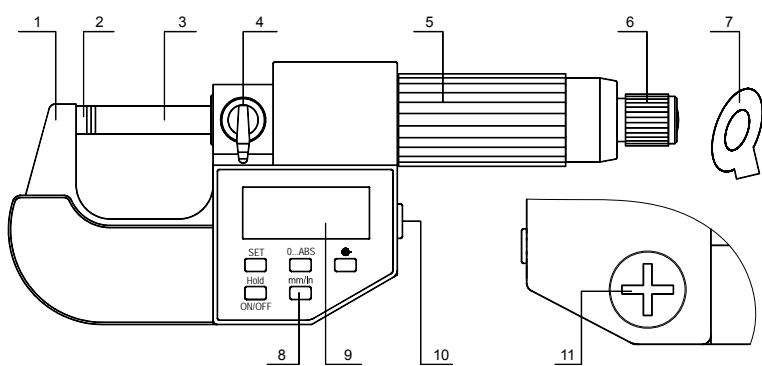




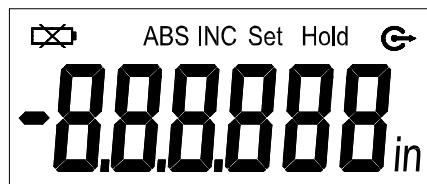
ELECTRONIC MICROMETER OPERATION MANUAL

1. Functional elements



1. Frame
2. Anvil
3. Spindle
4. Locking device
5. Ratchet thimble
(or friction thimble)
6. Ratchet stop
(or quick drive)
7. Spanner
8. Keys
9. LCD display
10. Output port
11. Battery cap

2. LCD Display



- in** : Inch mode
INC : Relative measuring
ABS : Absolute measuring
 : Battery voltage is low
G : Data output to PC
Set : Set the origin
Hold : Displayed value is held

3. Operation

Two ways of pressing key are used in the following illustration:

- (1) Press and release(or press for short). (2) Press and hold (more than 1 sec.).

3.1 HOLD and ON/OFF

- : **ON/OFF** Power on/off.
 : **HOLD** Hold the displayed value.

3.2 SET

Set the origin.

3.3 0-ABS

- : **0** Set display to zero, enter relative measuring mode.
 : **ABS** Absolute measuring mode.

3.4 mm/in Metric/Inch measuring mode conversion.

3.5 G

- : **G** Output the data to PC once, "G" flashes once.
 : **G** Output the data to PC continuously and "G" keeps displaying. Press the key again to stop outputting.

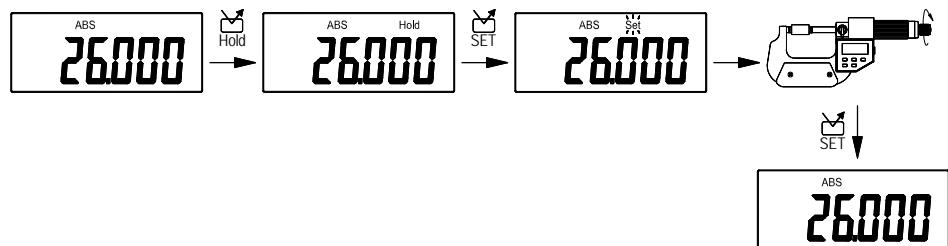
4. Set and adjust the origin

4.1 Set the origin

- a. Press "SET" key, "Set" flashes and origin is displayed.
- b. Press "SET" key again, "Set" disappears and the displayed value is set to the origin.
- Rotating spindle will not change the origin when "Set" flashing.

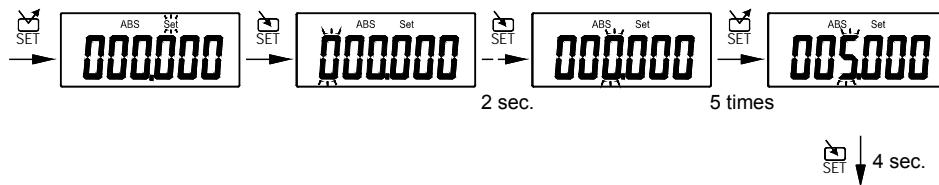
4.2 Adjust the origin

- a. Rotate the thimble until desired value is displayed(for example 26.000). Press "HOLD" key to hold this value.
- b. Press "SET" key, "Set" flashes and the displayed value is stored as the origin.
- c. Press "SET" key again, "Set" disappears and this value is set to the origin.
- Rotating spindle will not change the displayed value when "Set" flashing.
- The origin will get back to the factory setting after reset the battery.



