

# HP-100

## TORQUE METER

### Instruction Manual

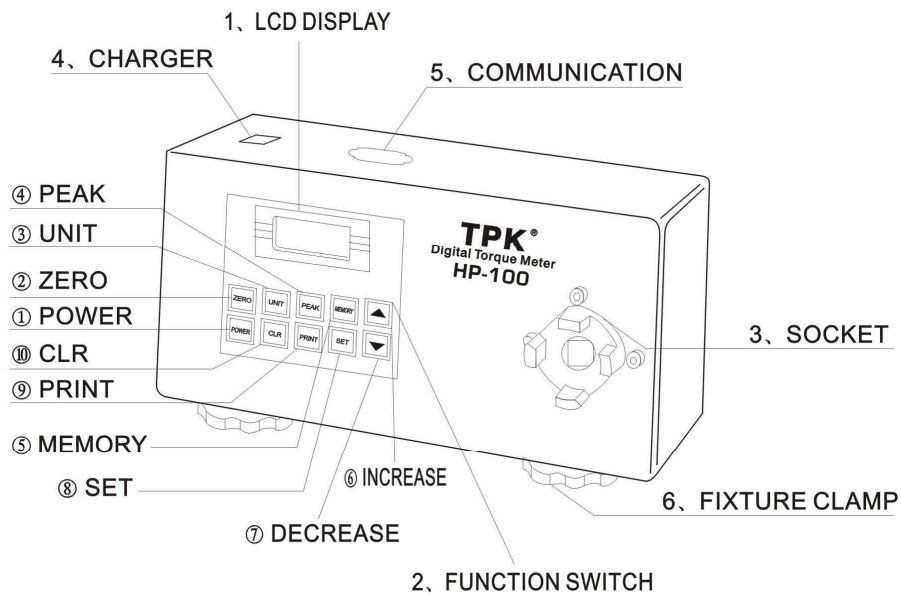
#### 二、FEATURES

1. Display of the torque direction.
2. Automatic peak clearing.
3. Deposited data printing.
4. Automatic deposited data average.
5. Measuring curve printing.
6. Kgf.cm/Lbf.in/N.m transition.
7. Peak keeping function.
8. Nickel-Hydrogen battery power display.
9. Automatic shutdown for 3 minutes without operation.
10. Automatic charging control.
11. Touch switch easy to operate.

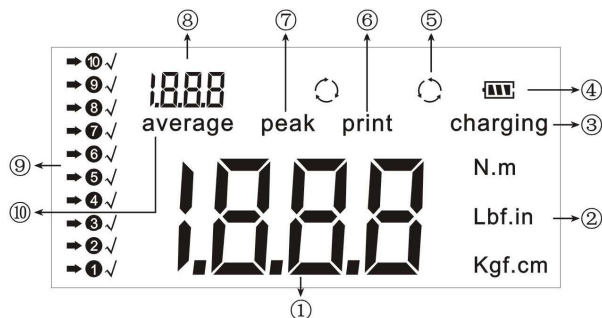
#### 三、SPECIFICATIONS

Model No.	HP-10	HP-50	HP-100	
Measurement range	Kgf.cm	0.15-10.00	0.5-50.0	1.5-100.0
	N.m	0.015-1.000	0.05-5.00	0.15-10.00
	Lbf.in	0.15-9.00	0.5-45.0	1.5-90.0
Accuracy	Within $\pm 0.5\%$			
Responsive frequency	600Hz			
Power source	Nickel-Hydrogen: 1.2V $\times$ 6			
Recharging time	< 8 hours			
Continuous use at full charge	50 hours			
Battery life	$\geq 500$ times			
Dimensions	123mm $\times$ 230mm $\times$ 65mm			
Weight	2Kg			
Exclusive charger	Input: AC 220V 50Hz Output: DC 12V 300mA			

#### 四、NOMENCLATURE AND FUNCTIONS



## 1. LCD DISPLAY DESCRIPTION



① Torque measuring value

② Torque unit

Kgf.cm  $\longleftrightarrow$  Lbf.in  $\longleftrightarrow$  N.m

③ Charging

When the battery is full, the meter can turn off automatically.

