

## Series 227 ABSOLUTE Digimatic Micrometers with Adjustable Measuring Force

Small Tool Instruments  
and Data Management

Portable Micrometer with  
constant and low measuring force  
mechanism in the thimble





# ABSOLUTE Digimatic Micrometers with Adjustable Measuring Force

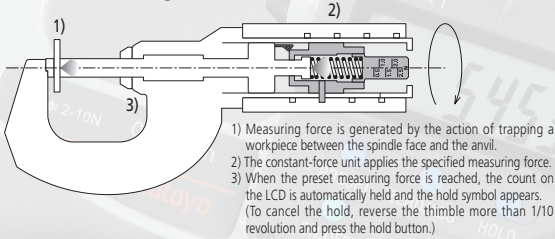
## Constant and low measuring force mechanism in the thimble

Digimatic micrometer dedicated to applications requiring a constant/low measuring force such as measuring wire, paper, and plastic/rubber parts.



Above: 2 to 10 N type  
Below: 0.5 to 2.5 N type

### Constant-Measuring-Force Mechanism



## Extended battery life (5 Years)

Low-power electronics have extended the battery life to 5 years in normal use\*2.

\*2: Typical, assuming average frequency of use and normal applications.

## Absolute scale

The ABS (absolute) linear scale eliminates the need for setting the origin point every time the micrometer is powered-on and achieves high reliability while being free from overspeed error.

**ABSOLUTE™**



## Quick measurement

**20 times faster feed rate** \*1

Speedy spindle feed of 10 mm per thimble rotation that enables widely differently sized features to be measured quickly.

\*1: Compared to standard micrometers (0.5 mm per revolution).

## Function lock

Function lock enhances usability by preventing the origin from being accidentally changed during measurement.

## Connectable to MeasurLink\*2 or spreadsheets\*2

Connected to MeasurLink, "visualization of quality" can be achieved by enabling real-time data collection, global control and statistical analysis.

\*2: When using optional adapters



## SPECIFICATIONS

Digimatic micrometers with adjustable measuring force

Inch/Metric								
Order No.	Range	Measuring force adjustable range*1	Resolution	Accuracy	Measuring force	Accuracy of the selected measuring force*1	Repeatability of measuring force*1	Mass
227-211-20	0 - 0.6 in	0.5 - 2.5 N	0.00005 in / 0.001 mm	±0.0001 in	0.5, 1.0, 1.5, 2.0, 2.5 N	± (0.1+ the selected measuring force/10) N	within 0.1 N	300 g
227-213-20	0.6 - 1.2 in				380 g			
227-215-20	0 - 0.4 in				345 g			
227-216-20	0.4 - 0.8 in	2 - 10 N			2, 4, 6, 8, 10 N	± (0.4+ the selected measuring force/10) N	within 0.4 N	425 g
227-217-20	0.8 - 1.2 in							415 g

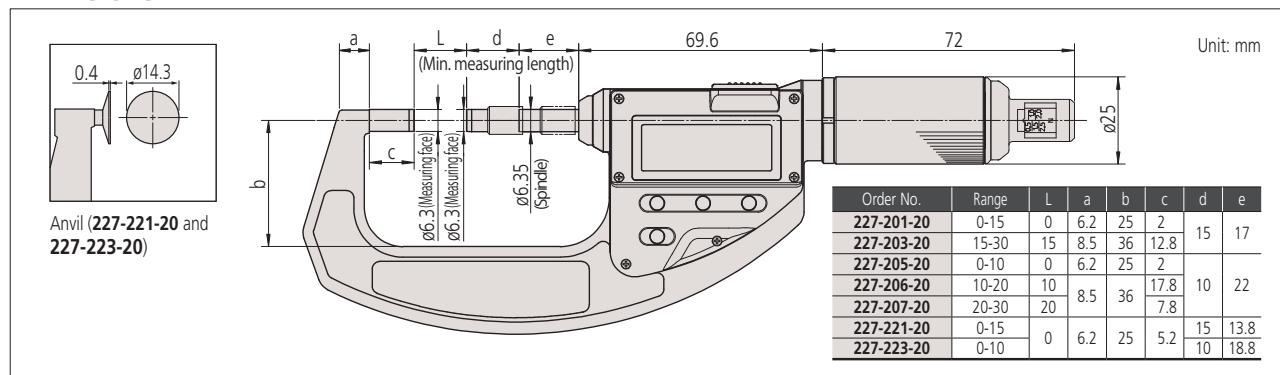
Metric								
Order No.	Range	Measuring force adjustable range*1	Resolution	Accuracy	Measuring force graduation	Accuracy of the selected measuring force*2	Repeatability of measuring force*2	Mass
227-201-20	0 - 15 mm	0.5 - 2.5 N	0.001 mm	±2 μm	0.5, 1.0, 1.5, 2.0, 2.5 N	± (0.1+ the selected measuring force/10) N	within 0.1 N	300 g
227-203-20	15 - 30 mm				380 g			
227-205-20	0 - 10 mm	2 - 10 N			2, 4, 6, 8, 10 N	± (0.4+ the selected measuring force/10) N	within 0.4 N	345 g
227-206-20	10 - 20 mm							425 g
227-207-20	20 - 30 mm							415 g

Disk micrometers with adjustable measuring force

Metric								
Order No.	Range	Measuring force adjustable range*1	Resolution	Accuracy	Measuring force graduation	Accuracy of the selected measuring force*2	Repeatability of measuring force*2	Mass
227-221-20	0 - 15 mm	0.5 - 2.5 N	0.001 mm	±4 μm	0.5, 1.0, 1.5, 2.0, 2.5 N	± (0.1+ the selected measuring force/10) N	within 0.1 N	305 g
227-223-20	0 - 10 mm				2 - 10 N			2, 4, 6, 8, 10 N

\*1: Measuring force fixed type is also available to special order. \*2: These values are guaranteed when used in a horizontal orientation (within ±3 degrees).

## DIMENSIONS



## Common specifications

- Spindle feed: 10 mm per revolution
- Power supply: Silver oxide button cell battery SR44
- Battery life: Approx. 5 years under normal use
- Output: Displayed Measurement Data
- Operating temperature: 5 to 40°C
- Storage temperature: -10 to 60°C
- Standard accessories: Silver oxide button cell battery SR44 (938882), Setting standard (excluding 0 - 10/15 mm and 0 - 0.4/0.6 inch range models)
- Flat-head screwdriver (210183)

## Common functions

Adjustable measuring force	When setting the measuring force to 0.5 to 2.5 N (2 to 10 N), the measuring force graduations are 0.5, 1.0, 1.5, 2.0, 2.5 N (2, 4, 6, 8, 10 N).
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.
Function lock	This function allows the PRESET (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 about 20 minutes, but the reading and measurement mode are retained. Turning the spindle causes the reading to reappear.
Data output	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.

## Optional accessories

- Connecting cable to DP-1VA LOGGER
    - 1 m: **05CZA662**
    - 2 m: **05CZA663**
  - Digimatic mini processor DP-1VA LOGGER: **264-505A**
  - Connection with PC (wired communication):
    - USB Input Tool Direct
    - USB-ITN-B (2 m): **06AFM380B**
  - Connection with PC (wireless communication):
    - Connecting cable to U-WAVE-T (160 mm): **02AZD790B**
    - Cable for foot switch: **02AZE140B**
- Note: wireless transmitters & receiver sold separately





**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 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 measuring solutions and even, if deemed cost-effective, take your critical measurement challenges in-house on a sub-contract basis.



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