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OPERATION MANUAL

**Model IST-B1, IST-B2,
IST-B5, IST-B10, IST-B20
DIGITAL BOTTLE CAP
TORQUE METER**



1. Functions

The IST-B Series Bottle Cap Torque Meter is a metrological instrument designed specially for testing opening and closure torque on bottles, jars, bulbs and more. Which is ideal for detecting and calibrating the power of open and closure with torque control, for the relative torsion torque testing and the torsion fracture parts testing. They are with high accuracy, also easy to operate and handy to carry out, widely used in electric, light industry, machine-made industry, scientific research and so on.

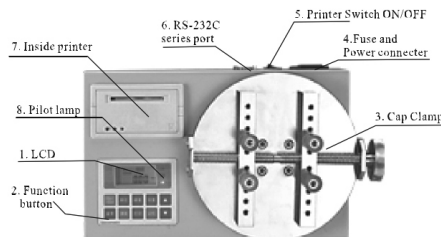
2. Specification

- 2.1 High accuracy and high resolution.
- 2.2 Upper and lower limit, judgment and alarm light.
- 2.3 Display the direction of Torque.
- 2.4 Blue background illumination.
- 2.5 Memory and print 10 test values.
- 2.6 Calculate the average of memory data automatically.
- 2.7 Three units N.m, kfg.cm and lbf.in and auto convert.
- 2.8 Peak hold function, Peak hold and set the peak clear time.
- 2.9 Auto power off and set the power off time.
- 2.10 RS-232C output, transfer the data to PC or printer.

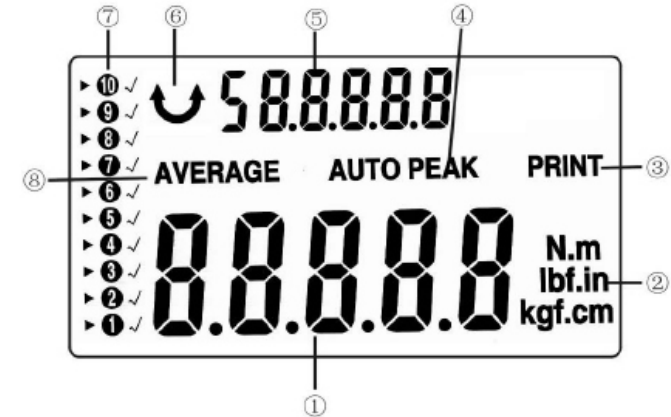
3. Main Parameter

Model	IST-B1	IST-B2	IST-B5	IST-B10	IST-B20
Capacity(N.m)	1	2	5	10	20
Resolution(N.m)	0.0005	0.001	0.002	0.005	0.01
Accuracy	±0.5%				
Max bottle diameter	200mm				