④ Battery electric power indicator

When the battery electric power is low, the indicator twinkles.

⑤ Torque directional symbol

Clockwise — counterclockwise —

⑥ Printing for deposited data and measuring curve

⑦ Peak indicator, when automatic clearing **PEAK** twinkling

⑧ Deposited value and average indicator

⑨ Deposited torque value

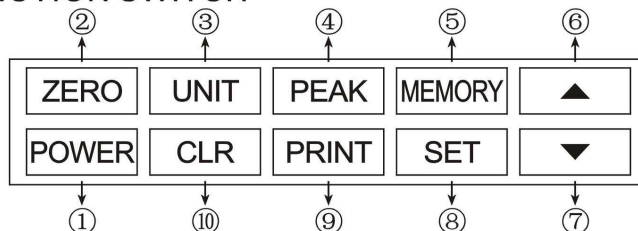
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ : for torque measuring value

➡ : for deposition/read

✓ : for deposited value.

⑩ Deposited value average indicator.

## 2. FUNCTION SWITCH



- ① **POWER** — Power Switch
- ② **ZERO** — Zero Switch  
Zero measuring and peak value.
- ③ **UNIT** — Unit Switch  
Kgf.cm ↔ Lbf.in ↔ N.m
- ④ **PEAK** — Peak Switch
- ⑤ **MEMORY** — Memory Switch  
To memory the measuring value ↔ To average the deposited value.
- ⑥ **▲** — Adding Switch  
A. When depositing torque value, touch **▲**, ➡ symbol goes up with a case.  
B. When setting condition, touch **▲**, the peak time can increase one second. Touch **▲** over two seconds, the peak time can increase continuously.
- ⑦ **▼** — Reducing Switch  
A. When depositing torque value, touch **▼**, ➡ symbol goes down with a case.  
B. When setting condition, touch **▼**, the peak time can decrease one second. Touch **▼** over two seconds, the peak time can decrease continuously.
- ⑧ **SET** — Peak setting  
Setting the peak time.
- ⑨ **PRINT** — Printing Switch  
A. When depositing torque value, touch **PRINT**, the deposited value can be printed.  
B. When averaging, touch **PRINT**, measuring curve can be printed.
- ⑩ **CLR** — Clearing Switch  
For clearing the deposited value.
3. SOCKET  
This socket is for attaching the device to be measured.

#### 4. CONNECT FOR CHARGER



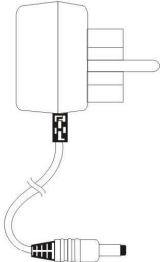
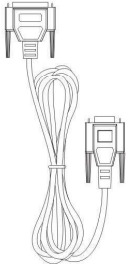


#### 5. COMMUNICATION

The meter performs recording of data and can be connected to micro-printors.

#### 6. FIXTURE CLAMP

### 五、ACCESSORIES

#### 1. Fidaptor

Model No.	Supplied accessories			
	Fidaptor	Supplanting spring	Exclusive battery charger	Connecting wire
HP-100 HP-50	 <p>Measuring range: 5.0-30.0kgf.cm</p>			
HP-10	Measuring range:1.5-6.0kgf.cm			
HP-100 HP-50	 <p>Measuring range: 5.0-30.0kgf.cm</p>			
HP-10	Measuring range:1.5-6.0kgf.cm			

