CONTINUATION

Dear User,

We're pleased for your patronage of purchasing SDC-B Series Digital Torque Wrench Tester. Before using the instrument, please read the manual carefully and keep it well to give you help when you can't learn it or there is something wrong with it.Description in the manual is based on the newest products. Owing to improvement or other changes, contents of manual may differ from practical situation. Our company will reserve the right of recension at any moment. Please kindly forgive not to notify the revised places one by one.

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SUNDOO®
ADVANCED PRECISION INSTRUMENT

SDC-B SERIES USER'S MANUAL

SDC-B系列

使用说明书

扭矩扳手检定仪

DIGITAL TORQUE WRENCH TESTER

**For
SDC-50B
SDC-500B**

温州山度仪器有限公司
WENZHOU SUNDOO INSTRUMENTS CO., LTD

Packing List

Number	Parts Name	Quantity
1	Body	1
2	Power Cable	1
3	Straight-through RS-232 Cable with Two-sided Holes	1
4	Sleeve	6
5	Software CD	1
6	M10 Inner Hexagon Wrench	1
7	M6 Inner Hexagon Wrench	1
8	M6×16 Inner Hexagon Wrench	2
9	Extension Board	1
10	Manual	1
11	Factory Inspection Report	1
12	Product Qualified Certificate	1

Thanks for your patronage to purchase SDC-B Series Digital Torque Wrench Tester.

This instrument is an intelligent multi-functional test equipment, which is designed to test different kinds of torque wrench. Before using this instrument, please read the manual carefully so that you can make full use of this instrument and get accurate load value.
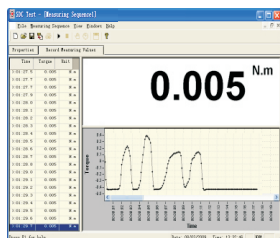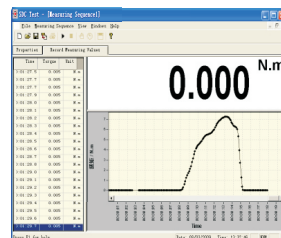
CONTENT

Maintenance

1. Do not use the instrument with overload. Otherwise it may be damaged and even cause danger.
2. Do not strike the LCD screen or put an object on LCD screen.
3. Do not press the buttons with nails and other pointed tools.
4. Do not use the instrument near water, oil and other liquids. Please keep it in a shady, dry and stable place.
5. Do not open the rear cover or adjust any electronic components.
6. Use 220V $\pm$10V AC power, otherwise it would cause circuit failure and even fire.
7. Do not touch the power plug with wet hands, otherwise it may cause electric shock.
8. Please clean the instrument with soft cloth. First put dry cloth in the water with detergent and then dry the cloth to clean the instrument. Do not use volatile chemical liquids, such as volatile oil, thinner, alcohol, etc.
9. Handle carefully while carrying and using the instrument.
10. Do not disassemble, repair or modify the instrument by yourself. It may cause forever malfunction for the instrument.

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SDC-B Series Digital Torque Wrench Tester
SDC-B Series Digital Torque Wrench Tester
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Picture 11).

J. Click save button to save the data.

Picture 10   Picture 11

K. If you choose the Text File, it means that you can import the stored data of the instrument. Please choose the matched model and corresponding serial port, then click the start button " ▶ " to open the serial port and press " PRINT " on the instrument to import the stored data to the computer (See Picture 12).

Icon instruction

" 🖺 ": The collection data is imported into EXCEL file;

" ▶ "： Open serial port to start test;

" ■ "： Close serial port to stop test;

" ✋ "： Collect current value manually;