4. Description of Part and Functions

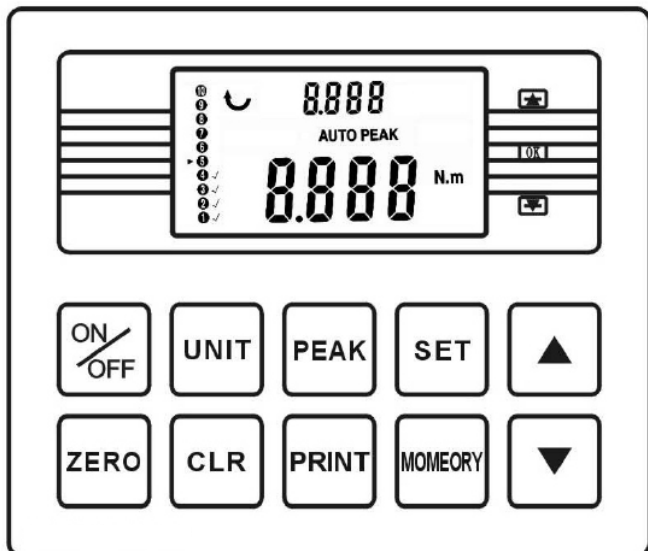


1. LCD



- ① The value of torque: in setting mode, the value of peak capture line.
- ② Unit
Choose 3 unit, N.m, Kfg.cm and Lbf. in, and convert automatic.
- ③ Print the memorized data or single data.
- ④ Indication of peak mode, "PEAK" is hold the max torque value, "AUTO PEAK" is hold the max torque value and clean peak delay.
- ⑤ Auto calculate the average of memory data. In set mode, indicate the function. The direct direction is showed as "↻"; Reverse direction is showed as "↺"
- ⑥ The indication of torque direction
- ⑦ Memory data
" 1 2 3 4 5 6 7 8 9 10 " are 10 grids, one torque data is memorized in one case
▶ | : means the grid is for reserved value and showing value.
✓ : the grids has memorized the torque value.
- ⑧ The average value of the memorized data.

2. Function button



Power switch, Power on or power off



Zero
Clean zero or clean the peak value



Shift button of units
 → → →



Delete or switch of background illumination delete the "✓"
memory data. In average mode, it is the switch of background illumination.



It is the switch of peak mode: peak hold, semi-peak hold, and track.
Track mode is default, when the meter is power on.



Press "print" set can output the value data to PC and save as "Excel" format and you can save, analysis. and print and so on.



Memorize the test value and calculate the memory data. In the memory mode, press the button, the meter calculate the average value of memory data.



Setting
 A. set the upper and lower limit
 B. set the capture line of peak
 C. set the time of auto power off(chose 1-60 minutes, 0 is not power off automatic)
 D. set the time of auto clean peak (1-10 seconds)
 Press set button, the H1D1 is displayed on LCD, to set the upper limit.

Press " " to change the value. Press set button again, the L1D1 is displayed on LCD, to set. the lower limit. Press " " to change the value. Press set button third time, the LE. SET is displayed on LCD, the data is shoved min memory. Press " " to change the value (In the test, the data, which is less than it, is not memorized). Press set button fourth time, the P.OFF is displayed on LCD, time of auto power off is showed on the value display, Press " " to change the value. Press set button fifth time, the A.PE is displayed on LCD, time of auto clean peak is showed on the value display, Press " " to change the value. Press set button sixth time, the setting is saved.



Add 1
 A. In memory mode, press it one time, symbol will forward one case.
 B. In setting mode, press it one time, the value will increase one.



Reduce 1

- A. In memory mode, press it one time, symbol will backward one case.
- B. In setting mode, press it one time, the value will decrease one.

Caps clamps: the special clamp tips for caps torque test.

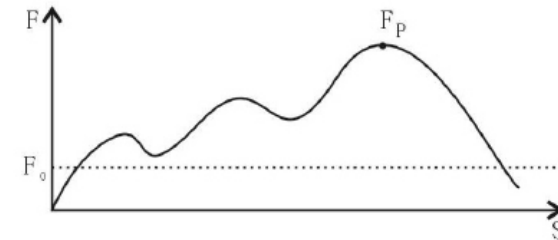
- 4. Fuse and power connector.
Inside fuse, protect the tester from electric currency overload
- 5. Printer switch ON/OFF
- 6. Communicating port
RS-232C series port output the value to PC or printer.
- 7. Micro printer
Print 10 groups of memory data; max, data, min and average value of memory, eligible and uneligible value.
- 8. The Pilot lamp of upper and lower limit
 - Pilot lamp of upper limited alarm
 - Pilot lamp of normal
 - Pilot lamp of lower limited alarm

5. Operation

- 1. Connecting power source, press switch ON/OFF. If the value is not zero, press zero button to set zero.
- 2. Press unit button to choose the unit as you required. If need to use auto alarm faction, press set button, set the upper and lower limit. There are 3 modes to choose, Peak, AUTO PEAK and track.(Track mode is default, when turning on the tester).
- 3. The nut on the right of clamp can adjust the width, use the rubble clamps to fix the bottles.
- 4. Transfer value data to PC or printer if you need.
- 5. After the test, please turn off meter and put them into the toolbox.

