No.99MAH001B
Series No.543

ID-F125/150

Digimatic Indicator

User's Manual

Read this User's Manual thoroughly
Before operating the instrument. After reading,
Retain it close at hand for future reference.

Mitutoyo

CONVENTIONS USED IN USER'S MANUAL

Safety Precautions

To operate the instrument correctly and safely, Mitutoyo manuals use various safety signs(Signal Words and Safety Alert Symbols) to identify and warn against hazards and potential accidents.

The following signs indicate general warnings:

WARNING

- Indicates a potentially hazardous situation which, if not avoided, could result in serious injury or death.

CAUTION

- Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or property damage.

On Various Type of Notes

The following types of notes are provided to help the operator obtain reliable measurement data through correct instrument operation.

IMPOTANT

- An *important note* is a type of note that provides information essential to the completion of a task. You cannot disregard this note to complete the task.
- An important note is a type of precaution, which if neglected could result in a loss of data, decreased accuracy or instrument malfunction/failure.

NOTE

- A *note* emphasizes or supplements important points of the main text. A note supplies information that may only apply in special cases (e.g.. Memory limitations, equipment configurations, or details that apply to specific versions of a program).

TIP

- A tip is a type of note that helps the user apply the techniques and procedures described in the text to their specific needs.
- It also provides reference information associated with the topic being discussed.

MANUAL No.99MAH001B

CAUTIONS ON USE

Power Supply Warnings

WARNING

- External power is supplied to the instrument from an AC power source, through an AC adapter. Use only the AC adapter specified by Mitutoyo(No.526688A,D,or E/standard accessory).
- If the instrument is used near a device requiring high voltage, frequency or current, be certain that this device and the instrument's AC adapter have separate power supplies.
- Use only an AC power supply which conforms to the voltage and frequency written on the AC adapter. Using a voltage or frequency outside the allowed range may result in fire or explosion.
- When not using the instrument for an extended period, always unplug the AC adapter from the power supply to avoid the risk of fire.

Other Cautions on Use

Observe the following precautions to avoid instrument failure or malfunction.

CAUTION

- Do not knock, drop or subject the instrument to excessive force.
- Do not disassemble or modify the instrument.
- Do not operate the keys with a pointed instrument (such as a screwdriver).
- Avoid use or storage of the instrument in direct sunlight, or in extremely hot or cold areas.
- Use of the instrument in areas of low or high atmospheric pressure may cause instrument failure due to material deterioration.
- Do not store the instrument in a highly damp or dusty environment. Avoid getting water or oil on the instrument during use.
- Do not use an electric marking pen or other high voltage device near the instrument. Electronic parts in the instrument may be damaged. Use in areas where a large amount of electrical noise is present may result in malfunction.
- Secure the instrument with a dial gauge stand or similar fixture in a vibration-free environment.
- Do not subject the spindle to a vertical load or torsion.
- To clean the instrument, use a dry soft cloth or cotton swab, or one soaked in diluted neutral detergent. Use of organic solvents (such as thinner or benzene) may result in failure.
- The spindle may not move smoothly if it becomes dirty. To clean the spindle, wipe it first with a cloth soaked in alcohol, and then gently with a cloth containing a small amount of low-viscosity oil.

To maintain measurement accuracy, take note of the following point.

IMPOTANT

- In areas of significant temperature fluctuation, thermal expansion of component parts may cause the measured origin to shift from the set origin. Use the instrument in a temperature-controlled room with as little temperature fluctuation as possible. Before starting measurement, allow the instrument and the item measured sufficient time to thermally stabilize.

Disposal Warnings

Liquid crystal is used in this product. When disposing the product, be sure to conform to the local ordinances or regulations in effect in your area.

WARNING

- Liquid crystal parts contain a liquid which acts as an irritant. If this liquid accidentally contacts eyes or skin, cleanse the contacted area with clean running water. If taken into the mouth, rinse the mouth immediately and swallow plenty of water. Induce vomiting, then consult a physician.

WARRANTY

This instrument is manufactured under Mitutoyo's strict quality control system. Should the instrument fail within one year after the date of purchase under normal usage conditions, Mitutoyo will repair it free of charge. Contact your place of purchase or a Mitutoyo sales office. Mitutoyo will not repair the instrument free of charge in the following cases:

