

SPC

ABSOLUTE
Absolute System Patented by MITUTOYO



Technical Data

Accuracy: Refer to the list of specifications

Resolution:	0.01mm type	0.01mm
	0.001mm type*	0.001mm/0.01mm
	.0005"/0.01mm type	.0005"/0.01mm
	.00005"/0.001mm type*	.0005"/.0001"/.00005"/0.01mm/0.001mm

* Switchable resolution

Display: LCD

Length standard: ABSOLUTE electrostatic capacitance type linear encoder

Max. response speed: Unlimited

Measuring force: Refer to the list of specifications

Battery: SR44 (1 pc.), **938882**

Battery life: Approx. 7,000 hours under normal use

Dust/Water protection level: IP42

Inspection certificate is included

Function

Origin-set/Preset, Zero-set, go/no-go judgment, Counting direction switching, Power ON/OFF, Data output, inch/mm conversion (on inch/metric models only)

Alarm: Low voltage, Counting value composition error, Over-flow error, Tolerance limit setting error

Internal calculations using the simple formula of $[F(x) = Ax]$ are available.

Optional Accessories

905338: SPC cable (40" / 1m)

905409: SPC cable (80" / 2m)

21EZA198: Spindle lifting lever (ISO/JIS type)*

21EZA199: Spindle lifting lever (ANSI/AGD type)*

21EZA105: Spindle lifting knob (12.7mm/.5" ISO/JIS type)**

21EZA150: Spindle lifting knob (12.7mm/.5" ANSI/AGD type)**

21EZA197: Spindle lifting knob (25.4mm/1", 50.8mm/2" models)

21EZA200: Spindle lifting knob (50.8mm/2")

540774: Spindle lifting cable (stroke: 1" / 25.4mm)

02ACA571: Auxiliary spindle spring for 25mm/1" models***

02ACA773: Auxiliary spindle spring for 50mm/2" models***

—: Backs (See page F-33.)

—: Contact points (See page F-34.)

* Can be used on 12mm/.5" models only.

** Not available for low measuring force models.

*** Required when orienting gage upside down.

ABSOLUTE Digimatic Indicator ID-C

SERIES 543 — Standard Type

FEATURES

- Similar in size to Series 2 dial indicators.
- Large, easy-to-read LCD.
- Go/no-go judgment can be performed by setting upper and lower tolerance limits. The judgment result (go/no-go) can be displayed in full-size characters.
- The positive/negative count resulting from the spindle's up/down movement can be toggled.
- Internal calculations using the simple formula of $[F(x) = Ax]$ are available.
- Employing the ABSOLUTE linear encoder, the ID-C always displays the spindle "Absolute Position" from the origin at power-on. Also unlimited response speed eliminates over-speed errors.
- The ID-C indicator face can be rotated 330° to an appropriate angle for easy reading.
- With SPC data output.



Mitutoyo

SPECIFICATIONS

Inch/Metric		Stem dia. 3/8", #4-48 UNF Thread		ISO/JIS type	ANSI/AGD type		
Resolution	Range	Order No. (w/lug, flat-back)		Model	Accuracy	Measuring force	Remarks
.00005"/0.001mm*	.5" / 12.7mm	543-392	543-392B	ID-C112EXB	.0001"	1.5N or less	—
.00005"/0.001mm*	.5" / 12.7mm	543-396	543-396B	ID-C112CEX	.0001"	0.4N - 0.7N	Low measuring force
.00005"/0.001mm*	1" / 25.4mm	—	543-472B	ID-C125EXB	.0001"	1.8N or less	—
.00005"/0.001mm*	2" / 50.8mm	—	543-492B	ID-C150EXB	.0002"	2.3N or less	—
.0005"/0.01mm	.5" / 12.7mm	543-402	543-402B	ID-C1012EX	.001"	0.9N or less	—
.0005"/0.01mm	.5" / 12.7mm	543-406	543-406B	ID-C1012CEX	.001"	0.2N - 0.5N	Low measuring force
.0005"/0.01mm	1" / 25.4mm	—	543-476B	ID-C1025EXB	.001"	1.8N or less	—
.0005"/0.01mm	2" / 50.8mm	—	543-496B	ID-C112CEXB	.0016"	2.3N or less	—

