

ABS Digimatic Solar Caliper



Safety Precautions

To ensure operator safety, use this product in conformance with the directions, functions and specifications given in this User's Manual.
Use under other conditions may compromise safety.

CAUTION

The measuring faces of this product are sharp. Always handle with care to avoid injury.

NOTICE

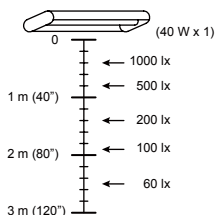
- Before using this caliper for the first time, wipe the rust preventive oil from the caliper with a soft cloth soaked with cleaning oil.
- Do not expose the solar cells to direct sunlight. It may deteriorate.
- Do not use an electric engraver to put marks on the caliper such as numbers.
- Do not scratch the main scale surface.
- If rust preventive oil is dried, the caliper might not operate smoothly. Wipe a sliding surface with a cloth and then apply a little oil to use the caliper. This can make the caliper operate smoothly.
- After use, take corrosion prevention measures. Corrosion can cause the caliper to malfunction.
- The thumb roller is a fine feeding device, and not a constant-force device. Measuring force tends to be large when measuring with the thumb roller. Carefully apply an appropriate and even measuring force when using the thumb roller.
- Do not apply excessive force to the solar cell cover. The solar cells may be damaged.

Button icon operation

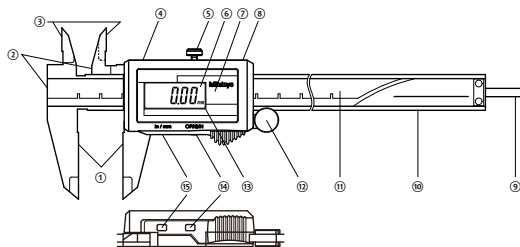


1. Ambient Illumination

- This product operates under an illumination intensity of over 60 lx. Otherwise, the display turns off or blinks; and the measured value is not stable.
- For switch operations, an illumination of over 300 lx is necessary. Otherwise, the switch may not operate.
- See the right figure for reference of the illumination intensity under fluorescent light.



2. Part Names and Functions



- | | |
|--|--|
| ① Outside measuring surface | ⑨ Depth bar |
| ② Step measuring surface | ⑩ Main scale |
| ③ Inside measuring surface | ⑪ Scale |
| ④ Slider | ⑫ Solar cells |
| ⑤ Clamp screw | ⑬ Thumb roller |
| ⑥ LCD display unit | (only for the type with the thumb roller) |
| ⑦ Protection cover | ⑭ [ORIGIN] switch (used to set the origin) |
| ⑧ Output connector | ⑮ [in/mm] switch (only for in/mm model) |
| (only for the type with the output function) | |

3. Setting the Origin

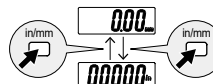
Note

- Perform the origin setting under an illumination of over 300 lx.
- An arbitrary value or an "E" will appear on the display before the origin setup. Ignore the display and perform the origin setting.

- 1 Close the outside measuring surfaces.
- 2 Hold down the [ORIGIN] switch for one second or longer.
⇒ "0.00" appears indicating that the origin has been set.

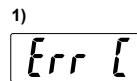
4. Switching between in and mm (Only for in/mm model)

Press the [in/mm] switch.
⇒ Every time it is pressed, the display switches between "in" and "mm."

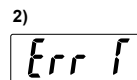


5. Errors and Countermeasures

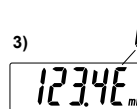
1) "Err C" display and display flickering
The scale surface is contaminated. Clean the scale surface and apply a small amount of low viscosity oil to repel water.



2) "Err T" display
The origin setup was not completed within 10 seconds due to insufficient illumination intensity, for instant. Try again under an illumination intensity of over 300 lx.



3) "E" display in the last digit
The slider is being moved at a high speed. This does not affect measurement results.



Note

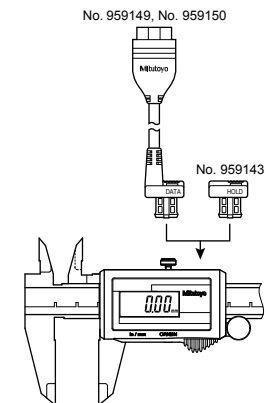
If the last digit shows "E" even when the slider is static, it means "Err C". Use the same remedy as for "Err C".

6. Specifications

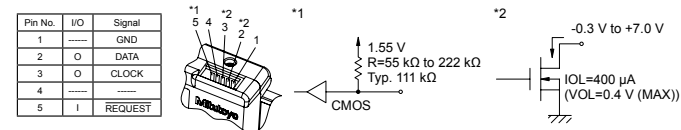
- Resolution : 0.01 mm
- Maximum permissible error : ±0.02 mm (E_{MPE}: inside measurement, S_{MPE}: outside measurement)
- Maximum response speed : No limit (no miscount caused by speed)
- Operating temperature : 0 °C to 40 °C
- Storage temperature : -10 °C to 60 °C
- Power supply : Solar cells (operate with over 60 lx)

7. Optional Accessories (Only for the Type with the Output Function)

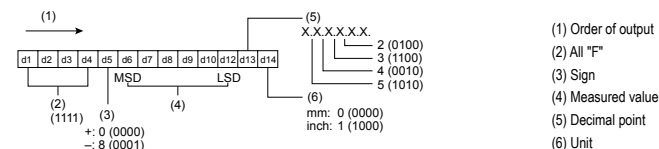
- Digimatic connection cable (with the output switch) :
No. 959149 (1 m)
No. 959150 (2 m)
- Hold unit (capable of holding readings) :
No. 959143



8. Connector Pin Alignment (Only for the Type with the Output Function)



9. Data Format (Only for the Type with the Output Function)



10. Timing Chart (Only for the Type with the Output Function)