" 🕐 "： Collect the data continuously and regularly.
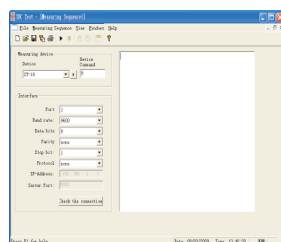
Picture 12
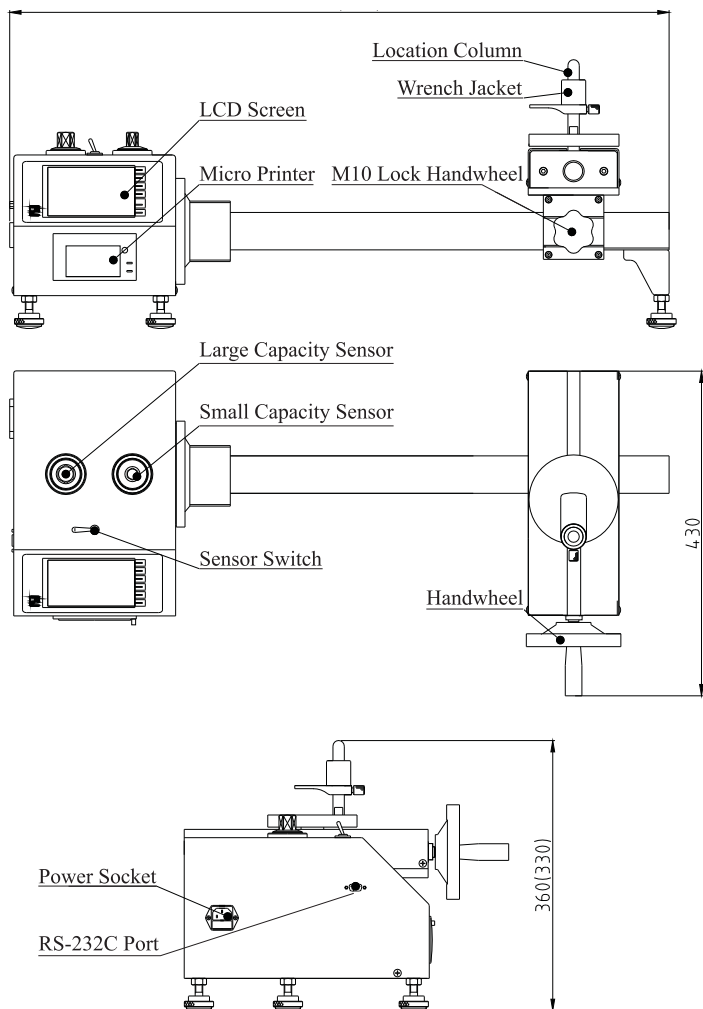
Function and Characteristic

SDC-B Series Digital Torque Wrench Tester is specially used in testing all kinds of torque wrenches. Digital displaying the value makes it more accurate and intuitive. It is equipped with standard sleeves so that it is easy to install clamps and make tests.

• 320×240 pixel LCD.

• Peak-holding function.

• Automatic discharge function of the peak: Peak-holding time(1-99 seconds) can be set freely.

• Automatic power off function: Shutdown time (1-99 minutes) is free to set.

• Compare function: Free to set upper and lower limit deviation value; the buzzer can alarm automatically.

• Conversion of three units: Nm (N.mm), kgf.cm, lbf.in can convert automatically.

• Built-in micro printer: You can print the test curve or 10 groups of memory value report.

• Serial port (RS-232C) output: Connecting the computer can achieve the curve test function; built-in micro printer can print 10 groups of stored test data or current test curve.

Technical Parameter

Model	SDC-50B		SDC-500B	
Sensor's Capacity	5N.m	50N.m	50N.m	500N.m
Measuring Range	0.5-5 N.m	5-50 N.m	5-50 N.m	50-500N.m
Resolation	0.001N.m	0.005N.m	0.01N.m	0.05N.m
Inaccuracy	Within±0.5%			
Loading Mode	Manual			
Power	AC 220V 50~60HZ 100W			
Dimension	L600×W430×H330		L1270×W430×H360	

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SDC-B Series Digital Torque Wrench Tester
SDC-B Series Digital Torque Wrench Tester
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Structure

Location Column

Wrench Jacket

LCD Screen

Micro Printer   M10 Lock Handwheel

Large Capacity Sensor

Small Capacity Sensor

Sensor Switch

Handwheel

430

Power Socket

RS-232C Port

360(330)

