

Digital Caliper

# ABS Digimatic Caliper CD-AX/APX Series

SMALL TOOL INSTRUMENTS  
AND DATA MANAGEMENT

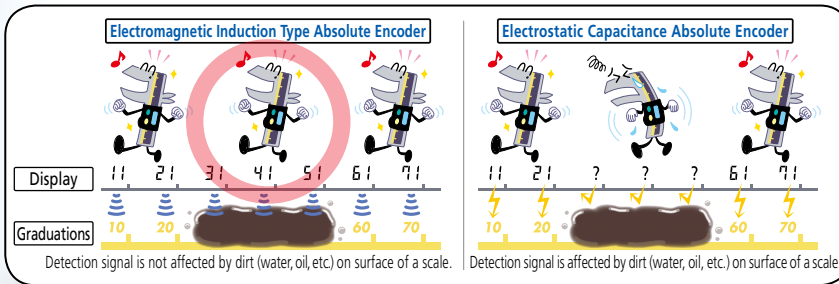


*New*

# ABS Digimatic Caliper CD-AX/APX Series

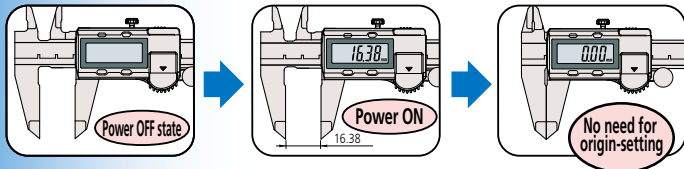
A new series of cost-effective standard Digimatic caliper born of Mitutoyo's  
Now equipped with the same AOS (Advanced Onsite Encoder) induction

Thanks to the adoption of the **electromagnetic induction type ABS encoder**, this caliper can be used without concern for **contamination on the scale face during measurement.**



Font height: **9mm**  
Alleviation of fatigue with the high-contrast LCD

The ABS (absolute) scale **requires no origin setting** after power-on and **also has no limit to response speed.**



500-181-30  
Slider without a measurement data output port or thumb roller

**ABSOLUTE™**

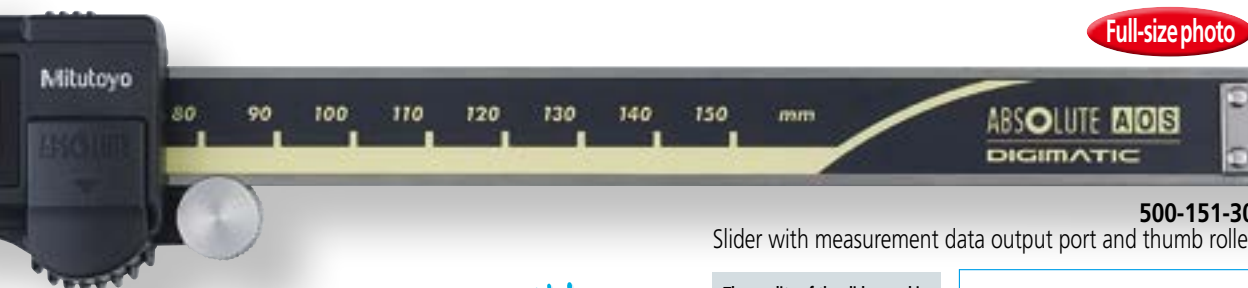
**Mitutoyo**

## Evolution of Mitutoyo's digital caliper

- | 1983                         | 1987   | 1988  |
|------------------------------|--|---|
| • The first digital caliper. | • A Digimatic-format measurement data output port is incorporated. | • The first solar-powered model, which never needs a new battery. |



ground-breaking encoder technologies developed over the last 30 years.  
 type encoder used in top-of-the-line **ABS coolant-proof calipers.**



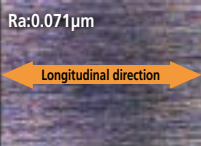
Full-size photo

500-151-30

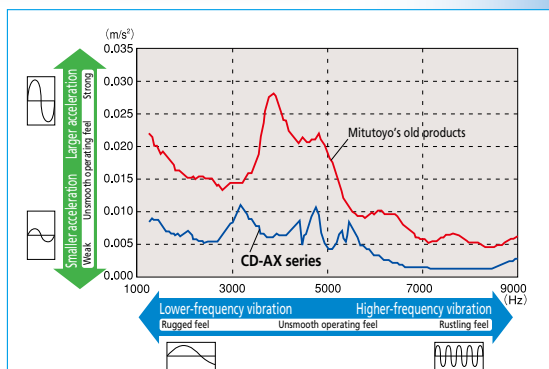
Slider with measurement data output port and thumb roller



The quality of the slider working surface has improved with the latest machining technology.



