

Digital indicators that offer dramatically improved ease of ABS Digimatic Indicator ID-C

The Nakatsugawa plant is in the central industrial park of beautiful Nakatsugawa city, in the Gifu prefecture. This plant specializes in manufacturing sensor products and handles the complete development-to-production cycle for measuring instruments such as dial gages, test indicators, Digimatic indicators, and bore gages. It was opened in 1997 as the 12th Mitutoyo plant in Japan. Using its state-of-the-art production techniques and facilities, this plant continues to provide Mitutoyo products that are praised around the world and used with confidence.



543-392B

ABSOLUTE®



543-472B

ABSOLUTE®



543-492B

ABSOLUTE®



ABS Digimatic indicator ID-C is a standard digital indicator. A large LCD incorporating 11mm characters (existing products: 8.5mm) is used to improve visibility, and three large, easy-to-press buttons are used in the design to make operations easier to perform. In addition, this affordable product has various measurement functions, including the ability to perform scaling calculations, judge tolerance, hold data, and perform general comparison measurements.

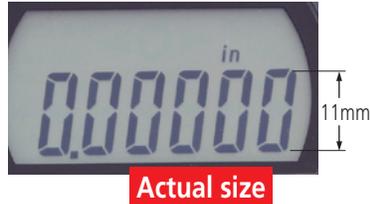
Examples of use



reading measurement values, usability and functionality

1. Large LCD

The large LCD incorporates 11mm characters giving 1.5 times the character area of existing products (which display 8.5mm characters) making measurement values much easier to read.



Actual size

2. Three large buttons

The popular three-large-button design, which is used in products such as the ABS coolant proof Digimatic indicator ID-N/ID-B, makes buttons easier to press and operations easier to perform.

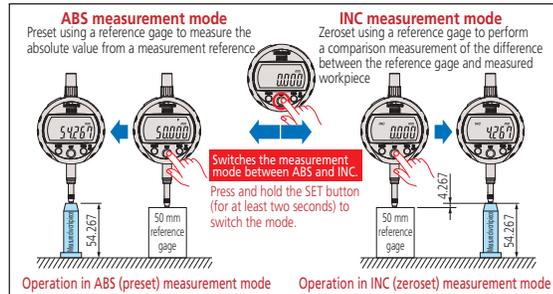


Parameter setting mode

Count direction switching, tolerance judgment setting, resolution switching, scale factor setting, and function lock setting

- Power switch
- Data output (when connected to an external device)
- Data hold (when no external device is connected)

- Switches between the ABS (preset) and INC (zeroset) measurement modes



3. Expanded lifting capability

The lifting function that moves the spindle up and down has been expanded to improve work efficiency when using the ID-C mounted on a stand.

For models that have a 12.7mm measuring range, a lifting lever (special accessory) can be mounted on the left or right side, improving work efficiency and smoothness of movement.



A lifting cable (special accessory) provides a maximum of approximately 25.4mm of spindle movement (twice that of existing models). So for models that have a 12.7mm or 25.4mm measuring range, the spindle can be moved through the entire measuring range. (Applied to models that have a 50.8mm measuring range, the spindle can be retracted by approximately 25.4mm from the extended position.)



Lifting knob (special accessory)



By using a lifting knob (special accessory) fitted to the top of the spindle, you can perform full-stroke operation without directly touching the spindle.

Lifting lever (finger hook)

Standard accessory (only for models that have a measuring range of 25.4mm or 50.8mm)

If dust or coolant gets into the gap between the spindle and main unit while using the lifting knob, the spindle travel may become rough or the indicator may fail altogether. Therefore avoid using the ID-C in environments containing dust or coolant mist.

4. Functions that support measurement

The ID-C has various functions, including the ability to hold data, output data, switch the measuring direction, judge tolerance, change the scale factor, and a lock to prevent misoperation. (For details, see page 6.)



