

Solar Digital Calipers with ABSOLUTE System SUPER CALIPER

Bulletin No. 1814



The Super Solar Caliper gets its power from light, eliminating the need for batteries. IP-67 Protection ensures excellent performance in harsh environments.

Mitutoyo

Top-of-the-line Digital caliper with Solar ABSOLUTE System needs no battery and has IP67 protection!

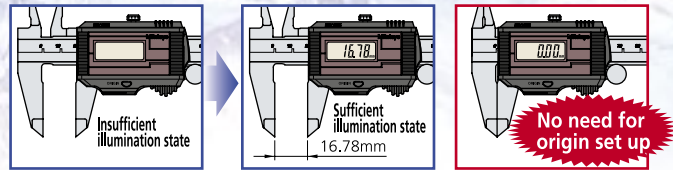


ABSOLUTE™
Absolute System Patented by MITUTOYO



1 With no origin reset necessary, measuring can begin immediately and there is no overspeed error.

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 Super Caliper that is eco-friendly and needs 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

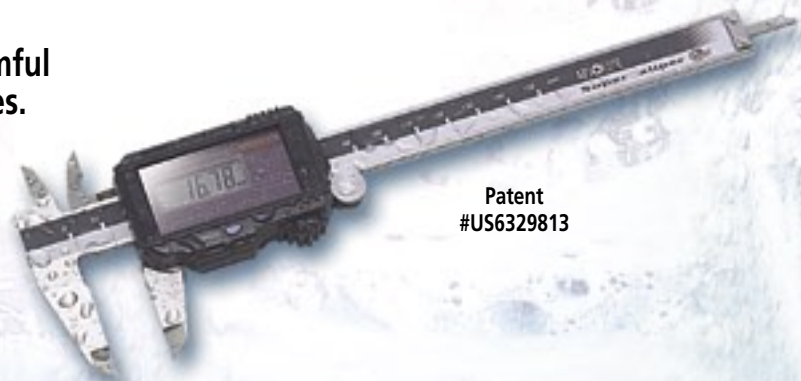
3 The display unit has better impact resistance under tough workshop conditions.

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 Super Caliper can be used in conditions where it is subject to considerable exposure to cutting fluids, making it reliable as a mechanical caliper.

5 The components do not contain any harmful substances and they meet RoHS Directives.



Patent
#US6329813

Mitutoyo

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"/150mm	.0005"/	±.001"/	.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"/	±.001"/	.40 lbs.
	500-785	8"/200mm	0.01mm	±0.02mm	.46 lbs.

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

Features

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

*²: Anti-corrosion treatment is recommended after use

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

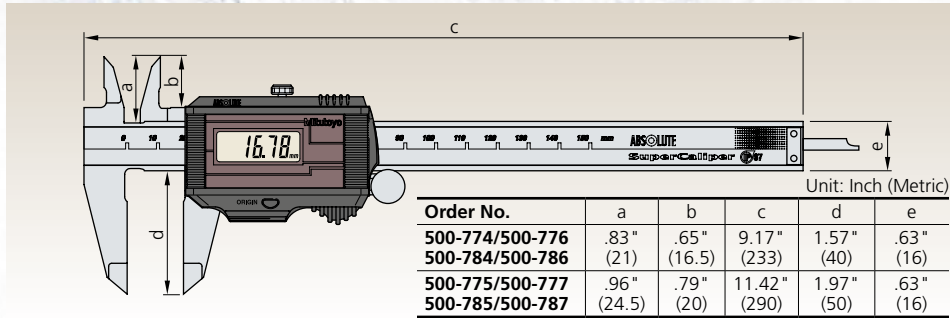
Functions

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.

Dimensions



Optional accessories

Water-resistant connection cable*⁵

40" (1m) cable: **No.05CZA624**

80" (2m) cable: **No.05CZA625**



*⁵ This connection cable is dedicated to the super caliper.

DP-1VR Digimatic Mini-processor

No.264-504-5A

(Data processing device for quality control applications)



MIG-4A

No.982-548-10A

(Measurement data transmission device, RS-232C)



USB Input Tool

(Measurement data input device with USB keyboard signals, sends data directly to spreadsheets, etc.)

No.264-012



How the Super Caliper is Charged

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

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

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

- In the fully charged state this Super Caliper 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 Super Caliper 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 Super Caliper 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	_____
Vision Measuring Systems	_____
Surface, Form and Contour Measurement	_____
Optical Measuring	_____
Sensor Systems	_____
Hardness Measuring	_____
Digital Scale and DRO Systems	_____
Small Tool Instruments and Data Management	_____

Mitutoyo America Corporation

www.mitutoyo.com

	M ³ Solution Center
Michigan (734) 459-2810	Massachusetts (978) 692-8765
Illinois (630) 978-5385	Indiana (317) 577-6070
California (626) 961-9661	No. Carolina (704) 875-8332
	Ohio (513) 754-0709

Mitutoyo

Precision is our Profession

PAT. JP3436510, US6329813 P. CN1272620A, EP1014041A1

Note: All our product details, in particular the illustrations, drawings, dimensional and performance details and other technical specifications contained in this publication are to be considered to be approximate average values. To this extent, we reserve the right to make changes in design, technical data, dimensions and weight. Our specified standards, similar technical rules and technical specifications, descriptions and illustrations of the products are correct at the time of printing. The current version of our general terms and conditions also apply. Only offers which we have submitted can be considered to be definitive.