



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. 5,000 hours under normal use

Dust/Water protection level: IP42 or IP53 (dust-proof type)

Function

Origin-set/Preset, Zerose, GO/±NG 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

- As compact as standard Series 2 dial indicators.
- Large, easy-to-read LCD.
- GO/±NG judgment can be performed by setting upper and lower tolerance limits. The judgment result (GO/±NG) 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.



543-392



543-402



543-472B



543-492B

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	—

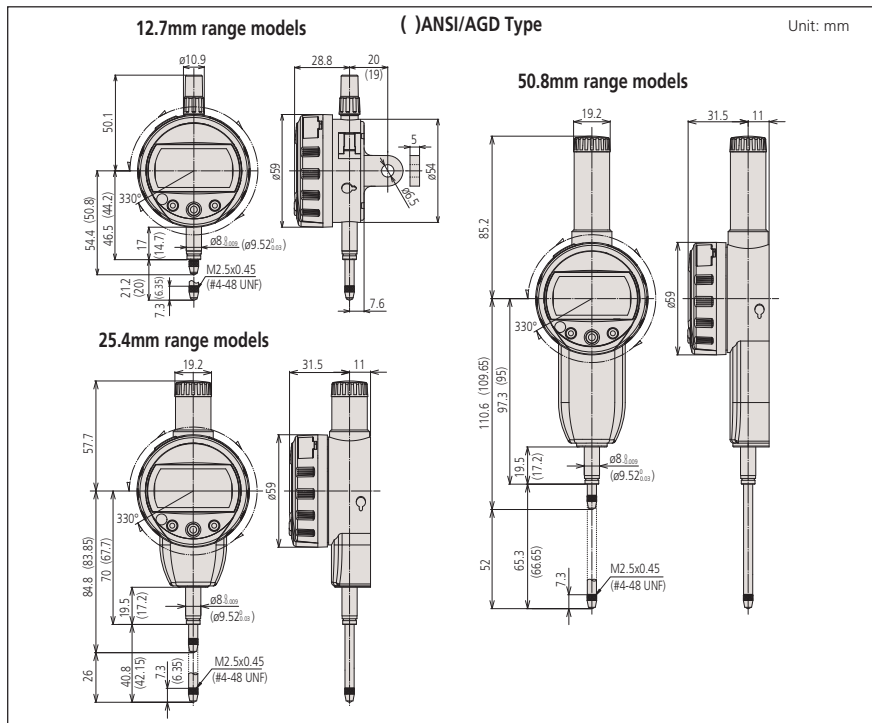
* Switchable Resolution Type

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	—

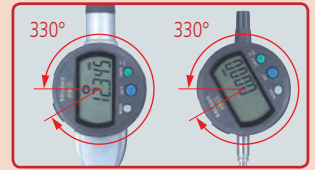
* Switchable Resolution Type

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.



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.



Technical Data

Accuracy: Refer to the list of specifications
 Resolution: 0.0002mm - 1mm or .00001" - .05"/0.0002mm - 1mm
 Display: LCD
 Length standard: ABSOLUTE electrostatic capacitance type linear encoder
 Max. response speed: Unlimited
 Measuring force: 1.5N or less
 Battery: SR44 (1 pc.), **938882**
 Battery life: Approx. 12 months under normal use

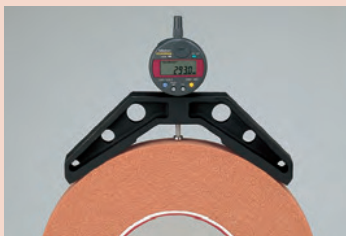
Function

Origin-set/Pre-set, Zerose, GO/±NG 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

Optional Accessories

- 905338:** SPC cable (40" / 1m)
- 905409:** SPC cable (80" / 2m)
- 902011:** Spindle lifting lever (ISO/JIS type)
- 540774:** Spindle lifting cable (Stroke: .4" / 10mm)
- : Backs (See page F-33.)
- : Contact points (See page F-34.)

APPLICATIONS



- Various fixtures suited for individual workpieces can be prepared.
- Measuring accuracy is subject to fixture accuracy

ABSOLUTE Digimatic Indicator ID-C

SERIES 543 — Calculation Type

FEATURES

A conventional Digimatic indicator simply displays a spindle displacement, but the Calculation-Type Digimatic indicator incorporates an internal calculation function in place of spindle displacement. With fixtures, measurements such as feeler, inside diameter and radius of curvature measurement can easily be obtained without the hassle of conversion tables or equivalents.

