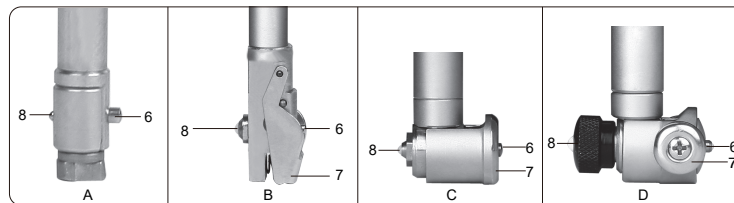


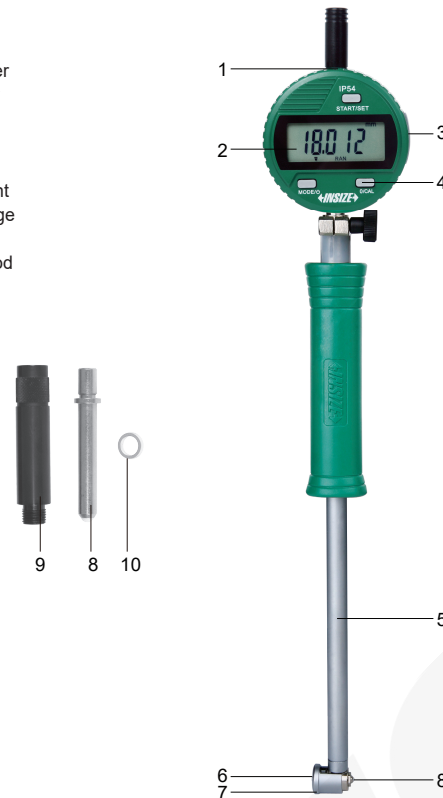
Caution: Prevent liquid from getting into digital indicator to damage electronics.

Code	Range	Indicator
2152-10WP	6-10mm	waterproof digital indicator range 12.7mm/0.5" dust/waterproof IP54 adjustable resolution 0.01mm/0.0005" or 0.002mm/0.0001" (code 2137-10F)
2152-18WP	10-18.5mm	
2122-35AWP	18-35mm	
2122-60AWP	35-60mm	
2122-100AWP	50-100mm	
2122-160AWP	50-160mm	
2122-161AWP	100-160mm	
2122-250AWP	160-250mm	
2122-450AWP	250-450mm	
2127-60WP	35-60mm	
2127-160WP	50-160mm	
2127-250WP	160-250mm	
2127-450WP	250-450mm	
2128-800AWP	400-800mm	

Contact points



- 1-Battery cover
- 2-LCD display
- 3-Output
- 4-Buttons
- 5-Main pole
- 6-Contact point
- 7-Protect bridge
- 8-Anvil
- 9-Extension rod
- 10-Washer



1. Products with protection IP54 can protect against dust and splashing water.

2. Install battery:

---Screw out locking screws,

---Put CR2032 battery into battery house, the negative side of battery (-) should face out (fig.2).

---Close the battery cover, screw in locking screws(fig.3). Please don't remove the rubber ring, otherwise affect the product's waterproof protection.

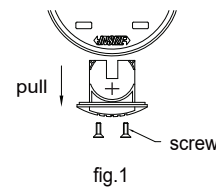


fig.1

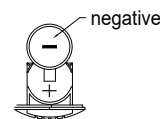


fig.2

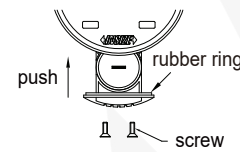


fig.3

3. Buttons:

MODE/Φ ---Short press to turn on display. Long press to turn off display

---When it is turn on, short press to enter into diameter measuring mode,"RAN" and "▼" appears at the bottom of the display. Short press again, exit the current mode and return to the normal measurement mode.

Normal measurement mode:

START/SET---Short press to switch resolution(Metric 0.002/0.01mm, imperial 0.0001 "/0.0005")

(Note: The button is invalid at this time for 2137-101F)

---Long press to enter the preset value setting mode. "SET" is displayed at the bottom of the display, and the tail of the value "+000.000" flashes.Short press the "MODE/ " button to switch the number of flashing digits (from 0 to 9), short press the "0/CAL" button to switch the digits from right to left, long press the "START/SET" button to save the settings and exit.

0/CAL---Long press to switch between metric and imperial mode. Short press to zero.

Diameter measuring mode:

START/SET---Short press to start the next diameter measurement.

0/CAL---Long press to calibration, "CCC" appears for seconds and automatically set the current tracked minimum value as the standard value.

