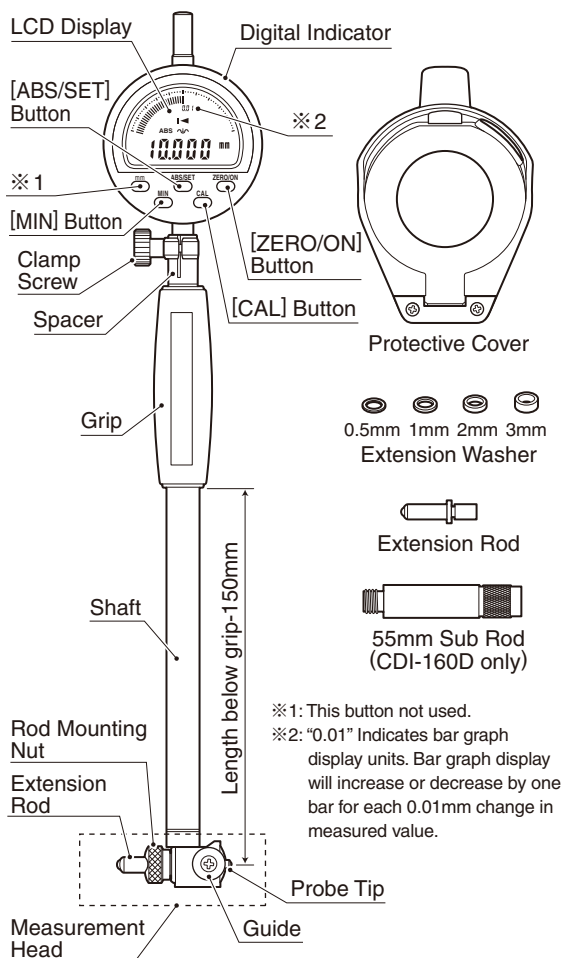


Thank you for purchasing the Digital Bore Gauge.
Please read this manual thoroughly before use for proper operation.

■PART IDENTIFICATION



■SPECIFICATIONS

※:With supplied Digital Indicator.

※ Not including quantization error (±1 count)

Model No.	CDI-50D	CDI-100D	CDI-160D
Measurement Range (mm)	35-50	50-100	50-160
Resolution (mm)	0.002	0.002	0.002
※ * Wide Range Accuracy (μm)	15	18	18
※ * Adjacent Error (μm)	5	6	6
※ * Repeat Accuracy (μm)	3	3	3
Single Probe Measuring Range (mm)	1.2	1.6	1.6
Extension Washer	0.5, 1, 2, 3 mm (One piece each size)		
Weight (g)	400	450	450

ACCESSORIES

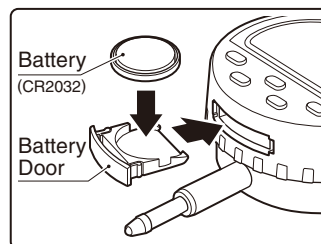
- Extension Rods
 - CDI-50D.....35, 40, 45, 50mm (4 pieces)
 - CDI-100D.....50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100 mm (11 pieces)
 - CDI-160D.....50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105 mm (12 pieces)
- Sub Rod.....55 mm (CDI-160D only)
- Battery.....CR2032 Lithium Battery (Included for testing)

⚠NOTICE

- This is a precision instrument, use care not to drop or mishandle.
- Please do not disassemble or modify.
- Keep instrument away from water and oil.
- Use only with supplied Extension Rods and Washers.
- Keep instrument away from direct sunlight and high temperatures such as in a car, near a stove or heat source.
- After use, remove dust and cutting chips and apply rust preventative oil to components including Extension Rods, and Extension Washers. When not in use store in original case.
- This product is for measuring inside diameter; use only as directed. Improper use may cause accident or injury.
- Avoid using in locations with high electric fields, such as near fluorescent lights or switching power supplies, as it may cause erroneous reading to display on LCD.

■BATTERY REPLACEMENT

Open battery door using the tabs on either side. Insert battery with "+" side facing downward. Push in door to replace.



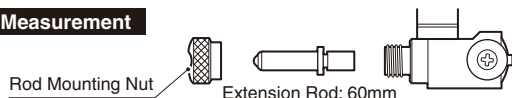
⚠ Caution

Only use CR2032 Lithium Battery.

