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

Adjustable resolution: 0.0001mm/0.00001"
0.001mm/0.00005"
0.01mm/0.0005"

Code	Range	Accuracy	Hysteresis	Remark	
2150-5A	0-5mm/0-0.2"	0.5μm	0.3μm	probe movement starts measurement	with data interface
2150-5B	0-5mm/0-0.2"	0.5μm	0.3μm	press button starts measurement	with data interface
2150-5AWL	0-5mm/0-0.2"	0.5μm	0.3μm	probe movement starts measurement	built-in wireless
2150-5BWL	0-5mm/0-0.2"	0.5μm	0.3μm	press button starts measurement	built-in wireless

1- Output and charging port
2- 'DATA' button
3- 'START/H' button
4- Display
5- 'mm/in' button
6- 'MAX/MIN ZERO' button
7- Stem
8- Spindle
9- Probe
10- 'MODE' button
11- 'ON/OFF' button

1. Power: rechargeable Li-battery, for 24 hours continuous working. Please use standard charger.

2. Buttons :
   ON/OFF :Power on/power off
   MODE: Short press to switch the default mode P0/P1/P2/P3/P4/P5/P6/P7/P8/P9/Ph

P0(Basic Function):
--- MAX/MIN ZERO key, set to zero
--- mm/in key, switch resolution
--- DATA key, transfer data
--- START/H key, data hold. Short press START/H key, "HOLD" is showing on display. At this time, the DATA, mm/in, and ON/OFF keys are valid, while the MAX/MIN ZERO and MODE keys are invalid

P1(measurement for max./min./tir/avg.):
--- MAX/MIN ZERO key, can switch between maximum value(MAX)/minimum value(MIN)/difference between maximum and minimum values(MAX-MIN)/average value(-). Measurement for max./min./tir/avg. is divided into the following two measuring modes, and users can operate according to selected product:
--- Probe movement starts measurement:
   Short press START/H key starts automatic measurement, and after a delay time (0-99S can be set) and measurement time (0-99S can be set), the measurement is automatically completed and data is automatically uploaded. Only when the set measurement time is reached can a complete measurement is finished. Otherwise, an error message "Err11" will be reported, and when the the next correct measurement starts it will be automatically restored.
   For example: minimum value tracking measurement, short press the MAX/MIN ZERO key to switch to the "MIN" character display and flash, then short press the START/H key to the "HOLD" character display and flash to start automatic measurement. After a delay time (0-99S can be set) and measurement time (0-99S can be set), the measurement is automatically completed and minimum value is automatically uploaded. At this point, short press the MAX/MIN ZERO key to cycle through the display screen and view four sets of extreme values (MAX/MIN/MAX MIN difference/average value (-).
--- Press button starts measurement:
   Short press in/mm key to calibrate the starting (ending) point, and the "FN" appears means the the calibration is complete . At this point, when the difference between the movement of the measuring rod and the calibration point is greater than 0.2mm, automatic measurement will begin. After a delay time (0-99S can be set) and a measurement time (0-99S can be set), the measurement will be automatically completed and data will be uploaded. Only when the set measurement time is reached can a complete measurement is finished. Otherwise, an error message "Err11" will be reported, and when the the next correct measurement starts it will be automatically restored.
   For example, in P1 mode, short press the in/mm key to calibrate the starting (ending) point, and the "FN" character will appear to complete the calibration. Minimum value tracking measurement, short press the MAX/MIN ZERO key to switch to the "MIN" character display and flash, move the measuring rod to automatically measure, after a delay time (0-99S can be set) and measurement time (0-99S can be set),he measurement is automatically completed and minimum value is automatically uploaded. At this point, short press the MAX/MIN ZERO key to cycle through the display screen and view four sets of extreme values (MAX/MIN/MAX MIN difference/average value (-).

P2(preset initial value):
--- MAX/MIN ZERO key, directly set the initial value to zero
--- mm/in key, switch the number of digits
--- DATA key, change the value of the current flashing bit
--- START/H key, switch between positive and negative
--- MODE key, save the current setting data and enter the next mode

P3(upper tolerance setting):
--- MAX/MIN ZERO, directly set the upper tolerance to zero
--- mm/in key, switch the number of digits
--- DATA key, change the value of the current flashing bit
--- START/H key, switch between positive and negative
--- MODE key, save the current setting value and enter the next mode

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P4(tolerance basic dimension setting):
---MAX/MIN ZERO key, can set basic dimensions to zero
---Mm/in key, can switch the number of digits
---DATA key, can change the value of the current flashing bit
---MODE key, save the current setting value and enter the next mode

