

# Bore Gages

For easy and accurate measurement of inside diameters

## Bore Gages SERIES 511 — ABSOLUTE Digimatic Bore Gages

**MeasurLink<sup>®</sup> ENABLED**  
Data Management Software by Mitutoyo

- These ABSOLUTE Digimatic bore gages are exclusively designed for inside diameter measurement.
- Up to four Extension Rods (optional) can be connected for measuring at the bottom of a hole 2 m deep.
- ABS (ABSOLUTE) type bore gages are not subject to overspeed error.
- The display and grip can be rotated up to 320 degrees and the display can be inclined up to 90 degrees, so that it is easily readable from any direction.
- The minimum value holding function provides easy measurement of hole diameter.
- A Bore Gage Checker and a range of Setting Rings are available to aid in accurately setting a gage before making a measurement. (For details, refer to pages C-46 and C-47.)



511-501



## SPECIFICATIONS

Metric		
Order No.	511-501	511-502
Range	45-100 mm	100-160 mm
Stroke of contact point	1.2 mm	
Resolution	0.001 mm	
Accuracy	Overall*1	0.003 mm
	Adjacent error	0.002 mm
	Repeatability	0.002 mm
Measuring force	5 N or less	
Guide force	10 N or less	
Battery	SR44 (2 pcs.), <b>938882</b> For initial operational checks (standard accessory)	
Battery life*2	Approx. 2000 hours under normal use.	
Scale type	ABSOLUTE electrostatic linear encoder	
Sampling frequency*3	50 times/s	
Dust / Water protection level*4	IP53 (IEC60529/JIS D0207, C0920)	
Display	<ul style="list-style-type: none"> <li>• 7-segments 6digits decimal numeric with minus sign, in/mm</li> <li>• Tolerance judge indication</li> <li>• Analog indication</li> </ul>	
Net weight	500 g	570 g

Inch		
Order No.	511-521	511-522
Range	1.8 - 4.0 in	4.0 - 6.5 in
Stroke of contact point	1.2 mm/0.047 in	
Resolution	0.00005 in/0.001 mm	
Accuracy	Overall*1	0.0001 in/0.003 mm
	Adjacent error	0.00008 in/0.002 mm
	Repeatability	0.0001 in/0.002 mm
Measuring force	5 N or less	
Guide force	10 N or less	
Battery	SR44 (2 pcs.), <b>938882</b> For initial operational checks (standard accessory)	
Battery life*2	Approx. 2000 hours under normal use.	
Scale type	ABSOLUTE electrostatic linear encoder	
Sampling frequency*3	50 times/s	
Dust / Water protection level*4	IP53 (IEC60529/JIS D0207, C0920)	
Display	<ul style="list-style-type: none"> <li>• 7-segments 6digits decimal numeric with minus sign, in/mm</li> <li>• Tolerance judge indication</li> <li>• Analog indication</li> </ul>	
Net weight	500 g	570 g

\*1 A quantizing error is excluded.

\*2 When the usage time per day is eight hours.

\*3 If the contact point detecting speed is over 50 μm/s, the peak value may not be displayed correctly.

\*4 The level indicated is valid only if the output connector cap is installed.

**MeasurLink<sup>®</sup> ENABLED**  
Data Management Software by Mitutoyo

Products equipped with the measurement data output function can be connected to the measurement data network system MeasurLink (refer to page A-5 for details).

**ABSOLUTE<sup>™</sup>**



## Function

- Preset function
- Master value registration (3 values maximum)
- Tolerance judgment
- Upper/lower limit registration (3 values maximum)
- Minimum value holding
- Data output
- Display rotation (320°)
- Display inclination (90°, 7 steps)
- Low battery alarm display
- Error display

## Optional Accessories

- Extension rod  
250 mm (10 in): **21DZA089**  
500 mm (20 in): **21DZA081**  
Up to four extension rods can be jointed, and a maximum length of 2 m is allowed.
- Example of Connection  
Using four 500 mm extension rods
- SPC Cable:  
1 m: **905338**  
2 m: **905409**  
Refer to page A-25 to A-27
- USB Input Tool Direct (2 m): **06ADV380F**  
Refer to page A-26
- USB Keyboard Signal Conversion Type  
Communication Conversion Type: **264-016**
- RS-232C Communication Conversion Type: **264-007**  
Refer to page A-14
- Connecting Cables for U-WAVE-T (160 mm): **02AZD790F**  
For foot switch: **02AZE140F**  
Refer to page A-18
- Digimatic Mini-Processor **DP-1VA LOGGER: 264-505**

