

Coolant Proof Micrometers **MDC-MX Series**

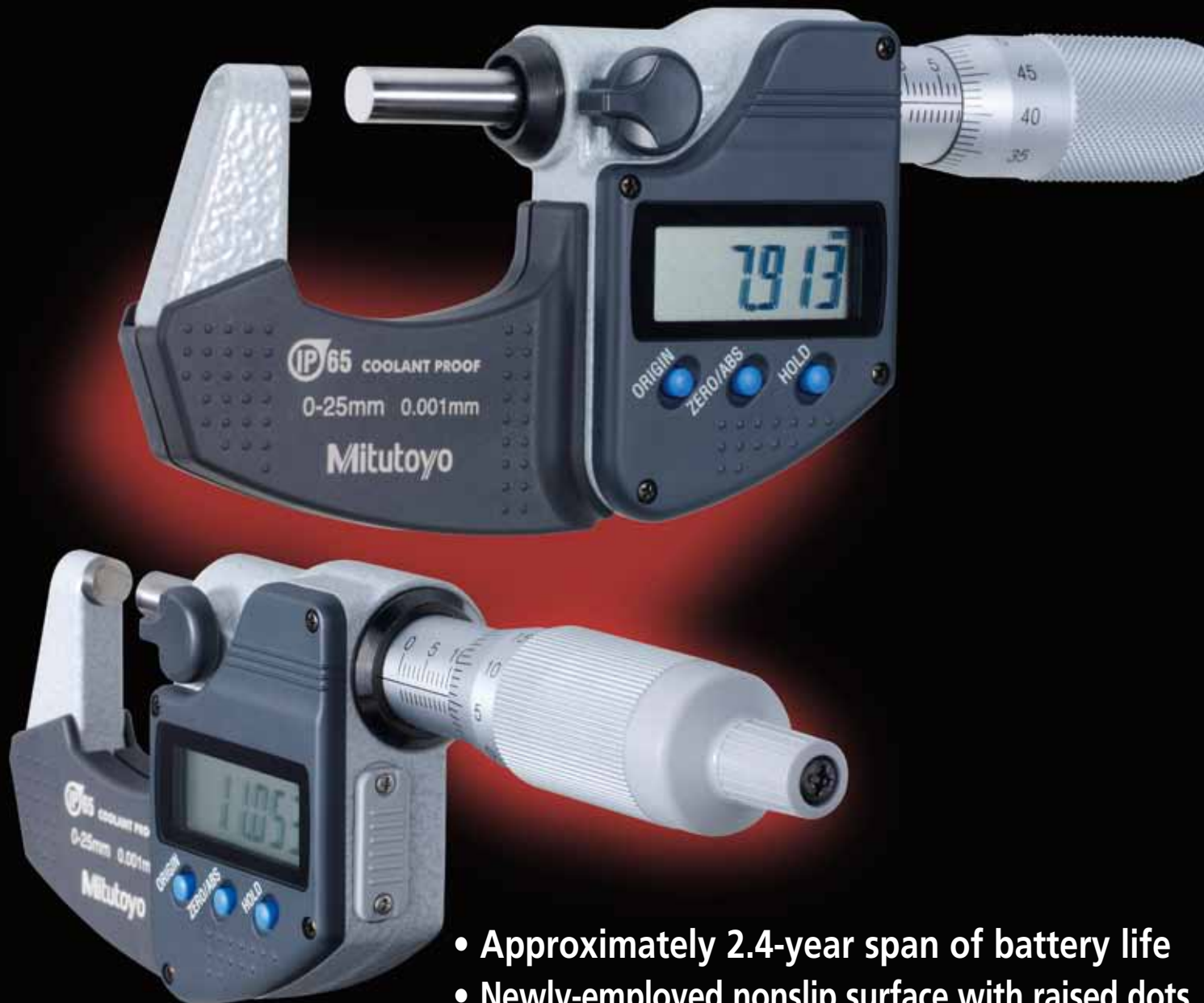
Twice as Long Battery Life as before and Drastic Improvement in Measurement Efficiency

SMALL TOOL INSTRUMENTS
AND DATA MANAGEMENT



Coolant Proof Micrometers MDC-MX Series

Twice as Long Battery Life as before and Drastic Improvement in Measurement Efficiency



- Approximately 2.4-year span of battery life
- Newly-employed nonslip surface with raised dots
- Ratchet thimble type*
- * Refer to the "SPECIFICATIONS" section on page 4.
- Oilproof material employed for plastic parts
- Compatibility with statistical process control and measurement systems