- The Absolute Digimatic indicator performs internal calculations using the formula $Ax+B+Cx^{-1}$ (assuming spindle displacement as x) while the specified coefficients A, B and, C can be set with respect to the purpose of measurement or dimensions of the fixtures. This unique features allows you to read your measurements directly, without fumbling for conversions.



543-287B

SPECIFICATIONS

ISO/JIS type ANSI/AGD type

Inch/Metric Stem dia. 3/8" #4-48 UNF Thread

Resolution	Range	Order No.*	Model	Accuracy	Measuring Force
.00001" - .05"/ 0.0002 - 1mm	.5" / 12.7mm	543-287B	ID-C 112REB	.00012"	1.5N or less
(switchable)	1" / 25.4mm	543-482B	ID-C 125REB	.00012"	2.0N or less
	2" / 50.8mm	543-487B	ID-C 150REB	.00025"	2.3N or less

Inch/Metric Stem ø 8mm, M2.5 x 0.45 Thread

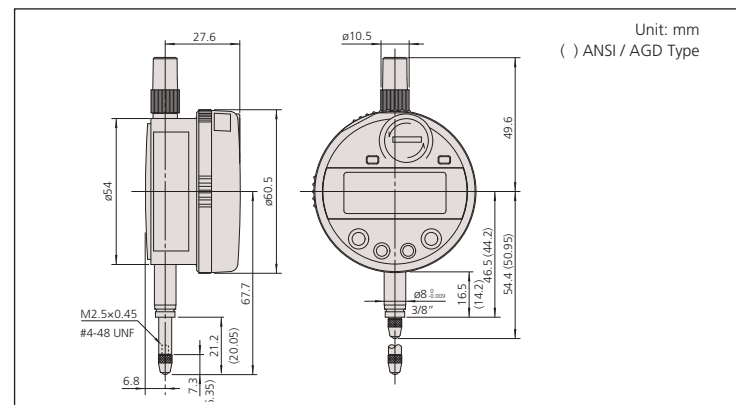
Resolution	Range	Order No.*	Model	Accuracy	Measuring Force
.00001" - .05"/ 0.0002 - 1mm	.5" / 12.7mm	543-286B	ID-C 112RMB	.00012"	1.5N or less
(switchable)	1" / 25.4mm	543-481B	ID-C 125RMB	.00012"	2.0N or less
	2" / 50.8mm	543-486B	ID-C 150RMB	.00025"	2.3N or less

Metric Stem ø 8mm, M2.5 x 0.45 Thread

Resolution	Range	Order No.*	Model	Accuracy	Measuring Force
0.0002 - 1mm (switchable)	12.7mm	543-285B	ID-C 112RB	0.003mm	1.5N or less
	25.4mm	543-480B	ID-C 125RB	0.003mm	2.0N or less
	50.8mm	543-485B	ID-C 150RB	0.006mm	2.3N or less

*Flat back

DIMENSIONS



ABSOLUTE Digimatic Indicator ID-C

SERIES 543 — with Green/Red LED and GO/NG Signal Output Function



ABSOLUTE
Absolute System Patented by MITUTOYO

FEATURES

- With the max./min. value holding function, the signal ID-C can output the signal of the GO/±NG judgment result against the peak values set. Substitute for the mechanical/electrical contact, the judgment is carried out by calculating the measurement data obtained. This provides high reliability with no deterioration of the contact point and volume adjustment.
- The signal can be output to an external device like a sequencer through the NPN open-collector.
- The GO/±NG judgment result is also indicated by the green/red LED and the "<, O, >" signs on LCD.
- Employing the ABSOLUTE linear encoder, the Signal ID-C always displays the spindle "Absolute Position" from the origin at power-on.
- The Signal ID-C achieves the IP54 protection level to resist dust and contaminants for safe operation in harsh machine shop environments.



