

# ELECTRONIC

# DIGITAL

## OPERATING INSTRUCTIONS

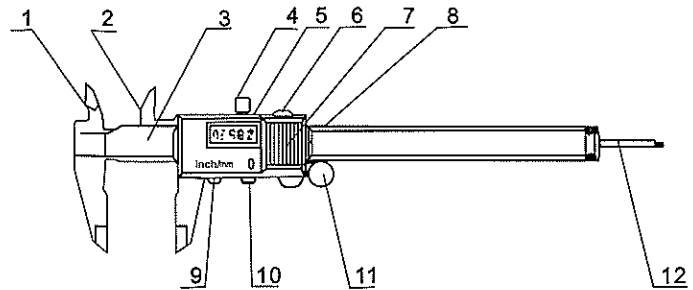
# CALIPER

### ELECTRONIC DIGITAL CALIPER OPERATING INSTRUCTIONS

#### 1. STRUCTURE SKETCH

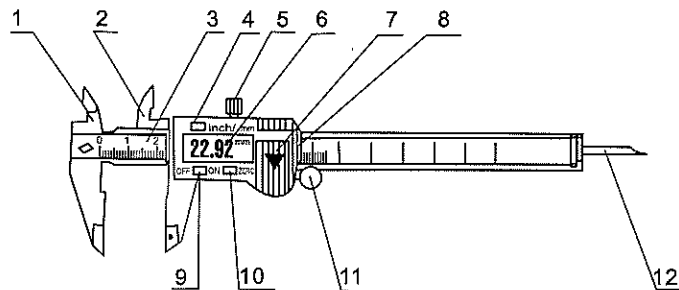
##### 1.1 Two-key type

- |                        |                                |  |
|------------------------|--------------------------------|--|
| 1—Beam                 | 3—Scale                        |  |
| 2—Slider               | 5—LCD Display                  |  |
| 4—Locking Screw        | 7—Battery Lid                  |  |
| 6—Data Interface Lid   | 9—Metric/Inch Selection Button |  |
| 8—Dust keeper          | 11—Fine Adjusting Thumb Wheel  |  |
| 10—Zero Setting Button | 12—Depth Measuring Rod         |  |



##### 1.2 Three-key type

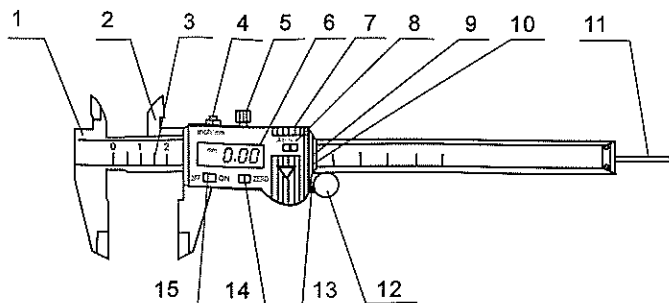
- |                                 |                               |  |
|---------------------------------|-------------------------------|--|
| 1—Beam                          | 3—Scale                       |  |
| 2—Slider                        | 5—Locking Screw               |  |
| 4—Metric/Inch Selection Button  | 7—Battery Lid                 |  |
| 6—LCD Display                   | 9—Power OFF Button            |  |
| 8—Dust Keeper                   | 11—Fine Adjusting Thumb Wheel |  |
| 10—Power On/Zero Setting Button | 12—Depth Measuring Rod        |  |



##### 1.3 Four-key type

This kind of electronic digital caliper includes ABS-type, HOLD-type, MODE-type, and TOL-type. Every type has only one shape.

- |                                 |                      |  |
|---------------------------------|----------------------|--|
| 1—Beam                          | 3—Scale              |  |
| 2—Slider                        | 5—Locking Screw      |  |
| 4—Metric/Inch Selection Button  | 7—Data interface Lid |  |
| 6—LCD Display                   |                      |  |
| 15—Power OFF Button             |                      |  |
| 14—Power On/Zero Setting Button |                      |  |
| 13—Fine Adjusting Thumb Wheel   |                      |  |
| 12—Depth Measuring Rod          |                      |  |



8—Dust Keeper

9—Power OFF Button 10—Power On/Zero Setting Button 11—Fine Adjusting Thumb Wheel 12—Depth Measuring Rod

### 1.3 Four—key type

This kind of electronic digital caliper includes ABS—type, HOLD—type,MODE—type,and TOL—type,Every type has only one shape.