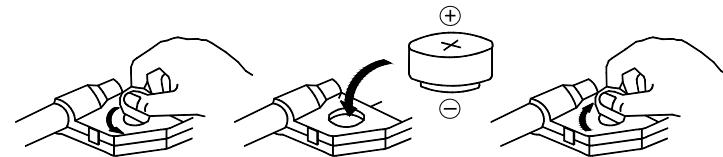
4.3 Set a new origin (Only for micrometer heads, micrometers with interchangeable anvils and depth micrometers.)

- a. Press "SET" key, "Set" sign flashes and the origin is displayed. Press "SET" key again, the displayed value will be set to the origin if not changing the origin.
- b. Press and hold "SET" key until "Set" disappears and the first digit starts flashing.
- c. Press "SET" key, the flashing digit +1 until it is desired.
- d. Press and hold "SET" key until the next digit flashes.
- Repeat steps c and d until the value on LCD is desired.
- e. Press and hold "SET" key until "Set" flashes. Press "SET" key, the value on LCD will be set to the origin.
- The origin will not be lost after reset the battery.



5. Power

- Battery is a **SR44, 1.5V**. Replace the battery when display is blurring or "☒" appears.



- If not used in about 5 minutes, the power will auto-off. The micrometer will wake up when pressing "ON/OFF" key or turning the spindle.
- Power off the micrometer by pressing "ON/OFF" key to save battery if not use.

6. Data output

- Data output interface is **RS232C**. The micrometer can be connected to PC's serial port by **SPC** cable. (Order No. **P1104**). The micrometer can be connected to PC's **USB** port by **SPC** cable (Order No. **P1204**) or by **USB** to serial port cable (Order No. **P1201**) + **SPC** cable (Order No. **P1104**).

- Series port format:**

Baud rate	Start bit	Data bit	Stop bit	Parity	Data logic
1200	1	7	2	none	reverse

- Data format:**

Order	1	2	3	4	5	6	7	8	9	10
Metric	S	N1	N1	N	.	N	N	N	CR	LX
Inch	S	N	.	N	N	N	N	N	CR	LX

S: Minus or space

N1: Minus or space or digit 0-9

N: Digit 0-9

7. Specifications

Measuring force: 5~10N

Power consumption: <=35μA

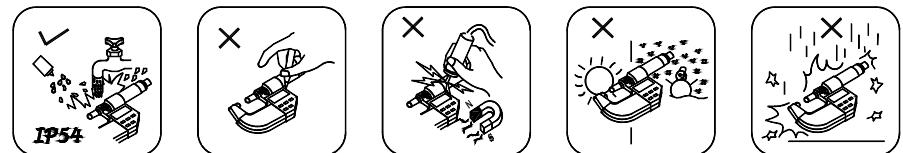
Operating temperature: 0 ~ 40°C

Storage temperature: -20 ~ 60°C

Protection class: **IP54** (Resist water splash)

8. Precautions

- Do not subject the micrometer to blows or knocks.
- Do not drop the micrometer or apply excessive force to the micrometer.
- Do not disassemble the micrometer.
- Do not press the key with a pointed object.
- Do not use or store the micrometer under direct sunlight, or in an excessively hot or cold environment.
- Do not subject the micrometer in strong magnetic fields and high voltage environment.
- Use soft cloth or cotton cleaning the micrometer. Do not use any organic solvent such as acetone etc.
- Remove the battery if the micrometer not use for a long time.



9. Trouble shooting

Failure	Causes	Repairing
Display "E 1"	Measuring value over display range.	Reset the origin or convert to relative measuring mode.
Display "Exxxxx"	The origin is too great.	Reset the origin.
Display "E 2"	1. The micrometer is disturbed. 2. Something wrong with sensor.	1. Reset the battery. 2. Return the micrometer for repair.
Display "E 3"	1. Measuring surfaces are dirty. 2. The origin isn't correct.	1. Clean measuring surfaces. 2. Reset the origin.
Display "E 8"		
Measuring value is not correct		
Display is confusing or dead	Suffer to strong disturb.	Reset battery.
No display		
Display is blurring "☒" appears	Battery voltage under 1.45V.	Replace battery.
The output data is wrong	Battery voltage under 1.45V.	Replace battery.