543-282

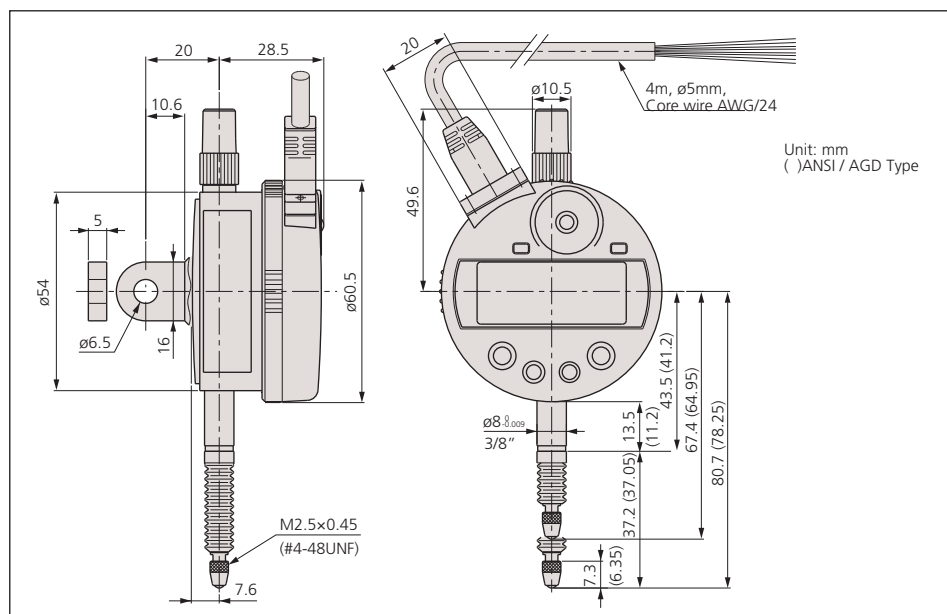
SPECIFICATIONS

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
.00005"/0.001mm	.5" / 12.7mm	543-282	543-282B	ID-C112JE	.00012" / 2.0N or less
.0005"/0.01mm	.5" / 12.7mm	543-283	543-283B	ID-C112JT	.00012" / 2.0N or less

Inch/Metric		Stem ø 8mm, M2.5 x 0.45 Thread		ISO/JIS type	ANSI/AGD type
Resolution	Range	Order No. (w/ lug, flat-back)	Model	Accuracy	Measuring force
.00005"/0.001mm	.5" / 12.7mm	543-281	543-281B	ID-C112JM	.00012" / 2.0N or less

Metric		Stem ø 8mm, M2. x 0.45 Thread		ISO/JIS type	ANSI/AGD type
Resolution	Range	Order No. (w/ lug, flat-back)	Model	Accuracy	Measuring force
0.001mm	12.7mm	543-280	543-280B	ID-C112J	0.003mm / 2.0N or less

DIMENSIONS



Technical Data

Accuracy: Refer to the list of specifications
 Resolution: 0.001mm, .00005"/0.001mm or .0001"/0.001mm
 Display: LCD
 Length standard: ABSOLUTE electrostatic capacitance type linear encoder
 Max. response speed: Unlimited
 Measuring force: 2.0N or less
 Power supply: DC 12 - 24V±10%
 Dust/Water protection level: IP54

Function

Data output (-NG/OK/NG signal, NPN open collector), Remote control (hold-preset, preset-recall, zero-set), Origin-set/Preset, Zeroret, GO/±NG judgment, Max/Min/Runout value holding, Counting direction switching, Power ON/OFF, inch/mm conversion (on inch/metric models only)
 Alarm: Low voltage, Counting value composition error, Over-flow error, Tolerance limit setting error

Optional Accessories

- 902011:** Spindle lifting lever* (ISO/JIS type)
- 902794:** Spindle lifting lever* (ANSI/AGD type)
- 540774:** Spindle lifting cable* (Stroke: .4" / 10mm)
- 125317:** Rubber boot
- : Backs (See page F-33.)
- : Contact points (See page F-34.)

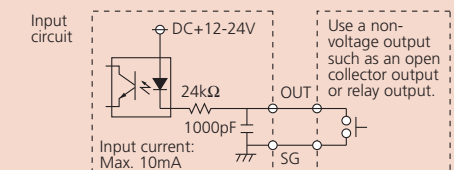
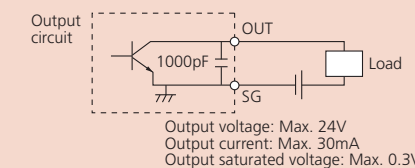
*When using the spindle lifting lever/cable, IP54 is not guaranteed.

