Mitutoyo

High-performance ABS Digimatic Indicator

ID-F

Small Tool Instruments and Data Management



NEW Products

Mitutoyo

Enhance Your Measu

High-Performance ABS Digimatic Indicator

ID-F

NEW Products

Some distinct changes are noticeably obvious when looking at this new version of the well-known ID-F indicators from Mitutoyo. The adaptation of these new features really express the true value of these top of the line indicators to manufacturers seeking high-efficiency and quality.



Measuring range 25.4 mm

Order No. 543-852



Measuring range 50.8 mm

Order No. 543-854

rement Operations

Main functions & features

Supports bidirectional communication to help increase work efficiency

Enables bidirectional communication between the ID-F and computers to easily perform operations such as ID-F batch setting and measurement data collection. This reduces the time and effort required for measurement preparation and data processing.

High-precision measurement capabilities

The maximum digital step is 0.5 µm (0.0005 mm). With an error of indication for the total measuring range corresponding to 0.0025 mm, this indicator can be used in high-precision applications.

External power supply for continuous use

Thanks to the external power supply, there is no battery to replace. With an external power supply (AC adapter) this indicator series is perfect for long-term tests or monitoring.

Smooth operation via exceptional functions

ID-F models feature a wide range of functions, including simple calculation, peak detection, data hold, data output, and counting direction switching functions.



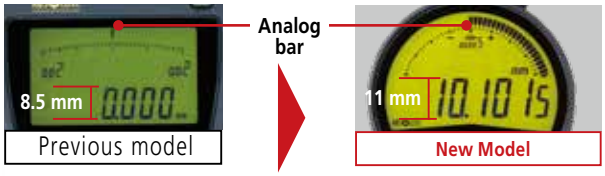
Main functions

Enhanced work efficiency thanks to superior readability

Large characters and analog bar

Digit and analog bar height* has been increased to improve readability.

*Display unit in mm: Excludes the last digit
Display unit in inch: Applies to all digits

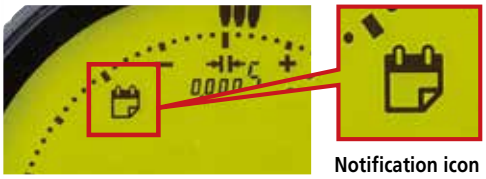


The height of the characters has been increased by about 1.5 times, making them even more visible than the previous model. The analog bar has also been made larger to increase readability.

Never miss a calibration

Calibration schedule warning function

An icon is displayed on the LCD to notify the user of the set calibration schedule. This function facilitates the proper precision management of the measuring instrument.



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

Frequently used functions can be set to the buttons for easy operation

Three large buttons

The ease of use has been greatly enhanced thanks to these three large buttons. Users can preset any frequently used function to the buttons for easy operation.



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

2 Switching between ABS measurement system (preset) and INC measurement system (zero set)

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

Understand tolerance judgment results at a glance

Color backlight display

Built-in tolerance judgment function that shows the judgment result with the lighting color. Staff with no special training can now easily carry out GO/NG work.



Easy to read values in every situation

330° rotary mechanism

The face can be rotated to a wide degree to maintain the ease of use and readability of the screen even when the ID-F is used horizontally or at an angle.