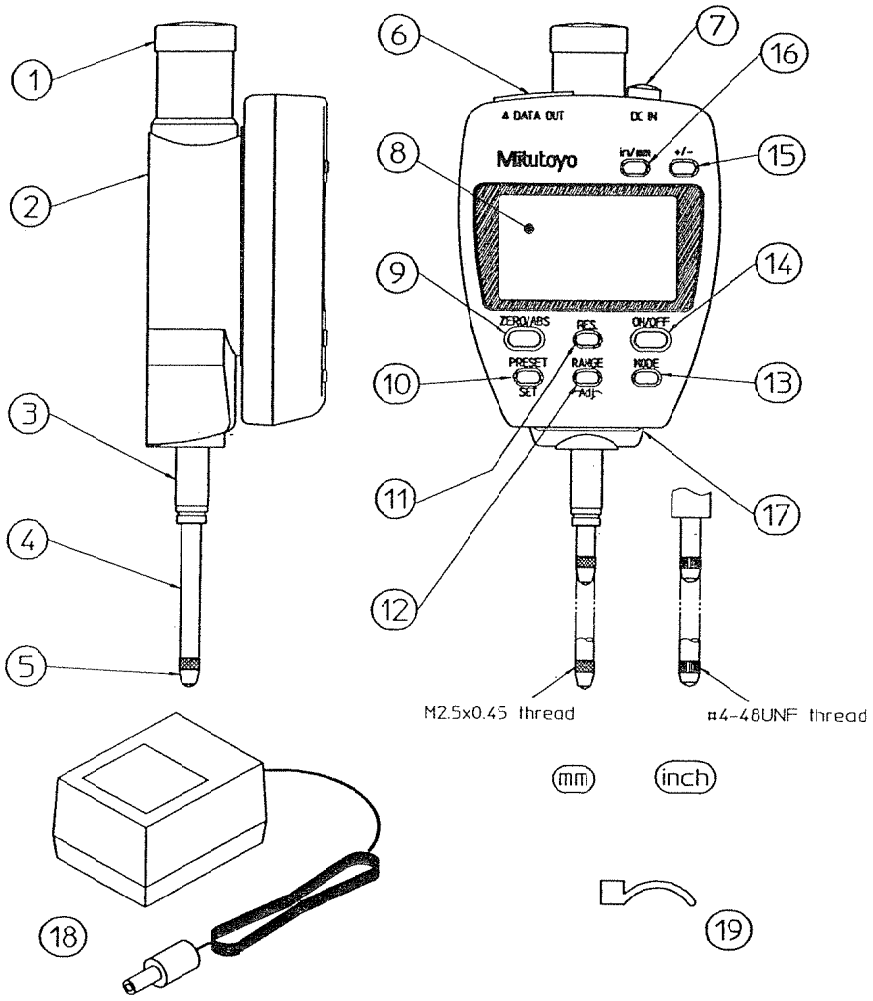
- If the instrument is damaged or broken due to incorrect operation or unauthorized modifications or repair.
- If the instrument is damaged or broken due to a drop or shock during moving or shipping after purchase.
- If the instrument is damaged or broken due to fire, salt damage, toxic gas, abnormal voltage or natural calamity.

This warranty is valid only in the area of purchase.

Contents

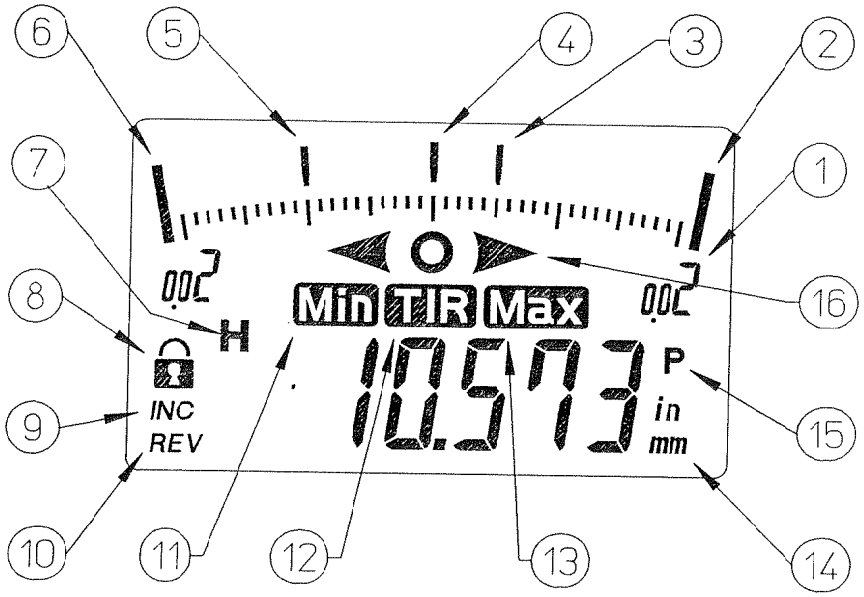
1 NAMES OF PARTS

1.1 Main Unit



① Cap
② Flat back
③ Stem
④ Spindle
⑤ Contact point
⑥ Output connector
⑦ DC jack
⑧ LCD
⑨ ZERO/ABS key
⑩ PRESET/SET key
⑪ RES key
⑫ RANGE/→Adj.← Key
⑬ MODE key
⑭ ON/OFF key
⑮ +/- key
⑯ in/mm key(AGD model)
⑰ Release hole
⑱ AC adapter
⑲ Lifting lever

1.2 Ditail of LCD



① Analog range
② Upper over range
③ Upper pointer(blink)
④ Pointer
⑤ Lower pointer(blink)
⑥ Lower over range
⑦ Hold sign
⑧ Function lock
⑨ Relative measure
⑩ Reverse dir. measure
⑪ Min. peak hold mode
⑫ TIR mode
⑬ Max. peak hold mode
⑭ Unit
⑮ Preset the origin
⑯ GO/NG judgment display

- The pointers ③,④ and ⑤ blink more quickly when two or more overlap.
- The parameters indicated by pointers ③ and ⑤ are determined by the measurement mode, as shown below.

mode	Nomal	Tolerance	Max.peak hold	Min.peak hold	TIR hold
③	(disappear)	Upper limit	Max. point	(disappear)	Max. point
⑤	(disappear)	Lower limit	(disappear)	Min. point	Min. point

2 INSTALLING THE INSTRUMENT

2.1 Securing the Instrument to a Stand or Fixture

- Secure the instrument by its stem to a dial gauge stand (sold separately) or similar fixture.
- When securing the instrument to a fixture, fixing the stem using a slotted holder with an indentation of $\varnothing 8G7(AGD:\varnothing 9.52)^{+0.02}_{+0.005}$ mm. is recommended.

