

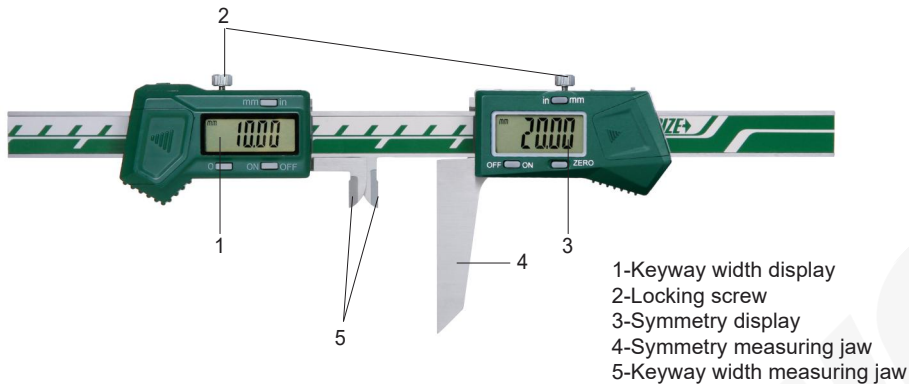


OPERATION INSTRUCTION

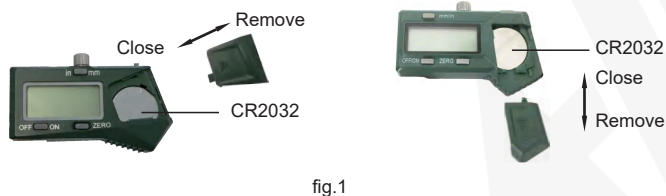
Keyway Symmetry Digital Caliper

Resolution: 0.01mm/0.0005"

Code	Width of keyway	Diameter of shaft	Accuracy
1531-60	6-45mm	Ø10-120mm	±0.05mm



1. Install battery: remove the battery cover (fig.1), put CR2032 battery into battery house, the positive side of battery (+) should face out, close the battery cover.



2. Buttons:

"in/mm" --- inch and mm conversion

"OFF/ON" --- turn off/on

"ZERO"、"0"--- set zero

3. Before use, wipe the measuring surface clean with a soft, clean cloth, then fully close the jaws and press the "ZERO" button to zero the scale. Check periodically to ensure the zero setting is correct.

4. Measuring:

---Insert the keyway width measuring jaws into the keyway to be measured, and slowly pull the slot width display device until the measuring jaws make full contact with the keyway; the value displayed on the keyway width display at this time is the keyway width.

---Move the symmetry jaws so that they contact the workpiece (fig.2), and record the value a displayed on the symmetry display at this time.

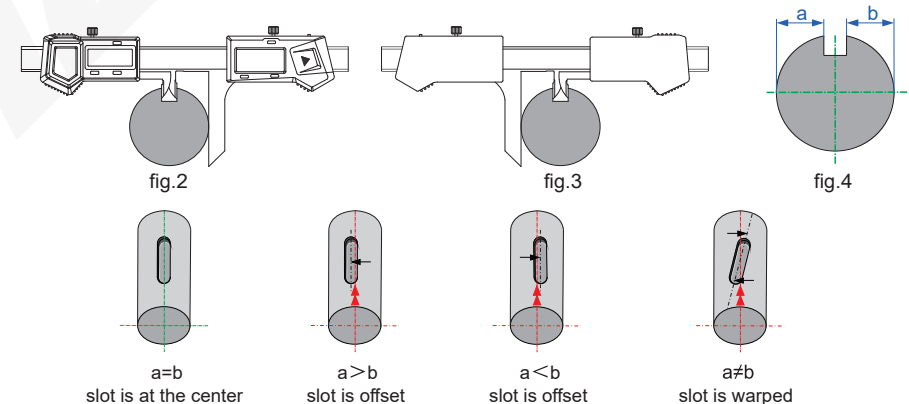
---Rotate the caliper 180°, insert the keyway width measuring jaws into the keyway to be measured, and slowly pull the keyway width display device until the keyway width measuring jaws make contact with the keyway. Move the symmetry measuring jaws so that they contact the workpiece (fig.3), and record the symmetry displayed value 'b' at this time. Calculate the difference between the two readings as "Δ".

---The above operations should be performed once within the radial cross-sections at both ends of the keyway length. Take the larger absolute value of the difference in cross-sectional readings between the two measurements as Δ₁, and the smaller absolute value as Δ₂.

---Calculate the symmetry error "f" of the shaft keyway according to the provisions of Annex A.12 of GB/T 1958-2004 geometrical product specifications(GPS)-geometrical toleranceverification prescription.

$$f = \frac{2\Delta_2 h + d(\Delta_1 - \Delta_2)}{d-h}$$

In the formula: d—shaft diameter, h—Keyway depth



5. Optional data output cable (7315-22, 7302-22).

6. Keep the measurement surface clean during use to prevent fine dust from affecting the measurement results.

7. One battery can last for one year use. If caliper is not used for a long time, please remove the battery. Otherwise, liquid may leak from the battery and damage the caliper.

8. Working temperature is 0-40°C/32-104°F, relative humidity should not exceed 80%.

MN-1531-60-E

V0