OPERATION INSTRUCTION

Waterproof Digital Indicator

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

Code	Range	Dust/waterproof	Resolution	Accuracy	Hysteresis	Remark
2115-101	12.7mm/0.5"	IP65	0.001mm/0.00005"	5μm	2μm	lug back
2115-251	25.4mm/1"	IP54	0.001mm/0.00005"	5μm	3μm	lug back
2115-501	50.8mm/2"	IP54	0.001mm/0.00005"	6μm	3μm	lug back
2115-101F	12.7mm/0.5"	IP65	0.001mm/0.00005"	5μm	2μm	flat back
2115-251F	25.4mm/1"	IP54	0.001mm/0.00005"	5μm	3μm	flat back
2115-501F	50.8mm/2"	IP54	0.001mm/0.00005"	6μm	3μm	flat back
2115-10	12.7mm/0.5"	IP65	0.01mm/0.0005"	20μm	10μm	lug back
2115-25	25.4mm/1"	IP54	0.01mm/0.0005"	20μm	10μm	lug back
2115-50	50.8mm/2"	IP54	0.01mm/0.0005"	30μm	10μm	lug back
2115-10F	12.7mm/0.5"	IP65	0.01mm/0.0005"	20μm	10μm	flat back
2115-25F	25.4mm/1"	IP54	0.01mm/0.0005"	20μm	10μm	flat back
2115-50F	50.8mm/2"	IP54	0.01mm/0.0005"	30μm	10μm	flat back

1-"MODE" button
2-LCD display
3-Data output
4-"ZERO" button
5-"SET" button
6-Battery cover
7-Stem(diameter Ø8mm)
8-Waterproof rubber cover(except for indicator IP54)
9-Contact point(thread M2.5X0.45)
10-Spindle lift knob(suitable for IP65 indicators)
11-Spindle lift knob(suitable for IP54 indicators)

1. Products with protection IP65 can protect against dust and jets water.
   Products with protection IP54 can protect against dust and splashing water.
2. Install battery:
---Screw out locking screws,remove the battery cover (fig.1).
---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.

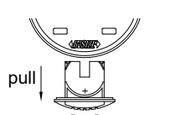

fig.1

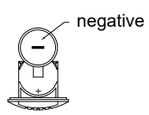

fig.2

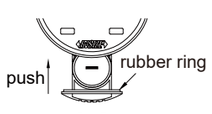

fig.3

3. Buttons:
ZERO ---When display is turn off: short press to turn on ;
When display is turn on: short press to zero on absolute measuring mode,long press to turn off .

MODE---Short press for absolute and relative measuring mode conversion.
---Long press to enter the setting mode, short press ZERO to switch TOL, CAL, mm / in and dir .
TOL:Short press SET to set lower limit,short press ZERO to switch digit,short press SET to change the digit,short press MODE to set upper limit,short press MODE to save setting
CAL:Short press SET to set initial reading, short press ZERO to switch digit, short press SET to change the digit,short press MODE to save setting
mm/in:Short press SET to switch mm/in,short press MODE to save setting
dir:Short press SET to switch direction,short press MODE to save setting

SET---Short press to switch the normal measurement mode, TOL and RAN
TOL:Measurement is within tolerance range will display OK, less than the lower limit will display ↓,larger than the upper limit will display ↑
RAN:Short press MODE to switch maximum value track (↑ display), minimum value track (↓ display), maximum and minimum difference(↑ and ↓ display)

Fake shutdown function:
Long press the ZERO button to shut down or leave it without any operation for about 2 hours. This is a fake shutdown state. In this state, it has data memory function, and the original data is still retained when it is turned on.
Real shutdown time setting :
After shutting down, press and hold the MODE button, short press the ZERO button to turn on, release the MODE 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, short press MODE button can switch between 0 and 99 hours with 1 hour step. When the switch display is "0.0", it means the digital indicator will not automatically shut down.
High and low frequency switching settings:
After shutting down, press and hold SET button, and shortly press ZERO button to turn on, release SET button, and it enters into the high and low frequency switching mode setting, now short press the SET button can switch the two modes. "Fr-on" means that the automatic frequency switching function is turned on. After 3s without button operation or pushing rod, it will switch to low frequency automatically. And when you press the button or push the rod, it will switch to high frequency automatically. "Fr-oF" means that the automatic frequency switching function is turned off, and the sensor keeps the high frequency state unchanged.
Short press ZERO button to confirm and save the mode settings, and exit to the working state.
In "Fr-on" mode, when reinstall battery or short press the ZERO button to turn on, "LL" is shown for 1s. Under this mode, it will switch to low frequency automatically after 3s without operation, low power consumption, and can save electricity. This mode is suitable for conventional measurement condition.
In "Fr-oF" mode, when reinstall battery or short press the ZERO button to turn on, "HH" is shown for 1s. Under this mode, it continues to maintain high frequency , high power consumption, and the battery life will be reduced. This mode is suitable for occasions where it needs high-speed movement of the measuring rod.

4. Digital indicator should be clamp on rigidity indicator holder.
5. Clamping: clamping the stem for flat back dial indicator. For lug back, the dial indicator can be mounted by clamping the lug or stem. If the dial indicator is mounted by clamping the stem, please do not apply excessive clamping force, which will affect the movement of the spindle.
6. How to use the spindle lift knob:
   2115-101/101F, 2115-10/10F series: unscrew the dust cap and put the spindle lift knob on the top of the spindle, use as shown in fig.4.
   Note: This method of use is not waterproof.
   Other series: put the spindle lift knob on the bottom of the spindle, use as shown in fig.5.
7. During measurement, the spindle should be vertical to workpiece surface, otherwise, the measurement may not be correct.
   Caution: please do not move the spindle quickly or apply lateral force on the spindle.
8. After measurement, please apply oil the contact point. The spindle should not be oiled,otherwise, the movement of the spindle will not be smooth.
9. If the digital indicator be shocked, please inspect the measuring accuracy before using.
10. Optional accessories: data output cable(7315-, 7302-, 7305-), contact points, backs.
    Note: in order to get accurate measurement, it is necessary to select 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 chosen when measuring concave or complex shape workpiece.
11. One battery can last for one year use. If there is nothing on display or digits blurring, 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.
12. Working temperature is 0~40°C/32~104°F.


fig.4


fig.5

MN-2115-E
V6