



ABSOLUTE Digimatic Indicator ID-CNX (Bidirectional Communication Supported) SERIES 543 — Standard Type

- ID-C Series is a next-generation indicator with various new functions, supporting bidirectional communication. 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 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 MPE _P	Total measuring range MPE _T	Hysteresis MPE _H	Repeatability MPE _R	Measuring force (N)		w/lug	Flat back
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						1.8 or less		—	195
—	543-730B	50.8		0.005	0.005			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						1.8 or less		—	190
—	543-735B	50.8		0.04	0.04			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 MPE _P	Total measuring range MPE _T	Hysteresis MPE _H	Repeatability MPE _R	Measuring force (N)		w/lug	Flat back
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						1.8 or less		—	195
—	543-731B	2 in/50.8 mm		0.005	0.005			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						1.8 or less		—	190
—	543-736B	2 in/50.8 mm		0.04	0.04			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	Flat back
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					1.8 or less	—		195	
—	543-732B	2 in/50.8 mm		±0.00020				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					1.8 or less	—		190	
—	543-737B	2 in/50.8 mm		±0.0015				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, Allowable value: 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)
- 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

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
Horizontal	No	No	0.2 or less
	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
Horizontal	No	No	Not guaranteed
	No	No	Not guaranteed

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

Product catalog
E12049



Video



Optional Accessories

Code No.	Type	Description
264-020	—	USB Input Tool Series USB Keyboard Signal Conversion Type IT-020U
06AGL011	SF	Connection cable (1 m)
06AGL021	SF	Connection cable (2 m)
06AGQ001F	SF	USB Input Tool Direct (2 m)
02AZG011	SF	Connection cable for U-WAVE-T (160 mm)
02AZG021	SF	Connection cable for U-WAVE-T For foot switch
264-622	IP67	U-WAVE-TM
264-623	Buzzer	U-WAVE-TM
02AZD810D	—	U-WAVE-R
264-626	IP67	U-WAVE-TMB
264-627	Buzzer	U-WAVE-TMB
02AZF700	—	Connecting unit for U-WAVE-TM/TMB (for ID-F/ID-C Series 12.7 mm/0.5 inch type only)
02AZF670	—	U-WAVE-TM/TMB mounting bracket: for Digimatic Indicators

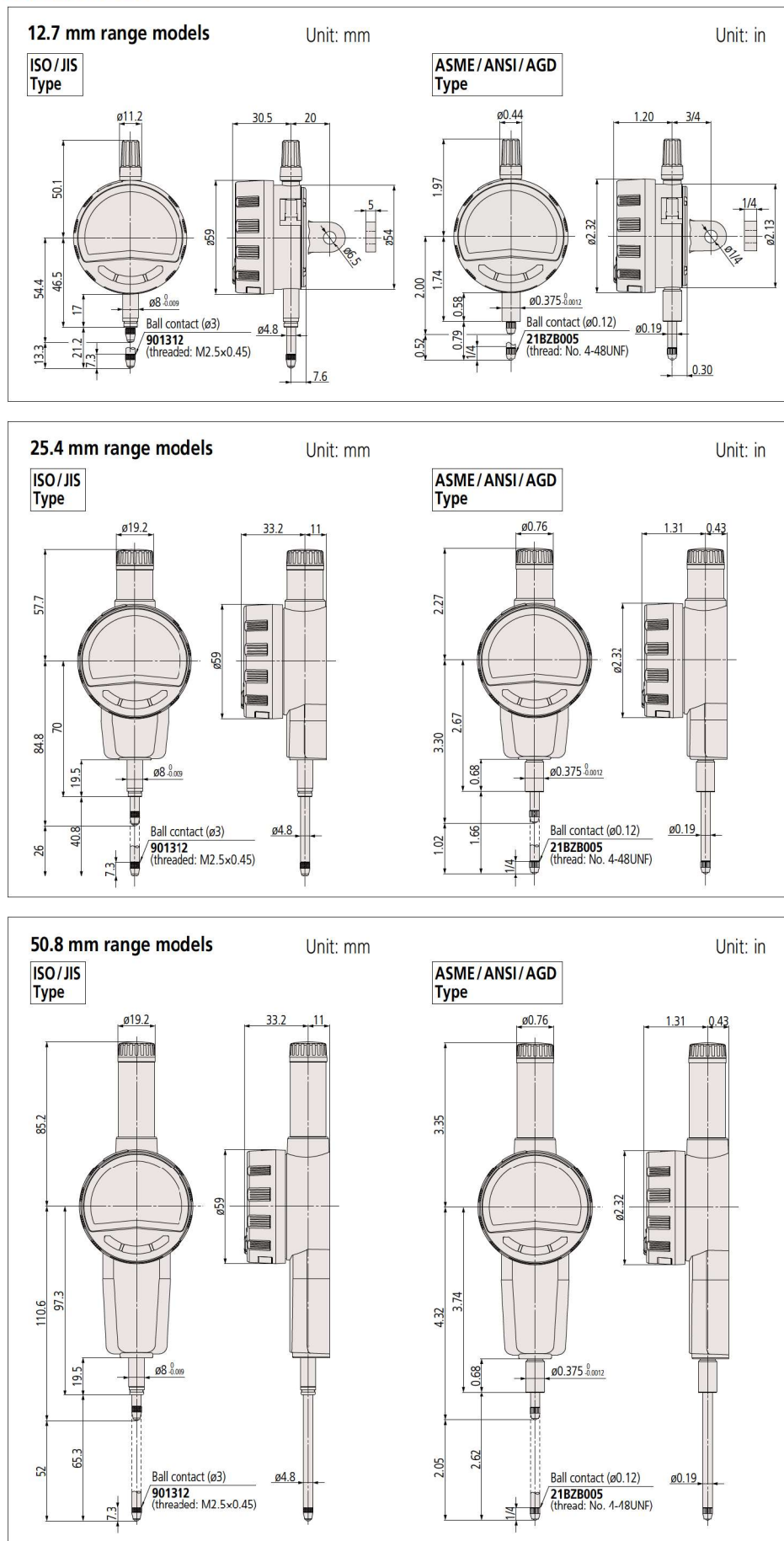
Connecting unit
fitted to an indicator
(12.7 mm type)

Typical application of
U-WAVE-TM/TMB mounting bracket
(with **543-725B**)



- 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
(This cannot be used on low measuring force model.)
With auto-stop function: **21JZA301** (overall length 300 mm) 12.7 mm/0.5 inch type
(This cannot be used on low measuring force model.)
- Lifting knob:
21EZA105 (12.7 mm/0.5 inch type)
(This cannot be used on low measuring force model.)
21EZA197 (25.4 mm/1 inch type)
21EZA200 (50.8 mm/2 inch type)
Lifting lever: **21EAA426**
(supplied with 25.4 mm and 50.8 mm models as standard.)
- Auxiliary spindle spring:
02ACA571 (25.4 mm/1 inch type*)
02ACA773 (50.8 mm/2 inch type*)
- *Required when orienting the indicator upside down.
- Measurement data collection software
USB-ITPAK V3.0: 06AGR543
- Contact points for Mitutoyo's Digimatic indicators (optional)
Refer to pages 07-63 to 07-68 for details.
- Interchangeable backs for **SERIES 2** models (optional)
Refer to page 07-69 for details.
- Measuring stands (optional)
Refer to pages 07-97 to 07-103 for details.

DIMENSIONS



Note: Products with a code No. suffixed "B" have a plain back, and other models have a center-lug back. Refer to page 07-69 for details of the backs.