Digital Torque Checker
DTC Series

OPERATION MANUAL

ATTONIC CO., LTD

■Digital Torque Checker

It is the torque-measuring instrument of the electronic formula which can measure torque power. It corresponds to a large area from the field of a quality control to the research and development. Our Digital Torque Checker are used well to check intensity or movement of some parts in automobile industry, electric industry and etc.

■Features

- Our Digital Torque Checker has original design.
- Sampling Speed 1ms

■Example Use

- Peak Holding Measurement and Tracking Measurement
- Peak Holding Memory is 50 Measurements Value.
- The limit of ＨＩ(HIGH) and ＬＯ(LOW) can be made by comparator out-put.
- Selectable 3 units (Ｎ･m、Kg ｆ･cm、in･lbf)
- Battery Volume can be checked on display.
- Power auto-off function.
  When there is no key 5 minutes,a power supply is turned off automatically.

.

■Notes

Do not overload

The limit of overload capacity is 120% of full scale. When the load is reached to 110% of Full Scale, “ OVERLOAD “ is indicated on display. Keep it within 100% of Full Scale. This is the cause for the breakdown of load sensor.

※In case of over load setting 1 ～ 100 %, “ OVER LOAD “will be indicated on display when the load is reached over your setting value.
(Regarding over load setting, please see page No.9.)

Do not use other adapter

Should other adapter be used, there are possibility to breakdown or may lead to a fire. Also, do not charge or operate unit in other voltage.

Do not impact or damage unit

This is the cause for the breakdown of load sensor or other troubles.

Do not store and operate in the following conditions

※ Wet area ※ Where dew condensation
※ Dusty area ※ Where oil or chemicals

Do not disassemble, trouble-shoot and remodel

Should you perform any of these, that may cause malfunction of the unit.

■Specifications

■Standard Specifications

- Measuring Unit : Selectable 3 units N·m/Kgf·cm/in·lbf·
- Accuracy : ±0.5% of F/S
- Measurement : Peak Holding / Tracking
- Peak Holding : Digital Peak Holding
- Peak Holding Memory : 50 Measurement Values
- Sampling Speed : 1ms
- Display : 4 digits LCD
- Over Load Capacity : 120%
- Auto Power Off Term : 5 minutes
- Attachment : Please refer page No.5 and 6.
- Net Weight : About 3.2 kg
- Guarantee : 1 year
- Power Supply : Rechargeable Ni-MH Battery
  (Charging Time : About 4 hours)

■Model & Indication Range

MODEL	Measuring Range Min. Indication
ＤＴＣ－１	1.00-10.00N･cm/0.100-1.000Kgf･cm/0.100-1.000in･lbf
	0.01N･cm/0.001Kgf･cm/0.001in･lbf
ＤＴＣ－２	2.0-20.0N･cm/0.20-2.00Kgf･cm/0.20-2.00in･lbf
	0.1N･cm/0.01Kgf･cm/0.01in･lbf
ＤＴＣ－５	5.0-50.0N･cm/0.50-5.00Kgf･cm/0.50-5.00in･lbf
	0.1N･cm/0.01Kgf･cm/ 0.01in･lbf
ＤＴＣ－１０	0.100-1.000N･m/1.00-10.00Kgf･cm/1.00-10.00in･lbf
	0.001N･m/0.01Kgf･cm/0.01in･lbf
ＤＴＣ－２０	0.20-2.00N･m/2.0-20.0Kgf･cm/2.0-20.0in･lbf
	0.01N･m/0.1Kgf･cm/0.1in･lbf
ＤＴＣ－５０	0.50-5.00N･m/5.0-50.0Kgf･cm/5.0-50.0in･lbf
	0.01N･m/0.1Kgf･cm/0.1in･lbf
ＤＴＣ－１００	1.00-10.00N･m/1.0-100.0Kgf･cm/1.0-100.0in･lbf
	0.01N･m/0.1Kgf･cm/0.1in･lbf
ＤＴＣ－２００	2.0-20.0N･m/20-200Kgf･cm/20-200in･lbf
	0.1N･m/1Kgf･cm/1in･lbf

In case of 100% to 110% of full scale of measuring range, the display indicate the measuring value.
However this measuring value can not be used for your measurement. Incase of 110% over, " OVER LOAD " is indicated on display. (This is in case of over load setting " 0 ")

※In case of over load setting 1 ～ 100 %, " OVER LOAD "will be indicated on display when the load is reached over your setting value. (Regarding over load setting, please see page No.9.)