Output pattern

Wire	- NG	OK	+ NG	Composition error
Orange (- NG)	Low	High	High	High
Green (OK)	High	Low	High	High
Brown (+ NG)	High	High	Low	High
LED	Red	Green	Red	Red (blinking)
LCD	<	O	>	"x.xxE" indication

I/O Specifications

Wire	Signal	I/O	Description
Black	- V (GND)	—	Connected to minus (-) terminal
Red	+ V (GND)	I	Power supply (12 - 24VDC)
Orange	- NG	O	Tolerance judgment result output: Only the terminal corresponding to a judgment result is set to the below level.
Green	OK	O	
Brown	+ NG	O	
Yellow	PRESET_RECALL ZERO	I	External input terminal: If the relevant terminal is set to the low level, its signal becomes true.
Blue	HOLD_RESET	I	
Shield	FG	—	Connected to GND





Technical Data

Accuracy: Refer to the list of specifications
 Resolution: 0.001mm, .00005"/0.001mm or .0001"/0.001mm
 Display: LCD
 Length standard: ABSOLUTE electrostatic capacitance type linear encoder
 Max. response speed: Unlimited
 Measuring force: 1.5N or less
 Battery: SR44 (2 pcs.), **938882**
 Battery life: Approx. 800 - 1300 hours under normal use
 Dust/Water protection level: IP42

Function

Origin-set/Preset, Zeraset, GO/±NG judgment, Max/Min/Runout value holding, 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

Optional Accessories

- 905338:** SPC cable (40" / 1m)
- 905409:** SPC cable (80" / 2m)
- 902011:** Spindle lifting lever (ISO/JIS type)
- 902794:** Spindle lifting lever (ANSI/AGD type)
- 540774:** Spindle lifting cable (stroke: .4" / 10mm)
- _____: Backs (See page F-33.)
- _____: Contact points (See page F-34.)

ABSOLUTE Digimatic Indicator ID-C

SERIES 543 — with Max./Min. Value Holding Function

With max./min. value holding function model of the ID-C Series Digimatic Indicators.

FEATURES

- The maximum, minimum, or runout value can be displayed during measurement.
- GO/±NG judgment is performed by setting the upper and lower tolerances for max., min. and runout values.
- High speed sampling ratio of 50 times/s.
- Employing the ABSOLUTE linear encoder, the Signal ID-C always displays the spindle "Absolute Position" from the origin at power-on.



SPECIFICATIONS

ISO/JIS type ANSI/AGD type

Inch/Metric		Stem dia. 3/8" #4-48 UNF Thread		
Resolution	Range	Order No.*	Model	Accuracy
.00005"/0.001mm	.5" / 12.7mm	543-262	ID-C112AE	.00012"
.0001"/0.001mm	.5" / 12.7mm	543-263	ID-C112AT	.00012"

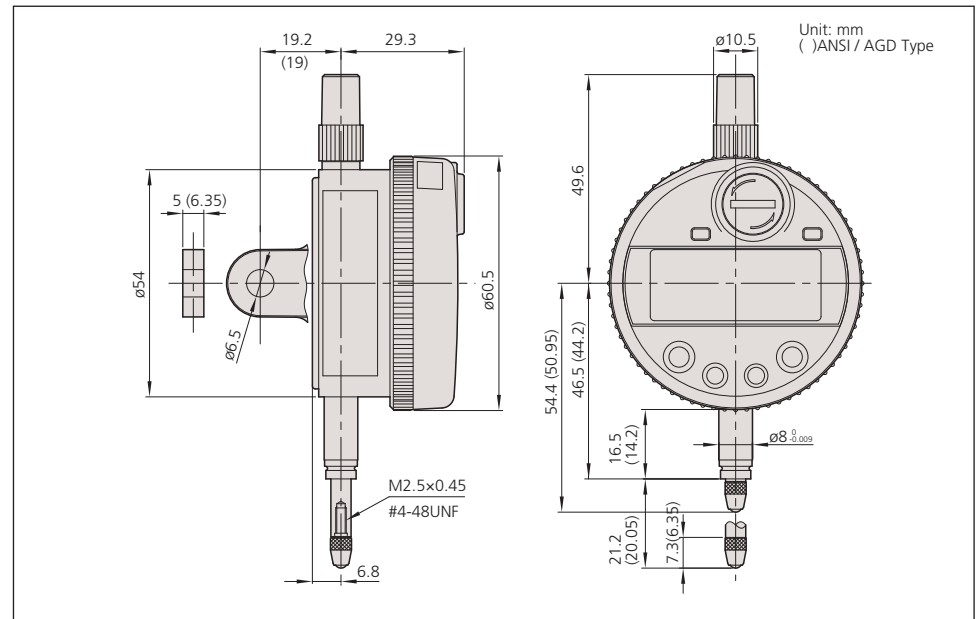
Inch/Metric		Stem ø 8mm, M2.5 x 0.45 Thread		
Resolution	Range	Order No.*	Model	Accuracy
.00005"/0.001mm	.5" / 12.7mm	543-261	ID-C112AM	.00012"

*Back with lug

Metric		Stem ø 8mm, M2.5 x 0.45 Thread		
Resolution	Range	Order No.*	Model	Accuracy
0.001mm	12.7mm	543-260	ID-C112A	0.003mm

*Back with lug

DIMENSIONS



ABSOLUTE Digimatic Indicator ID-C

SERIES 543 — Specially Designed for Bore Gage Application

This ID-C Series Digimatic Indicators are exclusively designed for ID measurement.

