

IP Codes

Level 6: Dust -proof.

No ingress of dust allowed.

Level 5: Protected against water jets.

Water projected in jets against the enclosure from any direction shall have no harmful effects.

Technical Data

Dust/Water protection level: IP65 (IEC60529)*2

Measuring force: 7 to 12 N*3

Battery: **SR44** (1 pc), **938882**, for initial operational checks (standard accessory)

Length standard: Electromagnetic rotary sensor

Battery life: Approx. 1.2 years under normal use

Standard accessories: Reference bar, 1 pc

(except for 0-25 mm (0-1 in) models)

Spanner (**301336**), 1 pc

*2 Rustproofing shall be applied after use.

*3 Measuring force when using the speeder ratchet (Apply a measuring force in the same condition as for measurement and then set the origin.)

Functions

Origin point setting (ABS length measurement system):

Pressing the ORIGIN button resets the ABS origin at the current spindle position. Origin values can be set depending on each size.

Zero setting (INC length measurement system):

A brief press on the ZERO/ABS button sets display to zero at the current spindle position and switches to the incremental (INC) measuring mode. A longer press resets to the ABS measuring mode.

Hold:

Pressing the HOLD button freezes the current value in the display. This function is useful for preserving a measurement in situations of poor visibility when the instrument must be moved away from the workpiece before the reading can be recorded.

Function lock:

This function allows the ORIGIN (origin point setting) function and the ZERO (zero setting) function to be locked to prevent these points being reset accidentally.

Auto power ON/OFF:

The reading on the LCD disappears after this instrument is idle for approx. 20 minutes, but the origin point is retained. Turning the spindle causes the reading on the LCD to reappear.

Data output*4:

Models equipped with this function have an output port for transferring measurement data to a Statistical Process Control (SPC) system.

Error alarm:

In case of an overflow on the LCD or a computing error, an error message appears on the LCD, and the measuring function stops. This prevents an instrument from giving an erroneous reading. Also, when the battery voltage drops to a certain level, the low-battery-voltage alarm annunciator appears well before the micrometer becomes unusable.

*4: Only for the models with SPC data output

Optional Accessories

(Only for models with data output function)

Connecting cables with output switch

1 m: **05CZA662**

2 m: **05CZA663**

USB Input Tool Direct

USB-ITN-B (2 m): **06AFM380B**

Wireless data output **U-WAVE-TM**

264-622 (IP67 type)

264-623 (Buzzer type)

Connecting unit for U-WAVE-TM

02AZF310 (IP67 type)

Refer to page A-15 for details



SPECIFICATIONS

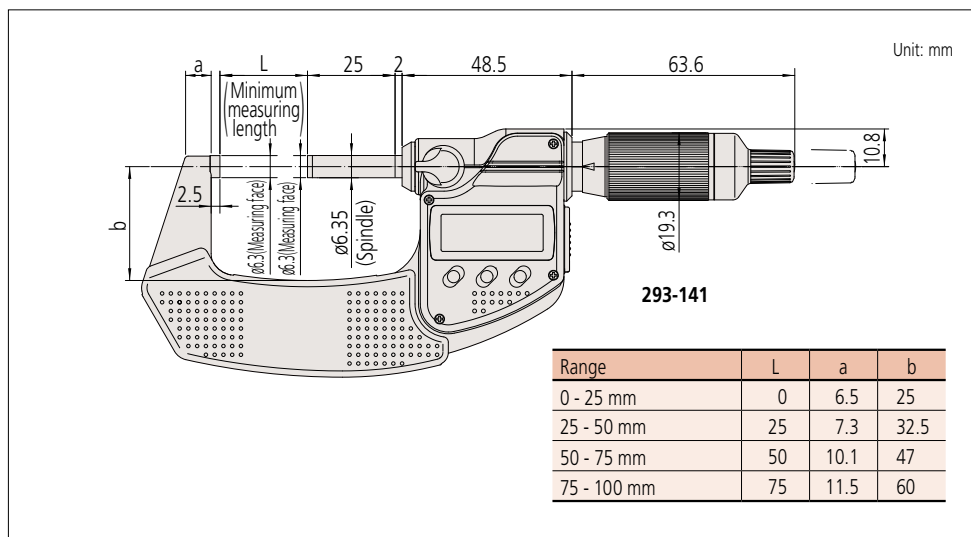
Metric							
	Order No.	Range	Resolution	Accuracy*1	Flatness	Parallelism	Mass
with SPC data output	293-140-30	0 - 25 mm	0.001 mm	±1 μm	0.3 μm	1 μm	265 g
	293-141-30	25 - 50 mm					325 g
	293-142-30	50 - 75 mm		2 μm		465 g	
	293-143-30	75 - 100 mm				620 g	
without SPC data output	293-145-30	0 - 25 mm		±1 μm		1 μm	265 g
	293-146-30	25 - 50 mm					325 g
	293-147-30	50 - 75 mm		2 μm		465 g	
	293-148-30	75 - 100 mm				620 g	

*1 Excluding quantizing error of ±1 count

Inch/Metric							
	Order No.	Range	Resolution	Accuracy*1	Flatness	Parallelism	Mass
with SPC data output	293-180-30	0 - 1 in	0.00005 in/ 0.001 mm	±0.00005 in	0.000012 in	0.00004 in	265 g
	293-181-30	1 - 2 in					325 g
	293-182-30	2 - 3 in		±0.0001 in		0.00008 in	465 g
	293-183-30	3 - 4 in					620 g
without SPC data output	293-185-30	0 - 1 in		±0.00005 in		0.00004 in	265 g
	293-186-30	1 - 2 in					325 g
	293-187-30	2 - 3 in		±0.0001 in		0.00008 in	465 g
	293-188-30	3 - 4 in					620 g

*1 Excluding quantizing error of ±1 count

DIMENSIONS



Measuring time on a 6-stepped workpiece with one hand

Thanks to the quick movement, positioning times are reduced by 60 %* and measuring times by 35 %* compared with a conventional micrometer.

*According to Mitutoyo's comparison test data for measuring time on typical workpieces.