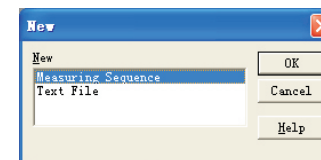SDC-50B outside dimension:L600× W430× H330

SDC-500B outside dimension:L1270×W430×H360
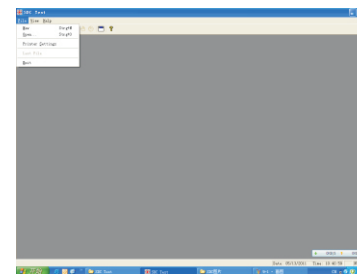
Picture 7

E. There are two modes to choose in new dialog box: Measuring Sequence
and Text File (See Picture 8).

Picture 8

F. After choosing "Measuring Sequence", please choose corresponding
model and serial port. Choose Baud rate as 9600, choose Data bits as 8,
choose Stop bit as 1, and choose Parity as none. After that, set the time
of capturing the signal of force value in Send Device Command. 1/10
means 0.1 second(See Picture 9: When Hr is 0, Min is 0, Sec is 0, 1/10
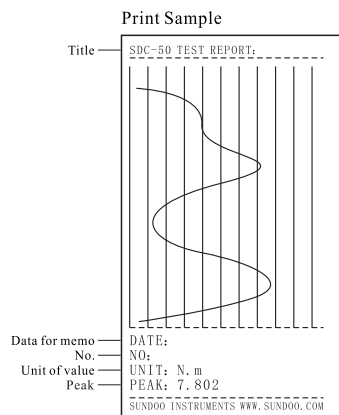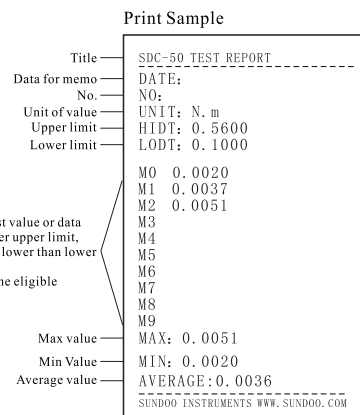 is 1, then the capturing time is 0.1 second).
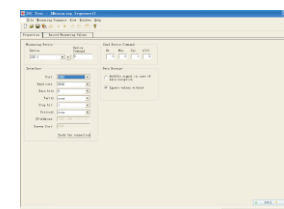
Picture 9

G. After setting the parameters, please click "Record Measuring values"
   option, and switch to curve display interface.
H. After clicking start button " ▶ ", then click "TIMER" (⊙) to collect test
   data curve (See Picture 10).
I. After finishing the test, please click stop button " ■ " to stop testing (See .

Print Sample

Title ——
```
SDC-50 TEST REPORT:
```

Data for memo ——
No. ——
Unit of value ——
Peak ——
```
DATE:
NO:
UNIT: N.m
PEAK: 7.802
SUNDOO INSTRUMENTS WWW.SUNDOO.COM
```

Picture 5

Print Sample

Title ——
Data for memo ——
No. ——
Unit of value ——
Upper limit ——
Lower limit ——
```
SDC-50 TEST REPORT
---------------------
DATE:
NO:
UNIT: N.m
HIDT: 0.5600
LODT: 0.1000

M0  0.0020
M1  0.0037
M2  0.0051
M3
M4
M5
M6
M7
M8
M9
```
The test value or data
+ is over upper limit,
- is the lower than lower limit,
Ok is the eligible

Max value ——
Min Value ——
Average value ——
```
MAX: 0.0051
MIN: 0.0020
AVERAGE: 0.0036
---------------------
SUNDOO INSTRUMENTS WWW.SUNDOO.COM
```

Picture 6

2. When setting the communication mode as "Print Report", "Print Report" will flicker on LCD screen when pressing "[PRINT]" button, and 10 groups of stored data and analysis report can be printed (See Picture 6).