#### 2. Exclusive battery charger

Input: AC 220V 50Hz

Output: DC 12V 300mA

#### 3. Micro-printor

#### 4. Connecting wire



## 六、 ENVIRONMENT CONDITIONS

- Operational temperature: 0°C~40°C
- Operational humidity: 35%RH~65%RH

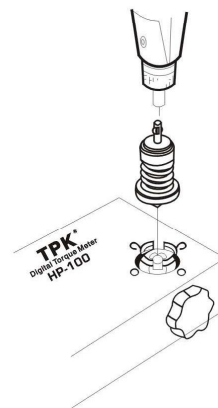
## 七、 OPERATING PROCESSES

1. Before starting measurement, make sure the digital meter is adequately charged. Turn the Power Switch on. If it is not charged enough, the battery electric power indicator twinkles. When the indicator twinkles, charge it over 3 hours, but not more than 8 hours.
2. Stabilize the body. Use the Fixture clamp if necessary.
3. When turning the Power Switch on, it generally displays 0. If it doesn't display 0, touch the Zero Switch to set the displayed value to 0.
4. According to the measuring need, touch the Unit Switch, select the desired unit.
5. If the peak time is desired, touch **SET** .
6. When peak measurement is desired, touch the Peak Switch.
7. When measuring the torque of electric screwdriver or pneumatic driver with torque control equipment, use the dedicated Fidaptor fixing it in the socket.
8. When measuring the torque of various rotating tools or articles other than the above-mentioned drivers, use an attachment adequately devised to fit the socket.
9. When the deposited value and the measuring curve are needed, connect a micro-printer.
10. After completion of measuring operation, turn the Power Switch off without fail, remove everything from the socket and put it into the box.



## 八、TORQUE MEASURING PROCEDURES WITH THE FIDAPTOR

1. Set the Fidaptor in the socket of the meter and fit the bit receptacle of the screwdriver to be measured on the head of the Fidaptor.
2. Set the switch of the screwdriver to REV and reverse the rotation to loosen the spring of the Fidaptor a little (using some finger strength).
3. Touch the Zero Switch to display 0.
4. Set the switch of the screwdriver to FOR to rotate the screwdriver until it stops automatically (The spring is tightened).
5. When the screwdriver stops, the measuring value is held and digitally displayed on the Display. The value is the output torque of the screwdriver.  
The output torque can be verified by repeating the above-mentioned operations (procedures 2 through 5).  
To set torque loosen or fasten the torque adjustment nut of the screwdriver and set it to the proper output.



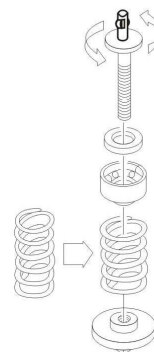
## 九、SETTING AND INSPECTING THE FIDAPTOR

### 1. SETTING THE FIDAPTOR

According to the measuring need, select a bearing and a spring. Then, turn the center axis counterclockwise to replace the spring.

### 2. INSPECTING THE FIDAPTOR

- ① Inspect the Fidaptor before you use it .  
Dust, absence of grease and bending

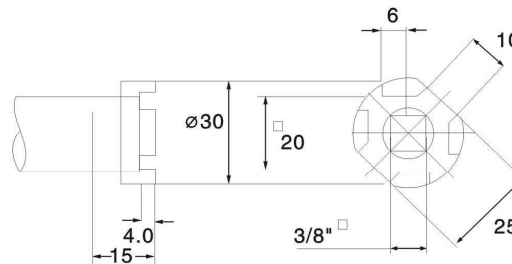




- in the shaft will degrade measurement accuracy.
- ② Replace the thrust bearings in the Fidaptor periodically. When you use the Fidaptor repeatedly, bearings will wear and become damaged, thereby losing their smooth rotation and resulting in deteriorated measurement accuracy.

#### 十、 Using the socket

1. Before measurement, the socket and the attachment should fit each other firmly.
  2. The vertical load on the socket should be no more than 10Kg.
  3. No impact should be imposed on the socket.
- Details of the socket:



#### 十一、 NOTICES

1. Do not apply a torque above the maximum allowable load or damage will result.
2. Do not tap on or apply a load to the acrylic display.
3. Do not touch the function switches with nails, edge tools or tine objects.
4. Avoid using the meter in the places where water, oil or other liquid may splash. Do not store the meter at high temperature, humidity and vibration environment.
5. Do not open the rear cover to calibrate variable resistors or for any other reason.
6. Do not loosen screws which are tightening the socket.
7. Do not drop the meter or handle it roughly.