1. Digital micrometer standard type



IP65

2. Ratchet Thimble type that has improved operability with one hand



IP65

3. Plain Function, Simple design



Coolant Proof Micrometers



Digital micrometer standard type



- Approximately 2.4-year span of battery life has been achieved, thus reducing the inconvenience of replacing the battery.
 - A nonslip surface with raised dots is employed for the frame cover and surface panel to achieve stable handhold measurement.
 - The ratchet thimble mechanism helps to ensure repeatable results by transmitting microvibrations along the spindle to the contact face to provide a constant measuring force and encourage good contact with the workpiece. The ratchet works from the thimble as well as the speeder so it is always easy to use – even when making measurements onehanded.
- The sound of the ratchet provides the user with a sense of confidence and the speeder enables the rapid spindle feed needed when measuring widely different dimensions.
- Oilproof materials are used in all plastic components.
 - Two types of constant-force devices are available: Ratchet Stop and Ratchet Thimble.



Ratchet Thimble type that has improved operability with one hand



293-234-30



An inspection certificate is supplied as standard.
(50mm/2" or less range model)

SPECIFICATIONS

Metric							
	Order No.	Range	Accuracy	Parallelism	Measuring force	constant-force device	Mass
With SPC data output	293-230-30	0 - 25mm	±1μm	1μm	5 - 10N	With ratchet stop	270g
	293-231-30	25 - 50mm		2μm			330g
	293-232-30	50 - 75mm					470g
	293-233-30	75 - 100mm	±2μm	1μm	7 - 12N*	625g	
	293-234-30	0 - 25mm				280g	
	293-235-30	25 - 50mm				340g	
	293-236-30	50-75mm	±1μm	2μm	7 - 12N*	With ratchet thimble	480g
	293-237-30	75-100mm					635g
Without SPC data output	293-240-30	0 - 25mm		±1μm			1μm
	293-241-30	25 - 50mm	2μm		330g		
	293-242-30	50 - 75mm			470g		
	293-243-30	75 - 100mm	±2μm	1μm	7 - 12N*	625g	
	293-244-30	0 - 25mm				280g	
	293-245-30	25 - 50mm				2μm	340g
	293-246-30	50-75mm	2μm	480g			
	293-247-30	75-100mm		635g			

Inch/Metric							
	Order No.	Range	Accuracy	Parallelism	Measuring force	constant-force device	Mass
With SPC data output	293-330-30	0-1"	±.00005"	.00004"	5-10N	With ratchet stop	270g
	293-331-30	1-2"		.00008"			330g
	293-332-30	2-3"					470g
	293-333-30	3-4"	±.0001"	.00004"	7-12N*	With ratchet thimble	625g
	293-334-30	0-1"	280g				
	293-335-30	0-1"	±.00005"				5-10N
293-336-30	1-2"	335g					
Without SPC data output	293-340-30	0-1"	±.00005"	.00004"	5-10N	With ratchet stop	
	293-341-30	1-2"		.00008"			330g
	293-342-30	2-3"					470g
	293-343-30	3-4"	±.0001"	.00004"	7-12N*	With ratchet thimble	625g
	293-344-30	0-1"	±.00005"				280g
	293-345-30	1-2"	±.00005"				340g
	293-346-30	2-3"	±.00005"	.00008"	5 - 10N	With friction thimble	480g
	293-347-30	3-4"	±.0001"				635g
	293-348-30	0-1"	±.00005"				.00004"
	293-349-30		±.0001"	With ratchet thimble	280g		

* Measuring force in the case of using the Speeder ratchet
Prior to measurement, apply a measuring force in the same condition to align the index line with the thimble zero line.



These marks indicate that a product has successfully passed IP65-level testing, which is carried out by the independent German certification organization TUV Rheinland.

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

- **Resolution:** .00005"/0.001mm
- **Quantizing error:** ±1 is not included.
- **Flatness:** 0.3 μm
- **Dust/water protection level:** IP65 (IEC60529) *2
- **Measuring system:** Electromagnetic induction type rotary sensor
- **Battery:** SR44 (1 pc), 938882, for initial operational checks (standard accessory)
- **Battery life:** Approx. 2.4 years under normal use
- **Standard accessories:** Reference bar, 1 pc (except for 0-25mm (0-1") models) Spanner (301336), 1 pc

*2 Rustproofing shall be applied after use.

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Functions

• Origin point setting (ABS measurement system)

Resets the ABS origin at the current spindle position to the minimum value of the measuring range and switches to ABS mode.

• Zero-setting (INC 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 where the instrument must be moved away from the workpiece before the reading can be recorded.

• Data output*4:

Models equipped with this function have an output port for transferring measurement data to a Statistical Process Control (SPC) system. *4: Only models with the data output function

• Auto power ON/OFF:

The reading on the LCD disappears after this instrument is idle for about 20 minutes, but the reading and measurement mode are retained. Turning the spindle causes the reading to reappear.

• 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.