P5(Lower Tolerance Setting):
---MAX/MIN ZERO key, which can directly set the lower tolerance to zero
---mm/in key, can switch the number of digits
---DATA key can change the value of the current flashing bit
---START/H key, can switch between positive and negative
---MODE key, save the current setting value and enter the next mode
   For example, if the tolerance value to be set is 4+0.02/-0.01mm, press the MODE key briefly until P3 (set upper
   tolerance), and set the upper tolerance value to 0.02; Short press the MODE key again to save and enter P4 (set
   tolerance basic size), set the tolerance basic size to 4; Short press the MODE key again to save and enter P5 (Lower
   Tolerance Setting), set the lower tolerance value to -0.01, and complete the tolerance setting.

P6(metric and English switching):
---mm/in key allows for metric to English conversion
---MODE key, save the current setting and enter the next mode

P7(Automatic shutdown setting):
---mm/in key can be used to set the automatic shutdown time. The display screen shows 00:01, indicating automatic
   shutdown without any operation within 10 minutes. The display screen shows 00:00, indicating that it will not automati-
   cally shut down.
---MODE key, save the current setting and enter the next mode

P8(Delay Setting):
---Mm/in key, switch to set delay duration (can be set from 0 to 99 seconds)
---MODE key, save the current setting and enter the next mode

P9(counting direction switch):
---mm/in key, switch between positive and negative counting directions. ▲ represents the counting direction to be positive
   when the measuring rod is moved up, and ▼ represents the counting direction to be negative when the measuring rod
   is moved up
---MODE key, save the current setting and enter the next mode

Ph (measurement duration setting):
--- mm/in key, switch to set measurement duration (can be set from 0 to 99S)
   MODE key, save the current setting and enter the next mode

   Reset function
--- Short press the MAX/MIN ZERO and MODE keys simultaneously on any interface to restore factory settings

3. Err01 appears on display, indicating abnormal data decoding;
   Err02 appears on display, indicating abnormal upper and lower tolerance settings;
   Err03 appears on display, indicating that the data has exceeded the maximum and minimum display limits.
   Err11 appears on display, indicating that the workpiece was removed in advance during max./min./tir/avg. value
   measurement and did not reach the set measurement time
   (Note: If Err11 appears, the next correct measurement will be automatically restored;
        If Err02 or Err03 appears, the error indication can be quickly relieved through the reset function)

MAX./MIN./TIR/AVG.VALUE AUTOMATIC MEASUREMENT OPERATION INSTRUCTIONS
1. Delay setting (can be set to 0-99S)
Press the MODE key multiple times to enter P8 for delay setting. Short press the in/mm key to change the delay
duration.
2. Measurement duration setting (can be set to 0-99S)
Press the MODE key multiple times to enter Ph for measurement duration setting. Short press the in/mm key to
change the measurement duration.
3. Trigger point setting
Press the MODE key twice to enter P1 for extreme value measurement. Short press the in/mm key to set the current
position as the trigger point, and the screen will display the "FN" character to complete the trigger point setting.
4. Extreme value measurement can be found in the P1 menu (select button triggered measurement or probe
movement triggered measurement)
5. Error indication Err11
If the measurement is not carried out correctly according to the delay duration plus the measurement duration, an
Err11 error indication will be displayed!!!
When performing the next automatic measurement, the error indication Err11 will be automatically eliminated.
6. Data transmission
When connected to the upper computer via wired (wireless) connection, the current extreme value is automatically
sent. The rules are as follows:
P1 menu maximum value measurement (display MAX): automatically send the maximum value of the entire measure-
ment process;
P1 menu minimum value measurement (display MIN): automatically send the minimum value for the entire measure-
ment process;
P1 menu TIR measurement(display MAX-MIN): automatically send the difference between the maximum and
minimum values of the entire measurement process;
P1 menu average measurement (only display -): automatically send the average value of the entire measurement
process;
P1 menu does not display MAX/MIN/MAX MIN/-: automatically sends measurement maximum value, minimum value,
difference between maximum and minimum values, and average value.

4.Optional accessory:
   data output cable, code: 7302-SPC11, for 2150-5A/2150-5B.
   wireless receiver, code: 2134-R1 (keyboard format),2134-R2 (serial port format), for 2150-5AWL/ 2150-5BWL.

5. Prevent impact and water immersion.

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 use, please oil the contact point. The spindle should not be oiled, otherwise, the movement of the spindle will not
be smooth.

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