3. When setting the communication mode as "PC", connecting the computer can view test curve by software or import 10 groups of stored data. The required configuration and specific operation are as follow:

（1）Hardware environment

　　A. CPU: Celeron 1G or above.

　　B. Memory: 256MB or above.

　　C. Hard disk available capacity: 300MB or above.

　　D. Drive: CD-ROM or DVD-ROM.

（2）Software environment

　　Operating system: Windows XP (32bit).

（3）Specific operation

A. Connect the communication interface of instrument with straight-through RS-232 cable, which has two-sided holes.

B. Turn on the power and make it in working state, then set the serial port communication mode as "PC" (See the setting method on Page 7).

C. Insert the accessory CD into computer and open the following route: CD-ROM/English/Measure Software/SDC Test/SDC Test.exe.

D. Click "New" in the "File" option (See Picture 7).

Test Example
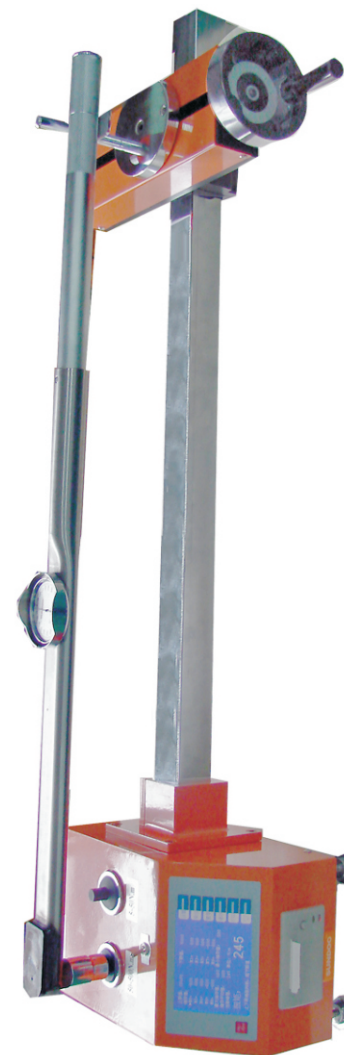
SDC-500B Digital Torque Wrench Tester
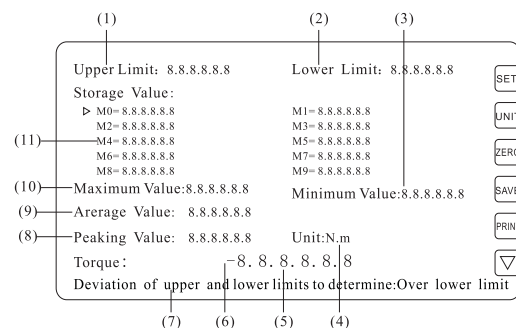(The SDB Torque Wrench in the picture needs to buy additionallt)

Operating Environment

1. Operating temperature：0℃~40℃.
2. Operating humidity：35%RH~65%RH.
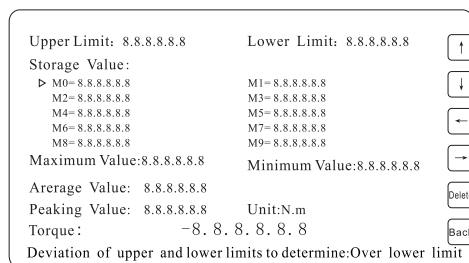3. No vibrancy and no cautery around the test environment.

Operation Instruction of LCD

1. LCD Screen
1）Test Interface

Picture 1

Picture 2

⑴ The reading of upper limit value.
⑵ The reading of lower limit value.
⑶ Minimum value.
⑷ Torque unit in the test: N.m(N.mm), kgf.cm, lbf.in.
⑸ The reading of torque value.
⑹ Torque force direction: It is blank when in clockwise direction; it is " — "

