Mitutoyo

Mitutoyo Quality

Small Tool Instruments and Data Management

High-performance ABS Digimatic Indicators
ID-C/ID-F

Catalog No.E12049(2)

High-performance ABS Digimatic Indicator

ID-C/ID-F

NEW Products

New-generation ID series making measurement operations smoother and enhancing production quality

Bidirectional serial communication that helps increase work efficiency

Meeting the need for more precise measurements

A wide range of support functions for smoother measurement work

ID-C Series

*The ID-C series does not have illuminated backlighting.

ID-F Series

When tolerance judgment result indicates failure

Enabling more precise measurement

0.5 µm resolution

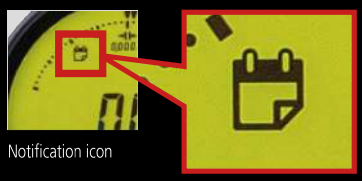
The ID-C and ID-F ranges now include models with 0.0005 mm resolution. The units are also capable of resolution switching.*

*Except for the ID-C 0.01 mm resolution model

Avoid missing a pending calibration

Calibration period notification function

The LCD displays an icon to notify the user when the set calibration time approaches. This facilitates the proper precision management of ID-C/ID-F.



Notification icon

The calibration period notification icon starts blinking at a set time before calibration is due (e.g. 1 week before the calibration date). If the deadline is exceeded, the entire screen starts blinking to notify the user.

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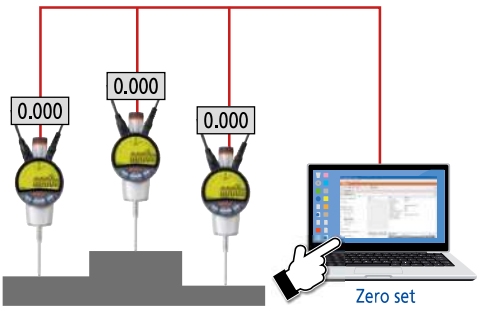
The first Mitutoyo measuring tools to support bidirectional serial communication. Dramatically improve work efficiency by connecting and linking with a PC.

The ID-C/ID-F units are Mitutoyo's first measuring tools to support bidirectional serial communication.* They can be easily connected and linked with a PC via a USB input tool, etc., and in addition to conventional measurement data collection, they also enable control and setting of the ID-C/ID-F units, collection of gauge information, and other operations to be performed in batch from the PC. This contributes to drastic improvement in work efficiency.

*Achieved through I/F compatible with an original bidirectional serial communication specification (Digimatic S1). ▶ See P.6 for details.

● An optional cable and measurement data input unit are required for bidirectional serial communication. ● USB-ITPAK V3.0 must be installed on the PC used for communication.



Function example (1) Control of ID-C/ID-F from PC

New model
(ID-C/ID-F + USB-ITPAK V3.0)

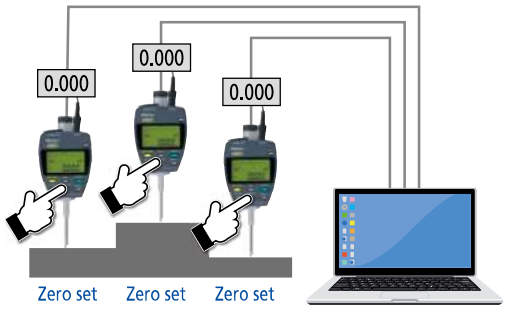
- Batch zero setting and power ON/OFF operation, etc. of multiple ID-C/ID-F units is made possible by use of the dedicated software "USB-ITPAK."

Function example (2) Measuring instrument setting

New model
(ID-C/ID-F + USB-ITPAK V3.0)

- Various functions of ID-C/ID-F units can be set from USB-ITPAK.
- The contents of various function settings can be saved on a PC, and the same settings can be copied to other ID-C/ID-F units.

➡ **Reduced work time for setting**



Old model
(Old ID-C/ID-F + USB-ITPAK V2.1)

- For older ID-C/ID-F units that do not support bidirectional serial communication, zero setting must be performed individually on each unit.

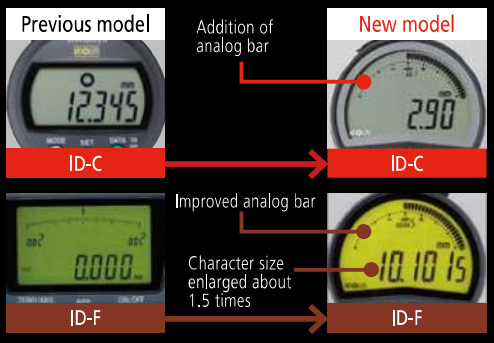
Old model
(Old ID-C/ID-F + USB-ITPAK V2.1)

- Since bidirectional serial communication is not supported, function setting from a PC is not possible.

