Automobile Bodies
- ◆ Process Feedback for Numerically-Controlled Machine Tools
- ◆ Automated Data Collection For Factory SPC
- ◆ Robotics

# LBB Series Ultra-Precision Gage Heads

## gage ranges

±0.020"	Spring-extend
±0.040"	Spring-extend
±0.100"	Air or Spring-extend
±0.200"	Spring-extend

## common specifications

<b>Input Frequency</b>	2.5 to 10 kHz
<b>Linearity</b>	< ±0.20% of full range output
<b>Repeatability</b>	0.000004" (0.10 $\mu$ m)
<b>Operating</b>	
Temp. Range	-45°F to 160°F(-40°C to 70°C)
<b>Temperature Coefficient of Sensitivity</b>	±0.005% of full range output/°F (±0.01% of full range output/°C)
<b>Housing Material</b>	High carbon, chromium heat treated tool steel
<b>Cable</b>	6.5 feet (2 meters), 32 AWG stranded, PTFE insulated, shielded polyurethane jacket, 6 conductor
<b>Cable Exit</b>	Axial standard; adaptor provided with most units allow for radial exit

## gaging methods

### Spring-Extend Gage Heads

Standard spring -extend LBB gage heads possess user-adjustable pretravel/overtravel settings. Units are available in both 3.15" (8 mm) and 0.375" (9.5 mm) diameters, with the latter available in both threaded and non-threaded housings. A 0.375" (9.5 mm) diameter, plain or threaded sleeve, can be provided for OEMS who want to stock one model with two diameters.

### Air-Extend, Spring-Retract Gage Heads

Air-extend, spring-retract units are manufactured in a ±0.100" (±2.5 mm) gaging range. These units require dry, oil-free air at 5 to 15 psi (0.34 to 1 bar). by varying air pressure, users can control gaging force to ensure the probe does not damage finely finished surfaces or distort delicate parts. Air extend models are available in 0.375" diameters with either threaded or non-threaded housings.

# LBB Series Gage Heads

±0.020 Range; Spring-Extend Design

## FEATURES

- ◆ Ultra-Precision Performance
- ◆ AC-Operated
- ◆ User-Adjustable Pretravel and Overtravel Settings
- ◆ 0.315" (8 mm) or 0.375" (9.5 mm) Body Diameter
- ◆ Plain or Threaded Housing
- ◆ Calibration Certificate Supplied with Every Gage Head
- ◆ Compatible with All Schaevitz® Signal Conditioners
- ◆ 4 Connector Options



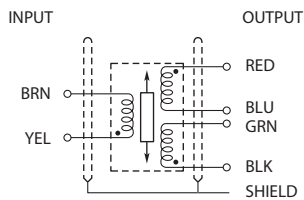
## electrical specifications

Excitation	3.5 V rms at 5.0 kHz (nom)
Sensitivity	6.9 – 7.2 mV/V/.001"
Null Voltage	2.0 mV (max)
Phase Shift	6.5° ±3°
Primary Impedance	405 ohms
Secondary Impedance	1320 ohms

## mechanical specifications

Pretravel	0.002" to 0.005"
Overtravel	0.005" (min)
Probe Force	2.47 oz (70g) nominal at null
Body Diameter	0.315" or 0.375"
Body Type	Plain or threaded
Cable Length	6.5' (2.0m)
Tip Thread	2.5 mm

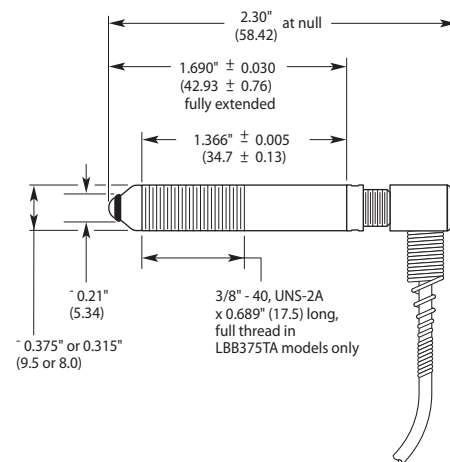
## wiring



Note:  
BLU and GRN tied for differential output with YEL and BLK common. The output is in phase, with core displaced toward cable end. (Retract)

## dimensions

in (mm)



## ordering information

Specify the appropriate model number followed by the desired connector number. For example: LBB375PA-020-1.

Model Number	Body Diameter	Housing
LBB315PA-020	0.315"	Unthreaded
LBB375PA-020	0.375"	Unthreaded
LBB375TA-020	0.375"	Threaded

# LBB Series Gage Heads

±0.040 Range; Spring-Extend Design

## FEATURES

- ◆ Ultra-Precision Performance
- ◆ AC-Operated
- ◆ User-Adjustable Pretravel and Overtravel Settings
- ◆ 0.315" (8 mm) or 0.375" (9.5 mm) Body Diameter
- ◆ Plain or Threaded Housing
- ◆ Calibration Certificate Supplied with Every Gage Head
- ◆ Compatible with All Schaevitz® Signal Conditioners
- ◆ 4 Connector Options
- ◆ Special Contact Tips



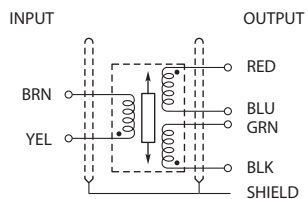
## electrical specifications

Excitation	3.5 V rms at 5.0 kHz (nom)
Sensitivity	5.0 – 5.5 mV/V/0.001"
Null Voltage	5.0 mV (max)
Phase Shift	3.0° ±3°
Primary Impedance	960 ohms
Secondary Impedance	2150 ohms