8. Fix the wrench on the corresponding sensor, rotate the handwheel to make the handle of wrench lean on the jacket.
9. Press " [ZERO] " button to clean the torque value to be zero, and make the needle points at zero graduation.
10. Rotate the handwheel to load until reaching the whole capacity according to the test direction, loosen the handwheel to unload so that the screen shows the torque value "0", then readjust the torque wrench to zero.
11. Rotate the handwheel to load and test the torque values of torque wrench in different ranges and press " [SAVE] " button to store the torque values (when the handwheel turns left, "—" will show in front of the torque value and peak value).
12. After testing, please turn off the instrument and plug out power socket.
13. The specific test modes and test data processing of various torque wrenches should according to *JJG 707-2003 Vertification Regulation of Torque Wrench*.
Note: When the torque value is larger or lower than test range of sensor, please change to another sensor. You should also turn the switch sensor to the corresponding sensor.

Serial Port Output and Print

This instrument is RS-232C level output, which can be connected with micro printer, computer and other external devices. The matching external devices must support RS-232C electrical level.

Illustration of RS-232 Port
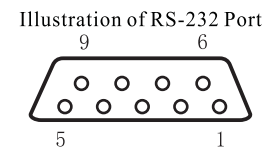
Needle	Signal	Illustration
2	TxD	Output signal of scm
3	RxD	Incept signal scm
5	GND	Earth

Picture 4

1. When setting the serial port communication mode as "Print Curve", it means printing single test curve. The screen shows "Print Curve" when pressing " [PRINT] " button. It can print the test curve when testing. The print sample (See Picture 5) is as follow:

Operation Instruction

Instruction: Take testing Dial Indicating Torque Wrench(capscity: 200N.m) as an example.

1. Turn on the power switch.
2. Pressing the Unit button to choose the needed unit (N.m, kgf.cm, lbf.in).
3. Setting the upper and lower limit values, auto power off time, peak automatic discharge time, communication mode and storage mode according to your test requires.

A. Pressing "SET" button can make the cursor stop at the upper limit location, and pressing "→←" button can make the cursor stop at corresponding location and change the parameters by " + " button.

B. Pressing " ↓ " can make the cursor stop at the lower limit location, and pressing "→←" button can make the cursor stop at corresponding location and change the parameters by " + " button.

C. Pressing " ↓ " can make the cursor stop at auto power off time, and pressing "→←" button can make the cursor stop at corresponding location and change the parameters by " + " button.

D. Pressing " ↓ " can make the cursor stop at peak automatic discharge time, and pressing "→←" button can make the cursor stop at corresponding location and change the parameters by " + " button.

E. Pressing " ↓ " can make the cursor stop at the communication mode, and pressing " + " button can change the current state. "PC": Connecting to computer can view the test curve by software or export the test data; "Print Report": Print 10 groups of stored data by exporting to the built-in micro printer; "Print Curve": Print the current test curve by exporting to the built-in micro printer.

F. Pressing " ↓ " button can make the cursor stop at the storage mode, and pressing " + " can change the current state.

G. After setting, press the "EXIT" button to save settings and back to testing interface.

4. Choose suitable sensor to load according to the max torque value of testing torque wrench.
5. Turn the sensor switch to the sensor which needs to load.
6. Choose suitable sleeve according to driving tenon dimension of torque wrench.
7. Loosen the M10 lock handwheel and adjust the location of loading structure according to the length of torque wrench, then relock the M10 lock handwheel tightly.

when in anticlockwise direction.

⑺Judge the deviation of upper and lower limits:
When the test value is larger than upper limit value, it shows exceeding upper limit.
When the test value is between the upper and lower limit value, it shows eligible.
When the test value is lower than the lower limit value, it shows exceeding lower limit.

⑻ The peak value during testing.

⑼ Average value.

⑽ Maximum value.

⑾ Store test value: 10 locations from M0 to M9, each location can store a test value.

▷ :means that this place is the current storage location.

ON/OFF Button

SET
A. Set automatic alarm values of upper and lower limits.
B. Set peak-holding automatic discharge time (free setting from 1 to 99 seconds, 0 means not discharging).
C. Set automatic shutdown time (free setting from 1 to 99 minutes, 0 means not shutdown).
D. Set serial communication mode.
E. Set storage mode.