1—Beam

2—Slider

3—Scale

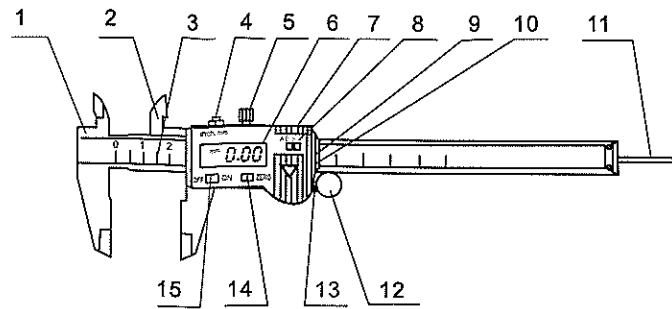
4—Metric/Inch

Selection Button

5—Locking Screw

6—LCD Display

7—Data interface Lid



8—special function button

9—Battery Lid

10—Dust keeper

11—Depth Measuring Rod

12—Fine Adjusting Thumb Wheel

13—Thumb Wheel Holder

14—Zero Setting Button

15—Power Button OFF/ON

#### 1.3.1 Feature

ABS—type: Achievable changing measuring mode between absolute and relative anytime.

HODE—type: Achievable data holding

MODE—type: Fast measuring, minimum and maximum value following measuring button

TOL—type: Achievable tolerance range setting and judging.

#### 1.3.2 How to use special Function keys

##### (1) ABS button—Relative/Absolute selection button

Turning on power, caliper is in absolute mode, then press this button, the caliper changes into relative mode. Now, all the display are

zero. Press it again, the caliper will return to the absolute mode, and the zero position will not be changed.

(2) HOLD button—Measuring data is held when press this button. Return to normal when press this button again.

(3) MODE button—Pressing mode button and ON/ZERO button on some turn, The function of fast measuring, minimum and maximum value following will be realized.

Press MODE button, alphabet H appears on screen, which means data holding. Then pressing ON/ZERO button, alphabet F is displayed, which means fast measuring. When press ON/ZERO button again, the caliper will transfer to H from F.

In H state, press MODE button, alphabet H—N will appear, which means minimum value data holding. When pressing ON/ZERO button, alphabet F—S will display and the caliper enter into Minimum value fast following state. If press ON/ZERO button again, the caliper will transfer to H—S from F—S.

In H—S State, press MODE button, alphabet H—M will appear which means maximum value data holding. When press ON/ZERO button, alphabet F—M is displayed and the caliper enter into maximum value fast following state. When press ON/ZERO button again, the

caliper will transfer to H—M from F—M.

In H—M state, press MODE button, the caliper will resume normal measuring, now there is not any alphabet on the top of the screen. Once when F appears, pressing MODE button, the caliper will resume normal measuring.

(4) TOL button—When the indicating sign ▲ appears on screen after pressing TOL, you can input the upper limit (UP) of tolerance range. pull the slider to certain position and press TOL button again, the indicating sign ▼ appears, which means setting upper limit tolerance range is finished. Then you can input the lower limit (DOWN) of tolerance range simultaneously. pull the slider to another position and press TOL button third, sign ▼ disappears, which means the setting is finished. So the tolerance range setting is completed.

In actual measuring, when the size of the workpiece is greater than the upper limit tolerance, sign ▲ will flash; On the contrary, sign ▼ will flash; when the size of the workpiece is between the upper limit and the lower limit, the indicating sign OK will appear on screen, this shows the size of the workpiece is acceptable.

## 2. MAIN SPECIFICATION AND FUNCTLON

## 2.1 Measuring Range and Accuracy

Measuring Range	Indication error	
0—150mm	0—200mm	0.03mm
0—6in	0—8in	0.001in
0—200mm	> 200—300mm	0.04mm
0—8in	> 8—12in	0.0015in
0—300mm		
0—12in		

2.2 Reading Value 0.01mm; 0.0005in

2.3 Repeatability 0.01mm; 0.0005in

2.4 Max.Measuring speed 1.5m/s; 60in/s

## 2.5 Basic function

Inside,Outside,Depth and Step measuring.

## 2.6 Display

LCD Display with five digits, minus sign “-” and “mm” or small digit “5” and sign “in”.

## 2.7 Power

One battery 1.55V silver oxide(SR44W)for 12 months is using continuous.