Improved work efficiency thanks to excellent readability

Large screen and analog bar

The units have large screens that can display various information in an easy-to-read manner. They also have an analog bar, convenient for observing subtle movements such as the approach to tolerance.



Setting of frequently used functions for easy operation

Three large buttons

Ease of use is greatly improved by three large buttons. You can freely set any frequently used functions to these buttons.

1 Parameter setting mode
- Counting direction switching
- Tolerance judgment function setting • Resolution switching
- Calculation function setting • Function lock setting

2 Switching between ABS length measurement system (presetting) and INC length measurement system (zero setting)

3 Power ON/OFF
- Data output (when connected to an external device)
- Data hold (when not connected to an external device)

Improved measurement work efficiency

Simple calculation function

The result of the spindle movement value multiplied by the calculation coefficient can be displayed in real time. This reduces the work of measuring with a jig or similar tool.

$$f(x) = Ax$$

f(x): Displayed value
x: Spindle movement value
A: Selected value

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ID-C Series

543-700
ID-C0512NX

543-702B
ID-C0512ENXB

543-710B
ID-C1012NXB

543-717
ID-C1012CENX

543-720B
ID-C0525NXB

543-722B
ID-C0525ENXB

543-730B
ID-C0550NXB

543-737B
ID-C1050ENXB

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SPECIFICATIONS

Metric

ISO/JIS type ASME/ANSI/AGD type

Order No.		Range (mm)	Resolution (mm)	Maximum permissible error MPE*1 (mm)			Measuring force MPL (N)	Inter-face	Net mass(g)	
w/ lug	Flat back			MPE_E*3	Hysteresis MPE_H	Repeatability MPE_R			W/lug	Flat back
543-700	543-700B	12.7	0.0005/0.001/0.01(selectable)	0.003	0.002	0.002	1.5 or less	d1/d2/S1	175	165
543-705*2	543-705B*2						0.4 to 0.7	d1/d2/S1	170	160
—	543-720B	25.4					1.8 or less	d1/d2/S1	—	195
—	543-730B	50.8		0.005			2.3 or less	d1/d2/S1	—	260
543-710	543-710B	12.7	0.01	0.02	0.02	0.01	0.9 or less	d1/S1	170	160
543-715*2	543-715B*2						0.2 to 0.5	d1/S1	165	155
—	543-725B	25.4					1.8 or less	d1/S1	—	190
—	543-735B	50.8		0.04			2.3 or less	d1/S1	—	245

*1 These values apply at 20 °C.
*2 Low measuring force
*3 Error of indication for the total measuring range

Inch/Metric

Order No.		Range	Resolution	Maximum permissible error MPE*1			Measuring force MPL (N)	Inter-face	Net mass(g)	
w/ lug	Flat back			MPE_E*3	Hysteresis MPE_H	Repeatability MPE_R			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)	±0.00012 in/ 0.003 mm	0.00008 in/ 0.002 mm	0.00008 in/ 0.002 mm	1.5 or less	d1/d2/S1	175	165
543-702	543-702B						1.5 or less	d1/d2/S1	195	165
543-706*2	543-706B*2						0.4 to 0.7	d1/d2/S1	170	160
543-707*2	543-707B*2						0.4 to 0.7	d1/d2/S1	190	160
—	543-721B	1 in/ 25.4 mm					1.8 or less	d1/d2/S1	—	195
—	543-722B						1.8 or less	d1/d2/S1	—	195
—	543-731B	2 in/ 50.8 mm		±0.0002 in/ 0.005 mm			2.3 or less	d1/d2/S1	—	260
—	543-732B						2.3 or less	d1/d2/S1	—	260
543-711	543-711B	0.5 in/ 12.7 mm	0.0005 in/ 0.01 mm	±0.001 in/ 0.02 mm	0.001 in/ 0.02 mm	0.0005 in/ 0.01 mm	0.9 or less	d1/S1	170	160
543-712	543-712B						0.9 or less	d1/S1	190	160
543-716*2	543-716B*2						0.2 to 0.5	d1/S1	165	155
543-717*2	543-717B*2						0.2 to 0.5	d1/S1	185	155
—	543-726B	1 in/ 25.4 mm					1.8 or less	d1/S1	—	190
—	543-727B						1.8 or less	d1/S1	—	190
—	543-736B	2 in/ 50.8 mm		±0.0015 in/ 0.04 mm			2.3 or less	d1/S1	—	245
—	543-737B						2.3 or less	d1/S1	—	245

*1 These values apply at 20 °C.
*2 Low measuring force
*3 Error of indication for the total measuring range

