

## INSTRUCTIONS FOR IP67 CALIPER WITH ABSOLUTE ENCODING SYSTEM 31-1851, 31-1861, 31-1871

Thank you for purchasing this product. This product has the same reliability as a vernier caliper but with a high protective level. It can be used in conditions where the instrument is , exposed to coolant, water, dust or oil. The IP67 rating allows for the digital caliper to be used in water for a short period of time.

The Measumax Absolute encoding measuring system is designed to avoid the loss of the measurement origin when the slider is moved very fast or is interfered. The need for setting the origin each time before measuring is also removed. After replacing the battery the origin is retained.

In order to maintain the efficiency of this product, please carefully read and keep the instructions for future reference

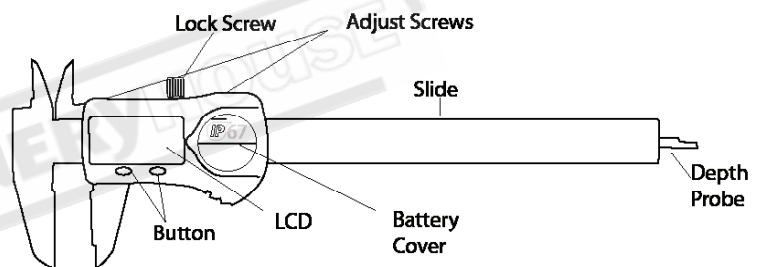
### FEATURES

- New patented electromagnetic induction displacement measuring system with absolute en
- Waterproof, oil proof, anti-electromagnetic, interference, protection Level IP67 (CEI60529)
- Two-button design, menu prompt, simple, convenient and easy to operate
- Manual/Automatic power switch, automatic shutdown after 5 minutes without being used  
(Note: Some models will automatically reboot after a 16 hour shutdown when the slider is moved)
- Low-voltage alarm, high and low temperature, and other error alarm
- Infinite response speed, no speed error
- ABS/INC mode and metric/inch units conversion

### Technical Data

- Measuring Range 0-150mm/6in, 0-200mm/8in, 0-300mm/12in
- Resolution: 0.01mm/0.0005in
- Repeatability: 0.01mm/0.0005in
- Operating Temperature: 0°C-40°C
- Storage Temperature: 10°C-60°C
- Relative Humidity: 100%
- Protective level: IP67(CEI60529)
- Battery Type: 3V Lithium Battery (CR2032)
- Battery Life: Approximately 2000 hours

Structure Diagram and the name of the main components



### Changing The Battery

To load the new battery undo the 3 screws on the battery cover and remove the flat battery. Place the new battery into the battery seat with “+” sign facing up, then replace the battery cover and tighten the screws (Note: Replace the battery in a dry environment and as quickly as possible so as to avoid water vapor entering the electronic components) When replacing the battery, replace the sealing O-ring in the case if deformed or damaged



## WARNING!



- Button & coin batteries (new or used) are hazardous and are to be kept away from children
- If a lithium button/coin battery is swallowed or placed inside the body can cause fatal injuries in 2 hours or less
- If a non-lithium button /coin battery is swallowed or placed inside the body can cause serious injuries
- Medical attention should be sought immediately if suspected the battery has been swallowed or placed inside the body
- Phone 13 11 26 Australian Poisons Information Centre for 24/7 fast, expert advice

### ABS/INC Conversion

In the ABS mode, when the lower jaws is closed, “0.00” is displayed, namely the absolute origin position of the digital caliper and ABS is displayed on LCD screen. For relative measurements at any position, just press the button “0-ON” and INC is displayed on the LCD screen and 0.00 is displayed in the INC mode (relative measurement mode). To convert to ABS mode, just press the button “0/ON” until ABS is displayed on the LCD screen and then release the button. The absolute position value is then displayed.

### MM/IN Conversion

Press the button “MM/IN” to switch to change between mm or inch mode.

### Manual shutdown

To manually shutdown the instrument press the button “0/ON” until OFF is displayed and then release the button. (Note: Keep pressing the button 0/ON, INC→ABS→ OFF→ INC will be displayed on the LCD screen periodically. When the needed function menu appears, release the button,

## Setting The Origin

To calibrate the absolute origin position

1. Switch on the power and make the external measuring faces touch.
2. Press the button "MM/IN" until "Set 0" is displayed on LCD screen and then release the button. The LCD now displays 0.00 and it's in the normal operating mode.
3. Move the slider back and forth several times. Make the external measuring faces touch every time and check if "0.00" is displayed. If "0.00" is not displayed repeat the above operation until "0.00" is displayed.

## Precautions and Notes

Avoid colliding and dropping which may cause deformation and reading errors.

Keep all the measuring faces and slide faces clean

If it's not to be used for a long time, clean the instrument with a soft cloth and anti-rust and store the instrument in the case provided.

The electronic components must not be exposed to chemical solvents

This digital caliper can be used in water and other liquids not deeper than 1 meter and not longer than 30 minutes

Replace the battery when the low voltage icon appears

When the ambient temperature is too high or too low, or the battery power is too low, "ERR-1" alarm will appear on the LCD. If the temperature and power are normal, and the "Err-1" alarm appears, the caliper's should be returned for service or repair.

While measuring if the "ERR-2" alarm appears, this will indicate that the measurement force is too great, and has causes the deformation or dislocation of the two measuring jaws to the slide. Reduce the measurement force or eliminate any outside force that may be causing the problem. If a certain part of the slide is bent or deformed, ERR-2 alarm will also appear at this point. This will need repair

Because the digital caliper adopts the absolute encoding measurement system, the clearance and position between the reading head and the absolute encoder slide are strict and precise. Therefore do not dismantle so as to avoid the reading head's failure to read the data on the absolute encoder slide.

## TROUBLESHOOTING

	Malfunction	Cause	Solution
1	Water enters the electronic components due to poor sealing	Battery cover screws haven't been tightened	Tighten screws
		The sealing O-ring is deformed	Adjust the O-ring shape
		The sealing O-ring is damaged	Replace the sealing O-ring
		Other causes	Send back for repair
2	Incomplete or missing LCD display	Water enters the electronic components	Dry it. Avoid water entering (see No1)
		Other causes	Send back for repair
3	No LCD Display	Flat battery	Replace battery
		Other causes	Send back for repairs
4	LCD Display	Low power	Replace battery
5	The displayed values between two digits repeatedly change	Poor battery contact	Improve the battery seat and contact
6	LCD Displays ERR-1	The temperature is lower than 0° or higher than 40°	Adjust the ambient temperature between 0° and 40°
		Low power	Replace the battery
		Electronic components are damaged	Send back for repair
7	LCD Displays ERR-2 Numerical disorder	Too large measurement force causes parts/deformation	Reduce measurement force
		Outside force causes dislocation or deformation of the measuring jaws	Eliminate the outside force
		Clearance between the slider and the slide is too big	Adjust the adjust screw and reduce the clearance
		The slide is bent	Send back for repair
		The electronic components are damaged	Send back for repair

Due to the products on going development, the instructions may alter slightly from product to product .