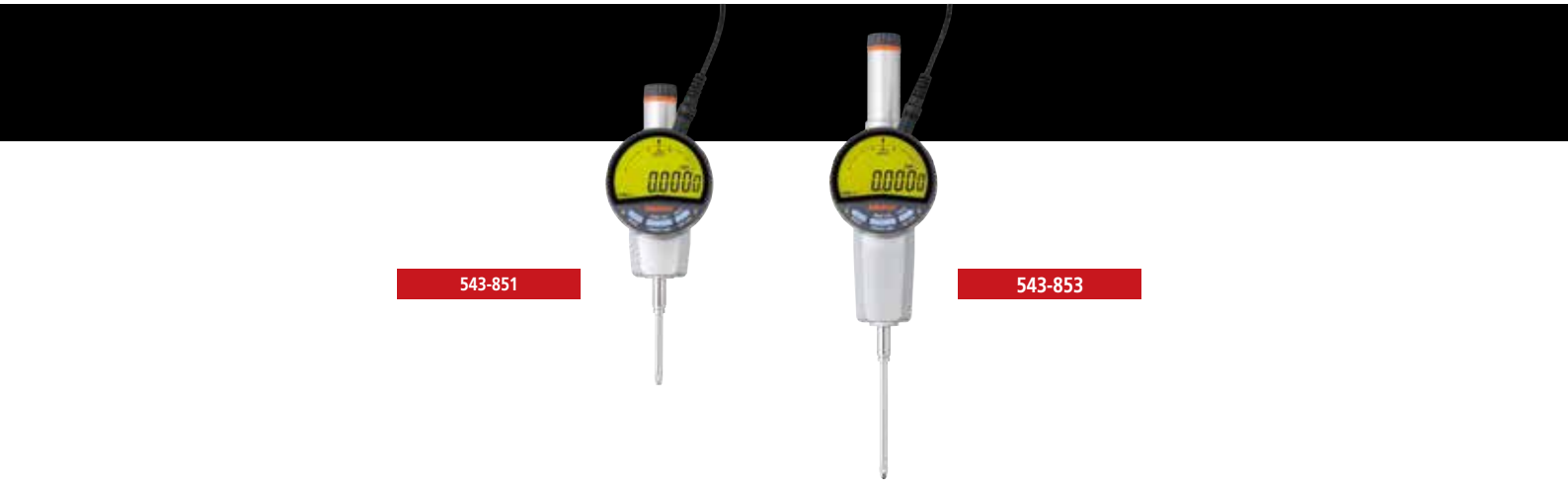
Enhanced measurement work efficiency

Simple calculation function

The result of the spindle movement value multiplied by a calculation coefficient can be displayed in real-time. This prevents additional work when measuring while using jigs or other similar tools.

$$f(x)=Ax$$

f(x): Displayed value
x: Spindle movement value
A: Any coefficient



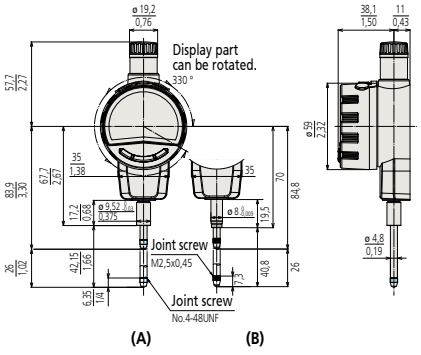
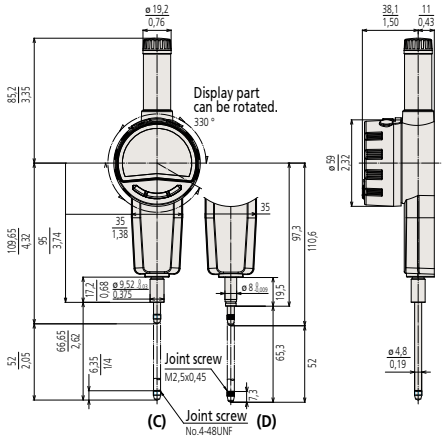
543-851

543-853

Order No.		543-851	543-853	543-857	543-852	543-854	543-858
Units		mm			mm/inch		
Range		25,4 mm	50,8 mm		25,4 mm/1 in	50,8 mm/2 in	
Digital step		0,0005 mm			0,0005 mm/0,00002 in		
Digital step switching		0,0005/0,001/0,01 mm			0,005/0,001/0,01 mm 0,00002/0,00005/0,0001/0,0005/0,001 in		
Maximum permissible error (MPE)	E MPE *1	0,0025 mm	0,004 mm	0,003 mm	0,0025 mm/±0,0001 in	0,004 mm/±0,0002 in	0,003 mm/±0,00012 in
	Hysteresis (H MPE)	0,002 mm			0,002 mm/0,0001 in		
	Repeatability (R MPE)	0,002 mm			0,002 mm/0,0001 in		
Response speed		Unlimited					
Measuring force (MPL)		≤1,8 N	≤2,3 N		≤1,8 N	≤2,3 N	
Interface		DIGIMATIC d1/d2/S1					
Power Supply		AC adapter (5,9V)					
Net mass		240 g	330 g		240 g	330 g	

*1 Error of indication for the total measuring range (EMPE)

- Measures Max., Min., and TIR (amplitude (Max - Min) values. (Peak detection speed: 500 times/s)
- This product is compatible with all Mitutoyo dial indicator contact points having the appropriate thread.