NOTE

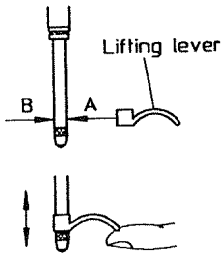
- To maintain smooth spindle movement, avoid fixing the stem directly using a lock screw. If a lock screw is used, avoid using extreme force to fix the instrument.
- Set up the instrument with the spindle perpendicular to the reference plane or the measured surface. If the spindle axis is not perpendicular to the reference plane (measured surface), measurement errors will result.

TIP

For example, if the spindle axis is inclined by an angle ϕ from the perpendicular to the reference plane, for a measured length of about 25 mm. the measurement error δ, will be: $\phi=1^\circ$: $\delta=0.004$mm, $\phi=2^\circ$: $\delta=0.014$mm, $\phi=3^\circ$: $\delta=0.032$mm

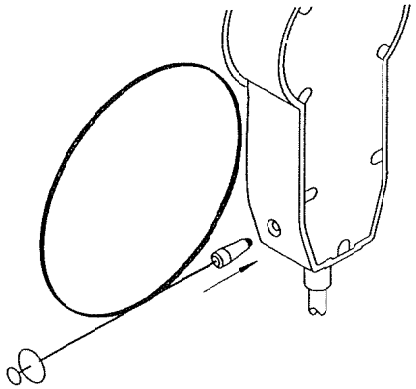
2.2 Mounting the Lifting Lever

- Fit the spindle into the groove on the lifting lever (No. 137693/standard accessory), holding the spindle's other end so that it doesn't bend.



2.3 Mounting the Release

- Remove the release hole screw (M2.6x4) with a Phillips screwdriver (#0) and screw in the release (No. 540774/ sold separately).



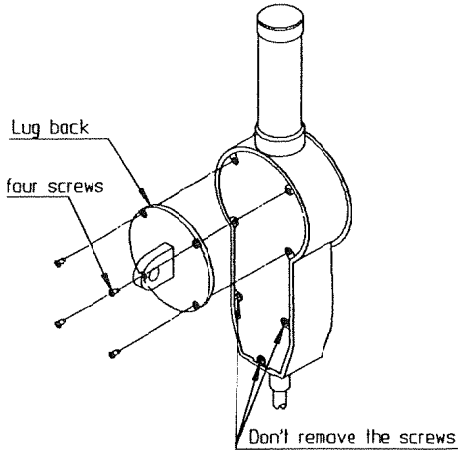
CAUTION

- Pulling sharply on the release or knocking it may strip the thread.
- Inserting objects other than the release into the release hole, or applying excessive force to the hole may cause instrument failure.
- When using the release, the amount of lift is about 10 mm. from the lower limit.

2.4 Mounting a Lug or Rear Cover

The instrument can be used with Mitutoyo's lug rear cover for 2-group dial gauges (No. 101040: JIS, ISO type,/No. 101306: AGD type; both sold separately), or with various other rear covers.

- Remove the four screws on top of the rear cover and use them to attach the lug to the rear cover.



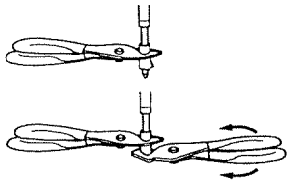
TIP

See Mitutoyo's general catalog or dial gauge catalog for the lineup of available rear covers, contact points, and extension rods.

2.5 Replacing the Contact Point

Various types of contact points and extension rods are available for Mitutoyo dial gauges.

- Hold the spindle with pliers, protecting its surface with a rag.
- Use another pair of pliers to screw in the contact point or remove it.



CAUTION

- Hold the spindle in place while doing this procedure, or internal instrument failure may result. Use a rag to protect the spindle's surface. The spindle may not move smoothly if scratched.

TIP

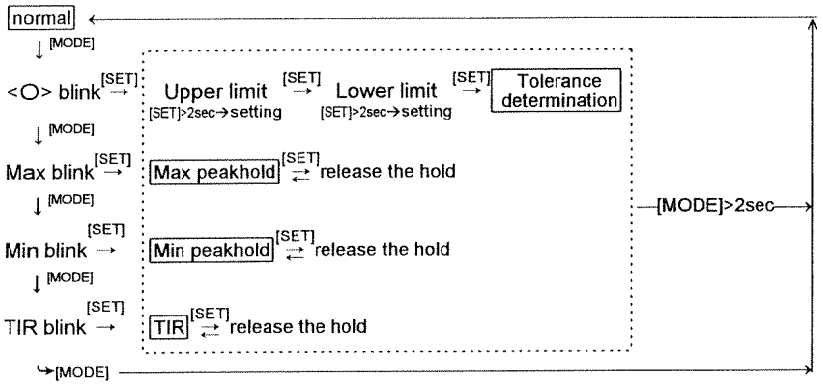
Roller contact point run-out and other contact point errors decrease measurement accuracy.
Replacing the contact point changes the external dimensions, measuring force and other parameters.
For questions about replacement parts, contact your place of purchase or Mitutoyo service center.

