Thank you for purchasing this product. This product has the same reliability as vernier caliper and high protection level. It can be used in workshop, exposed to coolant , water, dust or oil. It can even be used in water for a short period of time. Absolute encoding measuring system can avoid the loss of the measurement origin when the slider is fast moved or interfered. It can also avoid the trouble of setting origin before measurement each time. The origin won't be lost even after replacement of the battery. You will find it easier and more comfortable by using this caliper.

In order to facilitate your fast use of this product, and exert the greatest performance of it and extend its service life, please carefully read the instructions. Please keep the instructions for future use.

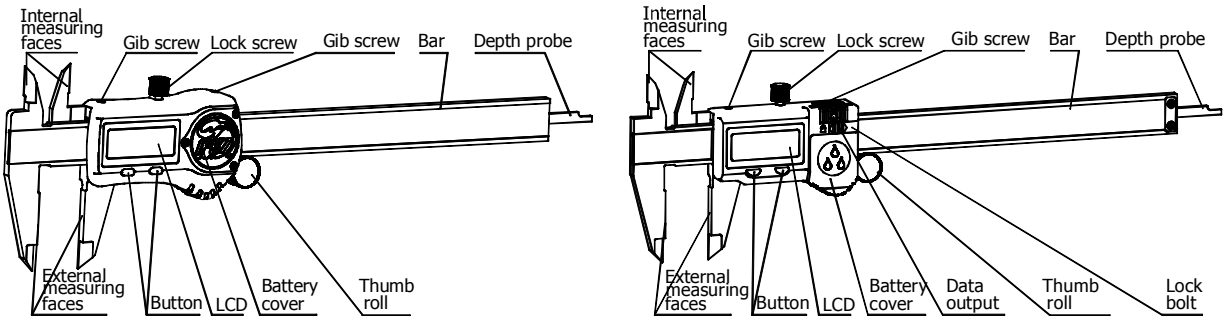
● FEATURES

- For this new patented inductive system adopted absolute encoder for measuring displacement , the origin need not be reset during use or after replacement of the battery. It can be used directly just like a vernier caliper. It's easy to use and of higher reliability.
- Waterproof, oilproof, anti-electromagnetic interference, protection rating IP67 (IEC 60529)
- Two-button design, menu prompt, simple, convenient and easy to operate
- Manual / automatic power switch， automatic switch off after 5 minutes without being used（Note：Some models will automatically wake up by moving the slider within 16 hours of switch off.）
- Low-voltage alarm and calculation error alarm .
- Infinite setting speed, no speed error.
- ABS / INC mode and metric / inch unit conversion
- With data output port (for plastic housing type only)

● Technical Data

Measuring range：0～150mm 0～200mm 0～300mm 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(IEC 60529) Battery type: 3V lithium battery（CR2032 or CR1632） Battery life： Approx. 2000 hours

●



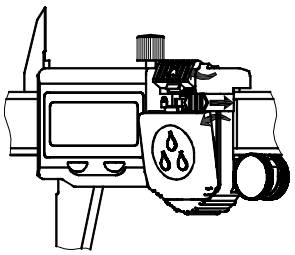
Structure diagram and the name of the main components

Type A: Metal housing type　　Type B: Plastic housing type(with data output port)

Note:： Version with thumb roll on request.

● How to use

■ **Replace the battery when " ▭+ "appears on LCD： A: Metal housing type** ① Screw out the three screws in the battery cover. ②To load new battery：Take out the flat battery, put aslant the battery into the battery seat with "+" facing up，don't let the battery pin the positive pole bar, then put in the battery cover and tighten the screws.



B: Plastic housing type

① Push the lock bolt rightward, the battery cover will automatically bounce. Take off the battery cover by following the indicating arrow on the right figure.

②To load new battery：Take out the flat battery, put aslant the battery into the battery seat with "+" facing up，don't let the battery pin the positive pole bar, then put back its battery cover by following the opposite direction of the indicating arrow. Press both the battery cover and the data output port cover and then push the lock bolt leftward to lock them. (Note: Be sure the seal rubber ring is in its right place.)

■ **ABS/INC Conversion：**In the ABS mode，when the lower jaws close, "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, press the button "0/ON" and INC is displayed on the LCD screen and "0.00" is displayed in the meantime, namely in the INC mode (relative measurement mode). On the contrary, 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 displayed.

■ **mm/in conversion：** Press the button "MM/IN" to switch to mm or inch mode alternately.

■**Manual switch off：** Press the button "0/ON"until OFF is displayed and then release the button. The power will be switched off.

■**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，it will be in the needed mode.

