



## ABSOLUTE Digimatic Indicator ID-CNX (Digimatic S1 supported) SERIES 543 — Standard Type

- ID-C Series is a next-generation indicator with many new functions, including bidirectional communication support. With the addition of the appropriate data cable and software, remote zero setting and gage setting can all be implemented from a connected PC, thereby improving your work efficiency.
- The digital display and analog bar indications help you to intuitively read the approach to the origin and tolerance values.
- The next calibration due date can be set with an alarm to improve instrument management.
- 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.

- Equipped with a data output port that enables incorporation into measurement networking and statistical process control systems. (Refer to page 09-3)
- \* Refer to "Precautions for use" on page 07-2.



Measuring range  
12.7 mm  
**543-700B**

Measuring range  
25.4 mm  
**543-720B**

## SPECIFICATIONS

Metric ISO/JIS Type

Code No.		Range (mm)	Resolution (mm)	Maximum permissible error (MPE)*1 (mm)				Maximum permissible limit (MPL)	Mass (g)	
w/lug	Flat back			Partial measuring range $P_{MPE}$	Total measuring range $E_{MPE}$	Hysteresis $H_{MPE}$	Repeatability $R_{MPE}$		Measuring force (N)	w/lug
543-700	543-700B	12.7	0.0005/0.001/0.01 (selectable)	0.003	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	0.005	0.005	0.002	0.002	1.8 or less	—	195	
—	543-730B	50.8					2.3 or less	—	260	
543-710	543-710B	12.7	0.01	0.02	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	0.04	0.04	0.02	0.01	0.01	1.8 or less	—	190
—	543-735B	50.8						2.3 or less	—	245

Inch / Metric ISO/JIS Type

Code No.		Range	Resolution	Maximum permissible error (MPE)*3 (mm)				Maximum permissible limit (MPL)	Mass (g)	
w/lug	Flat back			Partial measuring range $P_{MPE}$	Total measuring range $E_{MPE}$	Hysteresis $H_{MPE}$	Repeatability $R_{MPE}$		Measuring force (N)	w/lug
543-701	543-701B	0.5 in/12.7 mm	0.00002/0.00005/0.0001/0.0005 in, 0.0005/0.001/0.01 mm (selectable)	0.003	0.003	0.002	0.002	1.5 or less	175	165
543-706*2	543-706B*2							0.4 to 0.7	170	160
—	543-721B	1 in/25.4 mm	0.005	0.005	0.002	0.002	0.002	1.8 or less	—	195
—	543-731B	2 in/50.8 mm						2.3 or less	—	260
543-711	543-711B	0.5 in/12.7 mm	0.0005 in/0.01 mm	0.02	0.02	0.02	0.01	0.9 or less	170	160
543-716*2	543-716B*2							0.2 to 0.5	165	155
—	543-726B	1 in/25.4 mm	0.04	0.04	0.02	0.01	0.01	1.8 or less	—	190
—	543-736B	2 in/50.8 mm						2.3 or less	—	245

Inch / Metric ASME/ANSI/AGD Type

Code No.		Range	Resolution	Maximum permissible error (MPE)*3 (in)			Maximum permissible limit (MPL)	Mass (g)	
w/lug	Flat back			Overall*4	Hysteresis	Repeatability		Measuring force (N)	w/lug
543-702	543-702B	0.5 in/12.7 mm	0.00002/0.00005/0.0001/0.0005 in, 0.0005/0.001/0.01 mm (selectable)	±0.00012	0.00008	0.00008	1.5 or less	195	165
543-707*2	543-707B*2						0.4 to 0.7	190	160
—	543-722B	1 in/25.4 mm	±0.00020	0.00010	0.00010	0.00005	1.8 or less	—	195
—	543-732B	2 in/50.8 mm					2.3 or less	—	260
543-712	543-712B	0.5 in/12.7 mm	0.0005 in/0.01 mm	±0.0010	0.0010	0.0005	0.9 or less	190	160
543-717*2	543-717B*2						0.2 to 0.5	185	155
—	543-727B	1 in/25.4 mm	±0.0015	0.0010	0.0005	0.0005	1.8 or less	—	190
—	543-737B	2 in/50.8 mm					2.3 or less	—	245

- Display: 7-digit display, sign, and analog bar
- Power source: CR2032 battery (1 pc.), included as standard (for operational checks)
- Battery life: Approx. 2,700 hours of continuous use. Approx. 2.5 years under normal use. (Depends on use of the indicator. The above values are reference values.)
- Response speed: Unlimited (except for scanning measurement)

\*1 These values apply to normal measurements at 20 °C (Resolution: 0.0005 mm, Calculation coefficient: A=1)

\*2 Low measuring force \*3 These values apply to normal measurements at 20 °C. \*4 Overall magnification and linearity

## Functions

- Peak detection (MAX/MIN)
  - Runout range measurement (MAX - MIN)
- Note: Peak detection
- 1) Sampling rate: 50 readings/s
  - 2) Capturing speed: 50 μm/s
- Zero-setting (INC system)
  - Presetting (ABS system)
  - Measuring direction switching
  - Tolerance judgment
  - Resolution switching (For 0.0005 mm or 0.0002 inch resolution type)
  - Simple calculation:  $f(x) = Ax$
  - Function Lock
  - Calibration schedule warning
  - Auto power OFF
  - Data output
  - Display value holding (when no external device is connected)
  - 330° rotary display
  - Low battery/voltage alarm display
  - Error alarm display

## Example of ID-CNX installed on optional bore gage



Note: Count direction setting, etc. is necessary when ID-CNX is used with a bore gage. Refer to the operation manual for details.

## 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.

Product catalog E12049



Video