3 BASIC OPERATIONS

Key function list

Key	Condition		Functions	page
ON/OFF	Anytime		Switching ON⇔OFF	9
RES	Inch, normal mode, >5sec, (AGD model)		Switching .00005"⇔.0001"(.0005"⇔.001") (set preset values and tolerance values are erased.)	9
	except above		Switching 0.001mm⇔0.01mm(.00005"⇔.0005")	9
ZERO /ABS	Normal or Tolerance mode	<2sec	Switch to the INC system & set to zero	9
		>2sec	Switch to the ABS system	9
	While preset		Cancel preset value & return to the before condition.	10
	Max, Min hold mode, >2sec	ABS	Set to zero at the hold position	12
		INC	Set to zero at the current position	12
PRESET /SET	Normal mode		Enter the origin setting(Switch to the ABS system)	10
	While check limit,>2sec		Enter the tolerance limit setting	11
	except above		Enter the selected mode, release the hold	11
MODE	Normal mode		Select measurement modes	11
	except above,>2sec		Return to the normal mode	11
RANGE/ →Adj.←	<2sec		Switching the analog display range	13
	>2sec		Pointer Centering in analog display's range	13
+/–	Normal mode, <2sec		Switching the Counting Direction	13
	Any modes, >2sec		Switching the function lock⇔unlock	13
in/mm	(AGD model)		Switching inch⇔mm	9

※ ABS:Absolute measruerment system, INC:Comparative measurement system, >2sec:Press longger than 2sec., <2sec:Short press(less than 2sec.),



Switch the Measurement modes

3.1 Connecting the Power Source

- Remove the DC jack cover at the top of the instrument's display. Insert the DC plug on the AC adapter (standard accessory) securely into the DC IN jack.
- Insert the AC plug at the other end securely into a power outlet or extension cord.
- As soon as power is supplied, LCD appears and the back light turns on.

IMPOTANT
- Before shutting off the power supply, always press the [ON/OFF] key to turn the instrument off. Shutting off the power while the instrument is operating can damage origin and other memory data.

3.2 Starting/ Stopping the Instrument

- Press the [ON/ OFF] key to start (begin) and stop (end) the instrument.

3.3 Initial Settings

3.3.1Switching the Inch/ Metric

- Press the [in/ mm] key to toggle the display units between inches⇔metric (AGD model).

3.3.2Switching the Resolution

- Give the [RES] key a short press to toggle the display resolution (between 0.206 mm.⇔0.21 mm., for example).

	[RES]<5sec		
	0.001mm	⇔	0.01mm
[in/mm]	⇕		⇕
[RES] >5sec	0.00005"	⇔	0.0005"
	⇕		⇕
	0.0001"	⇔	0.001"

Switching the Resolution

- When using inch units, press and hold the [RES] key for 5 seconds or longer in the normal mode to toggle the resolution between .00005"⇔.0001"(.0005"⇔.001") (AGD model only).

NOTE
- When the resolution and units are switched, the analog display range also switches.
- The last digit of preset values and tolerance setting values is rounded off according to the number of display digits and units.
- When the display resolution is toggled between .00005"⇔.0001"(.0005"⇔.001"), set preset values and tolerance values are erased.

3.3.3Switching the Measurement System

3.3.3.1Absolute (ABS) Measurement System

When the origin is set in the ABS system, the absolute origin position for measurement is stored in memory. The origin position is held, as long as its position in relation to the absolute origin, or setting value do not change. Measured values are displayed as distances from the absolute origin.

- To switch to the ABS system, press and hold the [ZERO/ABS] key for 2 seconds or longer in the normal mode or tolerance determination mode.
- The instrument is forcibly switched to the ABS system when the origin is preset.

3.3.3.2Comparative (INC) Measurement System

The INC system holds the position data of the absolute origin, and displays the distance from the position set to zero.

- To switch to the INC system, press the [ZERO/ABS] key in the normal mode or tolerance determination mode. "INC" appears in the LCD and the display is set to zero. (Press and hold the [ZERO/ABS] key again to return to ABS mode).

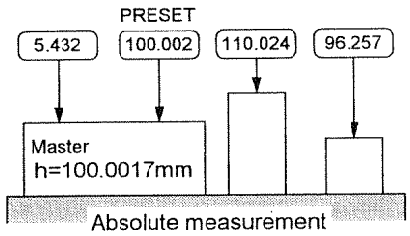
3.3.4Setting the Origin (PRESET)

This section describes how to set the absolute origin for measurement (preset value). You can use a calibrated reference gauge or master gauge to set a reference plane outside the instrument's measuring range as the absolute origin.

- To set the preset value, press [PRESET/SET] in the normal mode. The previously set preset value appears and "P" blinks in the display.
- To set a new preset value, press and hold the [PRESET] key for 2 seconds to select which digit to set. The blinking digit can be set. Give the [PRESET] key a short press to increase the value of the blinking digit.
- While "P" is blinking, give the [PRESET] key a short press to set the new preset value. This value is stored in memory as the distance (origin data) from the absolute origin to the current position of the contact point.

For example, to measure a length which cannot be measured by the instrument alone, as shown in the diagram, set the absolute origin with the bottom end of the master gauge as the measurement reference (0.000 mm.). When the calibration value of the master gauge length is approx. 100.002 mm. and the contact point is contacting the master gauge, set the calibration value to the preset value (origin position setting) by the following procedure.

[PRESET]key	表示値
(set value)	5.432mm
press	+000.000mm P
↓ 2sec.	+000.000mm P
↓ 2sec.	+000.000mm P
release	+000.000mm P
short press	+100.000mm P
press	+100.000mm P
↓ 2sec.	+100.000mm P
↓ 2sec.	+100.000mm P
↓ 2sec.	+100.000mm P
↓ 2sec.	+100.000mm P
↓ 2sec.	+100.000mm P
release	+100.000mm P
short press x2	+100.002mm P
press	+100.002mm P
↓ 2sec.	+100.002mm P
release	+100.002mm P
short press (fix)	100.002mm
(repeat value)	99.876mm
press	+100.002mm P
short press (fix)	100.002mm



"_" mean blinking the digit.