## mechanical specifications

Pretravel	0.002" to 0.005"
Overtravel	0.005" (min)
Probe Force	2.47 oz (70g) nominal at null
Body Diameter	0.315" or 0.375"
Body Type	Plain or threaded
Cable Length	6.5' (2.0m)
Tip Thread	4-48 AGD

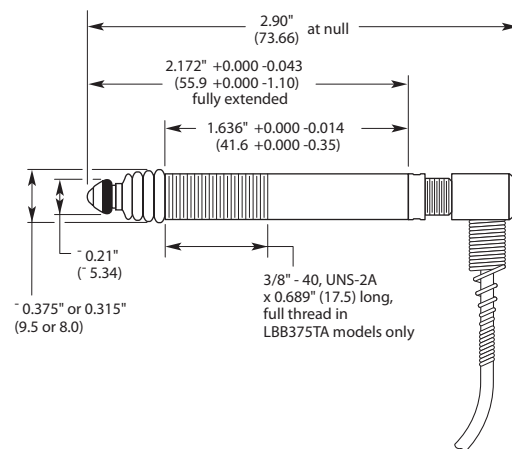
## wiring



Note:  
BLU and GRN tied for differential output with YEL and BLK common. The output is in phase, with core displaced toward cable end. (Retract)

## dimensions

in (mm)



## ordering information

Specify the appropriate model number followed by the desired connector number. For example: LBB315PA-040-1. Special contact tips are also available and can be ordered separately.

Model Number	Body Diameter	Housing
LBB315PA-040	0.315"	Unthreaded
LBB375PA-040	0.375"	Unthreaded
LBB375TA-040	0.375"	Threaded

# LBB Series Gage Heads

±0.100 Range; Spring-Extend Design

## FEATURES

- ◆ Ultra-Precision Performance
- ◆ AC-Operated
- ◆ User-Adjustable Pretravel and Overtravel Settings
- ◆ 0.315" (8 mm) or 0.375" (9.5 mm) Body Diameter
- ◆ Plain or Threaded Housing
- ◆ Calibration Certificate Supplied with Every Gage Head
- ◆ Compatible with All Schaevitz® Signal Conditioners
- ◆ 4 Connector Options
- ◆ Special Contact Tips



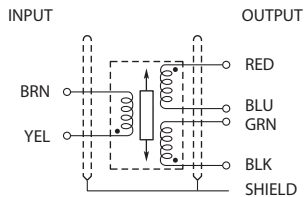
## electrical specifications

Excitation	3.5 V rms at 5.0 kHz (nom)
Sensitivity	5.0 – 5.5 mV/V/.001"
Null Voltage	5.0 mV (max)
Phase Shift	3.0° ±3°
Primary Impedance	960 ohms
Secondary Impedance	2150 ohms

## mechanical specifications

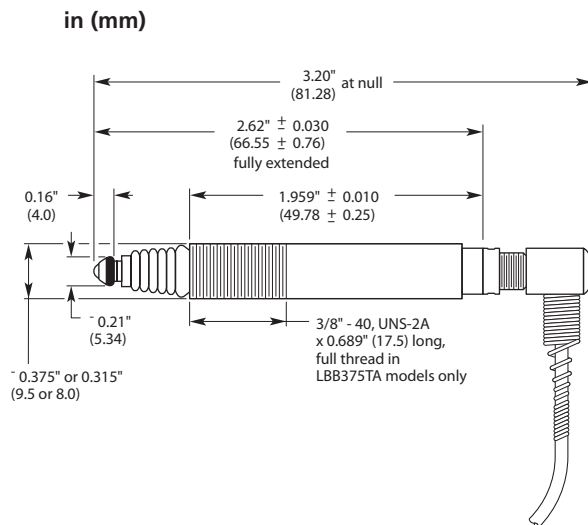
Pretravel	0.002" to 0.005"
Overtravel	0.005" (min)
Probe Force	2.47 oz (70g) nominal at null
Body Diameter	0.315" or 0.375"
Body Type	Plain or threaded
Cable Length	6.5' (2.0m)
Tip Thread	4-48 AGD

## wiring



Note:  
BLU and GRN tied for differential output with YEL and BLK common. The output is in phase, with core displaced toward cable end. (Retract)

## dimensions



## ordering information

Specify the appropriate model number followed by the desired connector number. For example: LBB375PA-100-1. Special contact tips are also available and can be ordered separately.

Model Number	Body Diameter	Housing
LBB315PA-100	0.315"	Unthreaded
LBB375PA-100	0.375"	Unthreaded
LBB375TA-100	0.375"	Threaded

# LBB Series Gage Heads

±0.100 Range; Air-Extend Design

## FEATURES

- ◆ Ultra-Precision Performance
- ◆ AC-Operated
- ◆ 0.375" (9.5 mm) Plain or Threaded Housing
- ◆ Variable Probe Force
- ◆ Calibration Certificate Supplied with Every Gage Head
- ◆ Compatible with All Schaevitz® Signal Conditioners
- ◆ 4 Connector Options
- ◆ Special Contact Tips



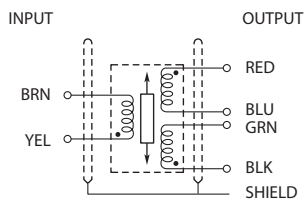
## electrical specifications

Excitation	3.5 V rms at 5.0 kHz (nom)
Sensitivity	5.0 mV (max)
Phase Shift	±20°
Primary Impedance	260 ohms
Secondary Impedance	215 ohms