■**To calibrate the absolute origin position：** When the external measuring faces closes, non "0.00" is displayed due to worn measuring faces, etc.. This shows the absolute origin position has been changed. Now it's necessary to calibrate the absolute origin.

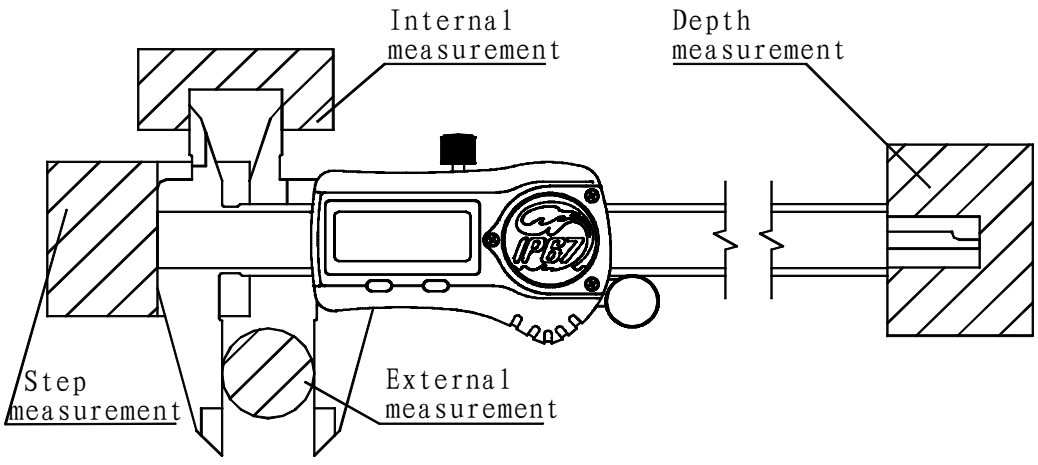
① Switch on the power and make the external measuring faces touch.

② Press 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.

③Move 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, then repeat the above operation until "0.00"is displayed.

■ **Data output:** Plastic housing digital caliper is with data output port. Measured values can be transferred to PC, etc. with an interface (optional) for data process or control. Take off the data output port cover by following the procedure of replacing the battery. Put the plug of the interface into the data output port, then push the lock bolt leftward to lock the battery cover and the plug of the interface. Put the other plug of the interface into the USB or COM port of PC. Open the software, now "------" is displayed on the LCD continuously for two seconds, it shows the digital caliper is successfully connected to the PC. Otherwise, the digital caliper is not successfully connected to the PC.

■**Workpiece measurement methods：** This digital caliper can measure internal dimensions (such as slots, holes, etc.), external dimensions (such as cylindrical, linear outer dimensions, etc.) and depth dimensions (such as groove depth, step height, etc.), etc.. Its measurement methods and value reading are the same as ordinary digital caliper's. (See figure below)



●**Notes:**

■ Do not charge or burn the battery. If the battery is swallowed, see a doctor immediately.

■ The jaws of this caliper have a sharp edge. Handle it with great care to avoid injury.

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

■ Keep all the measuring faces and guiding faces clean.

■ If it's not used for a long time, take out the battery , make anti-rust treatment and keep it in the packing box .

■ The electronic components must not be exposed to chemical solvents .

■ When replacing the battery, replace the sealing O-ring in case it's deformed or damaged.

■ Because the digital caliper adopts absolute encoding measuring system, the clearance and position between the reading head and the steel scale are strict and precise. Therefore do not dismantle any part of it in order to avoid the reading head's failure of reading the data on the steel scale.

■The battery supplied is used only for the purpose of checking the functions and performance of the caliper, therefore it may not satisfy the specified battery life.

● TROUBLESHOOTING

Serial No.	Malfunction	Cause	Solution
1	Water enters the electronic components due to poor gastightness	1.Battery cover hasn't been tightened.	Tighten the screws in the battery cover.
		2.The sealing O-ring is deformed.	Adjust the O-ring's shape
		3.The sealing O-ring is damaged.	Replace the sealing O-ring
		4.Other causes	Send back for repair
2	Incomplete or missing LCD display	1.Water enters the electronic components	Dry it.. Avoid water entering(see no.1）
		2. Other causes	Send back for repair.
3	No LCD display	1.Flat battery	Replace the battery
		2.Poor contact	Improve the battery seat
		2.Other causes	Send back for repair
4	LCD displays 	1.Low power	Replace the battery
5	LCD displays "Err-F"	1.The temperature is lower than 0℃ or higher than 40℃	Adjust the ambient temperature between 0℃～40℃
		2. Electronic components are damaged	Send back for repair
		3.Low power / poor contact	Replace battery / improve the battery seat

Because of the products' continuous upgrading, the instructions may be slightly different from the actual product,
the actual product shall prevail.