



OPERATION INSTRUCTION

Metric Thread Ring Gauges

Caution: Prevent liquid from getting into indicator to damage electronics.

Code	Range	Resolution	Accuracy	Hysteresis	Remark
2118-10	12.7mm/0.5"	0.01mm/0.0005"	20 μm	10 μm	flat back
2118-101	12.7mm/0.5"	0.001mm/0.00005"	5 μm	2 μm	flat back



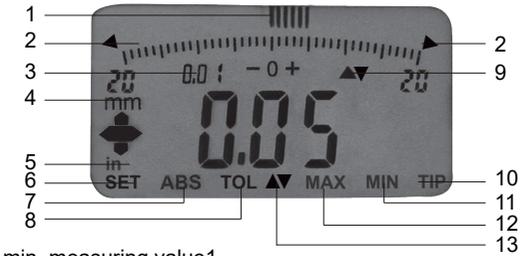
spindle lift knob (included)



Digital indicator
1-Battery cover
2-"TOL" button
3-LCD display
4-"in/mm" button
5-"ABS" button
6-"M" button
7-USB data output
8-"ZERO" button

Display

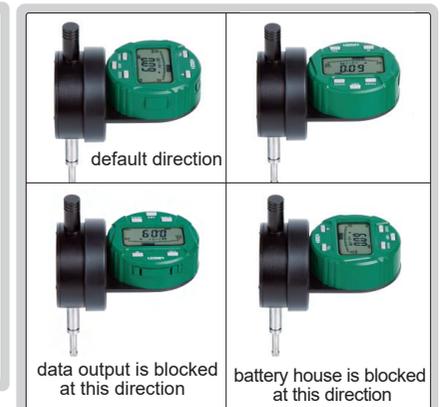
- 1-Analog pointer
- 2-Tolerance sign
- 3-Analog pointer resolution
- 4-Metric mode
- 5-Inch mode
- 6-Preset mode
- 7-Absolute measuring mode
- 8-Tolerance measuring mode
- 9-Measuring direction sign
- 10-Difference between the max. and min. measuring value
- 11-Minimum value track measurement
- 12-Maximum value track measurement
- 13-Set upper/lower tolerance



display can rotate 320°



display direction is changeable



remark: to change above direction, 4 fixing screws on the back of display need to be removed first.

MN-2118-E

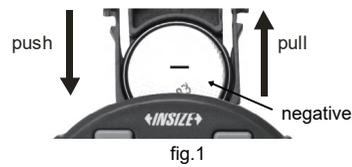
V4

1. Install and remove battery(CR2032), the negative side of battery should face out(fig.1).

2. Display can be rotated by 320°.

3. Buttons:

Long press: longer than 2 seconds; short press: less than 2 seconds.



TOL --- Short press to enter the tolerance measurement mode. When the measured value exceeds the upper tolerance, the "►" in the upper right corner flashes. When the measured value exceeds the lower tolerance, the "◄" in the upper left corner flashes. Short press the TOL key to exit the tolerance measurement mode.

--- Long press the key to enter the tolerance setting mode, "TOL" and "▼" appear at the bottom of the display, and the last digit of the displayed value blinks at the same time, and the lower limit can be set at this time. Short press in/mm key to switch the value of the current blinking bit, short press ZERO key to switch the number of bits, after the setting is completed, short press TOL key to save the next limit setting, at the same time, "TOL" and "▲" characters appear at the bottom of the display, then the upper limit can be set, and the setting method is the same as that of the lower tolerance.

If the lower limit is larger than the upper tolerance, the display will show "EEE" and return to the tolerance setting mode automatically.

M --- Short press, "MAX" will appear, and it will enter into tracking maximum mode. Short press again, "MIN" character appears, enter into tracking minimum value mode. Short press M for the third time, "TIR" will appear, and the difference between the max. and min. measuring value will be tracked.

in/mm --- Short press for metric/imperial conversion.

---Long press to change measuring direction. When "▲" is displayed for forward measurement, push up the lever to increase the display value. When reverse measurement "▼" is displayed, push up the lever, the display value decreases.

ABS---Short press to change absolute/incremental measurement mode. Absolute measurement mode is the normal measurement mode and the "ABS" is displayed. Short press at any point (called "relative zero point"), enter the incremental measurement mode, this time the display value is 0. In incremental measurement mode, the display value is the distance from the measurement point to the "relative zero point". Short press again to return to absolute measurement mode.

---Long press to enter initial value setting mode. "SET" appears and the last digit of the display value is flashing, at this time, short press in/mm key to switch the value of the current flashing digit, short press ZERO key to switch the number of flashing digits, after the setting is completed, long press ABS key to save.

ZERO --- Power on state: short press to display the initial value in absolute measurement mode (displaying "ABS" character); long press to turn off the power.

--- Power off state: Short press to turn on the instrument.

False shutdown function:

Long press the ZERO button to turn off the digital indicator or leave it without operation for about 2h to turn off the screen, this is a false shutdown state, in this state, after restarting, it still retains the initial value and preset tolerance.

High and low frequency switching setting:

After power off, press and hold in/mm button, press ZERO button to turn on the digital indicator, after displaying "----", release the button to enter the high and low frequency switching setting mode, press in/mm button to adjust the switching mode.

When "Fr-on" is shown, it means the function of automatic frequency switching will be opened, and it will automatically switch to low frequency after 3 seconds of no button operation and Spindle operation, and it will automatically switch to high frequency if there is a button operation or Spindle operation. In this state, it is more power-saving and suitable for routine measurement.

When "Fr-oF" is shown, it means the the automatic frequency switching function is turned off and the sensor keeps the high frequency status unchanged. Short press ZERO button to confirm and save the setting of high and low frequency switching mode, and exit to the working state. In this state, the power consumption is higher, the battery life is reduced, applicable to the need for high-speed movement of the measuring rod.

Shutdown time setting:

After power off, press and hold ABS button, press ZERO button to turn on the power, display "----", release the button to enter the power off time setting, press ABS button to switch the value, long press ABS button to switch the single digit and ten digit, every 1 hour a step, the longest automatic power off time is 99 hours, displays '-99-'. Note: Display '-00-' means no auto power off, display '-06-' means auto power off time is 6 hours, and so on. Short press ZERO key to confirm and save the setting time, exit the current mode.

4. Digital indicator should be mounted on a rigid holder to use.
5. Clamping: clamping the stem for flat back digital indicator. For lug back, the digital indicator can be mounted by clamping the lug or stem. If the digital indicator is mounted by clamping the stem, please do not apply excessive clamping force, which will affect the movement of the spindle.
6. During measurement, the spindle should be vertical to the workpiece surface, otherwise, the measurement may not be correct.
Caution: please do not move the spindle quickly or apply lateral force on the spindle.
7. After measurement, please oil the contact point. The spindle should not be oiled, otherwise, the movement of the spindle will not be smooth.
8. If the digital indicator drops or be shocked, please inspect the measuring accuracy before using.
9. Optional accessories: SPC cable, backs, contact points.
In order to get accurate measurement, it is necessary to choose contact point according to the shape of the workpiece. Measuring columned workpiece should choose knife edge point, measuring spherical workpiece should choose flat point, the needle point should be choosen when measuring concave or complex shape workpiece.
10. If the battery symbol appears on the display, battery voltage is too low, please replace battery. If the digits do not change when buttons are pressed or spindle is moved, take out battery and put it back after 1 minute. If the indicator is not be used for a long period of time, please remove the battery. Otherwise, liquid may leak from the battery and damage the indicator.
11. Working temperature is 0-40°C/32-104°F, relative humidity should not exceed 80%.