## mechanical specifications

Pretravel	0.005"
Overtravel	0.110" (min)
Probe Force	Variable
Body Diameter	0.375"
Body Type	Plain or threaded
Cable Length	6.5' (2.0m)
Tip Thread	4-48 AGD

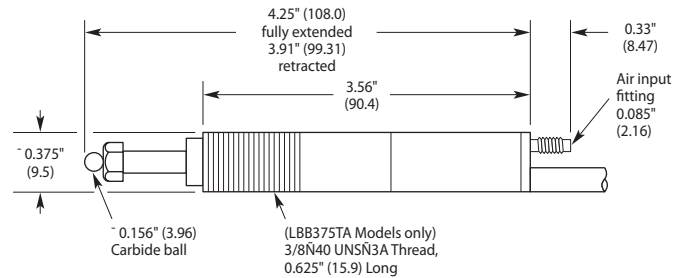
## wiring



Note:  
BLU and GRN tied for differential output with YEL and BLK common. The output is in phase, with core displaced toward cable end. (Retract)

## dimensions

in (mm)



## ordering information

Specify the appropriate model number followed by the desired connector number. For example: LBB375PA-100A-1. Special contact tips are also available and can be ordered separately.

Model Number	Body Diameter	Housing
LBB375PA-100A	0.375"	Unthreaded
LBB375TA-100A	0.375"	Threaded

# LBB Series Gage Heads

±0.200 Range; Spring-Extend Design

## FEATURES

- ◆ Ultra-Precision Performance
- ◆ AC-Operated
- ◆ 0.315" (8 mm) Body Diameter
- ◆ Plain Housing
- ◆ Calibration Certificate Supplied with Every Gage Head
- ◆ Compatible with All Schaevitz® Signal Conditioners
- ◆ 4 Connector Options

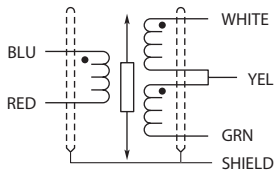


## electrical specifications

Excitation	5 V rms at 5.0 kHz (nom)
Sensitivity	4.3 mV/V/.001"
Null Voltage	5.0 mV (max)
Primary Impedance	258 Ω
Secondary Impedance	711 Ω
Phase Shift	5.3° (at 5 kHz)

## wiring

Wiring Schematic

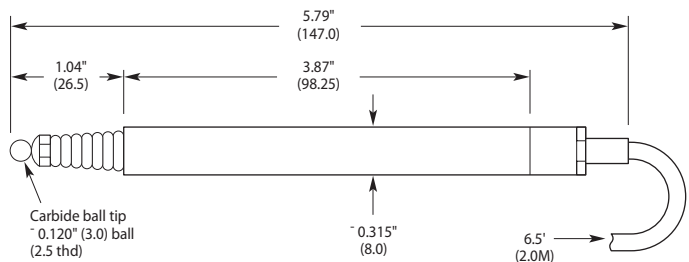


## mechanical specifications

Pretravel	0.005"
Overtravel	0.045" (min)
Probe Force	4.4 oz (125g) nominal at null
Body Diameter	0.315"
Body Type	Plain
Cable Length	6.5' (2.0m)
Tip Thread	2.5 mm

## dimensions

in (mm)



## ordering information

Specify the appropriate model number followed by the desired connector number (from page 100). For example: LBB315PA-200-1.

<b>Model Number</b>	<b>Body Diameter</b>	<b>Housing</b>
LBB315PA-200	0.315"	Unthreaded

# AP Series Customizable OEM Gage Heads

±1.0mm to 2.5mm Range; Spring-Extend Design

Linear Ball Bearing Design

Spring-Extend

## DESCRIPTION

**The Analog Probe (AP) series** - LVDT gage head is designed to meet the most demanding requirements of OEM tooling designers and builders. Designed by Measurement Specialties Inc (MEAS), the first LVDT manufacturer (under our Schaevitz® Brand) and world leader in industrial linear displacement sensors, the AP series gage head was designed utilizing over 60 years of LVDT design expertise.

Meas-Spec has revolutionized gage head manufacturing technology with the implementation of fully automated, ultra high precision CNC machining centers. The new design has been optimized to take maximum advantage of process automation thereby eliminating costly and time consuming hand fitting of high tolerance components, resulting in a highly consistent, low cost manufacturing process.

Assembled in the USA, at our ISO and AS-9100 certified Hampton, Virginia manufacturing facility, this OEM gage head has a modular design allowing for easy customization to solve your unique OEM application requirements. The flexibility of US manufacturing reduces lead times and stock-out situations.

## FEATURES

- ◆ Calibrated Over ±1.0mm to ±2.5mm
- ◆ Ultra-Precision Performance
- ◆ AC-Operated
- ◆ User-Adjustable Pretravel and Overtravel Settings
- ◆ 8 mm or 9.5 mm Body Diameter
- ◆ Plain or Threaded Housing
- ◆ Calibration Certificate Supplied with Every Gage Head
- ◆ Compatible with All Schaevitz® Signal Conditioners
- ◆ Connector Options
- ◆ Special Contact Tips
- ◆ Assembled in USA for Maximum Flexibility



## APPLICATIONS

- ◆ Automotive machine parts SPC inspection - engine, brake rotor and power train component dimensions
- ◆ Aircraft engine component inspection - turbine blade thickness and flow turbine shaft torquing and run-out
- ◆ Assembly line, in-process measurements
- ◆ Prosthetic joint and limb testing fitting
- ◆ Robotics
- ◆ SPC monitoring of machine part dimensions
- ◆ Bore/Depth gage hand tools
- ◆ Position feedback for X/Y tables
- ◆ PCB drilling machines
- ◆ Z-axis control for wire die bonding machines