Common Specifications

	12.7 mm/0.5 in models	Low measuring force models*1	25.4 mm/1 in, 50.8 mm/2 in models
Display	7 segements height: 11.0 mm, Analog bar (±20 scale)		
Display rotation	330 °		
Protection level*2	Equivalent to IP-42		
Posssible plunger direction	All directions	0.0005 mm models: Plunger downward only 0.01 mm models: Up to direction in which plunger is horizontal	Up to direction in which plunger is horizontal
Power supply	Lithium metal battery CR2032 (1pc.)		
Battery life*3	Approx. 2.5 years (normal use), Approx. 2,700 hours(continuous use)		
Detection method	Electrostatic capacitance type absolute linear encoder		
Response speed	No limit		
Errors, Alarms	Various setting errors, Sensor error, Diplay overflow, etc.		
Operating temperature	0 to 40 °C		
Storage temperature	-10 to 60 °C		

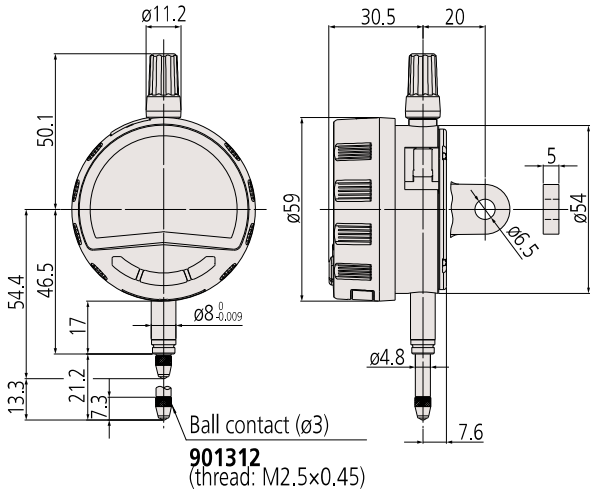
*1: See the order numbers with an asterisk 2 (*2) in the table above.
*2: Protection level (IP=International Protection) is based on IEC 60529/DIN40050 Part 1/JIS D0207, C0920. The levels shown are valid for factory conditions only.
*3: When the data processor is not connected. Battery life depends on use of the indicator. Use the above value as a guide.

DIMENSIONS

12.7 mm range models

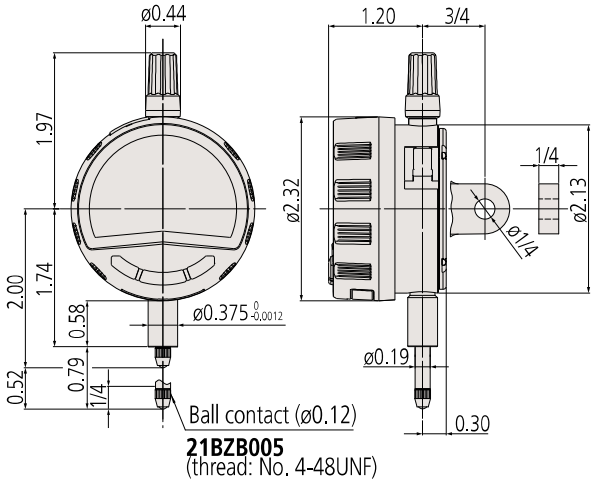
ISO/JIS Type

Unit: mm



ASME/ANSI/AGD Type

Unit: in

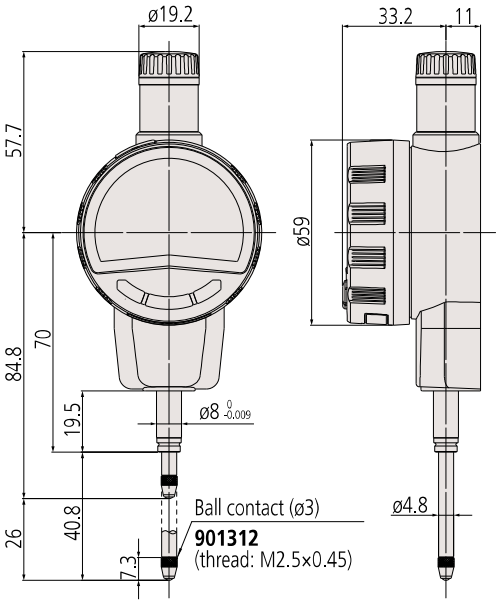


Note: Products with an Order No. suffixed "**B**" have a flat back, and other models have a center-lug back.