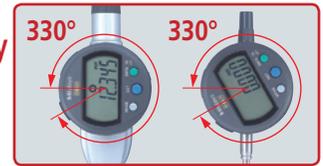
Measurement value and tolerance judgment



Enlarged display of the tolerance judgment result

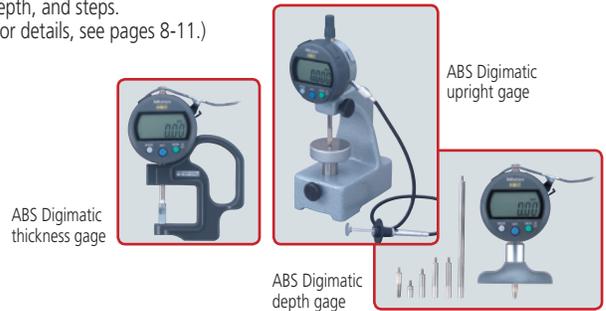
5. 330° rotary display

The display can be rotated 330°, allowing use at a position where you can easily read the measurement value.



6. Application products for one-touch quick measurement

Various application products are available that enable you to perform one-touch quick measurement of the thickness of small parts, papers, felt, lenses, and pipes, as well as the depth of narrow grooves on cylindrical workpieces, groove depth, and steps. (For details, see pages 8-11.)



7. The ABS (ABSOLUTE) sensor

The original Mitutoyo ABS (ABSOLUTE) sensor, which is capable of relocating the origin even after turning the power off, enables you to quickly start multi-point measurement. Also, the ABS measurement mode can be restored even after measurement in the INC mode, where zerosetting is possible at any position, improving work efficiency.



8. Inspection certificate provided as standard

Mitutoyo provides an inspection certificate that includes inspection data as standard to guarantee that every product shipped is of high quality and safe to use. Upon request, we can also calibrate purchased measuring instruments and issue a calibration certificate that proves traceability to national (or international) standards for a fee. To minimize calibration uncertainty as much as possible, both the inspection certificate and calibration certificate are issued after measurement using dedicated testers developed with advanced Mitutoyo measurement technologies. Note that the inspection certificate cannot be used to obtain a calibration certificate because the former does not indicate the date of purchase.



ABS Digimatic Indicator ID-C

SPECIFICATIONS

Inch/Metric ISO/JIS Type and ANSI/AGD Type

| Order No. | Measuring range | Accuracy**†1 | Hysteresis* | Repeatability* | Measuring force | Mass | Remarks | |
|--|-----------------|--------------|------------------|-----------------|-----------------|-----------------------------|---------|---------------------|
| Resolution .0005"/.0001"/.0005"/0.001mm/0.01mm | | | | | | | | |
| 543-391 | 543-391B | .5" | ±.00010"/0.003mm | .00010"/0.002mm | .00010"/0.002mm | 1.5N or less | 170g | — |
| 543-392 | 543-392B | .5" | ±.00010"/0.003mm | .00010"/0.002mm | .00010"/0.002mm | 1.5N or less | 170g | — |
| 543-395 | 543-395B | .5" | ±.00010"/0.003mm | .00010"/0.002mm | .00010"/0.002mm | 0.7, 0.6, 0.4N or less | 170g | Low measuring force |
| 543-396 | 543-396B | .5" | ±.00010"/0.003mm | .00010"/0.002mm | .00010"/0.002mm | 0.7, 0.6, 0.4N or less | 170g | Low measuring force |
| — | 543-471B | 1" | ±.00010"/0.003mm | .00010"/0.002mm | .00010"/0.002mm | 1.8N or less | 190g | — |
| — | 543-472B | 1" | ±.00010"/0.003mm | .00010"/0.002mm | .00010"/0.002mm | 1.8N or less | 190g | — |
| — | 543-491B | 2" | ±.00020"/0.005mm | .00010"/0.002mm | .00010"/0.002mm | 2.3N or less | 260g | — |
| — | 543-492B | 2" | ±.00020"/0.005mm | .00010"/0.002mm | .00010"/0.002mm | 2.3N or less | 260g | — |
| Resolution .0005"/0.01mm | | | | | | | | |
| 543-401 | 543-401B | .5" | ±.0010"/0.02mm | .0010"/0.02mm | .0005"/0.01mm | 0.9N or less | 170g | — |
| 543-402 | 543-402B | .5" | ±.0010"/0.02mm | .0010"/0.02mm | .0005"/0.01mm | 0.9N or less | 170g | — |
| 543-405 | 543-405B | .5" | ±.0010"/0.02mm | .0010"/0.02mm | .0005"/0.01mm | 0.5, 0.4, 0.3, 0.2N or less | 170g | Low measuring force |
| 543-406 | 543-406B | .5" | ±.0010"/0.02mm | .0010"/0.02mm | .0005"/0.01mm | 0.5, 0.4, 0.3, 0.2N or less | 170g | Low measuring force |
| — | 543-475B | 1" | ±.0010"/0.02mm | .0010"/0.02mm | .0005"/0.01mm | 1.8N or less | 190g | — |
| — | 543-476B | 1" | ±.0010"/0.02mm | .0010"/0.02mm | .0005"/0.01mm | 1.8N or less | 190g | — |
| — | 543-495B | 2" | ±.0015"/0.04mm | .0010"/0.02mm | .0005"/0.01mm | 2.3N or less | 260g | — |
| — | 543-496B | 2" | ±.0015"/0.04mm | .0010"/0.02mm | .0005"/0.01mm | 2.3N or less | 260g | — |