# AP Series Customizable OEM Gage Heads

±1.0mm to 2.5mm Range; Spring-Extend Design

## common specifications

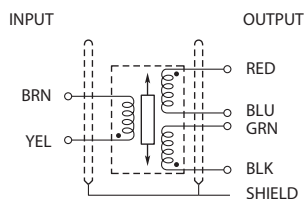
Input Frequency	2.5 to 10 kHz
Linearity	< ±0.20% of full range output
Repeatability	0.000004" (0.10µm)
<b>Operating</b>	
Temp. Range	-45°F to 160°F(-40°C to 70°C)
<b>Temperature Coefficient of Sensitivity</b>	
	±0.005% of full range output/°F (±0.01% of full range output/°C)
Housing Material	Hardened stainless steel
Cable	6.5 feet (2 meters), 32 AWG stranded, PTFE insulated, shielded polyurethane jacket, 6 conductor
Cable Exit	Axial standard; adaptor available to allow for radial exit



## electrical specifications

Excitation	3.5 V rms at 5.0 kHz (nom)
Sensitivity	5.0 – 5.5 mV/V/.001"
Null Voltage	5.0 mV (max)
Phase Shift	3.0° ±3°
Primary Impedance	960 ohms
Secondary Impedance	2150 ohms

## wiring



Note:  
BLU and GRN tied for differential output with YEL and BLK common. The output is in phase, with core displaced toward cable end. (Retract)

## ordering information

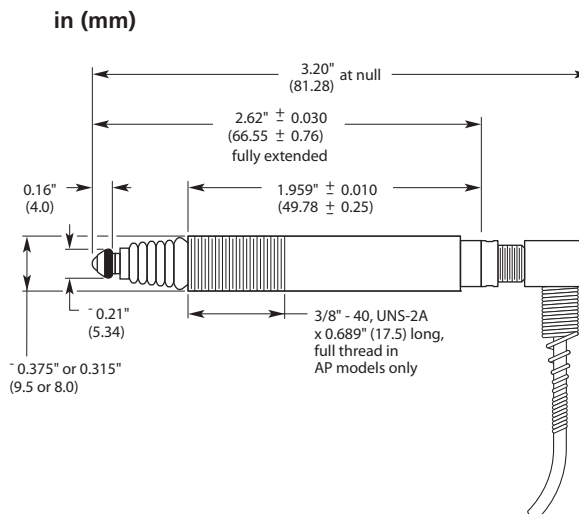
AP - X.Xmm - YYYY

(X.X is the range in MM, for example 1.0 or 2.5)  
(YYYY is the MEAS special number assigned to your custom design)

## mechanical specifications

Linear Range	±1.0mm - ±2.5mm
Pretravel	0.000" to 0.015"
Overtravel	0.005" (min)
Probe Force	70g typical (customized) 50 to 100g at null
Body Diameter	8mm or 9.5mm
Body Type	Plain or threaded
Customized Cable Length	6.5' (2.0m) standard
Tip Thread	4-48 AGD

## dimensions



# PCA-116 Series Economy Gage Heads

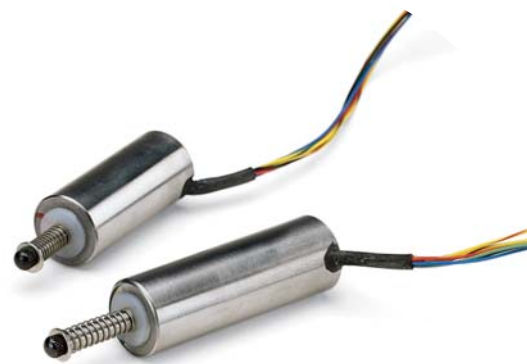
Cost-Effective Performance for  $\pm 0.10$  to  $\pm 0.30$  Range Measurement

## DESCRIPTION

Our **PCA-116** family of gage heads was developed for less demanding applications where a balance between cost and performance is paramount.

PCA-116 gage heads incorporate a standardized LVDT with repeatability better than 0.0001" (0.0025 mm) and linearity within 0.5% of full range output. The probe shaft is externally sprung and is carried on low friction nylon sleeve bearings. The probe to bearing clearances are designed to minimize problems should contaminants get into the bore.

Units are supplied with replaceable hardened steel tips that thread to the probe with a 4-48 UNF-2 thread. Replacement or alternate tips are available (see page 100). Any 4-48 AGD dial indicator contact tip can also be used.



## FEATURES

- ◆ Cost Effective Performance
- ◆ Good Reliability
- ◆ AC Operated
- ◆ Compatible with All Schaevitz® Signal Conditioners
- ◆ Special Contact Tips

## APPLICATIONS

- ◆ Moderate Cost Units are Ideal for Less Demanding Applications

## specifications

Excitation	3V rms (nom)
Null Voltage	1.0% FRO
Frequency Range	50 Hz to 10 kHz
Linearity	0.5% FRO
Repeatability	0.0001" (0.0025 mm)
Operating Temperature	
Range	-65°F to 200°F (-55°C to 95°C)
Probe Force	8 oz (22.6 g)
Lead Length	1 ft (0.3 m) 28 awg PTFE insulated
Housing Material	AISI 400 series stainless steel