4. Measuring instruction:

(1) Relative measurement (displayed value is the difference between measured size and setting ring)

Calibration:

---Select an appropriate setting ring and place the bore gage into setting ring, short press "MODE/ Φ " button, "▼" blinks and it enter into minimum reading tracking mode. Sway bore gage for several times, the bore gage will find the minimum reading automatically, and "▼" stop blinking.

---Take out the bore gage and then long press "0/CAL" button, "CCC" appears for seconds, calibration is finished.

Measurng:

---Insert the bore gage into workpiece, short press "START/SET" button,"▼" blinks and enter into measuring mode and sway the bore gage,the bore gage will find the minimum value automatically. "▼" stop blinks, the measurement is completement, and then take out the bore gage. At this time, the reading is the difERENCE between the measured size and the setting ring. If the reading is negative, the measured diameter is less than the setting ring diameter,if the reading is positive, the measured diameter is larger than the setting ring diameter.

---Take out the bore gage, place it in the measured workpiece, and short press "START/SET" button again to turn into the next measurement.

---After the measurement is completed, short press "MODE/ Φ " button to exit the measurement mode.

---When measuring again,recalibration is required.

(2) Absolute measurement (the initial value is the setting ring size, display value is the actual value)

Calibration (initial value is setting ring size):

---Select an appropriate setting ring and set the initial value to the setting ring size, refer to button operation instruction 3. ("START/SET" button in normal measurement mode).

---First, place the bore gage into the setting ring, short press the "MODE/Φ" buton,"▼" blinks and enter into the minimum value tracking mode. Sway the bore gage left and right several times, and it will automatically track the minimum value. When "▼" stops blinking, and the minimum value tracking is completed.

---Take out the bore gage from setting ring,long press "0/CAL" buton and "CCC" appears, calibration is completed . At this time. the initial value is the setting ring size.

Measurement:

---Place the bore gage into the measured workpiece, short press "START/SET" button, and "▼" blinks to enter into measurement mode.Sway the bore gage left and right several times, and the gage wil automatically track and display the minimum value.The "▼" stops blinking, and the measurement is completed, you can take out the bore gage. At this time, the reading is the actual size of the workpiece which is measured.

---Take out the bore gage, place it into the measured workpiece, and shor press the "START/SET" button again to turn into the next measurment.

---After the measurement is completed, short press "MODE/Φ" button to exit the measurement mode

---When measuring again, recalibration is required

Caution: The contact point should be protected from being pressed improperly, please follow figure 4 and 5 about how to insert and take out bore gage. Let the bore gage tilt to insert into the workpiece or setting ring(fig.4), the protect bridge contact with the inwall first and then turn the bore gage upright slowly(let the anvil contact with the inwall firstly, then let the contact point contact with the inwall). Let the bore gage tilt to take out of the workpiece or setting ring(fig .5), do not press the contact point.



fig.4

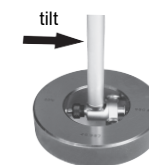
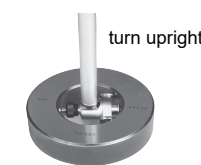
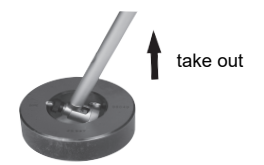


fig.5



5. The dicital indicator has automatic shutdown and high/low frequency switching functions, and the speciic operations are as folows:

(1).False shutdown automatic shutdown function:

By default, if you press and hold "MODE/ Φ " button or let it in a state with no any operation for about 2 hours, the digital display will automatically shut down, and be in a false shutdown state. In this state, push the measuring rod or press "MODE/ Φ " button to turn on digital indicator.

(2).Real shutdown time setting:

After shutting down, press and hold the "START/SET" button, short press the "MODE/Φ" buton to turn on, after displaying "----", release the "MODE/ Φ " button to enter the shutdown time mode setting, the default display is "6.0", which means it will automatically shut down after 6 hours of no operation, shot press "START/SET" button can switch between 0 and 99 hours with 1 hour step. (When the switch display is "0.0", it means the digital indicator wil not automatically shut down,) Short press the "MODE/Φ" button to confirm and save the setting, exit the current mode.

(3).High and low frequency switching settings:

After shutting down, press and hold the "0/CAL" button, and shortly press "MODE/ Φ " button to turn on, after displaying "Fr-on", release the "0/CAL" buton to enter the high and low frequency switching mode setting, short press the "0/CAL" buton to adjust the switching mode, display "Fr-on" means that the automatic frequency switching function is turned on. After 3 seconds without buton operation and push rod operation, it will automatically switch to high frequency. Display "Fr-oF", which means that the automatic frequency switching function is turned off, and the sensor keeps the high frequency state unchanged. Short press the "MODE/ Φ " button to confirm and save the high and low frequency switching mode settings, and exit to the working state.

6. The original data remains after power off, no need to recalibrate after power on.