■Standard Attachments for each model

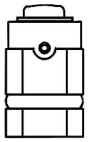
Model No.	Standard Accessories (each 1 pce.)
ＤＴＣ－１	ＴＣ－２、ＴＳＳ－５
ＤＴＣ－２	ＴＣ－２、ＴＳＳ－５
ＤＴＣ－５	ＴＣ－２、ＴＳＳ－５
ＤＴＣ－１０	ＴＣ－３、ＴＳＳ－１０
ＤＴＣ－２０	ＴＣ－３、ＴＳＳ－２０
ＤＴＣ－５０	ＴＣ－６、ＴＳＳ－３０
ＤＴＣ－１００	ＴＣ－４、ＴＳＳ－３０
ＤＴＣ－２００	ＴＣ－４、ＴＳＳ－３０

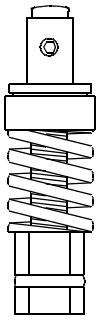
・Attachments

■ＤＴＣ－１、２、５

ＴＳＳ－５
(M3Screw/#2+With Spring)
０．１～０．５Ｎ・ｍ

ＴＣ－２
(M3Screw/#2)



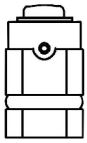


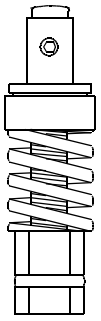
TSS-5：
Screw is a replacement formula.
Screw of the side is loosened.
＊Reserve：Two screws each are attached.

■ＤＴＣ－１０

ＴＳＳ－１０
(M4Screw/#2+With Spring)
０．２～１Ｎ・ｍ

ＴＣ－３
(M4Screw/#2)



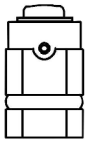


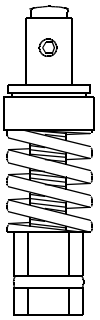
TSS-10：
Screw is a replacement formula.
Screw of the side is loosened.
＊Reserve：Two screws each are attached.

■ＤＴＣ－２０

ＴＳＳ－２０
(M5Screw/#2+With Spring)
０．５～２Ｎ・ｍ

ＴＣ－３
(M4Screw/#2)



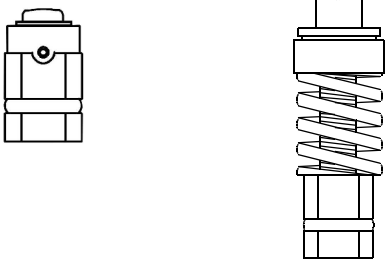


TSS-20：
Screw is a replacement formula.
Screw of the side is loosened.
＊Reserve：Two screws each are attached.

■ＤＴＣ－５０

ＴＳＳ－３０
(M6Screw/#3+With Spring)
０．５～３Ｎ・ｍ

ＴＣ－６
(M5Screw/#2)

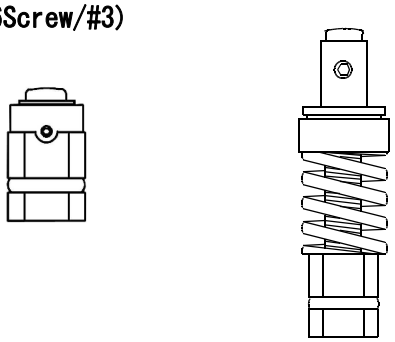


TSS-30：
Screw is a replacement formula.
Screw of the side is loosened.
＊Reserve：Two screws each are attached.

