MeasurLink® ENABLED Data Management Software by Mitutoyo

ABSOLUTE™

PROPRIETARY INSPECTION CERTIFICATE

ABSOLUTE Digimatic Indicator ID-CNX SERIES 543 — Standard Type

- Supports bidirectional communication between the **ID-C** and the computer, enabling data output to a computer and setting of various functions of **ID-C** from a computer.
- The ABS (absolute) scale restores the last origin position* automatically when the indicator is turned on, and realizes high reliability by eliminating over-speed errors.
- Tolerance judgment can be performed by setting upper and lower tolerance limits. The judgment result (GO/NO-GO) can be displayed in full-size characters.
- An analog bar indicator has been integrated to make upper/lower limit and turnover point reading more comfortable.
- Battery life of approx. 2.5 years under normal use has been achieved with only one battery.
- Equipped with a data output port that enables incorporation into measurement networking and statistical process control systems. (Refer to page A-3)

* Refer to "Origin Setting of Digimatic Indicators" on page F-25.

Measuring range 12.7 mm
543-700B

Low measuring force model
543-705B

Measuring range 25.4 mm
543-720B

Measuring range 50.8 mm
543-730B

• Large LCD

A large LCD with an analog bar graph to improve the readability of measurement values.

• Three large buttons

The ease of use has been greatly enhanced thanks to these three large buttons. The user can freely set any frequently used function to the buttons.

- 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

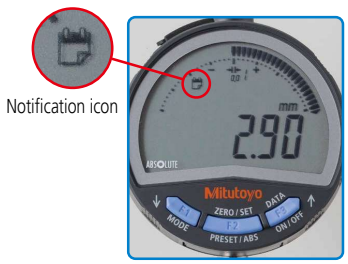
- Parameter setting mode
  Count direction switching, tolerance judgment setting, resolution switching, scale factor setting, and function lock setting
- inch/mm conversion (inch/mm type)

• 330° rotary display

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

• Calibration schedule warning

An icon is displayed on the LCD to notify the user of the set calibration schedule. This function facilitates the proper precision management of the measuring instrument.



The calibration schedule warning icon starts blinking at a set time (e.g. 1 week before the calibration date) before the limit. If the limit is exceeded, the entire screen starts blinking to notify the user.

Technical Data

- Display: 7-digit LCD, sign, and analog bar
- Battery: CR2032 (1 pc.) for initial operational checks (standard accessory)
- Battery life: Approx. 2,700 hours of continuous use. Approx. 2.5 years under normal use.

Note: Depends on use of the indicator. The above values are reference values.

- Maximum response speed: Unlimited (except for scanning measurement)

Functions

- Peak detection (MAX/MIN)
- Runout range measurement (MAX - MIN)
- Zero-setting (INC system)
- Presetting (ABS system)
- Measuring direction switching
- Tolerance judgment
- Resolution switching
  (For 0.0005 mm or 0.00002 inch resolution type)
- Simple calculation: f(x) =Ax
- Function Lock
- Calibration schedule warning
- Auto power ON/OFF
- Data output
- Display value holding
  (when no external device is connected)
- 330° rotary display
- Low battery/voltage alarm display
- Error alarm display

Optional Accessories

- Lifting
  Lifting lever:
  21EZA198 (12.7 mm/0.5 inch type)
  Lifting cable: **21JZA295**
  (stroke 12.7 mm: 12.7 mm/0.5 inch type)
  Lifting knob:
  21EZA105 (12.7 mm/0.5 inch type)*1
  21EZA197 (25.4 mm/1 inch type)
  21EZA200 (50.8 mm/2 inch type)
  Lifting lever: **21EAA426** (for measuring range: 25.4 and 50.8 mm)
  (supplied with 25.4 mm and 50.8 mm models as standard.)

*1 Not available for low measuring force models.

- Auxiliary spindle spring:
  02ACA571 (25.4 mm/1 inch type)*2
  02ACA773 (50.8 mm/2 inch type)*2

*2 Required when orienting the indicator upside down.

- SPC Cable:
  06AGL011 (1 m)
  06AGL021 (2 m)
- USB Input Tool Direct (2 m): **06AGQ001F**
- Input Tool Series
  IT-020U (USB Keyboard Signal Conversion Type):
  264-020
  IT-007R (RS-232C Communication Conversion Type):
  264-007
- Connecting Cables for **U-WAVE-T** (160 mm): **02AZG011**
  For foot switch: **02AZG021**
- Connecting unit for **U-WAVE-TM/TMB:**
  02AZF700 (12.7 mm/0.5 inch type)
- Digimatic Mini-Processor **DP-1VA LOGGER**: **264-505**
- Contact points for Mitutoyo's digimatic indicators
  (Refer to pages F-57 to F-60 for details.)
- Interchangeable backs for SERIES 2 models
  (Refer to page F-61 for details.)
- Measuring stands (Refer to pages F-84 to F-91 for details.)