NOTE
- After starting to set the preset value, pressing [ZERO/ABS] before the new preset value has been fixed returns the instrument to the condition it was in before the setting (returns to 99.876 mm. or 5.432 mm. in the above example).
- If the instrument is turned off and on during preset or tolerance setting, the value being set is erased and the instrument returns to the condition it was in before setting.

3.4 Measurement Modes

The instrument has the five measurement modes described below (see page 5.).

3.4.1Normal Mode

This mode is used for normal measurement, and to select the other modes.

- Press and hold the [MODE] key for 2 seconds or longer to return to the normal mode from any of the instrument's other measurement modes.

NOTE
- To set the origin, switch between + and -, set tolerance limits, or select a new measurement mode, you must return to the normal mode.

3.4.2Tolerance Mode

3.4.2.1Checking and Setting Tolerance Limits

Tolerance mode is used to check and set the tolerance limits. Note that the tolerance limits must be set separately for the ABS system and the INC system.

- Press the [MODE] key once in the normal mode. "<0>" blinks in the display.
- Press the [PRESET/SET] key to check the tolerance upper limit setting. The previously set upper limit appears with a blinking ">" sign.
- To change the upper limit setting, press the SET key, and use the same procedure used to set the origin.
- When the new value has been set (">" blinks), give the SET key a short press to check the tolerance lower limit setting. The previously set lower limit appears with a blinking "<" sign. Change the setting by the same procedure used to change the upper limit setting.
- When both limits have been set correctly, give the SET key a short press to enter tolerance determination mode.

3.4.2.2Tolerance Determination

If the current measurement value deviates from the range of the tolerance limits set in the previous section, the back light lights red as a warning.

- When the tolerance limits have been checked by the procedure in the previous section, the instrument starts tolerance determination straight away.

NOTE
- There is no tolerance determination function for max./ min. hold and TIR measurement values.
- To change the setting of the tolerance limits, first return to the normal mode and then switch to tolerance mode again.

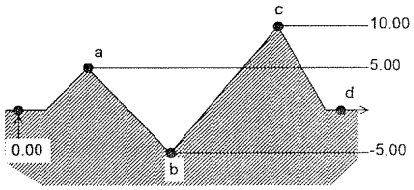
3.4.3Max. Peak Hold Mode

In this mode, the instrument holds the maximum value in the series of varying measured values.

- Press the [MODE] key twice in the normal mode. "Max" blinks in the display.
- Press the [PRESET/SET] key to switch to Max hold mode ("Max" stops blinking).
- When the spindle moves, the maximum value is held ("H" appears).
- Press the [SET] key to release the hold, display the current position, and start measuring a new maximum value.

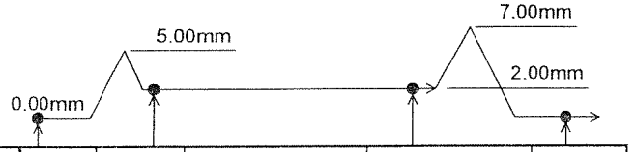
difference of Max,Min,TIR hold mode.

Path	0	→	a	→	b	→	c	→	d
Max mode	0.00	↗	5.00			↗	10.00		
Min mode	0.00			↘	-5.00				
TIR mode	0.00	↗	5.00	↗	10.00	↗	15.00		



- If max. hold mode is entered from the ABS system, press the [ZERO/ABS] key for 2 seconds or longer to set the position being held to zero. The instrument can be used for comparative measurement.
- If max. hold mode is entered from the INC system, press the [ZERO/ABS] key for 2 seconds or longer to set the current position to zero.

difference of after Zero set (at Max. hold mode)



operation	—	—	[ZERO/ABS]>2sec	[PRESET/SET]	
ABS	0.00	H 5.00	H 0.00	-3.00	H 2.00
INC	0.00	H 5.00	0.00	0.00	H 5.00

3.4.4Min. Peak Hold Mode

In this mode. the instrument holds the minimum value in the series of varying measured values.

- Press the [MODE] key three times in the normal mode. "Min" blinks in the display.
- Min. hold mode operations are done by the same procedure as max. hold mode.

3.4.5TIR (Run-Out) Measurement Mode

In this mode, the instrument holds the run-out width in the series of varying measured values. Only this mode has the same operation in both the ABS and INC systems.

- Press the [MODE] key four times in the normal mode. "TIR" blinks in the display.
- Press the [PRESET/SET] to set the display to zero ("TIR" appears).
- When the spindle moves, the run-out width is held ("H" appears).
- Press the SET key to release the held value and start measuring a new run-out width value.

3.5 Analog Display

An analog scale and pointer in the form of a dial gauge are continuously displayed at the top of the instrument's LCD. In tolerance determination mode, the limit positions blink in this area. In max./ min. hold mode or TIR mode, the maximum and minimum positions blink in this area.

3.5.1Switching the Display Range

The analog display range can be switched to prevent pointers going too high or low.

- Press the [RANGE/→Adj.←] key a short press to toggle the display range.