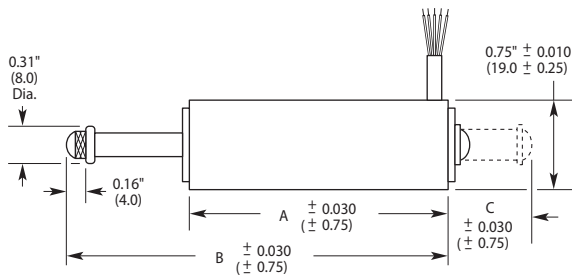
# PCA-116 Series Economy Gage Heads

## PCA Specifications – DC-Operated Models

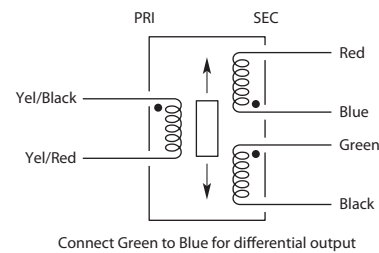
Model Number	PCA-116-100	PCA-116-200	PCA-116-300
Nominal Linear Range	±0.10" (±2.5 mm)	±0.20" (±5.0 mm)	±0.30" (±7.5 mm)
Phase Shift	-3°	-5°	-8.5°
Sensitivity (mV/V/0.001")	2.4	1.57	1.2
Impedance (Ohm)			
Primary	660	970	960
Secondary	960	1010	1005
Pretravel	0.10" (2.5 mm)	0.08" (2.0 mm)	0.02" (0.5 mm)
Overtravel	0.03" (0.75 mm)	0.09" (22.9 mm)	0.08" (2.0 mm)
Weight	1.5 oz (43 g)	1.7 oz (50 g)	2.01 oz (57 g)
Dimensions			
A	1.75" (44.4 mm)	2.25" (57.1 mm)	2.77" (69.8 mm)
B	2.54" (64.5 mm)	3.30" (83.8 mm)	4.10" (104.1 mm)
C	0.44" (11.1 mm)	0.69" (17.5 mm)	0.88" (22.3 mm)

### dimensions

in (mm)



### wiring



### ordering information

Specify the model number with the appropriate range. Special contact tips are also available and can be ordered separately.

Model Number	Range
PCA-116-100	±0.10" (2.5mm)
PCA-116-200	±0.20" (5.1mm)
PCA-116-300	±0.30" (7.6mm)

# Ultimate-Precision Digital LBB



- High precision digital gaging system
- Drop-in replacement for Solartron Orbit<sup>®</sup>2
- Fits on the Orbit<sup>®</sup>2 T-Connector in existing installations (no need to replace it)
- Spring or air actuated digital gages
- 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

## DESCRIPTION

The Ultimate-Precision Digital LBB gaging system consists of digital gaging probes daisy chained in a network using T-Connectors (available separately) with DE-9P and -9S connectors. Each Digital LBB gaging probe includes a highly repeatable analog AC LVDT (Linear Variable Differential Transformer) gaging 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 very high accuracy.

The Ultimate-Precision Digital LBB gaging probes are drop-in replacements for Solartron's devices for the Orbit<sup>®</sup>2 system and therefore do not require replacement of the Solartron T-Connector in existing applications. They operate in conjunction with the Solartron PCI card or USB module, as well as with our available USB interface (male connector to be connected to one of these interfaces). 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 compatibility with the Orbit<sup>®</sup> bus measurement system. The Digital LBB gaging 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 LBB USB 2.0 full speed compliant interface device (available separately) can be connected to this network (using a T-Connector) to communicate with and allow data transfer to a computer. When our USB interface is plugged into a computer running a Windows<sup>®</sup> 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 Digital LBB device amongst others.

The available LBB external power supply is capable of supplying (2 Amps) 31 Digital LBB gaging probes. It features an integral T-Connector which is permanently attached to it. This special T-Connector will interrupt the bus power (power-in pins removed from the male connector) and switch it over to the external power supply, for all Digital LBB gaging probes connected downstream (female connector side). However, if any Digital LBB gaging probes are connected upstream (male connector side) the external power supply, then they will be bus powered.

The data sheet for our Ultra-Precision LBB (Linear Ball Bearing) AC gage probes can be found at:

[http://www.meas-spec.com/downloads/LBB\\_Series.pdf](http://www.meas-spec.com/downloads/LBB_Series.pdf)

Measurement Specialties, Inc. (NASDAQ MEAS) offers a full range of genuine Schaevitz<sup>®</sup> position sensors, signal conditioners, as well as many other types of sensors. Data sheets can be downloaded from our web site at: <http://www.meas-spec.com/datasheets.aspx>

# Ultimate-Precision Digital LBB

## FEATURES

- Drop-in replacement for Solartron Orbit®2
- Mounts into existing Orbit®2 applications without the need for T-Connector replacement
- 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
- RoHS and CE Mark (Excellent noise immunity in industrial environments), all devices

## APPLICATIONS

- Factory automated inspection systems (i.e. engine pistons, bearings, etc.)
- Free-form measurements (i.e. airfoils, windshields, crankshafts, camshafts)
- Wobble/runout of rotating parts (i.e. brake rotors, axles)
- Optics Inspection Systems (i.e. mirrors, lenses)
- Materials testing
- SPC data collection
- Metrology
- Actuation controls
- Other precision dimensional measurements

## SPECIFICATIONS

Parameter	Specification	Comment
Measurement ranges	1, 2, 5, and 10 mm	
Linearity	±0.05% of range	
Accuracy	0.1% of reading	Ranges up to 2mm
	0.2% of reading	Ranges over 2mm
Repeatability	0.006% of range	
Calibration temperature	22 ± 4 °C	
Resolution	14 bits	
Operating voltage	5.00 ± 0.25 Volts DC	
Operating current	<60mA	
Operating temperature	0 to +60 °C	
Storage temperature	-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	
Dynamic mode sampling rate	Not supported at this time.	In development
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 Digital LBB gaging probes on USB	4 (on USB bus power)	Plus USB interface (<300mA)
	31 (on external power)	
External power supply output current	2 Amps	Available separately
Cable length	2 meters	
Cable materials	Copper lead-wires with FEP insulation, copper shield, and overall polyurethane jacket	
Weight (device without T-Connector)	115 grams	
Weight of T-Connector	50 grams	Available separately
Weight of USB interface	115 grams	Available separately
Housing material, electronics	Aluminum, epoxy powder coated	