■ＤＴＣ－１００、２００

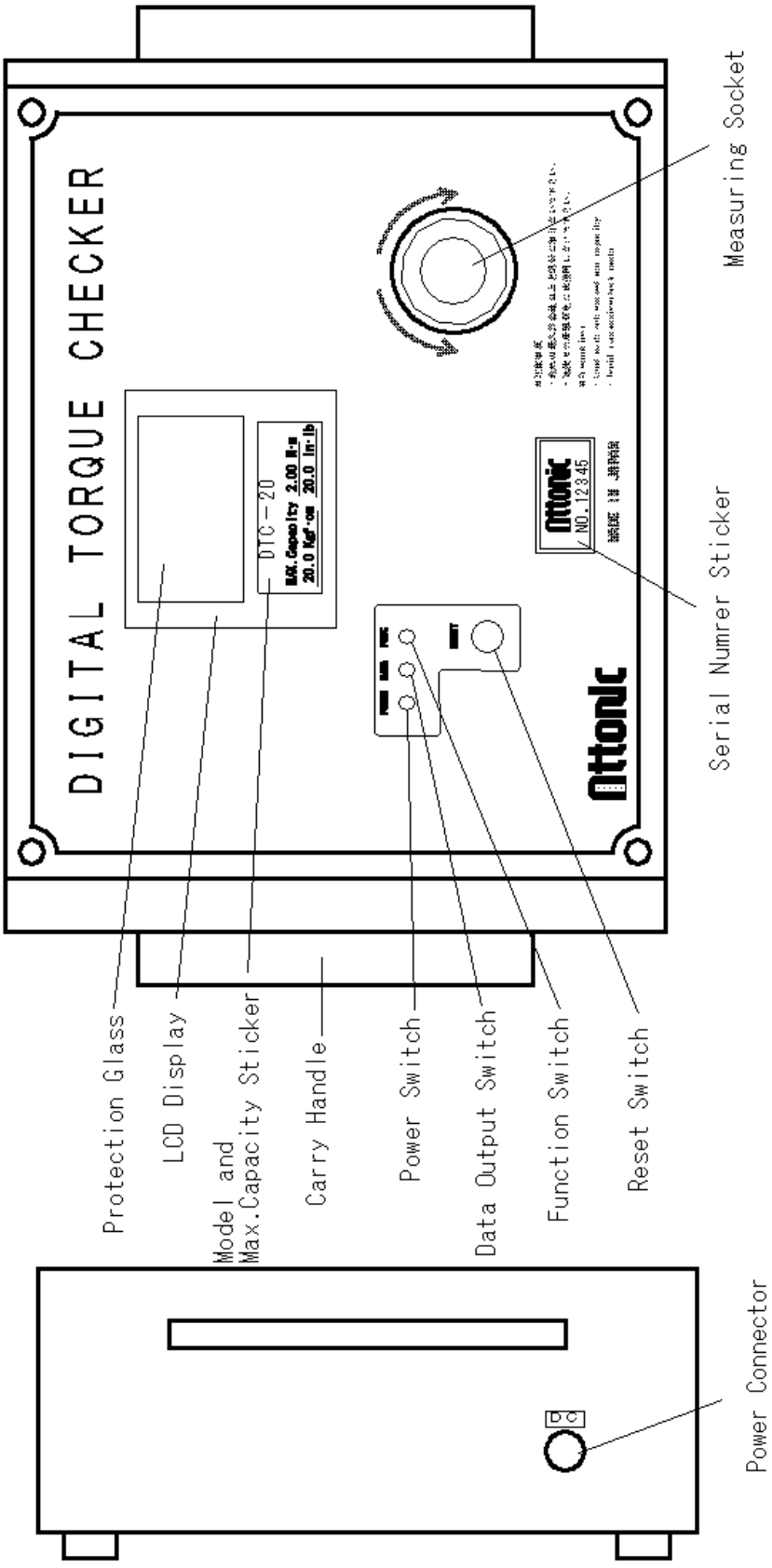
ＴＳＳ－３０
(M6Screw/#3+With Spring)
０．５～３Ｎ・ｍ

ＴＣ－４
(M6Screw/#3)



TSS-30：
Screw is a replacement formula.
Screw of the side is loosened.
＊Reserve：Two screws each are attached.

■Description of Parts Name



■Explanation of each parts (1)

- **POWER CONNECTOR (DC)**
  Insertion connector of AC adapter for the charging. The standard recharging time is about 4 hours after making a power off. The charging condition can be confirmed by display when making a power on. Also, it can be used inserting AC adapter. However, it becomes the cause which hastens the degradation of the charging battery. Recommend to use without using AC adapter as much as possible.

- **LCD DISPLAY**
  Using graphic LCD (liquid crystal), it is possible to show a feature character, setting character, numbers and charging scale in the display.

- **PROTECTION GLASS**
  Digital display is covered by protection glass.

- **MODEL AND MAX. CAPACITY STICKER**
  Model number and maximum display value of 3 units and indicated.

- **POWER SWITCH (P)**
  On/Off button of the power. The buzzer sounds in case of start the operation.

- **DATA OUTPUT SWITCH (D)**
  It can be changed Peak Hold and Tracking, the reading of memory data and various setting of value.