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Spindle orientation for measurement

- Standard models with measuring range 12.7 mm: Usable in all orientations.
- Models with measuring range 25.4 or 50.8 mm: Usable between the contact point pointing downward and spindle in horizontal orientation. To use the contact point pointing upward, the auxiliary spindle spring (optional) is required.
- Low measuring force model: See "Setting measuring force on low measuring force models" below.

Setting measuring force on low measuring force models

The measuring force of models with low measuring force can be set by combining standard accessory springs and weights.

• 543-715(B)/716(B)/717(B)

Spindle orientation	Spring	Weight (approximately 0.1 N)	Maximum measuring force (N)
Pointing vertically downward	Yes	Yes	0.5 or less
	Yes	No	0.4 or less
	No	Yes	0.3 or less
	No	No	0.2 or less
Horizontal	Yes	No	0.3 or less

Note: Operation using configurations other than shown above is not guaranteed.

• 543-705(B)/706(B)/707(B)

Spindle orientation	Spring	Weight (approximately 0.1 N)	Maximum measuring force (N)
Pointing vertically downward	Yes	Yes	0.7 or less
	Yes	No	0.6 or less
	No	Yes	0.4 or less
	No	No	Not guaranteed

Note: Operation using configurations other than shown above is not guaranteed.

SPECIFICATIONS

Metric

ISO/JIS type ASME/ANSI/AGD type

Order No. w/lug	Order No. Flat back	Range (mm)	Resolution (mm)	Maximum permissible error MPE*1 (mm) MPE*3	Hysteresis MPEH	Repeatability MPER	Measuring force MPL (N)	Net mass (g) w/lug	Net mass (g) Flat back
543-700	**543-700B**	12.7	0.0005/ 0.001/0.01 (selectable)	0.003	0.002	0.002	1.5 or less	175	165
543-705*2	**543-705B***2						0.4 to 0.7	170	160
—	**543-720B**	25.4					1.8 or less	—	195
—	**543-730B**	50.8		0.005			2.3 or less	—	260
543-710	**543-710B**	12.7	0.01	0.02	0.02	0.01	0.9 or less	170	160
543-715*2	**543-715B***2						0.2 to 0.5	165	155
—	**543-725B**	25.4					1.8 or less	—	190
—	**543-735B**	50.8		0.04			2.3 or less	—	245

*1 These values apply at 20 °C.
*2 Low measuring force
*3 Error of indication for the total measuring range

Inch/Metric

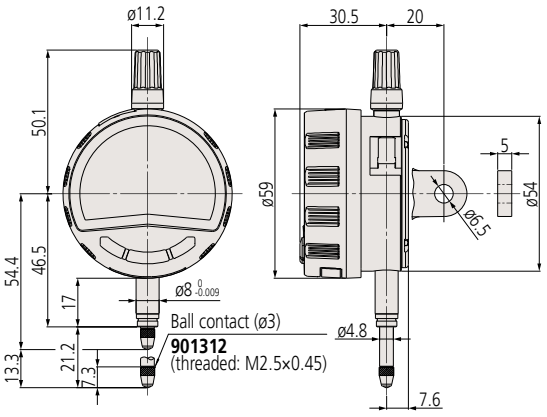
Order No. w/lug	Order No. Flat back	Range	Resolution	Maximum permissible error MPE*1 MPE*3	Hysteresis MPEH	Repeatability MPER	Measuring force MPL (N)	Net mass (g) w/lug	Net mass (g) Flat back
543-701	**543-701B**	0.5 in/ 12.7 mm	0.00002/ 0.00005/ 0.0001/ 0.0005 in	±0.00012 in /0.003 mm	0.00008 in /0.002 mm	0.00008 in /0.002 mm	1.5 or less	175	165
543-702	**543-702B**						1.5 or less	195	165
543-706*2	**543-706B***2						0.4 to 0.7	170	160
543-707*2	**543-707B***2						0.4 to 0.7	190	160
—	**543-721B**	1 in/ 25.4 mm	0.0005/ 0.001/ 0.01 mm (selectable)				1.8 or less	—	195
—	**543-722B**						1.8 or less	—	195
—	**543-731B**	2 in/ 50.8 mm		±0.0002 in /0.005 mm			2.3 or less	—	260
—	**543-732B**						2.3 or less	—	260
543-711	**543-711B**	0.5 in/ 12.7 mm	0.0005 in/ 0.01 mm	±0.001 in /0.02 mm	0.001 in /0.02 mm	0.0005 in /0.01 mm	0.9 or less	170	160
543-712	**543-712B**						0.9 or less	190	160
543-716*2	**543-716B***2						0.2 to 0.5	165	155
543-717*2	**543-717B***2						0.2 to 0.5	185	155
—	**543-726B**	1 in/ 25.4 mm					1.8 or less	—	190
—	**543-727B**						1.8 or less	—	190
—	**543-736B**	2 in/ 50.8 mm		±0.0015 in /0.04 mm			2.3 or less	—	245
—	**543-737B**						2.3 or less	—	245