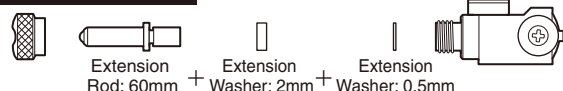
■ASSEMBLY

- Remove the protective cover by unscrewing the two screws which hold the cover in place.
※To reattach the protective cover, please refer to the section: "Attaching the Protective Cover"
- Loosen the Clamp Screw and insert the Digital Indicator into the gauge body. Tighten Clamp Screw to secure.
※After attaching to body, press the [ZERO/ON] Button to turn on power. Check for proper operation by pressing on the Probe Tip. If the LCD display reading does not change, readjust the insertion depth of the indicator.
- Chose combination of Rod, Washer, and Sub Rod (CDI-160D only) applicable for desired measurement range.
Remove the Rod Mounting Nut and install the selected Rod, Washer and Sub Rod, then replace Mounting Nut to secure to body.
※When selecting washers, combination with fewest washers is preferred.

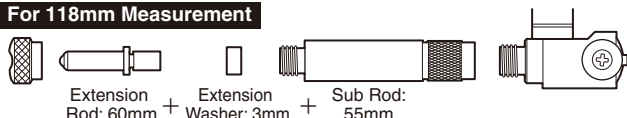
Example: For 60mm Measurement



Example: For 62.5mm Measurement



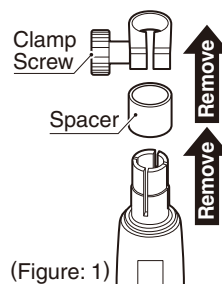
Example: For 118mm Measurement



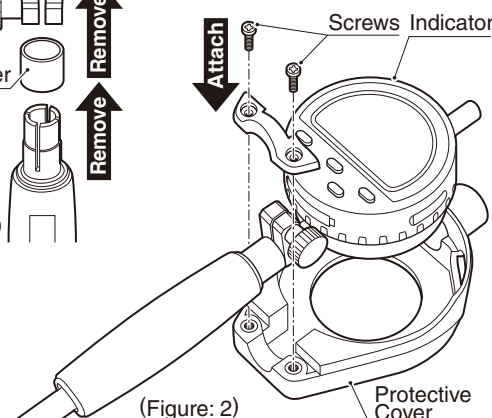
Attaching the Protective Cover

When using the Protective Cover, please attach using the following procedure.

- Loosen the Clamp Screw and remove Clamp and Spacer from shaft. (Figure: 1)
- Without removing the Rod or Washers, follow the "Assembly" procedure to reattach the Indicator and Clamp without the Spacer.
- Mount the Protective Cover to the Indicator and attach with the 2 mounting screws. (Figure: 2)



(Figure: 1)

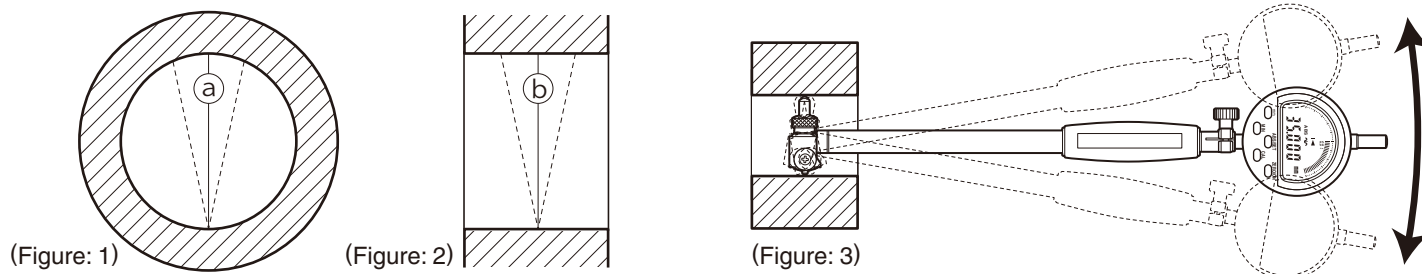


(Figure: 2)

MEASUREMENT

For accurate measurements, please follow the procedure below.

- ① In cross section perpendicular to the axis of the bore, position the gauge along diameter ①. (Figure: 1)
This is the maximum distance, and at this point the Indicator will read the maximum value.
The Guide will automatically position the Measurement Head along diameter ①.
- ② In cross section parallel to the axis of the bore through diameter ①, position the indicator to minimize the distance ②. (Figure: 2)
In this position the Indicator will read the minimum value. This position must be manually achieved by pivoting the gauge and noting the point where the Indicator shows the minimum value. (Figure: 3)