• Function lock*5:

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. *5: All-digit preset type only

Optional accessories

(Only for models with data output function)

• Printer: Digimatic mini-processor DP1-VR

Connecting cables with output switch *3

1m: No.05CZA662

2m: No.05CZA663

*3 Both cables are also available for connection with such as IT-012U/IT-007R/MUX-10F



• USB Input Tool Direct: U-WAVE-T

USB-ITN-B (2m): 06ADV380B

• Wireless interface: U-WAVE-T (IP67type/Buzzer type)

No.02AZD730D/02AZD880D

U-WAVE-R is required separately on the PC side.

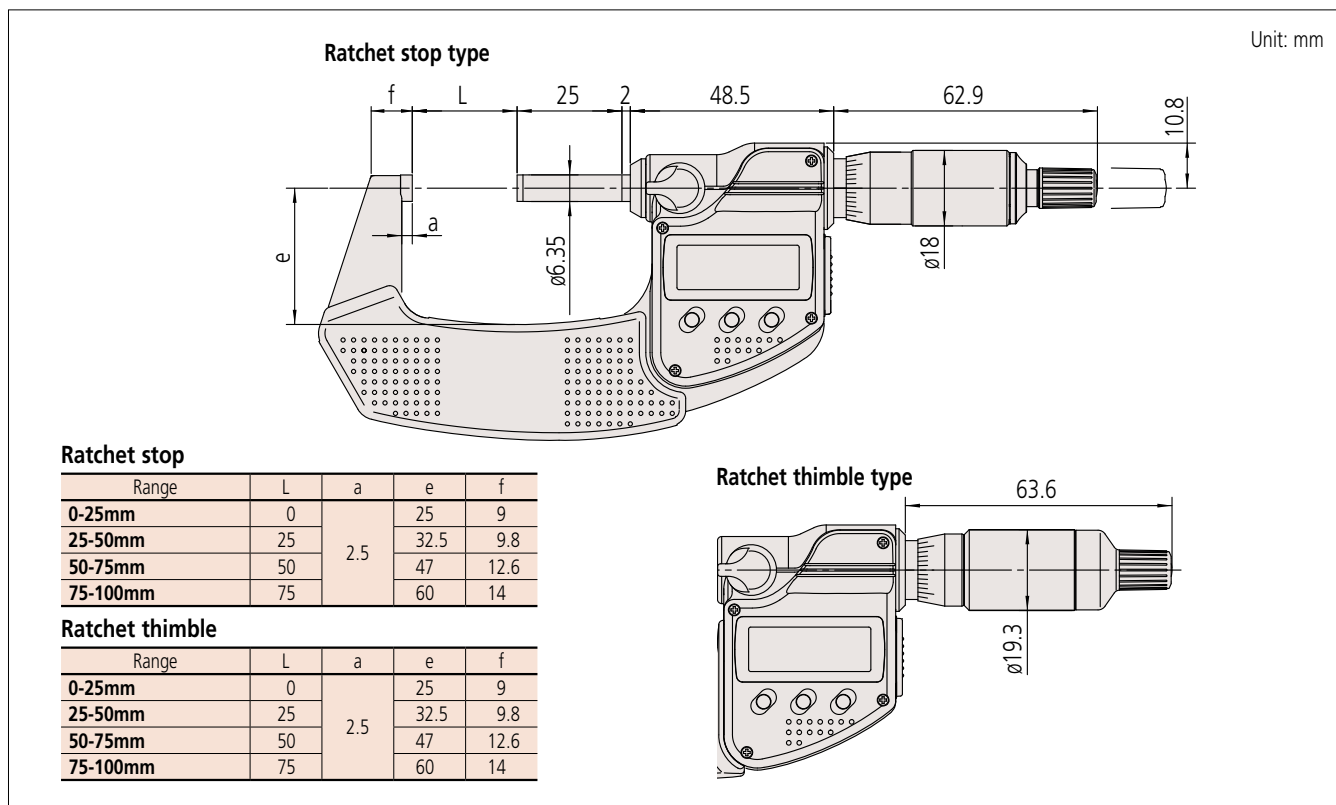
No.02AZD810D

Connecting cables for U-WAVE-T (160mm)

02AZD790B

For foot switch: 02AZE140B

DIMENSIONS



Digimatic outside micrometers



Plain Function, Simple design

- Approximately 2.4-year span of battery life has been achieved, thus reducing the inconvenience of replacing the battery.
- Simple design, such as not incorporating data output, achieves low cost.
- Provided only with an origin-set button for easy origin setting.
- Two types of constant-force devices are available: Ratchet Stop and Friction Thimble.