FEATURES

- The minimum value holding function provides the easy of detection of hole diameter.
- An analog bar indicator is integrated to enhance the intuition in reading.
- GO/±NG judgment is performed by setting the upper and lower tolerances.
- Up to three sets of master value and upper/lower tolerance value can be memorized.
- Employing the ABSOLUTE linear encoder, the Signal ID-C always displays the spindle "Absolute Position" from the origin at power-on.



543-266B

SPECIFICATIONS

ISO/JIS type ANSI/AGD type

Inch/Metric Stem dia. 3/8" #4-48 UNF Thread

Resolution	Range	Order No.*	Model	Accuracy
.00005"/0.001mm	.5" / 12.7mm	543-266B	ID-C112GE	.00012"
.0001"/0.001mm	.5" / 12.7mm	543-267B	ID-C112G	.00012"

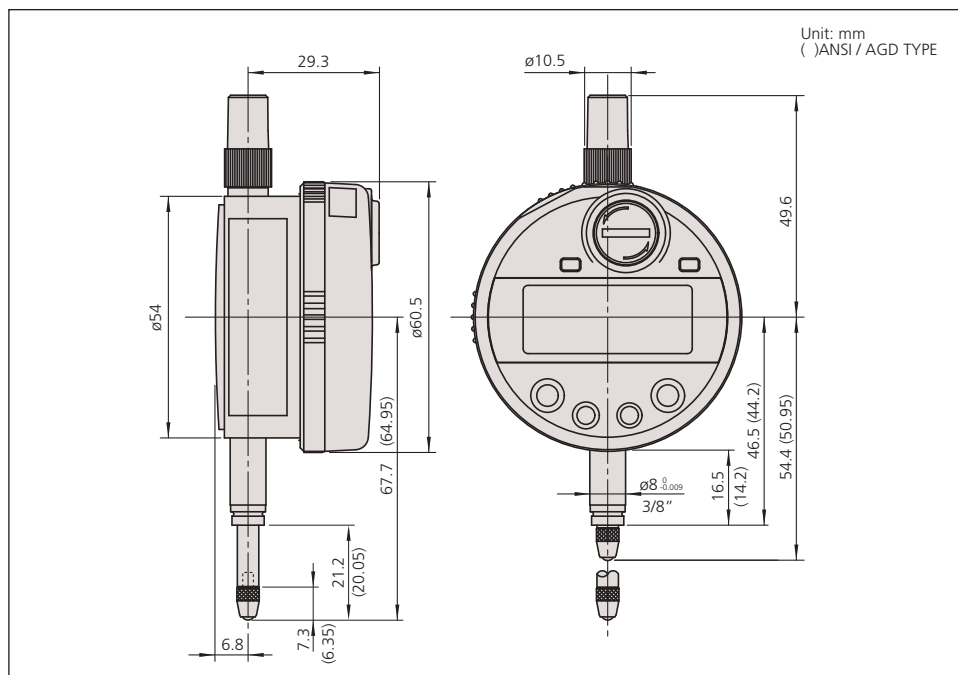
*Back with lug

Metric Stem \varnothing 8mm, M2.5 x 0.45 Thread

Resolution	Range	Order No.*	Model	Accuracy
0.001mm	12.7mm	543-264B	ID-C112G	0.003mm

*Back with lug

DIMENSIONS



Technical Data

Accuracy: Refer to the list of specifications
 Resolution: 0.001mm or .00005"/0.001mm
 Display: LCD
 Length standard: ABSOLUTE electrostatic capacitance type linear encoder
 Max. response speed: Unlimited
 Measuring force: 1.5N or less
 Battery: SR44 (2 pcs.), **938882**
 Battery life: Approx. 2000 hours under normal use
 Dust/Water protection level: IP42

Function

Origin-set/Preset, Zero-set, GO/±NG judgment, 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

Optional Accessories

905338: SPC cable (40" / 1m)
905409: SPC cable (80" / 2m)
 Applicable Gages Series 511 and 526



Installed on bore gage probe (511-127)