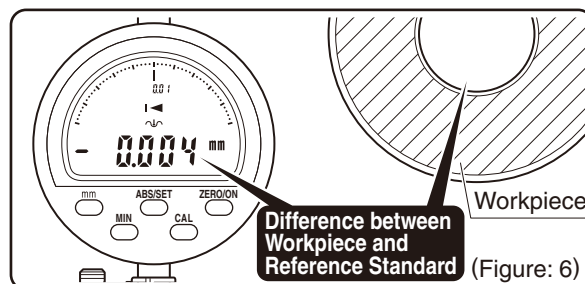
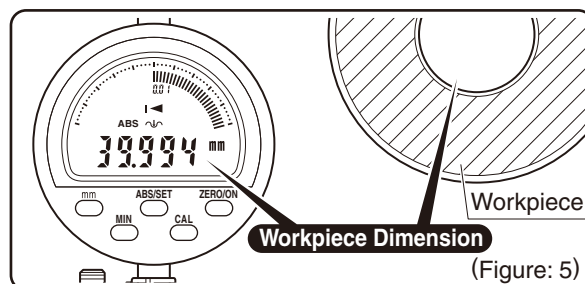
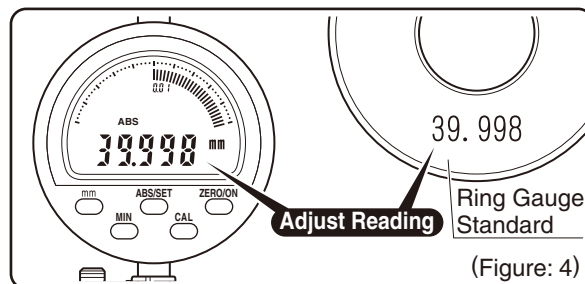


OPERATION

- ① Before use, please make sure the Measurement Head components are securely tightened. Tighten as necessary.
- ② Clean the gauge head and the ID of a Ring Gauge Standard using parts cleaner or cleaning solution.
- ③ Press the [ZERO/ON] Button to turn on power. ※Power is turned off with a long press to the [ZERO/ON] Button.

ABSOLUTE MODE (ABS) ※Displays absolute measurement of workpiece.

- ① Turn on power. If the “I◀”, “~” symbols are displayed on the LCD, press the [MIN] Button to turn off.
- ② Make the “SET” value of the Bore Gauge match the ID of the Ring Gauge Standard. Press and hold the [ABS/SET] Button until “SET” blinks on the display.
- ③ Continue holding the [ABS/SET] Button and the display character to the left will blink. Use a short press of the [ABS/SET] Button to change the value, and a long press to change the character being modified.
Repeat this process to enter the dimension of the Ring Gauge Standard on the LCD display. (Figure: 4)
- ④ When the value is entered, the flashing position will return to “SET”.
A short press of the [ABS/SET] Button to turn off the flashing.
- ⑤ Insert the Measurement Head into the Ring Gauge Standard and press the [MIN] Button to put the Indicator into minimum-mode. Slowly pivot the gauge (Figure: 3) to display the minimum value.
- ⑥ Remove the gauge from the Ring Gauge and press the [CAL] Button until “OK” is momentarily displayed.
Preparation for measurement is now complete.
- ⑦ Put the gauge into the workpiece to be measured, and pivot the gauge slowly. (Figure: 3) The LCD will display the measured value. (Figure: 5)
※Press the [ON/ZERO] Button momentarily to reset display in preparation to measure the next workpiece.



COMPARATIVE MEASUREMENT ※Display difference between workpiece and reference standard.

- ① Turn on power. If the “I◀”, or “~” symbols are displayed on the LCD, press the [MIN] Button to turn off. If “ABS” is displayed press the [ABS] Button to turn off.
- ② Insert the Measuring Head into the Ring Gauge Standard and press [MIN] Button to put the Indicator into minimum-mode. Slowly pivot the gauge (Figure: 3) to display the minimum value.
- ③ Remove the gauge from the Ring Gauge and press the [CAL] Button until “OK” is momentarily displayed.
Preparation for measurement is now complete.
- ④ Put the gauge into the workpiece to be measured, and pivot the gauge slowly. (Figure: 3) The LCD will display the difference between the measured workpiece and the reference standard. (Figure: 6)
※Press the [ON/ZERO] Button momentarily to reset display in preparation to measure the next workpiece.

TROUBLESHOOTING

ERROR CONDITION	CORRECTIVE ACTION
● LCD does not display	● Cycle power by removing and replacing battery.
● Displayed value is unstable	● Replace battery with new one.
● Display is not clear	

※If problem persists, or if you have any questions, please contact distributor or place of purchase.
※Please note, manufacturer is unable to respond to inquiries or provide service directly. Please contact distributor or place of purchase.

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