

Digimatic Indicators

Comparison measuring instruments which ensure high quality, high accuracy and reliability.

ABSOLUTE Digimatic Indicator ID-SX SERIES 543

MeasurLink¹ ENABLED
Data Management Software by Mitutoyo

- Cost-effective oriented design
ID-SX indicators use a button-type battery (SR44) and come with the minimum of functionality for ease of use. There is a choice of models in the lineup allowing selection of 0.01 mm, 0.001 mm or inch-based measurement resolutions.
- IP53 dust/water protection level
The models listed below also provide IP53 dust/water protection level specifications:
543-794/94B/95/95B/96/96B
- These Digimatic indicators employ Mitutoyo's proprietary ABS (absolute) scale, which makes it possible to restore the origin point even if the power is turned off. This eliminates the need to perform origin restoration each time the power is turned on. Furthermore, this scale ensures that overspeed errors do not occur, which improves reliability.
- Equipped with a data output port that enables incorporation into measurement networking and statistical process control systems. (Refer to page A-3)



543-781
ID-S1012X



543-790
ID-S112X



543-794
ID-S112PX



SPECIFICATIONS

Metric							ISO/JIS Type	ASME/ANSI/AGD type		
Order No.	Range (mm)	Resolution (mm)	Maximum permissible error*1 (mm)			Measuring force MPL (N)	Back type	Battery life*3	Net mass (g)	Dust/Water protection level*4
			MPE _E *2	Hysteresis MPE _H	Repeatability MPE _R					
543-790	12.7	0.001	0.003	0.002	0.002	1.5 or less	With lug	Approx. 18,000 hours (Continuous use)	150	IP42
543-790B							Flat		140	
543-794						2.5 or less	With lug	Approx. 5 years (Normal use)	150	IP53
543-794B							Flat		140	
543-781		0.01	0.02	0.02	0.01	1.5 or less	With lug	Approx. 20,000 hours (Continuous use) Approx. 5 years (Normal use)	155	IP42
543-781B	Flat						155			

Inch / Metric											
Order No.	Range	Resolution	Maximum permissible error* ¹			Measuring force MPL (N)	Back type	Battery life* ³	Net mass (g)	Dust/Water protection level* ⁴	
			MPE _E * ²	Hysteresis MPE _H	Repeatability MPE _R						
543-791	0.5 in / 12.7 mm	0.00005 in / 0.001 mm	±0.0001 in / 0.003 mm	0.0001 in / 0.002 mm	0.0001 in / 0.002 mm	1.5 or less	With lug	Approx. 18,000 hours (Continuous use) Approx. 5 years (Normal use)	150	IP42	
543-791B							Flat		140		
543-792							With lug		165		
543-792B							Flat		140		
543-793		0.0001 in / 0.001 mm	±0.0001 in / 0.003 mm	0.0001 in / 0.002 mm	0.0001 in / 0.002 mm	2.5 or less	With lug		165		
543-793B							Flat		140		
543-795							With lug		155		
543-795B							Flat		155		
543-796		0.00005 in / 0.001 mm	±0.0001 in / 0.003 mm	0.0001 in / 0.002 mm	0.0001 in / 0.002 mm	1.5 or less	With lug	155	IP53		
543-796B							Flat	155			
543-782		0.0005 in / 0.01 mm	±0.0010 in / 0.02 mm	0.0010 in / 0.02 mm	0.0005 in / 0.01 mm		With lug	Approx. 20,000 hours (Continuous use)		150	IP42
543-782B							Flat	Approx. 5 years (Normal use)		140	
543-783							With lug	165			
543-783B							Flat	140			

*1 These values apply at 20 °C.

*2 Error of indication for the total measuring range

*3 The battery life varies, depending on the number of times a Digimatic indicator is used as well as the way it is used.

The values listed above are approximations.

*4 This is only valid when the data socket cover is in place. Does not apply if the cover is removed, a lifting accessory is attached, or a connecting cable is attached.

Note: Regarding origin setting, refer to "Origin Setting of Digimatic Indicators" on page F-25.

Mitutoyo

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Products equipped with the measurement data output function can be connected to the measurement data network system MeasurLink (refer to page A-5 for details).

ABSOLUTETM



An inspection certificate is supplied as standard. Refer to page U-11 for details.

Technical Data

- Display: 6-digit LCD, sign
- Usable orientation: All
- Scale type: ABSOLUTE electrostatic linear encoder
- Battery: SR44 (1 pc.), **938882** for initial operational checks (standard accessory)
- Maximum response speed: No limit (except for scanning measurement)

Functions

- Origin set (Zero-setting)
- Direction switching
- Data output
- Low battery voltage alarm display
- Error alarm display

Optional Accessories

- Lifting
 - Lifting lever **21EZA198** (ISO/JIS Type), **21EZA199** (ASME/ANSI/AGD Type)
 - Lifting knob **21EZA105** (ISO/JIS Type), **21EZA150** (ASME/ANSI/AGD Type)
 - Lifting cable **21JZA295**
- SPC Cable:
 - 905338** (1 m)
 - 905409** (2 m)
 - (Refer to pages A-27 to A-29 for details.)
- USB Input Tool Direct (2 m): **06AFM380F**
- Note: Please separately purchase **USB-ITPAK** since there is no data output switch on the measurement instrument. Refer to pages A-13, A-22 to A-24 for details.
- Input Tool Series
 - IT-016U** (USB Keyboard Signal Conversion Type): **264-016-10**
 - IT-007R** (RS-232C Communication Conversion Type): **264-007**
 - (Refer to page A-14 for details.)
- Connecting Cables for **U-WAVE-T** (160 mm): **02AZD790F**
- For foot switch: **02AZE140F**
- (Refer to pages A-19 to A-21 for details.)
- Digimatic Mini-Processor **DP-1VA LOGGER**: **264-505**
- Contact points for Mitutoyo's dial indicators (Refer to pages F-57 to F-60 for details.)
- Interchangeable backs for 2 series (Refer to page F-61 for details.)
- Measuring stands (Refer to pages F-84 to F-91 for details.)

IP53 dust/water protection level*

Level 5: Dust protection

While complete protection against intrusion of dust is not provided, protection is adequate to prevent dust intrusion in amounts that would inhibit the prescribed operations and safety of the electronic equipment.

Level 3: Protection against spraying water

The product suffers no harmful effects when subjected to water sprayed at an angle of up to 60° on both sides.

For details on the dust/water protection level test conditions, refer to IEC 60529: 2001 and JIS C 0920: 2003.

* IP code is the degree of protection against the intrusion of solid foreign objects and water. Mitutoyo offers a lineup of coolant proof, **ID-N/B** indicators that have excellent resistance to oil, water and dust and so are suitable for use in environments that include splashing cutting fluid. (Refer to page F-10 for details.)

Dimensions