Resolution	Swicthing the display range(loop)				
0.001mm	0.02(mm)	→0.04	→0.1	→0.2	→0.4
0.01mm	0.2(mm)	→0.4	→1	→2	→4
.00005"	0.001(")	→0.002	→0.004	→0.01	→0.02
.0005"	0.01(")	→0.02	→0.04	→0.1	→0.2
.0001"	0.002(")	→0.004	→0.01	→0.02	→0.04
.001"	0.02(")	→0.04	→0.1	→0.2	→0.4

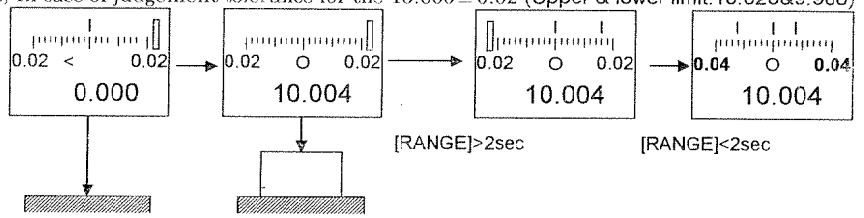
3.5.2Pointer Centering

When a pointer is out of the analog display's range, use this function to shift the display so that the pointer is centered. This has the same effect as adjusting the bezel of a dial gauge to the desired scale.

- Press the [RANGE/→Adj.←] key for 2 seconds or longer to center the pointer.

NOTE • The pointer position is adjusted so that the current measured value is in the center.

e.g., In case of judgement tolerance for the 10.000±0.02 (Upper & lower limit:10.020&9.980)



3.6 Switching the Counting Direction

By default, the instrument takes the positive direction to be the direction the spindle moves in when it is pushed in. If desired, this direction can be set as the negative direction.

- To reverse the counting direction, press the [+/-] key in the normal mode ("REV" appears).

3.7 Function Lock

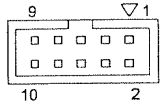
- Pressing the [+/-] key for 2 seconds or longer deactivates all key input except ON/OFF and hold release (Lock sign appears).
- To reactivate the keys, press the [+/-] key again for 2 seconds or longer.

4 DATA I/O

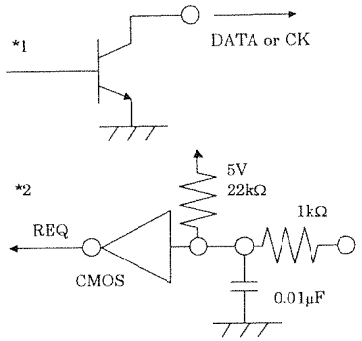
Using the M-SPC cable (sold separately), the instrument can be connected to the DP-1HS Digimatic Miniprocessor or similar data processors, to transfer, total and record measurement values.

- Remove the output connector cover and insert the cable securely. (Place the cover in a bag and store it in a safe place).

4.1 Output Connector

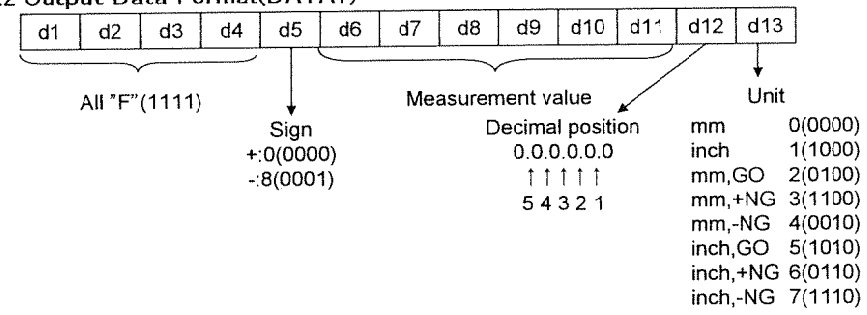


PIN#	Signal	I/O
1.	GND	-
2. *1	DATA1	OUT
3. *1	$\overline{CK}$	OUT
4.	N.C	-
5. *2	$\overline{REQ}$	IN
6. *3	$\overline{ENTRY}$	IN
7. *3	$\overline{DATA2}$	IN
8.	+9V	-
9.	+9V	-
10.	GND	-

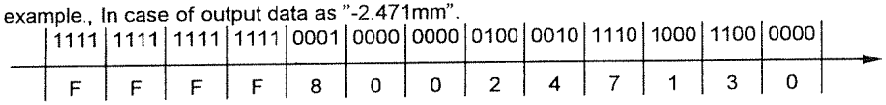


*3 : $\overline{ENTRY}$ and $\overline{DATA2}$ are exclusive connector for the Presetter.

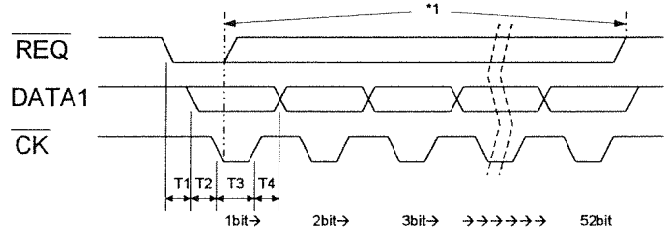
4.2 Output Data Format(DATA1)



For example., In case of output data as "-2.471mm".



4.3 Timing Chart



IMPOTANT

- Use only the output cable specified by Mitutoyo. Use of incompatible or deteriorated cables may result in data output failure.
- Before outputting data, read the manual that comes with the data processor carefully to ensure correct operation.
- Data output may be disabled if an output request (REQ) is received when the spindle is in motion, or if the output request interval is too short.

CAUTION

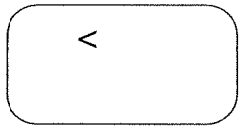
*1: To make an output request (REQ), hold the REQ signal at "Low" until "CK" is output. Return it to "High" before the final (52nd) "CK" bit is output.