SPECIFICATIONS

Metric						
Order No.	Range	Resolution	Accuracy	constant-force device	Mass	
293-821-30	0-25mm	0.001mm	$\pm 2\mu\text{m}$	With ratchet thimble	270g	
Inch/Metric						
Order No.	Range	Resolution	Accuracy	constant-force device	Mass	
293-831-30	0-1"	.00005"/0.001mm	$\pm .0001"$	With ratchet thimble	270g	
293-832-30				With friction thimble	275g	

Technical Data

- **Measuring force:** 5 -10N
- **Quantizing error:** ± 1 is not included.
- **Measuring system:** Electromagnetic induction type rotary sensor
- **Battery:** SR44 (1 pc), 938882, for initial operational checks (standard accessory)
- **Battery life:** Approx. 2.4 years under normal use



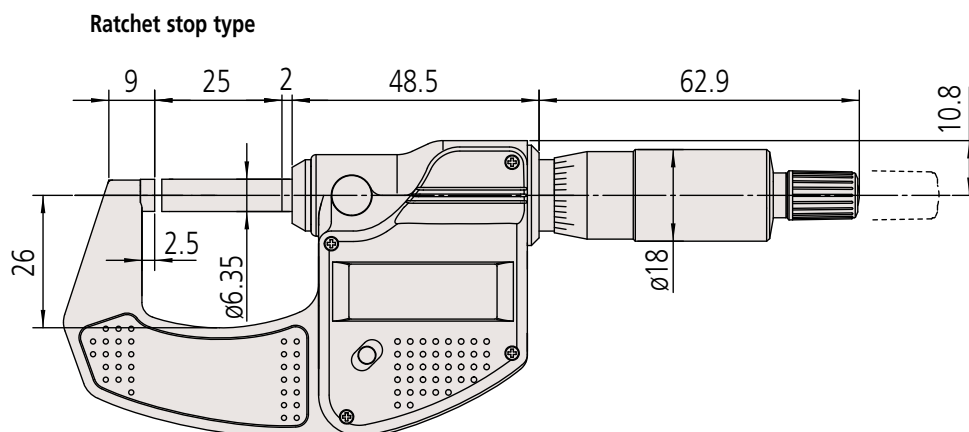
293-821-30



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DIMENSIONS

Unit: mm





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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.

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Mitutoyo

Mitutoyo Asia Pacific Pte. Ltd.

Company Reg No. 197800892N

24 Kallang Avenue, Mitutoyo Building, Singapore 339415

Tel: (65) 6294 2211 Fax: (65) 6299 6666

E-mail: maps@mitutoyo.com.sg

Small Tools Authorized Distributor

Mitutoyo (Malaysia) Sdn. Bhd.

Mah Sing Integrated Industrial Park,
4, Jalan Utarid U5/14, Section U5,
40150 Shah Alam, Selangor, Malaysia
Tel: (60) 3-7845 9318
Fax: (60) 3-7845 9346

E-mail: mmsb@mitutoyo.com.my

Penang Branch

Tel: (60) 4-641 1998 Fax: (60) 4-641 2998
E-mail: mmsbpen@mitutoyo.com.my

Johor Branch

Tel: (60) 7-352 1626 Fax: (60) 7-352 1628
E-mail: mmsbjhr@mitutoyo.com.my

Mitutoyo (Thailand) Co., Ltd.

76/3-5, Chaengwattana Road, Kwaeng
Anusaowaree, Khet Bangkaen,
Bangkok 10220, Thailand
Tel: (66) 2-080 3500
Fax: (66) 2-521 6136

E-mail: office@mitutoyo.co.th

Chonburi Branch

Tel: (66) 2-080 3563 Fax: (66) 3-834 5788

Amata Nakorn Branch

Tel: (66) 2-080 3565 Fax: (66) 3-846 8978

PT. Mitutoyo Indonesia

Jalan Sriwijaya No.26
Desa cibatu
Kec. Cikarang Selatan
Kab. Bekasi 17530, Indonesia
Tel: (62) 21-2962 8600
Fax: (62) 21-2962 8604

E-mail: ptmi@mitutoyo.co.id

Mitutoyo Vietnam Co., Ltd.

No. 07-TT4, My Dinh - Me Tri Urban Zone,
My Dinh 1 Ward, Nam Tu Liem District,
Hanoi, Vietnam

Tel: (84) 4-3768 8963

Fax: (84) 4-3768 8960

E-mail: mvc-hn@mitutoyo.com.vn

Ho Chi Minh City Branch

Tel: (84) 8-3840 3489

Fax: (84) 8-3840 3498

E-mail: mvc-hcmc@mitutoyo.com.vn

Mitutoyo Philippines, Inc.

Unit 2103, GMV Building 2,
107 North Main Avenue,
Laguna Technopark, Biñan,
Laguna 4024, Philippines

Tel: (63) 49-544 0272

Fax: (63) 49-544 0272

E-mail: mpi@mitutoyo.com.ph