■Explanation of each part(2)

・ FUNCTION SWITCH (F)

This button is for setting up each function. To change function mode, keep to push about 6 seconds. (“FU” is indicated in LCD Dispay), can be set up each function.

・ RESET SWITCH

This button is for resetting data indication of peak-hold and tracking.

Besides when the mode is function (FU), you can reset all of the memory data (but cannot reset the data one-by-one), and can alter the figure (then the figure is underlined) by this button.

・ SERIAL NUMBER STICKER

Serial number is mentioned on this sticker.

・ MEASURING SOCKET

Attachment should be set on this measuring socket.

■Explanation of a button setting function (1)

Various functional set up in button operation.

●Set up the function

①Change Peak Hold (PEAK) and Tracking (TRUCK)
②Check Memory (MO) Data and Elimination of all memory data
③Set up Comparator Function (HI)
④Set up Comparator Function (LO)
⑤Change Measuring Unit (UN)
⑥Set up Over Load (OV)
⑦Set up Power Auto Off(AP)
⑧Reverse Digital Display

Power switch is turned ON while pressed the P-button. (Becomes MEASUREMENT MODE)

(When there is no key 5 minutes,a power supply is turned off automatically)

Keep to push F button about 6 seconds, indicate by FU (function). (Becomes SETTING MODE)

Preparations the various setting were completed.

The programming procedure after FU display

①Change Peak Hold (PEAK) and Tracking (TRUCK)

Change the Peak hold (PEAK) and change the tracking (TRUCK) when pressed the D button. (Initial setting : TRACK)

↓

Push F button

②Check Memory (MO) Data and Elimination of all memory data

" MO " in the upper right side of the display. Can be confirmed the memory date. The memory data is advanced when press the D button. (from M01 up to M50)

Elimination of all memory data should press the RESET button. (Each data is not eliminable)

The display indicate M0 0 when data is eliminated. (Initial setting : 0)

↓

Push F button

③Set up Comparator Function (HI)

Set up the upper limit of comparator function Figure rising by D-button and Digit rising by RESET-button. When not using this function, setting to the 0. (Initial setting : 0)

↓

■Explanation of a button setting function (2)

Push F button

④Set up Comparator Function (LO)

Set up the low limit of comparator function. Figure rising by D-button and Digit rising by RESET button. When not using this function, setting to the 0.
(Initial setting : 0)

↓

Push F button

⑤Change Measuring Unit (UN)

To push D button, display change from N→Ｋｇｆ→lb ｆ→ N･･･ (Initial setting : N)

↓

Push F button

⑥Set up Overload (OV)

Count up by D button. Figure up by RESET button.
Setting value is %. It cannot set under 0.
When not using this function, setting to the 0.
(Initial setting : 0)
In case of setting 0, “ OVER LOAD “ will be indicated on display when the load is reached from 100% to 110% of full scale.

↓

Push F button

⑦Set up Power Auto Off(AP)

To push D button, Set up the Power auto off 1→release 0･･･
(Initial setting : 1)

↓

Push F button

⑧Reverse Digital Display

The Value becomes flashing & dark.
To push D button, the direction of display indication is reversed in upside down position.