The slider provides **smooth, stable and comfortable** operation.



Assessment of slider operating 'feel'

This assessment is obtained from FFT analysis of vibrations during sliding with acceleration sensors mounted on the slider.



Full-size photo



Full-size photo

500-197-30

Slider without a measurement data output port but with a thumb roller

- A battery life of approximately 3.5 years has been achieved under normal use through the adoption of Mitutoyo's ABSOLUTE scale.
- The slider configuration features an ergonomic, thumb-friendly shape.
- Step-measurement capable.
- Carbide-tipped jaw models are ideally suited to the measurement of rough-machined workpieces, castings, grindstones, etc.
- The data output function allows integration into statistical process control and measurement systems.



An inspection certificate is included standard with each caliper.

1993	2000	2003	2005	2013
<ul style="list-style-type: none"> <li>• Introduction of Mitutoyo's electrostatic capacitance ABSOLUTE encoder caliper.</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction of an ABSOLUTE encoder caliper offering IP65-level coolant-proof performance.</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction of an induction type ABSOLUTE encoder caliper offering IP67-level coolant-proof performance.</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction of a solar-powered ABSOLUTE encoder caliper offering IP67-level coolant-proof performance.</li> </ul>	<ul style="list-style-type: none"> <li>• The AOS induction type ABSOLUTE encoder is introduced to a standard caliper. <i>New</i></li> </ul>

## Common Specifications

- Resolution: 0.01mm or 0.0005" / 0.01mm
- Repeatability: 0.01mm  
(Quantizing error excluded)
- Power supply: Button-type silver oxide battery SR44 (No. 938882), 1 piece supplied as standard (The standard supplied battery is for the monitor.)
- Battery life: Approx. 3.5 years under normal use
- Maximum response speed: Unlimited

## Functions

### ABS (absolute) measurement function:

Enables absolute-mode measurement to be started without any zero-setting after switch-on. The absolute origin position can be set, or reset, with the ORIGIN switch at any time.

### INC (incremental) measurement function:

Enables the display value to be set to zero, temporarily, at the current slider position to enable easy incremental-mode measurement.

### Low battery alarm:

Indicates (with a 'B' symbol in the display) that the battery needs replacing. This allows timely battery replacement before the caliper becomes unusable.

### External output function:

Allows measurement data to be exported using the optional data cable.

### Hold function:

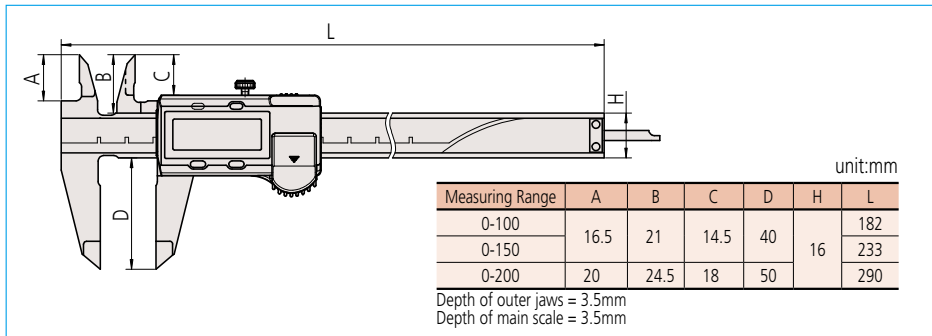
Allows a display value to be held using the optional Data Hold unit. (This function cannot be used along with the external output function.)

