

Indicators

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

- **ID-C** Series is a next-generation indicator with many 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 display and analog bar indications help you to intuitively read the approach to the origin and tolerance values.
- 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.



Measuring range
0.5 inch
543-702-02

Measuring range
1 inch
543-722B-02

- The next calibration due date can be set with an alarm to improve instrument management.
- Equipped with a data output port that enables incorporation into measurement networking and statistical process control systems. (Refer to the A section)

* Refer to "Precautions for use" on page F-2.

SPECIFICATIONS

Inch / Metric		ASME/ANSI/AGD Type							
Order No.		Range	Resolution	Accuracy (in)	Hysteresis	Repeatability	Measuring force (N)	Mass (g)	
w/lug	Flat back							w/lug	Flat back
543-702-02	543-702B-02	0.5 in/	0.00002/0.00005/	±0.00012	0.00008	0.00008	1.5 or less	195	165
543-707-02*	543-707B-02*	12.7 mm	0.0001/0.0005 in,				0.4 to 0.7	190	160
—	543-722B-02	1 in/25.4 mm	0.0005/0.001/				1.8 or less	—	195
—	543-732B-02	2 in/50.8 mm	0.01 mm (selectable)				±0.00020	2.3 or less	—
543-712-02	543-712B-02	0.5 in/	0.0005 in/0.01 mm	±0.0010	0.0010	0.0005	0.9 or less	190	160
543-717-02*	543-717B-02*	12.7 mm					0.2 to 0.5	185	155
—	543-727B-02	1 in/25.4 mm					1.8 or less	—	190
—	543-737B-02	2 in/50.8 mm					2.3 or less	—	245

Inch / Metric		ISO/JIS Type									
Order No.		Range	Resolution	Accuracy (mm)	Hysteresis H_{MPE}	Repeatability R_{MPE}	Measuring force (N)	Mass (g)			
w/lug	Flat back							w/lug	Flat back		
543-701-02	543-701B-02	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	0.002	0.002	1.5 or less	175	165		
543-706-02*	543-706B-02*			0.005			0.4 to 0.7	170	160		
—	543-721B-02						1 in/25.4 mm	1.8 or less	—	195	
—	543-731B-02						2 in/50.8 mm	2.3 or less	—	260	
543-711-02	543-711B-02	0.5 in/12.7 mm	0.0005 in/ 0.01 mm	0.02	0.02	0.01	0.9 or less	170	160		
543-716-02*	543-716B-02*						0.04	0.2 to 0.5	165	155	
—	543-726B-02							1 in/25.4 mm	1.8 or less	—	190
—	543-736B-02							2 in/50.8 mm	2.3 or less	—	245

Metric		ISO/JIS Type							
Order No.		Range (mm)	Resolution (mm)	Accuracy (mm)	Hysteresis H_{MPE}	Repeatability R_{MPE}	Measuring force (N)	Mass (g)	
w/lug	Flat back							w/lug	Flat back
543-700-02	543-700B-02	12.7	0.0005/ 0.001/0.01 (selectable)	0.003	0.002	0.002	1.5 or less	175	165
543-705-02*	543-705B-02*	25.4					0.4 to 0.7	170	160
—	543-720B-02	50.8					1.8 or less	—	195
—	543-730B-02	50.8	0.01	0.005	0.02	0.01	2.3 or less	—	260
543-710-02	543-710B-02	12.7					0.9 or less	170	160
543-715-02*	543-715B-02*	25.4					0.2 to 0.5	165	155
—	543-725B-02	50.8					1.8 or less	—	190
—	543-735B-02	50.8					2.3 or less	—	245

- Power source: CR2032 battery (1 pc.), included as standard
- 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.)

* Low Measuring force.

MeasurLink¹ ENABLED
Data Management Software by Mitutoyo

ABSOLUTE™



DIGIMATIC S1

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 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: 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.

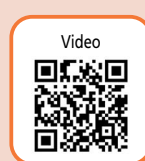
• 543-705(B)/706(B)/707(B)

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.



Refer to the Indicators Brochure (2340) for more details.



Video



DIMENSIONS

Optional Accessories

Order 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** (0.5 inch /12.7 mm type)
Lifting cable: **21JZA295** Stroke 12.7 mm: 0.5 inch /12.7 mm type
(This cannot be used on low measuring force model.)
With auto-stop function:
21JZA301 (overall length 300 mm) 0.5 inch /12.7 mm type
(This cannot be used on low measuring force model.)
Lifting knob: **21EZA105** (0.5 inch /12.7 mm type)
(This cannot be used on low measuring force model.)
21EZA197 (1 inch /25.4 mm type)
21EZA200 (2 inch /50.8 mm type)
Lifting lever: **21EAA426**
(supplied with 25.4 mm and 50.8 mm models as standard.)
- Auxiliary spindle spring:
02ACA571 (1 inch /25.4 mm type*)
02ACA773 (2 inch /50.8 mm type*)

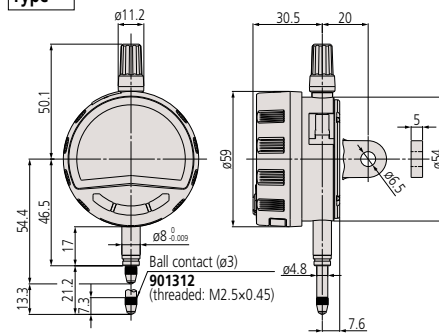
*Required when orienting the indicator upside down.

