

# Solar Digital Calipers with ABSOLUTE System **SUPER CALIPER**

Catalog No. E4282-500



**No battery or origin rest needed for IP67  
digital caliper**

**Mitutoyo**

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

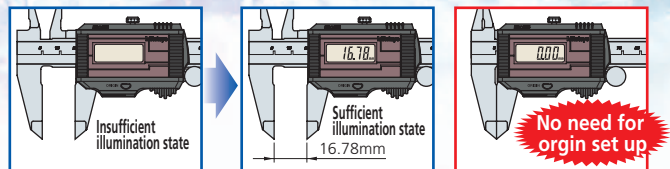


**ABSOLUTE™**  
Absolute System Patented by MITUTOYO

**IP67**

## 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 January, 2005)

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

## 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.

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## Specifications

	Order No.	Range	Resolution	Accuracy* <sup>1</sup>	Mass
With data output	500-776	150mm	0.01mm	±0.02mm	180g
	500-777	200mm			210g
	500-786	6"/150mm	.0005"/	±0.01"/	.40 lbs.
	500-787	8"/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"/150mm	.0005"/	±0.01"/	.40 lbs.
	500-785	8"/200mm	0.01mm	±0.02mm	.46 lbs.

\*<sup>1</sup>: Quantizing error ±1 count is not included.

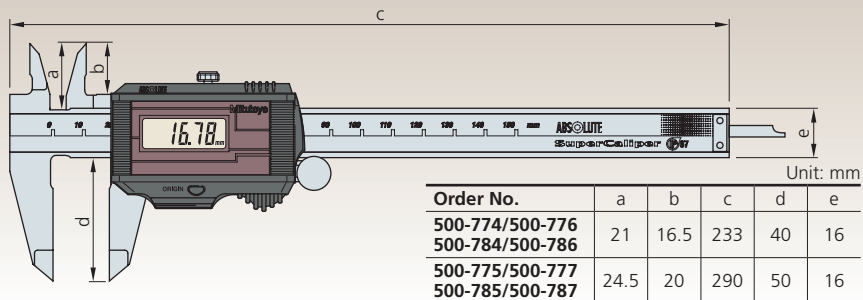
## Features

Functions	Origin setting, Error reporting
Protection level	IP67 (IEC60529)* <sup>2</sup>
Power supply	Solar cell* <sup>3</sup>
Maximum response speed	Unlimited

\*<sup>2</sup>: Anti-corrosion treatment is required after use

\*<sup>3</sup>: Can be used continuously above 60 lux ambient illumination.

## Dimensions



## Functions

Origin setting	It is possible to change the ABS (origin) point.
Error reporting	When illumination is insufficient, or there are display irregularities due to contamination, an error message is displayed and operation is suspended so that measurement does not continue under the fault condition.

## Achieving IP67 protection level

Type	Level	Description
Protection from solid objects (people or things)	6: Dust-tight	Protection against ingress of dust and full protection against contact
Protection from liquids (water, etc.)	7: Protected against the effects of temporary immersion in water.	Ingress of water in quantities causing harmful effects shall not be possible when the enclosure is temporarily immersed to a depth of 1 m in water under standardized conditions of pressure and time.

## Optional accessories

### Water-resistant connection cable\*<sup>5</sup>

1 m cable: No.05CZA624

2 m cable: No.05CZA625



\*<sup>5</sup> This connection cable is dedicated to the super caliper.

### DP-1VR Digimatic Mini-processor No.264-504

(Data processing device for quality control applications)



### MUX -10F Multiplexer No.264-002

(Measurement data transmission device)



### USB Input Tool

(Measurement data input device with USB keyboard signals)

No.264-012



## 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

### Fluids against which this caliper is protected (for reference)

\* It has been proven that this SuperCaliper operated satisfactorily during IP67-level testing using the following fluid products supplied by major manufacturers.

#### Water-insoluble cutting fluids

- Chlorine active sulfur
- Chlorine inert sulfur
- Active sulfur
- Inert sulfur

#### Water-soluble cutting fluids

- Emulsion
- Soluble
- Solution

#### Electrical discharge fluids

- Brake fluid
- Cleaning fluid
- Water-soluble cleaning fluid
- Rust-preventive oil

Coordinate Measuring Machines	=====
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Form Measurement	=====
Optical Measuring	=====
Sensor Systems	=====
Hardness Measuring	=====
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