↑
A. Select the current storage location when in test interface.
B. Select the data that need to be modified when setting.

↓
A. Select the current storage location when in test interface.
B. Select the data that need to be modified when setting.

→
A. Select the current storage location when in test interface.
B. Select the data that need to be modified when setting.

←
A. Select the current storage location when in test interface.
B. Select the data that need to be modified when setting.

+
Used to modify the parameters.

EXIT
Save the set value and exit the setup interface to the test interface.

[UNIT] Torque Unit Conversion

$\longrightarrow$ N.m(N.mm) $\longrightarrow$ kgf.cm $\longrightarrow$ lbf.in $\longrightarrow$

[ZERO] Clean the torque values and peak value to ZERO.

[SAVE] In the "Storage Tracking Value" mode, pressing this button can store the current torque value into the corresponding storage location of "▷" symbol and move the "▷" symbol to the next storage location. In the "Storage Peak Value" mode, pressing this button can store the current peak value into the corresponding storage location of "▷" symbol and move the "▷" symbol to the next storage location.
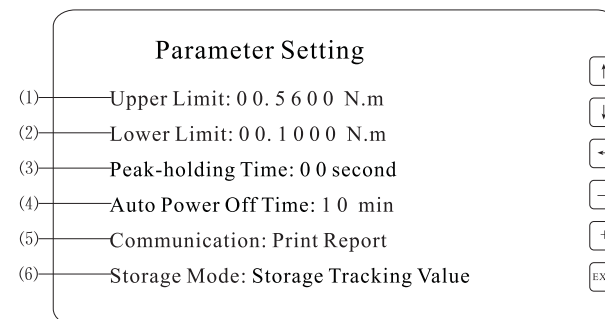
[PRINT] Print the current data (See the details in "Serial Port Output and Print").

[DELETE] Pressing this button can delete the test value of current storage location; pressing this button all the time can delete the test values of all the stored locations.

[▽] Shift Key for Second Function

"[SET]" key shifts into the "[↑]"key

"[UNIT]" key shifts into the "[↓]"key

"[ZERO]" key shifts into the "[←]"key

"[SAVE]" key shifts into the "[→]"key

"[PRINT]" key shifts into the "[DELETE]"key

"[▽]" key shifts into the "[BACK]"key

[BACK] The Key Back to First Function

"[↑]" key shifts into the "[SET]"key

"[↓]" key shifts into the "[UNIT]"key

"[←]" key shifts into the "[ZERO]"key

"[→]" key shifts into the "[SAVE]"key

"[DELETE]" key shifts into the "[PRINT]"key

"[BACK]" key shifts into the "[▽]"key

2）Setting Interface

Parameter Setting

(1) —— Upper Limit: 0 0.5 6 0 0 N.m   [↑]
(2) —— Lower Limit: 0 0.1 0 0 0 N.m   [↓]
(3) —— Peak-holding Time: 0 0 second   [←]
(4) —— Auto Power Off Time: 1 0 min   [→]
(5) —— Communication: Print Report   [+]
(6) —— Storage Mode: Storage Tracking Value   [EXIT]

Picture 3

(1) Upper limit value

(2) Lower limit value

(3) Peak-holding time (free setting from 1 to 99 seconds, 0 means not automatic discharge)

(4) Automatic shutdown time (free setting from 1 to 99 minutes, 0 means not shutdown)

(5) Communication mode:

"PC": Connecting to computer can view the test curve by software or export the test data;

"Print Report": Print 10 groups of stored data by exporting to the built-in micro printer;

"Print Curve": Print the current test curve by exporting to the built-in micro printer.

(6) Storage mode:

"Storage Tracking Value": Pressing the "[SAVE]" button can store the current tracking value;

"Storage Peak Value": Pressing the "[SAVE]" button can store the current peak value.

NOTE: You can move the cursor to the corresponding item by "↑ ↓" button, move the cursor to the location that needs to modify by "→ ←" button and then modify the parameters by "[+]" button. After that, pressing "[BACK]" button to save the setting and back to the test interface.