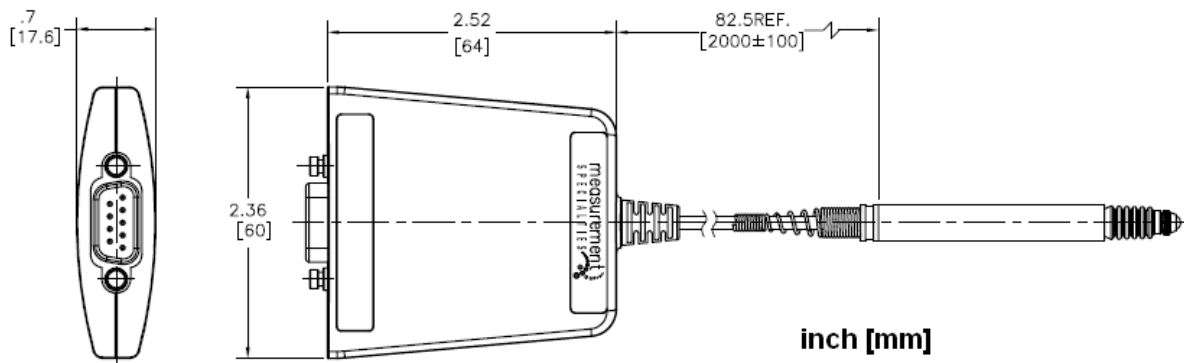
Orbit® is a registered trademark of Solartron Metrology

