

Solar Digital Calipers with ABSOLUTE System SUPER CALIPER

Small Tool Instruments
and Data Management

COOLANT PROOF™ IP67



Top-of-the-line Digital caliper Solar ABSOLUTE System without battery achieves IP67 protection



COOLANT PROOF™ IP67

COOLANT PROOF is the universal term for Mitutoyo Digimatic Small Tool Instruments that are not only resistant to dust and water ingress (rated to IP65 or better) but also to deterioration of materials due to contact with the cutting oil or coolant fluids in normal use.

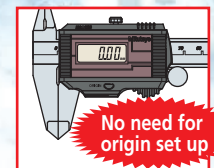
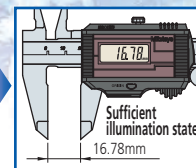
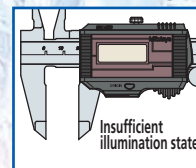
Note: Some types of aggressive cutting oil or coolant may degrade the sealing materials over time.



ABSOLUTE™

1 With no annoying origin restoration necessary, a measurement can be started any time and there is no restriction on operating speed.

The linear encoder with ABSOLUTE System has eliminated the need to reset the origin after switching the instrument on. Also, origin reset is not required even when data is re-displayed after disappearance due to insufficient illumination during use.



2 World's unique* solar-powered SuperCaliper that is eco-friendly with no battery

(*: According to Mitutoyo investigation in March, 2015)

The use of a Super Capacitor provides a large-capacity charge function* that allows extended operation even in dim conditions. *See page 3.

3 The impact resistance of the display unit has been increased for improved usability in workshop conditions.

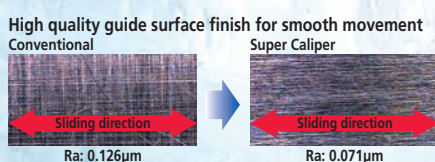
This transparent cover on the display unit has been thickened and shaped to protect the whole display unit and is made from a new material that absorbs impact.

4 IP67 protection assures waterproof reliability.

This SuperCaliper can be used in conditions where it is subject to considerable splashing from cutting fluids, making it as easy to use as a mechanical caliper.

5 This SuperCaliper uses components that do not contain harmful substances and is compatible with RoHS Directives.

6 Slider operation is smooth and comfortable.



Specifications

	Order No.	Range	Resolution	Accuracy*1	Mass
With data output	500-776	150mm	0.01mm	±0.02mm	180g
	500-777	200mm			210g
	500-786	6 in/150mm	0.0005 in/	±0.01 in/	.40 lbs.
	500-787	8 in/200mm	0.01mm	±0.02mm	.46 lbs.
Without data output	500-774	150mm	0.01mm	±0.02mm	180g
	500-775	200mm			210g
	500-784	6 in/150mm	0.0005 in/	±0.01 in/	.40 lbs.
	500-785	8 in/200mm	0.01mm	±0.02mm	.46 lbs.

*1: Quantizing error ±1 count is not included.

Features

Resolution	0.01mm
Repeatability	0.01mm
Dust/Water protection level	IP67(IEC60529)*2
Power supply	Solar cell*3
Scale type	ABSOLUTE electromagnetic induction linear encoder
Max. response speed	Unlimited

*2: Anti-corrosion treatment is required after use

*3: Can be used continuously above 60 lux ambient illumination.