## SPECIFICATIONS

Metric						
Order No.	Range	Accuracy	Mass	Measurement data output port	Thumb roller	Remarks
500-150-30	0-100mm	±0.02mm	143 g	✓	✓	Depth bar ø1.9mm rod
500-180-30				-	-	-
500-151-30				-	-	-
500-154-30	0-150mm	±0.02mm	168 g	✓	✓	Carbide-tipped jaws for outside measurement
500-155-30				-	-	Carbide-tipped jaws for outside and inside measurement
500-158-30				-	-	Depth bar ø1.9mm rod
500-181-30	0-200mm	±0.02mm	198 g	-	-	-
500-152-30				-	-	-
500-156-30				-	-	Carbide-tipped jaws for outside measurement
500-157-30	-	-	-	✓	✓	Carbide-tipped jaws for outside and inside measurement
500-182-30	-	-	-	-	-	-

Inch						
Order No.	Range	Accuracy	Mass	Measurement data output port	Thumb roller	Remarks
500-170-30	0-4"	±0.001"	143 g	✓	-	Depth bar ø3/40" rod
500-195-30				-	-	-
500-171-30				-	-	-
500-174-30	0-6"	±0.001"	168 g	✓	-	Carbide-tipped jaws for outside measurement
500-175-30				-	-	Carbide-tipped jaws for outside and inside measurement
500-178-30				-	-	Depth bar ø3/40" rod
500-196-30	0-8"	±0.001"	198 g	-	✓	Carbide-tipped jaws for outside measurement
500-159-30				-	-	Carbide-tipped jaws for outside and inside measurement
500-160-30				-	-	-
500-172-30	-	-	-	✓	✓	Carbide-tipped jaws for outside measurement
500-176-30	-	-	-	-	-	Carbide-tipped jaws for outside and inside measurement
500-177-30	-	-	-	-	-	Carbide-tipped jaws for outside and inside measurement
500-197-30	-	-	-	-	-	-
500-163-30	-	-	-	-	-	Carbide-tipped jaws for outside measurement
500-164-30	-	-	-	-	-	Carbide-tipped jaws for outside and inside measurement

## External View/Dimensions Chart



Note: Product illustrations are without obligation. Product descriptions, in particular any and all technical specifications, are only binding when explicitly agreed upon.

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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: mapsg@mitutoyo.com.sg

### Mitutoyo (Malaysia) Sdn. Bhd.

Tel: (60) 3-7845 9318 Fax: (60) 3-7845 9346

E-mail: mmsb@mitutoyo.com.my

### Penang Branch

Tel: (60) 4641 1998 Fax: (60) 4641 2998

E-mail: mmsbpen@mitutoyo.com.my

### Johor Branch

Tel: (60) 7352 1626 Fax: (60) 7352 1628

E-mail: mmsbjhr@mitutoyo.com.my

### Mitutoyo (Thailand) Co., Ltd.

Tel: (66) 2080 3500 Fax: (66) 2521 6136

E-mail: office@mitutoyo.co.th

### Chonburi Branch

Tel: (66) 2080 3563 Fax: (66) 3834 5788

### Amata Nakorn Branch

Tel: (66) 2080 3565 Fax: (66) 3846 8978

### PT. Mitutoyo Indonesia

Tel: (62) 21-2962 8600

Fax: (62) 21-2962 8604

E-mail: ptmi@mitutoyo.co.id

### Mitutoyo Vietnam Co., Ltd.

Tel: (84) 24-3768 8963

Fax: (84) 24-3768 8960

E-mail: mvc@mitutoyo.com.vn

### Ho Chi Minh City Branch

Tel: (84) 28-3840 3489

Fax: (84) 28-3840 3498

E-mail: mvc@mitutoyo.com.vn

### Mitutoyo Philippines, Inc.

Tel: (63) 4-9544 0272

Fax: (63) 4-9544 0272

E-mail: mpi@mitutoyo.com.ph

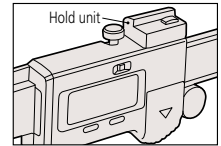
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## Optional Accessories

These accessories are available only for those models with the measurement data output function.

- Data Hold unit  
Order No.959143



- USB direct input tool

USB-ITN-C (2m); Order No.06ADV380C

- Connecting cable

Used for input tool DP-1VR or MUX-10F.

1m cable: Order No.959149

2m cable: Order No.959150



- U-WAVE-T dedicated connecting cable

Cable for standard use: Order No.02AZD790C

Cable for foot switch: Order No.02AZE140C

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