4.4 Using the Digimatic Presetter

The instrument can use the optional Digimatic Presetter (No. 543-003; sold separately) to set preset values and limit values externally. The operation method is described in the manual for the Presetter. There are some differences in the instrument's operation when the Presetter is used, described below. Read these points when using the Presetter.

4.4.1Setting Limit Values from the Presetter

- Once the Presetter has set the upper limit in the instrument, the instrument waits for input of the lower limit. Set the lower limit using the Presetter.
- When the lower limit has been set, the instrument enters tolerance determination mode.
- When the instrument is waiting for input of the lower limit, pressing the Presetter's [PASS] key cancels the limit settings and returns to the normal mode.



5 ERROR MESSAGES & CORRECTIVE MEASURES

Display	Description
XX.XXE	An ABS data composition error occurred while the spindle was moving at high speed. Keep on using the instrument since this error does not affect measured values. *If this error occurs while the spindle is stopped, it could be due to sensor failure. In this case, contact a Mitutoyo sales office or agency.
E--SE	The upper limit has been set to a smaller value than the lower limit. Set the limits again so that the lower limit is less than the upper limit.
E-->SE	Upper limit overflow. Set the upper limit again.
E--<SE	Lower limit overflow. Set the lower limit again.
E--OF	The display value has exceeded the maximum number of digits which can be displayed. Set the origin again to a suitable position.

Below are errors which can occur when the Presetter is used. For more information, see the manual that comes with the Presetter.

E--SE	Using the Presetter, the lower limit has been set to a higher value than the upper limit. Alternatively, the preset value or upper limit value were input while the instrument was waiting for input of the lower limit value, because the lower limit was set first. Press the [ZERO/ABS] key to release the error, then redo the setting.
------	Communication error. The number of decimal places in a preset value sent from the Presetter differs from the number in the instrument's LC display. Press the [ZERO/ABS] key to release the error, then redo the setting.
. . . . .	Presetter connection error. Press the [ZERO/ABS] key to release the error, then check the connections.

6 SPECIFICATIONS

6.1 Specifications of the main unit

符号	ID-F125	ID-F150	ID-F125E	ID-F150E	Model name
コードNo. *1	543-551-1	543-553-1	543-552-1	543-554-1	Order No. *1
指示表示	25.4-0.001mm	50.8-0.001mm	25.4-0.001mm/1-.00005"	50.8-0.001mm/2-.00005"	Designations
最小表示量	0.001mm/0.01mm		0.001/0.01mm/.00005/.0005/.0001/.001"		Resolution
測長範囲	25.4mm	50.8mm	25.4mm = 1"	50.8mm =2"	Measure range
指示精度 *2	0.003mm以下	0.006mm以下	0.003mm(.00012")or less	0.006mm(.00024")or less	Accuracy *2
準拠規格	ISO R463/JIS B7503		ANSI B89.1.10/AGD		Standards
ステム	Ø8mm		Ø9.52mm=3/8"DIA		Stem diameter
測定子	超硬Carbide(M2.5x0.45)		Steel(#4-48UNF)		Contact point
測定力	1.8N(180gf)以下	2.3N(230gf)以下	1.8N(180gf) or less	2.3N(230gf) or less	Contact force
保護等級	防塵保護 IP-30(IEC 529/JIS D0207,C0920工場出荷時において)				
	Equivalent to IP-42(at conditions ex-works)				Protection
測定方向	水平より下向き			Below the horizon	Plunger direction
電源	ACアダプター 9V 500mA			AC adapter 9V 500mA	Power supply
使用温度範囲	0℃～40℃			0℃～40℃	Operating temp.
保存温度範囲	-10℃～60℃			-10℃～60℃	Storage temp.
本体重量	約240g	約330g	Approx. 240g (0.53lbs)	Approx. 330g (0.73lbs)	Net weight

*1.This Order No. mean only the main unit without AC adapter.
*2.Not including the quantizing error.

6.2 Standard accessories

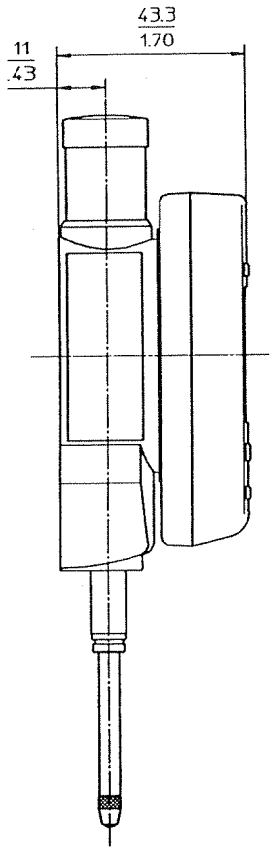
#99MAH001	User's manual
#137693	Lifting lever
#526688	AC adapter(100V, Japan, &c.)
#526688A	AC adapter(120V, USA, &c.)
#526688D	AC adapter(220V, Germany, &c.)
#526688E	AC adapter(240V, UK, &c.)

