Electronic IP54 Micrometer
Series 54-815

1. Functional Elements

1. Frame  
2. Anvil  
3. Spindle  
4. Locking device  
5. Thimble  
6. Ratchet  
7. Frame insulator  
8. Function buttons  
9. LCD display  
10. SPC output  
11. Battery cover

2. LCD Display

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑</td>
<td>ABS</td>
</tr>
</tbody>
</table>
| -8.88.888 in | Inch measuring mode*  
INC: Relative measuring mode  
ABS: Absolute measuring mode  
Set: Origin set  
☑: Low battery  
☑: Data output is active  
.: Clock mode  
Two left figures: hours  
Two right figures: minutes

3. Operation

- Keys are pressed two ways to execute functions:
  1. Press and immediately release.  
  2. Press and hold for at least two seconds.

3.1 ON/OFF—SET Key

- Press and release: Power on/off.  
- Press and hold: Zero set for absolute measuring ("Set" will appear.)

3.2 ABS/INC—Unit Key

- Press and release: Absolute and relative measuring mode conversion.  
- Press and hold: Inch/Metric conversion ("in" will appear for inch readings, otherwise the display reads in metric.)

3.3 ☐/☐: Data output and clock switch key

*In measuring mode, this is the data output key.*  
- Press and release: The micrometer will output the displayed data.  
- Press and hold: The micrometer will output the displayed data continually until the button is pressed again.

Setting the Clock

*After powering off the micrometer press the ☐/☐ key again: The micrometer will enter clock mode and display the current time.*

- Press the ☐/☐ key again to switch off the clock. The micrometer will enter measuring mode by pressing the “ON/OFF—SET” key.

* Metric is functional but not represented by an icon.
4. Power
• If the micrometer is not used for five minutes the power will automatically shut off. The micrometer will awaken by pressing the “ON/OFF—SET” key or by turning the spindle. Powering off the micrometer by pressing the “ON/OFF—SET” key to save the battery when not in use is recommended.
• Use a SR44 battery, and replace the battery when the display begins to blur or the “¼” is displayed on the LCD.
• Remove the battery cap by turning it counterclockwise with a coin.
• Insert a new battery with positive (+) side up. Replace the battery cap by turning it clockwise with a coin.

5. Data Output
• The output interface is a RS232C.
• The micrometer can be attached to a PC’s serial port by an SPC cable (contact Fowler) or to a PC’s USB port by an SPC cable and a USB to serial port cable (contact Fowler.)
• To attach the cable, remove the data output cap and insert the cable.
• When not using the interface, always keep the data output cap in place.

5.1 Serial Port Information
• Baud rate: 1200 Kb/second
• Stop bits: 2
• Parity: none
• Data bits: 7

6. General Specifications
• Measuring force: 5-10N
• Operating temperature: 0-40°C
• Power Consumption: <=25μA
• Storage temperature: -20-60°C

7. Precautions
• Do not subject the instrument to blows or shock. Do not drop it or apply excessive force.
• Do not disassemble the instrument.
• Do not press the keys with a pointed object.
• Do not use or store the instrument under direct sunlight.
• Avoid exposing the instrument to temperature extremes.
• Keep the instrument away from strong magnetic fields and high voltage.
• Use a soft material to clean the instrument. Never use organic solvents such as acetone or benzene to clean.
• Clean measuring faces before use.
• If the instrument is to be stored or left unused for extended periods, remove the battery.

8. Troubleshooting

<table>
<thead>
<tr>
<th>Problem(s)</th>
<th>Cause(s)</th>
<th>Solution(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCD displays “E1”</td>
<td>Data overflow</td>
<td>Reverse spindle or,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>press “ON/OFF—SET” key</td>
</tr>
<tr>
<td>LCD displays “E3”</td>
<td>1. Sensor overflow</td>
<td>1. Reseat battery</td>
</tr>
<tr>
<td></td>
<td>2. Sensor malfunction</td>
<td>2. Return micrometer for repair</td>
</tr>
<tr>
<td>Measuring data incorrect</td>
<td>1. Dirty measuring faces</td>
<td>1. Clean measuring faces</td>
</tr>
<tr>
<td></td>
<td>2. Preset data is incorrect</td>
<td>2. Inspect and reset preset data</td>
</tr>
<tr>
<td>No display on LCD</td>
<td>1. Battery position is incorrect</td>
<td>1. Reseat battery</td>
</tr>
<tr>
<td></td>
<td>2. Battery is dead</td>
<td>2. Replace with new battery</td>
</tr>
<tr>
<td>1. Flickering display</td>
<td>1. Weak battery</td>
<td>1. Replace battery</td>
</tr>
<tr>
<td>2. Display is sporadic</td>
<td>2. Weak battery</td>
<td>2. Replace battery</td>
</tr>
<tr>
<td>3. Display remains dead</td>
<td>3. Battery position is incorrect</td>
<td>3. Reseat battery</td>
</tr>
<tr>
<td>1. Display is blurry</td>
<td>1. Weak battery</td>
<td>Replace with new battery</td>
</tr>
<tr>
<td>2. Output data is incorrect</td>
<td></td>
<td></td>
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