Windows® is a registered trademark of Microsoft Corporation

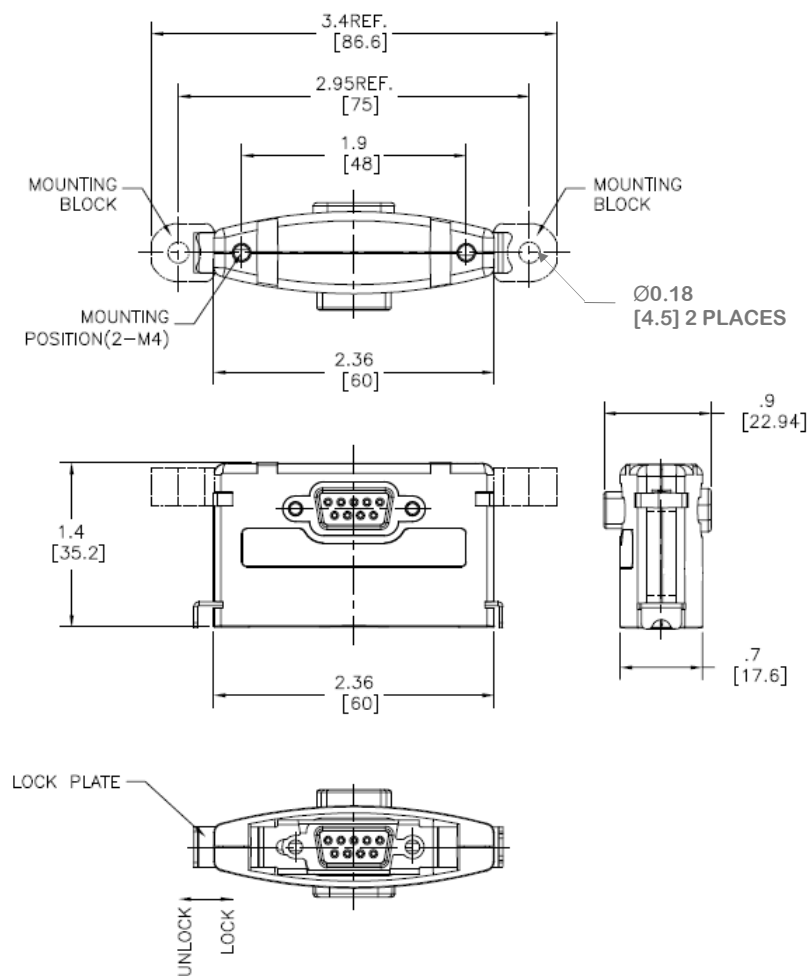
# Ultimate-Precision™ Digital LBB

## DRAWINGS AND DIMENSIONS

### Digital LBB gaging probe

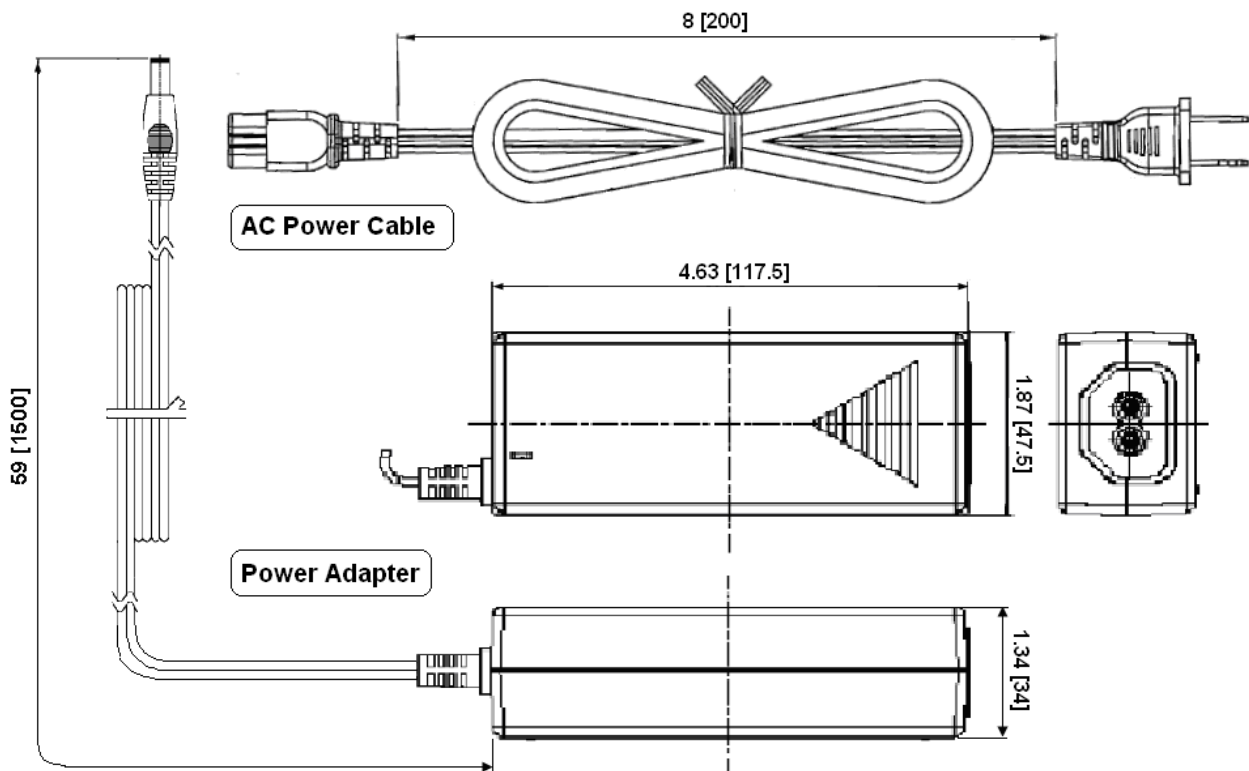
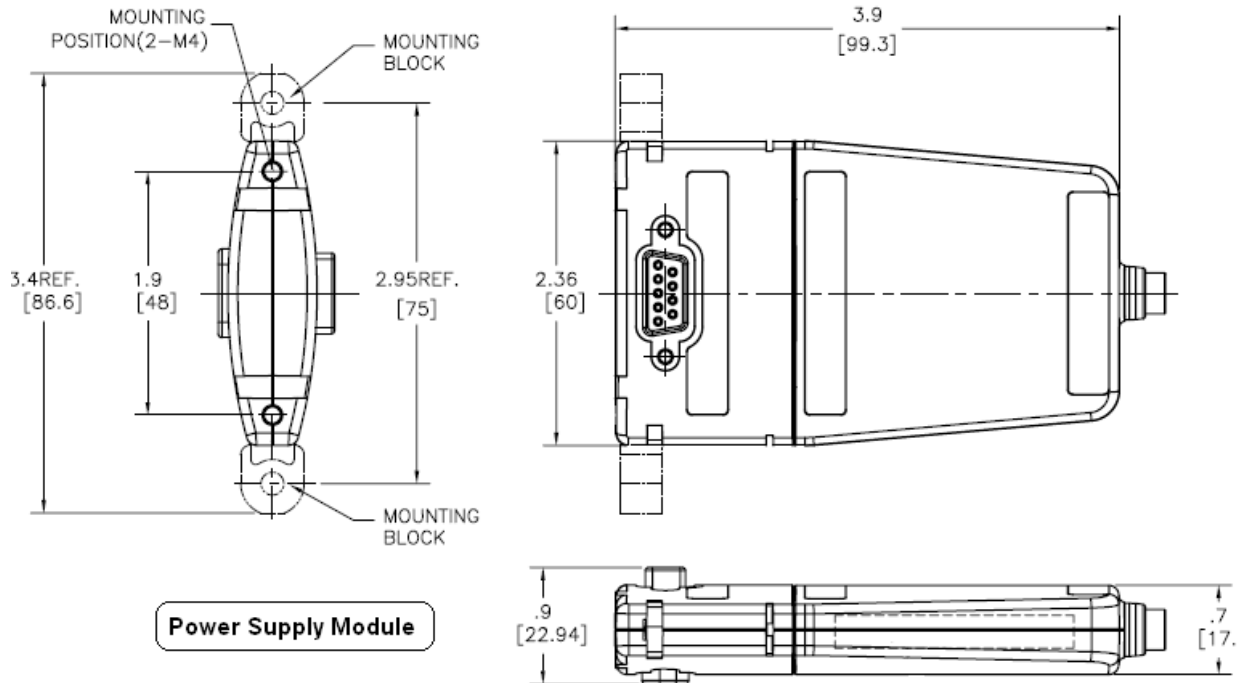