25.4 mm range models

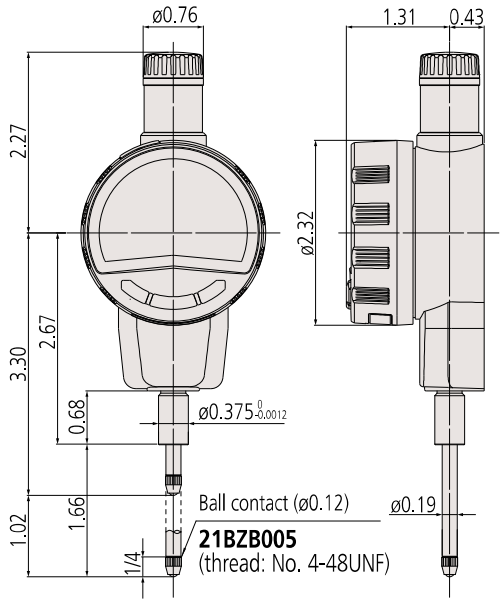
ISO/JIS Type

Unit: mm



ASME/ANSI/AGD Type

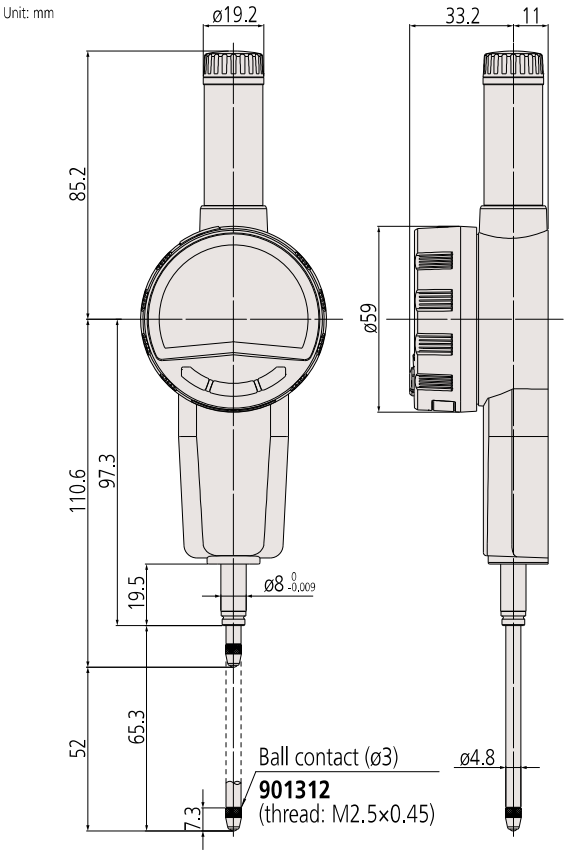
Unit: in



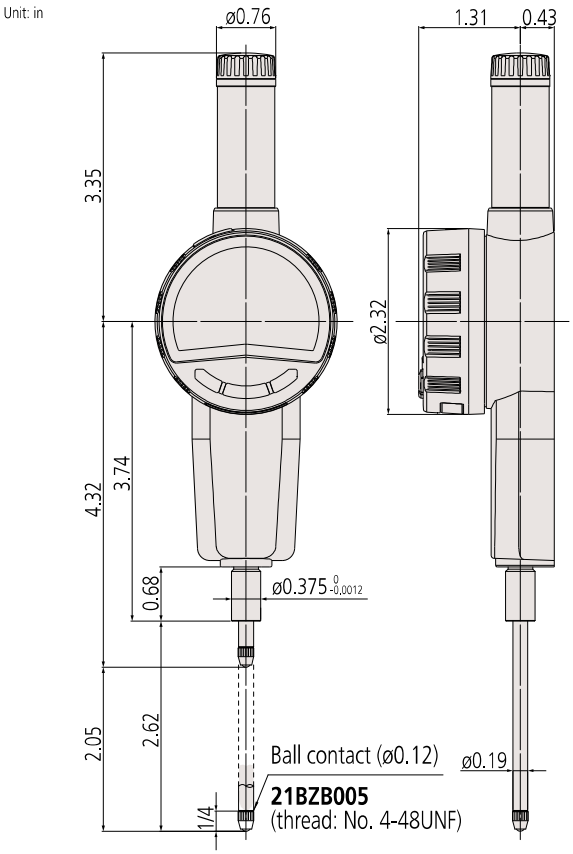
Note: All products have a flat back.

50.8 mm range models

ISO/JIS Type



ASME/ANSI/AGD Type



Note: All products have a flat back.

Comparison of functions

	ID-C Series	ID-F Series
Preset	✓	✓
Zero set	✓	✓
Peak detection (Max, Min, TIR)	✓	✓
Unit system switching*1	✓	✓
Counting direction switching	✓	✓
Resolution selecting	✓*2	✓
Tolerance judgment	✓	✓
Simple calculation	✓	✓
Analog bar display ON/OFF	✓	✓
Analog bar scale selecting	✓	✓
Key customize	✓	✓
Function lock	✓	✓
Calibration schedule warning function	✓	✓
Auto OFF	✓	—
Reset all settings	✓	✓

*1: in/mm models only
*2: Except 0.01 mm/0.0005 in models