- Measurement data collection software
USB-ITPAK V3.0: 06AGR543
- Contact points for Mitutoyo's Digimatic indicators (optional)
Refer to pages F-63 to F-68 for details.
- Interchangeable back covers (optional)
Refer to pages F-69 to F-70 for details.
- Measuring stands (optional)
Refer to pages F-97 to F-103 for details.

12.7 mm range models

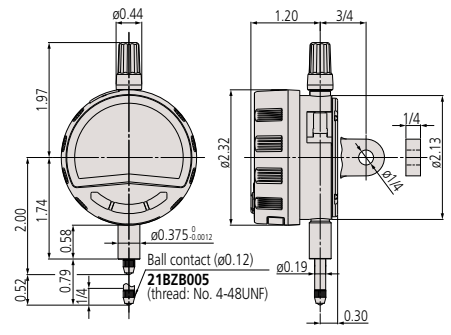
Unit: mm

ISO/JIS
Type



ASME/ANSI/AGD
Type

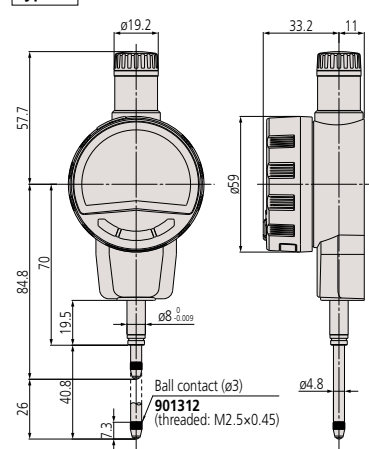
Unit: in



25.4 mm range models

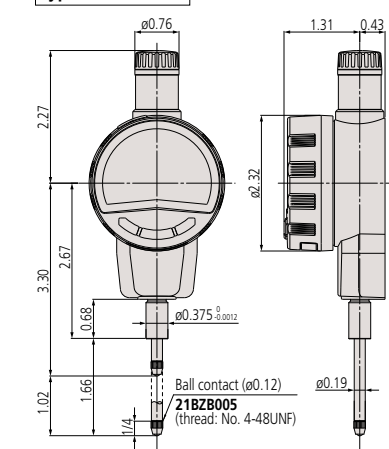
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ISO/JIS
Type



ASME/ANSI/AGD
Type

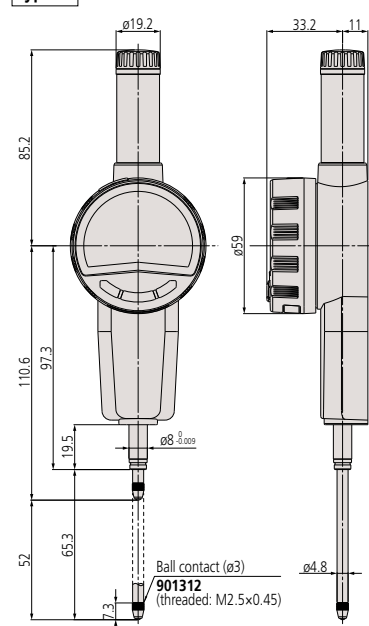
Unit: in



50.8 mm range models

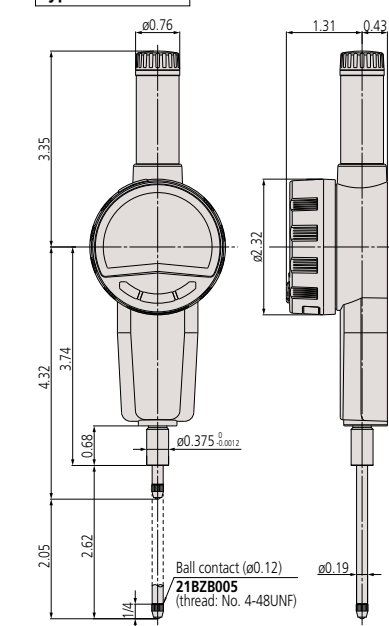
Unit: mm

ISO/JIS
Type



ASME/ANSI/AGD
Type

Unit: in



Note: Products with a Order No. suffixed "B" have a plain back, and other models have a center-lug back. Refer to pages F-69 to F-70 for details of the backs.