### T-Connector



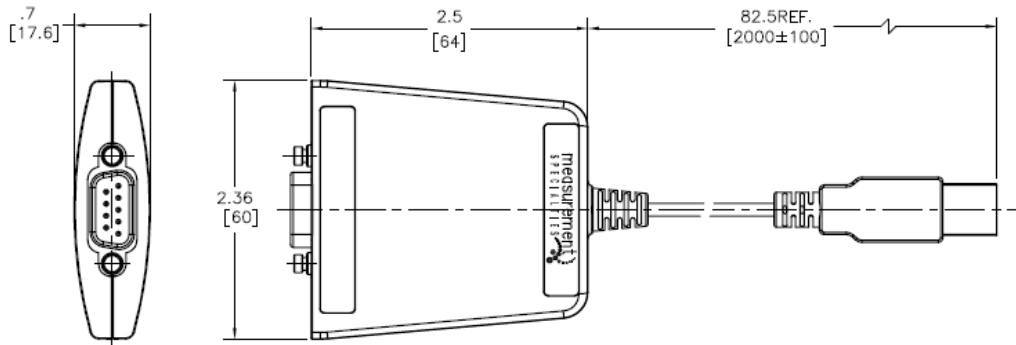
# Ultimate-Precision™ Digital LBB

## Power Supply Kit (3 components)



# Ultimate-Precision™ Digital LBB

## USB Interface



## ORDERING INFORMATION

Description	Model	Part No (Status)
USB interface device for DLBB	LBB DIGITAL USB INTERFACE	72290002-000 (√)
T-Connector for DLBB	LBB DIGITAL BACKPLAIN	72290003-000 (√)
Power supply kit for DLBB (100-240VAC, 50/60Hz input; 5VDC, 2A out)	LBB DIGITAL USB POWER SUPPLY	72290004-000 (√)
<b>8mm</b> diameter digital gaging probe, <b>2mm</b> range, <b>spring</b> push	DLBB315PA-040	72350012-000 (√)
<b>3/8"</b> diameter digital gaging probe, <b>2mm</b> range, <b>spring</b> push	DLBB375PA-040	72350013-000 (√)
<b>3/8"</b> diameter <b>threaded</b> digital gaging probe, <b>2mm</b> range, <b>spring</b> push	DLBB375TA-040	72350014-000 (√)
<b>8mm</b> diameter digital gaging probe, <b>5mm</b> range, <b>spring</b> push	DLBB315PA-100	72350015-000 (√)
<b>3/8"</b> diameter digital gaging probe, <b>5mm</b> range, <b>spring</b> push	DLBB375PA-100	72350016-000 (√)
<b>3/8"</b> diameter <b>threaded</b> digital gaging probe, <b>5mm</b> range, <b>spring</b> push	DLBB375TA-100	72350017-000 (√)
<b>8mm</b> diameter digital gaging probe, <b>2mm</b> range, <b>pneumatic</b> push	DLBB315PA-040A	72350024-000 (*)
<b>3/8"</b> diameter digital gaging probe, <b>2mm</b> range, <b>pneumatic</b> push	DLBB375PA-040A	72350025-000 (*)
<b>3/8"</b> dia. <b>threaded</b> digital gaging probe, <b>2mm</b> range, <b>pneumatic</b> push	DLBB375TA-040A	72350026-000 (*)
<b>8mm</b> diameter digital gaging probe, <b>5mm</b> range, <b>pneumatic</b> push	DLBB315PA-100A	72350021-000 (*)
<b>3/8"</b> diameter digital gaging probe, <b>5mm</b> range, <b>pneumatic</b> push	DLBB375PA-100A	72350022-000 (*)
<b>3/8"</b> dia. <b>threaded</b> digital gaging probe, <b>5mm</b> range, <b>pneumatic</b> push	DLBB375TA-100A	72350023-000 (*)
<b>8mm</b> diameter digital gaging probe, <b>1mm</b> range, <b>spring</b> push	DLBB315PA-020	72350009-000 (-)
<b>3/8"</b> diameter digital gaging probe, <b>1mm</b> range, <b>spring</b> push	DLBB375PA-020	72350010-000 (-)
<b>3/8"</b> diameter <b>threaded</b> digital gaging probe, <b>1mm</b> range, <b>spring</b> push	DLBB375TA-020	72350011-000 (-)
<b>8mm</b> diameter digital gaging probe, <b>10mm</b> range, <b>spring</b> push	DLBB315PA-200	72350018-000 (-)
<b>3/8"</b> diameter digital gaging probe, <b>10mm</b> range, <b>spring</b> push	DLBB375PA-200	72350019-000 (-)
<b>3/8"</b> diameter <b>threaded</b> digital gaging probe, <b>10mm</b> range, <b>spring</b> push	DLBB375TA-200	72350020-000 (-)

(√) Available for immediate ordering

(\*) Summer 2011 availability

(-) In Development



# Ultimate-Precision™ Digital LBB

## ORDERING INFORMATION

NORTH AMERICA	EUROPE	ASIA
Measurement Specialties, Inc. 1000 Lucas Way Hampton, VA 23666 Tel: 1-800-555-1551 Fax: 1-757-766-4297 Email: <a href="mailto:sales@meas-spec.com">sales@meas-spec.com</a> Web: <a href="http://www.meas-spec.com">www.meas-spec.com</a>	MEAS Deutschland GmbH Hauert 13, D-44227 Dortmund, Germany Phone: +49-(0)231-9740-0 Fax: +49-(0)231-9740-20 Email: <a href="mailto:info.de@meas-spec.com">info.de@meas-spec.com</a> Web: <a href="http://www.meas-spec.com">www.meas-spec.com</a>	Measurement Specialties China Ltd. No. 26, Langshan Road, Shenzhen High-tech Park (North) Nanshan District, Shenzhen, China 518107 Phone: +86-755-33305088 Fax: +86-755-33305099 Email: <a href="mailto:info.cn@meas-spec.com">info.cn@meas-spec.com</a> Web: <a href="http://www.meas-spec.com">www.meas-spec.com</a>

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