6. About Memory and Peak Capture Line

If you need to use the memory function, Please set the Peak capture line "F₀". In the test, the meter will remember the Peak value, which is above "F₀". The value is absolute value. When the value is lower than "F₀", it means one test finished. If the peak value is lower that "F₀" in one test, the peak value is not memorized.



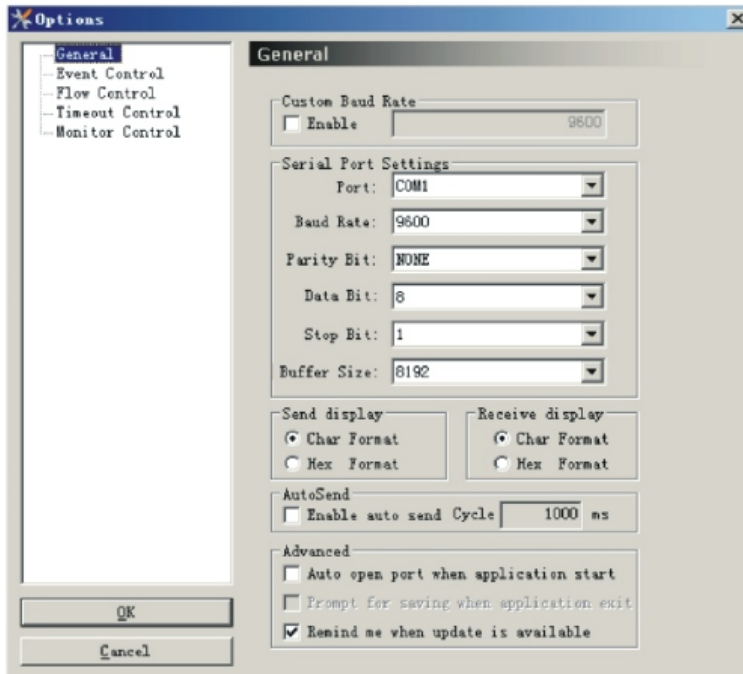
When one peak value 10 saved, the "▶" will be up to lower location. The meter can memorize 10 values. If the value is more than 10 values, the new value cover original 10 values in memory. Press

"◀▶" can view the memorized value. The data will be showed on the area of data. If you need the average value of the memorized value, press "memo", the average value will be showed the small display area. Press "memo" again, to return the memory mode.

7. Output

The output of meter is according to RS-232C standard, the matching printer must be adopted RS-232C, it can transfer the tested data to computer, also can press "print" button to print the tested data via the printer.

- 1. When choose "RS-232C" transfer to "print", the date is transferred to printer directly.
- 2. When choose RS-232C transfer to "PC", settings are as following:
 - a. Connect the torque meter to computer with RS-232C port cable
 - b. Turn on the power of torque meter, make it in working state, and set RS-232C under the state of outputting to PC, the setting detail please refer to below picture.



8. Clean dirt and dust from gauge with soft cloth. After dipping cloth in the Neutreal detergent water and squeeze out water, and clean dirt with the cloth. Attention: Do not use volatile chemical liquid to clean the meter, such as Ben-zone, thinner, alcohol, etc.
9. In the using and delivering procedure, please move the meter smoothly and slightly.

8. Precautions and Maintains

1. Do not apply a torque above the capacity. Otherwise the meter maybe damaged and caused danger.
2. Do not hit or put something on the LCD.
3. Do not press button with pointed tools, nail and speculated tools.
4. Do not using the meter in the places where is with water, oil or other liquid. Should use the meter in the place, shady, dry and no shock.
5. Do not open the rear cover or adjust the nice adjusting resistance.
6. Do not loose the fixture screw- on the connector.
7. Do not plug in or out the plug with wet hand, to avoid electrical shock.