Order No.	543-851 · 543-852	543-853 · 543-854 · 543-857 · 543-858
Dimensions		
	(A) 543-852 (B) 543-851	(C) 543-854, 543-858 (D) 543-853, 543-857

Data communication functions & accessories

Easy connection to a computer for increased efficiency

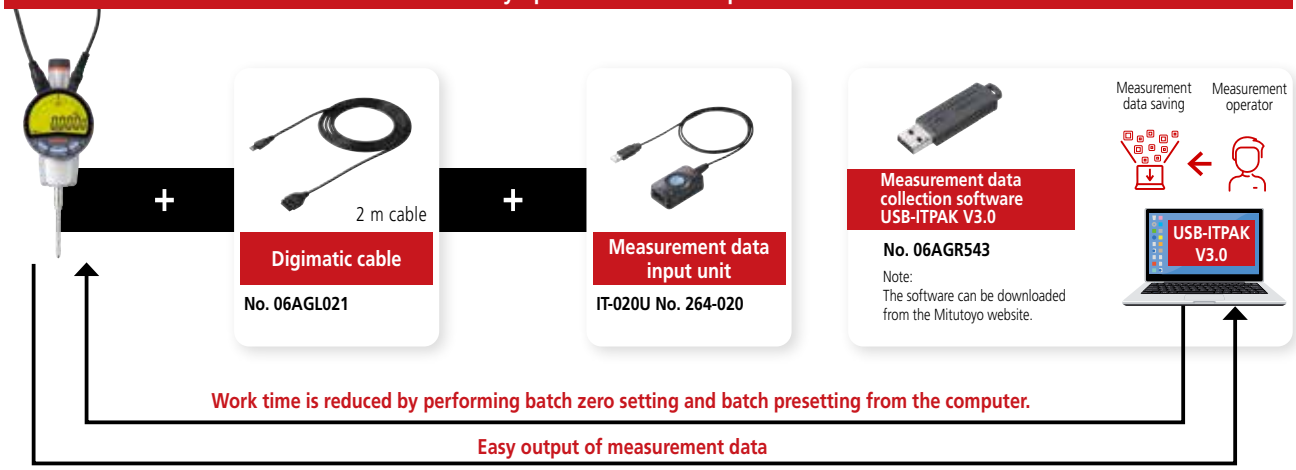
Bidirectional communication support

The ID-F features an interface supporting the proprietary bidirectional serial communication standard (DIGIMATIC S1). The indicator can be connected to a computer using the optional USB input tool or another means to enable bidirectional communication and greatly increase work efficiency.

*USB-ITPAK V3.0 or later must be installed on the computer used for communication.

Scan for More Info.

Connection example 1:
Easy operation from the operator side



SOFTWARE

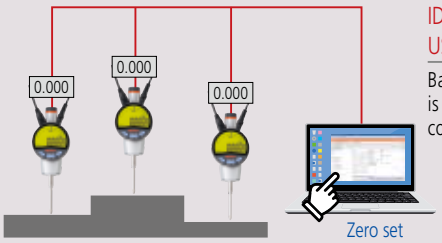
Reduces the time and effort needed for inspection work

Measurement data collection software

USB-ITPAK V3.0

USB-ITPAK is a useful software for creating procedures when inputting measurement data into Excel sheets. The latest version allows the user to perform batch zero setting and presetting, batch setting of multiple ID-F devices, data acquisition instruction from a computer, etc.

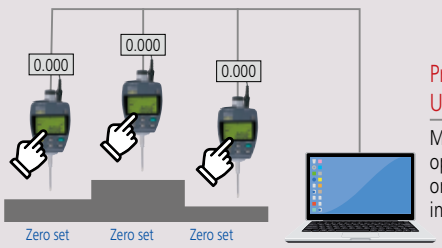
Function example (1) : Zero setting from a computer



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ID-F +
USB-ITPAK V3.0

Batch zero setting is possible from the computer.

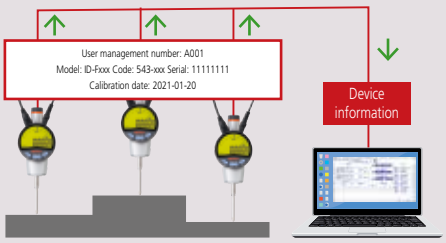


OLD

Previous ID-F +
USB-ITPAK V2.1

Manual zero setting operation is required on each measuring instrument.

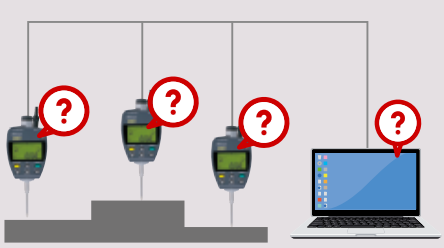
Function example (2) : Indicator information collection



NEW

ID-F +
USB-ITPAK V3.0

The measuring instrument information and status can be checked from the computer.