*1 These values apply at 20 °C.
*2 Low measuring force
*3 Error of indication for the total measuring range

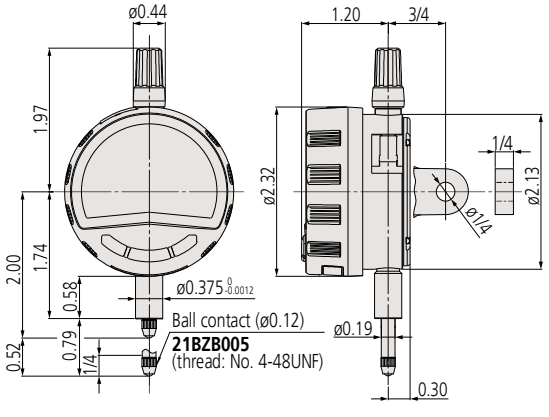
DIMENSIONS

12.7 mm range models

ISO/JIS Type Unit: mm



ASME/ANSI/AGD Type Unit: in



Note: Products with an Order No. suffixed "**B**" have a plain back, and other models have a center-lug back. Refer to page F-61 for details of the backs.

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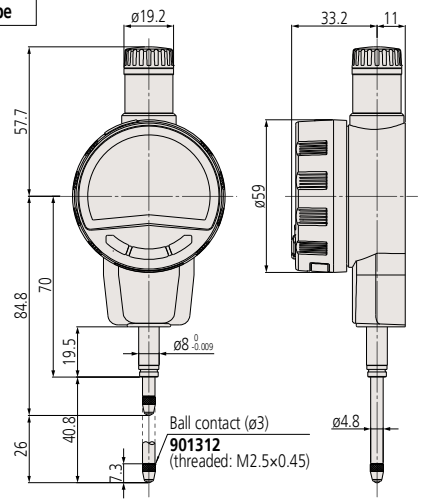
DIMENSIONS

25.4 mm range models

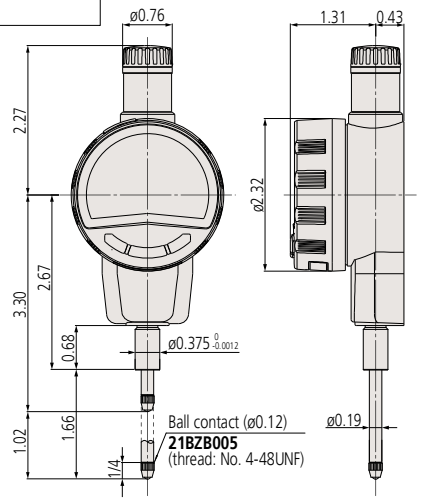
Unit: mm

Unit: in

ISO / JIS Type



ASME / ANSI / AGD Type

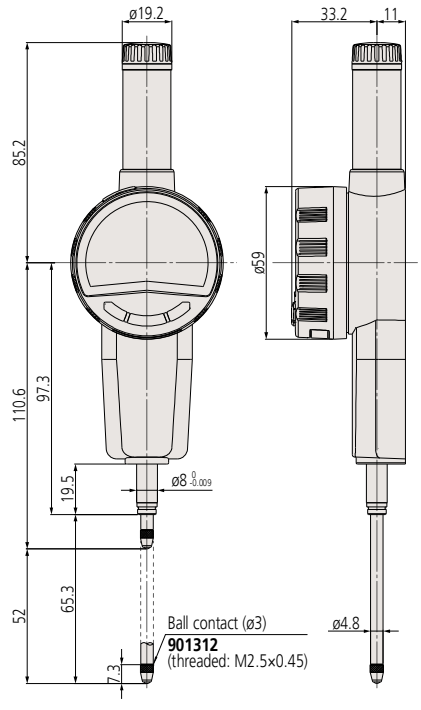


50.8 mm range models

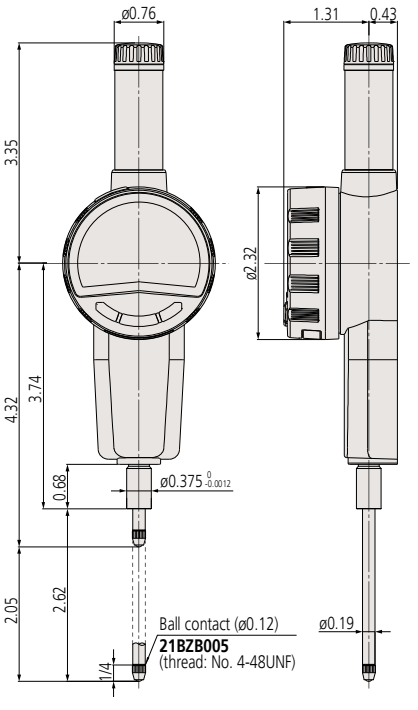
Unit: mm

Unit: in

ISO / JIS Type



ASME / ANSI / AGD Type



Note: Products with an Order No. suffixed "**B**" have a plain back, and other models have a center-lug back. Refer to page F-61 for details of the backs.