Metric ISO/JIS Type

| Order No. | Measuring range | Accuracy**†1 | Hysteresis* | Repeatability* | Measuring force | Mass | Remarks | |
|---------------------------|-----------------|--------------|-------------|----------------|-----------------|-----------------------------|---------|---------------------|
| Resolution 0.001mm/0.01mm | | | | | | | | |
| 543-390 | 543-390B | 12.7mm | 0.003mm | 0.002mm | 0.002mm | 1.5N or less | 170g | — |
| 543-394 | 543-394B | 12.7mm | 0.003mm | 0.002mm | 0.002mm | 0.7, 0.6, 0.4N or less | 170g | Low measuring force |
| — | 543-470B | 25.4mm | 0.003mm | 0.002mm | 0.002mm | 1.8N or less | 190g | — |
| — | 543-490B | 50.8mm | 0.005mm | 0.002mm | 0.002mm | 2.3N or less | 260g | — |
| Resolution 0.01mm | | | | | | | | |
| 543-400 | 543-400B | 12.7mm | 0.02mm | 0.02mm | 0.01mm | 0.9N or less | 170g | — |
| 543-404 | 543-404B | 12.7mm | 0.02mm | 0.02mm | 0.01mm | 0.5, 0.4, 0.3, 0.2N or less | 170g | Low measuring force |
| — | 543-474B | 25.4mm | 0.02mm | 0.02mm | 0.01mm | 1.8N or less | 190g | — |
| — | 543-494B | 50.8mm | 0.04mm | 0.02mm | 0.01mm | 2.3N or less | 260g | — |

□ : ANSI/AGD Type

Note) Products with an Order No. suffixed "B" have a flat back, and other models have a back with a lug.

* Overall hysteresis and repeatability specifications are valid for normal measurement at 20°C, and the quantizing error of ±1 count is excluded.

COMMON SPECIFICATIONS

- Display: 6-digit LCD, sign
- Contact point: Spherical tip SR = 1.5mm (carbide tipped), part No. 901312 (for ISO/JIS Type) part No. 21BZB005 (for ANSI/AGD Type)
- Spindle orientation for measurement:
 - Standard model that has a 12.7mm measuring range: No restrictions
 - Standard model that has a 25.4mm or 50.8mm measuring range: Normally at any position between the spindle pointing vertically downward to the spindle horizontal. To perform measurement with the spindle pointing above the horizontal requires a reverse-position coil spring (special accessory).
 - Low measuring force models: See 'Setting measuring force on low measuring force models' on page 5.
- Position detection method: Capacitance type absolute linear encoder
- Battery: SR44 (silver oxide button cell) × 1, part No. 938882
- Battery life: Approximately 7,000 hours of continuous use
- Maximum response speed: Not restricted (except for scanning measurement)
- Service temperature range: 0 to 40°C
- Storage temperature range: 0 to 60°C