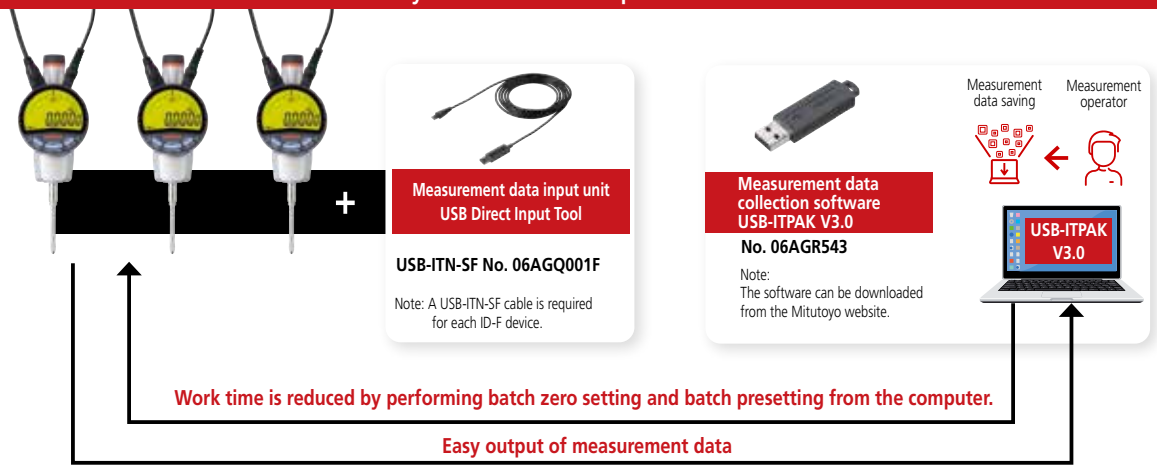


OLD

Previous ID-F +
USB-ITPAK V2.1

The measuring instrument information and status cannot be checked from the computer.

Connection example 2:
Easy connection of multiple indicators



USB-ITPAK V2.1/V3.0 Function comparison table

Symbols ● : Can be used only when connected to a model supporting USB-ITPAK V3.0 and Digimatic S1,
O : Can be used × : Cannot be used

Operating environment and functions		Details	ITPAK	
			V2.1	V3.0
Supported communication standard	Digimatic d1/d2	d1: 1st generation, unidirectional communication, 6-digit / d2: 2nd generation, unidirectional communication, 8-digit	O	
	Digimatic S1	3rd generation, bidirectional communication, 8-digit	×	O
Supported OS		Windows 2000 SP4, Windows XP SP2 or later, Windows Vista, Windows7, Windows8 / 8.1	O	×
		Windows10	O	
Functions	Sequential measurement	When using one or several measuring instruments, the measurement data is input into an Excel sheet from the measuring instruments registered in advance.	O	
	Batch measurement	The measurement data is acquired in batches from several measuring instruments and then input into an Excel sheet.	O	
	Individual measurement	Measurement data is acquired for each measuring instrument and then input into Excel sheets and cells set individually. With this method, measurements performed randomly by multiple operators can be input from each instrument into specified sheets and cells.	O	
	Simple measurement	Makes it possible to start measuring without prior detailed settings and to sort data in Excel columns by measurement location.	×	O
	Measuring instrument setting	Used to change the settings (zero set, registration of preset values, unit, counting direction, tolerance setting) of the connected measuring instruments using the USB-ITPAK software.	×	●
	Measurement history	Used to save information on the measurement operator and measurement tool in the measurement data (information on who made the measurement using which tool).	×	●
	Device information	Used to display information (model, serial No., calibration date) about the connected measuring instrument on the computer.	×	●
	Data input into Microsoft Excel	Used to input values to specified cells in Excel.	O	
	Text data input using a virtual keyboard	Used to input text (characters and values) in specified cells in Excel.	O	
Security	USB dongle for V2.1	*For USB-ITPAK V2.1 (cannot be used with V3.0)	O	×
	USB dongle for V3.0	*Can also be used with USB-ITPAK V2.1.	O	O

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Coordinate Measuring Machines



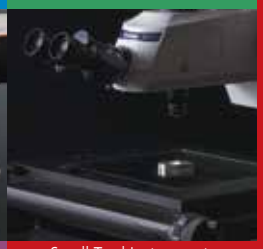
Vision Measuring Systems



Form Measurement



Optical Measuring



Sensor Systems



Test Equipment



Digital Scale and DRO Systems



Small Tool Instruments and Data Management



Whatever your challenges are, Mitutoyo supports you from start to finish.

Mitutoyo is not only a manufacturer of top quality measuring products but one that also offers qualified support for the lifetime of the equipment, backed up by comprehensive services that ensure your staff can make the very best use of the investment.

Apart from the basics of calibration and repair, Mitutoyo offers product and metrology training, as well as IT support for the sophisticated software used in modern measuring technology. We can also design, build, test and deliver bespoke measuring solutions and even, if deemed cost-effective, take your critical measurement challenges in-house on a sub-contract basis.

Find additional product literature and our complete catalog here.

www.mitutoyo.eu

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