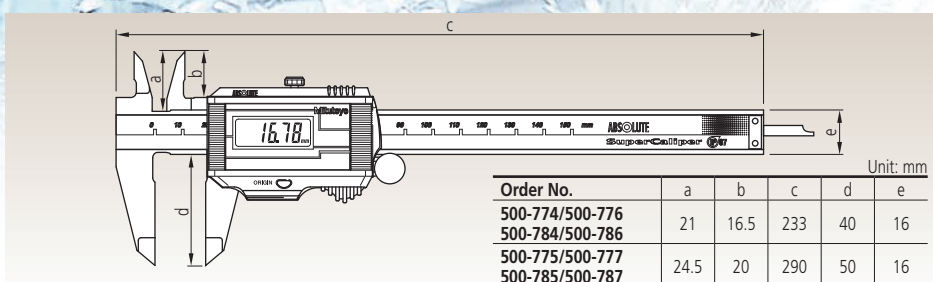
Functions

Origin setting	It is possible to change the ABS (origin) point.
Measurement data output function	Measurement data output connector allows integration into statistical process control and measurement systems. *Measurement data output function is not included in the model 500-774 and 500-775.
Alarm	Error message is displayed and measurement functions become inoperative if: • Tool is turned on when both illumination and charging voltage are insufficient. • Main unit is extremely polluted and miscalculation occurs in the display unit.

Achieving IP67 protection level

Type	Level	Description
Protection from solid objects (people or things)	6: Dust-proof	No ingress of dust allowed.
Protection from liquids (water, etc.)	7: Protected against water penetration	Ingress of water in quantities causing harmful effects shall not be possible when the enclosure is temporarily immersed to a depth of 1 meter in water under standardized conditions of pressure and time (30 min.).

Dimensions



About the charge function (SuperCaliper)

The minimum illumination required in the uncharged state is 60 lux.

As shown in the table 'JIS Z 9110 Artificial Illumination Intensity Standard', this SuperCaliper can be used without problems in a normal work environment.

The charge function allows the operator to use this SuperCaliper without interrupting work even if the ambient illumination is temporarily insufficient.

- In the fully charged state this SuperCaliper can operate for approximately an hour in an environment of 50-lux illumination (less than the minimum necessary illumination intensity).
- The time necessary for full charge differs, depending on the charging conditions. If this SuperCaliper is left unused in an illumination of 500 lux (usual for manufacturing environments), it takes approximately one hour to reach full charge.

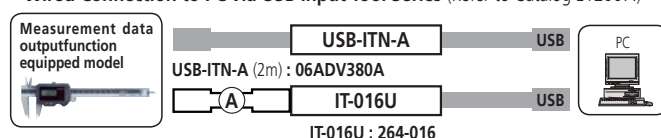
Illumination (lx)	Site
1500	
1000	Design room, drafting room (Fine visual work)
750	
500	Conference room, control room (Usual manufacturing environment) (Normal visual work)
300	
200	Machine room, electric room, lecture hall (Rough visual work)
150	
100	Corridor, passage, stairs (Very rough visual work)
75	
50	Emergency staircase, warehouse (Loading, unloading work)
30	
20	

Excerpts from JIS Z 9110 Artificial Illumination Intensity Standard

Measurement Data Recording Tools & Connecting Cable Options (For measurement data output function equipped model 500-776/500-777)

These options are dedicated interfaces (wired or wireless) that allow simple entry of measurement data to a PC.

- Wired Connection to PC via USB Input Tool Series (Refer to Catalog E12007.)

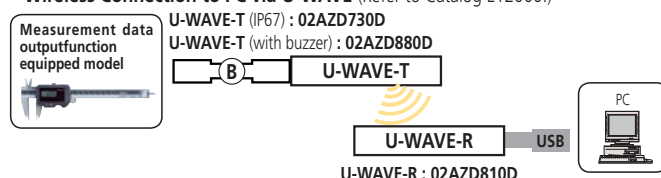


Connecting cables specific to output function equipped models

- 1m : 05CZA624
- 2m : 05CZA625



- Wireless Connection to PC via U-WAVE (Refer to Catalog E12000.)



- For standard use (160mm) : 02AZD790A
- For foot switch use : 02AZE140A



Coordinate Measuring Machines



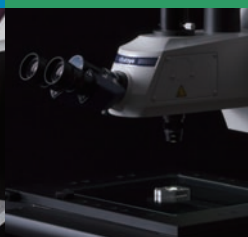
Vision Measuring Systems



Form Measurement



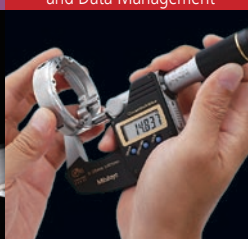
Optical Measuring



Sensor Systems

Test Equipment
and Seismometers

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.



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