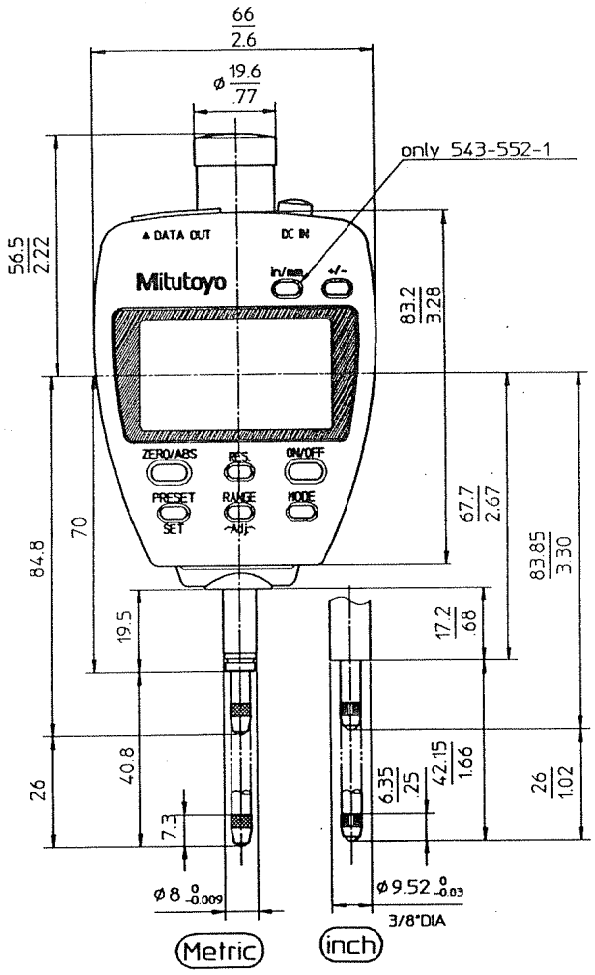
6.3 Optional accessories

#540774	Release cable
#543-003	Digimatic Presetter
#936937	M-SPC cable 1m
#965014	M-SPC cable 2m
#101040	Lug-on-center back(for JIS/ISO model)
#101306	Lug-on-center back(for AGD model)
#02ACA571	Coil spring for upside-down style use (125 model)
#02ACA773	Coil spring for upside-down style use (150 model)

6.4 Dimensions

- Dimensions of the double column are $\frac{mm}{inch}$, except they are mm.
- This instrument is conform to the standard of the dial gauge in JIS/ISO or ASME/ANSI(AGD), only stem-diameter and contact-point.

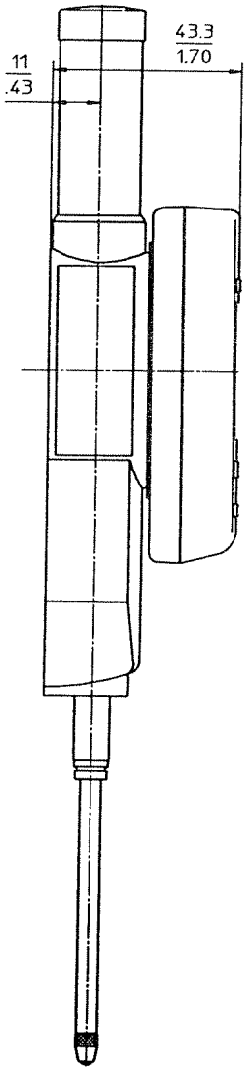


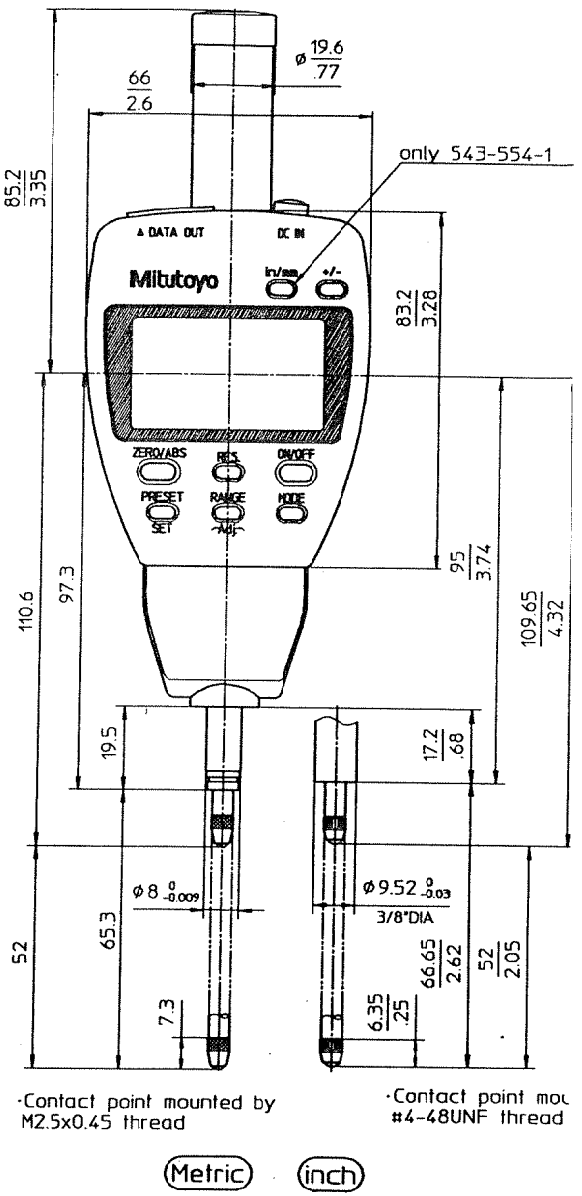


·Contact point mounted by M2.5x0.45 thread

·Contact point mounted by #4-48UNF thread

ID-F125,125E(543-551-1,543-552-1)





·Contact point mounted by M2.5x0.45 thread

·Contact point mou #4-48UNF thread

ID-F150,150E(543-553-1,543-554-1)