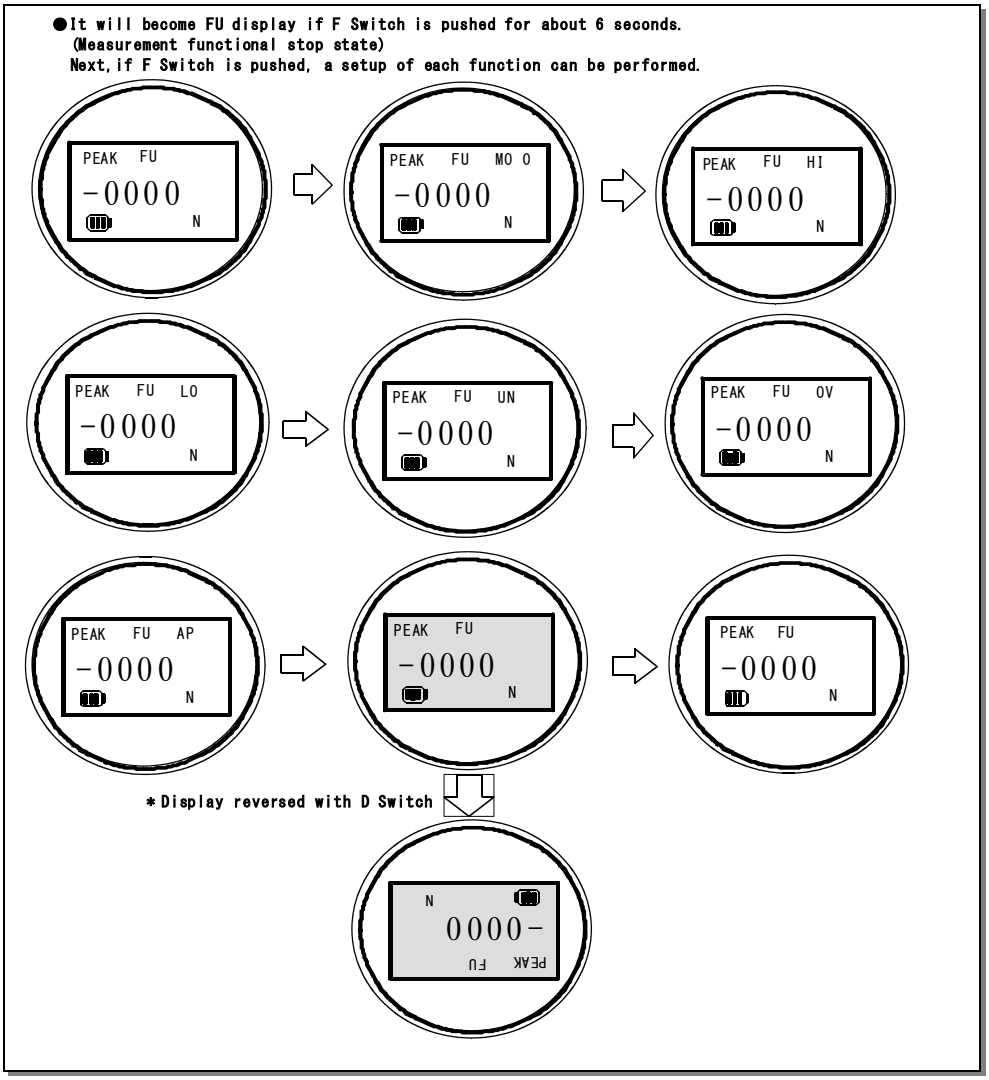
↓

Push F button

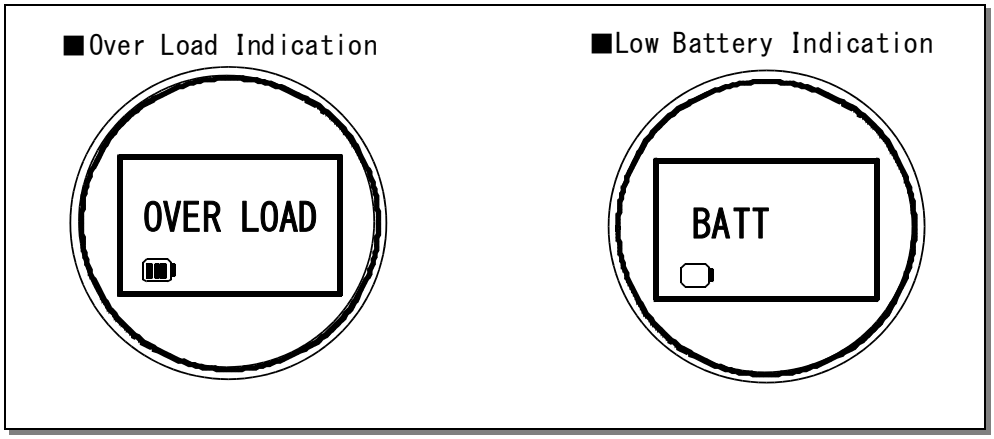
TO ① Change Peak Hold (PEAK) and Tracking (TRUCK)

Keep to push F button about 6 seconds, the gauge is now ready to measure.

■Digital indication for function mode



■Digital indication for warning messages



Attonic

ATTONIC CO., LTD.

600-5 HIGASHI TAKADACHO, TOYOHASHI
AICHI 441-8115 JAPAN.
TEL : (0532)-41-5357
FAX : (0532)-41-4826

ＵＲＬ：http：//www.attonic.co.jp
E-mail：info@attonic.co.jp