2.8 Operating temperature 0~ +40°C

2.9 Storage temperature - 20~ + 70°C

2.10 Maximum relative humidity 80%

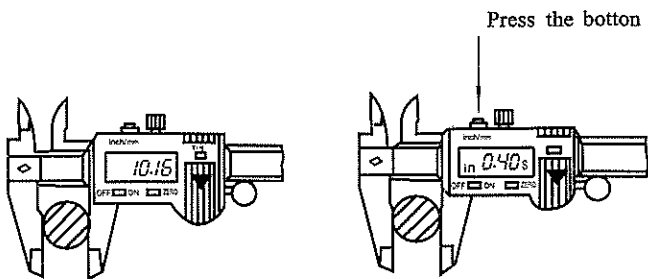
## 2.11 Data output

Serial output for interface with host' s computer or printer

## 3. MEASURING APPLICATION FIGURES

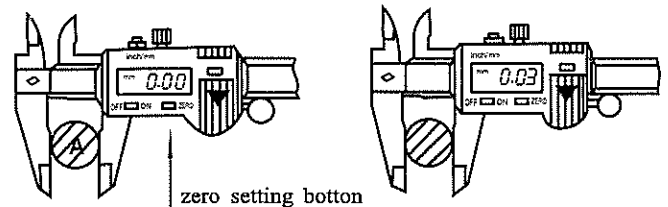
### 3.1 Metric/Inch conversion

Please press inch/mm button.

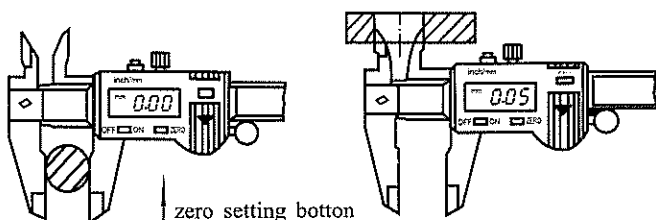


### 3.2 Comparison Measuring with Reference Size A

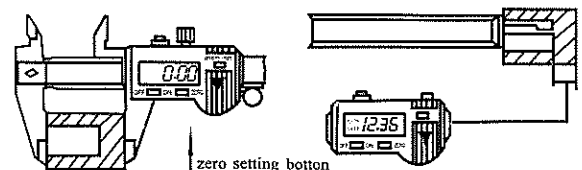
Please Press ON/ZERO button



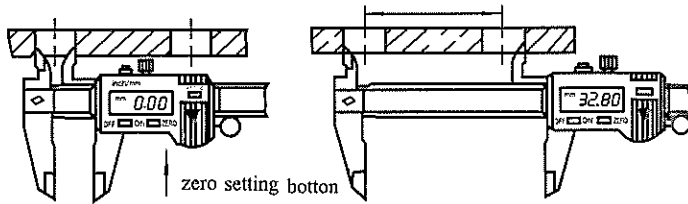
### 3.3 Comparison measuring between hole and axle



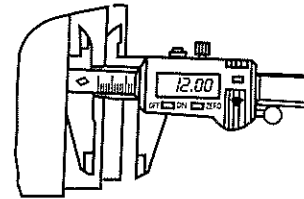
### 3.4 Measuring thickness of hole bottom



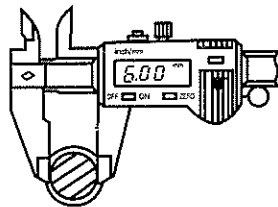
### 3.5 Measuring center distance between same size holes



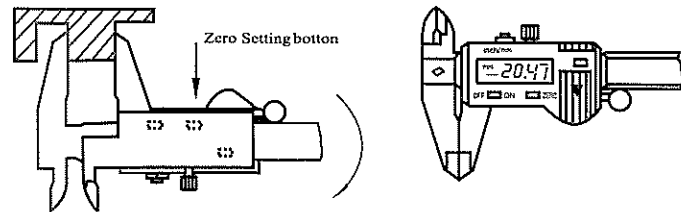
### 3.6 Measuring step



### 3.7 Measuring outside size of narrow groove



### 3.8 Measuring under the reading is very difficult



## 4. NOTICE

- 4.1 Keep body surface clean, prevent liquid material from getting into slider to damage electronics.
- 4.2 The surface of the calipers should be cleaned by petrol, and the body may be lubricated by a little clock oil, Acetone and alcohol must

not be used.

- 4.3 In order to avoid damaging electronics, please don't remove interface lid during the output interface isn't used

## 5. GENERAL TROUBLESHOOT

Failure	Five digits Jump once simultaneously on LCD screen persecond.	The display can not count. Or the digits can't change.	LCD screen can't display.	When the caliper be used for a long time, indication error is > 0.1mm at full length.	Metric/inch transfer button can't work.
Cause	Battery voltage is under 1.45V.	Circuit fault accidentally	1. Poor touch of the battery. 2. Battery voltage is under 1.1V	Dir'ty gets into sensor.	Press the button too strong to make the spring distorted.
Measure	Remove the battery lid and replace the battery by a new one.	Take out the battery and put it back after 30 seconds.	1. Remove the battery lid to keep the battery having good contact. 2. Replace battery.	Remove the electronic assembly, and clean sensor's surface with a little petrol. Reset the electronic assemble	Remove the hood. and repair the key's spring to make it work.