* Switchable Resolution Type

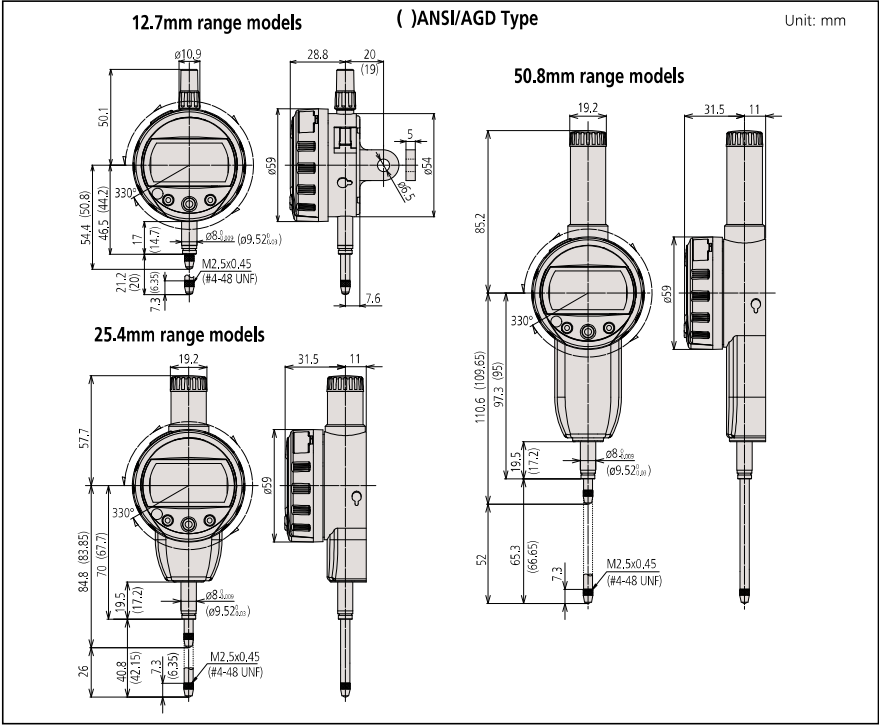
Inch/Metric		Stem ø 8mm, M2.5 x 0.45 Thread					
Resolution	Range	Order No. (w/lug, flat-back)		Model	Accuracy	Measuring force	Remarks
.00005"/0.001mm*	.5" / 12.7mm	543-391	543-391B	ID-C112MX	.0001"	1.5N or less	—
.00005"/0.001mm*	.5" / 12.7mm	543-395	543-395B	ID-C112CMX	.0001"	0.4N - 0.7N	Low measuring force
.00005"/0.001mm*	1" / 25.4mm	—	543-471B	ID-C125MXB	.0001"	1.8N or less	—
.00005"/0.001mm*	2" / 50.8mm	—	543-491B	ID-C150MXB	.0002"	2.3N or less	—
.0005"/0.01mm	.5" / 12.7mm	543-401	543-401B	ID-C1012MX	.001"	0.9N or less	—
.0005"/0.01mm	.5" / 12.7mm	543-405	543-405B	ID-C1012CMX	.001"	0.2N - 0.5N	Low measuring force
.0005"/0.01mm	1" / 25.4mm	—	543-475B	ID-C1025MXB	.001"	1.8N or less	—
.0005"/0.01mm	2" / 50.8mm	—	543-495B	ID-C1050MXB	.0016"	2.3N or less	—

* Switchable Resolution Type

Metric	Stem ø 8mm, M2.5 x 0.45 Thread						
Resolution	Range	Order No. (w/lug, flat-back)		Model	Accuracy	Measuring force	Remarks
0.001mm*	12.7mm	543-390	543-390B	ID-C112X	0.003mm	1.5N or less	—
0.001mm*	12.7mm	543-394	543-394B	ID-C112CX	0.003mm	0.4N - 0.7N	Low measuring force
0.001mm*	25.4mm	—	543-470B	ID-C125XB	0.003mm	1.8N or less	—
0.001mm*	50.8mm	—	543-490B	ID-C150XB	0.006mm	2.3N or less	—
0.01mm	12.7mm	543-400	543-400B	ID-C1012X	0.02mm	0.9N or less	—
0.01mm	12.7mm	543-404	543-404B	ID-C1012CX	0.02mm	0.2N - 0.5N	Low measuring force
0.01mm	25.4mm	—	543-474B	ID-C1025XB	0.03mm	1.8N or less	—
0.01mm	50.8mm	—	543-494B	ID-C1050XB	0.04mm	2.3N or less	—

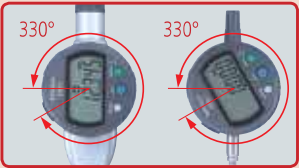
* Switchable Resolution Type

DIMENSIONS



330° Rotary display

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



Calculation: f(x) = Ax

Mounting the ID-C on a measuring jig and setting the multiplying factor A (to any value) allows direct measurement without using a conversion table and improves measurement efficiency.



Application example

Function locking

Ensures reliability of measurement by locking the settings to prevent preset function settings from being changed by mistake.



Setting measuring force on low measuring force models.

•543-404/404B/405/405B/406/406B

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

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

•543-394/394B/395/395B/396/396B

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

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