

# HIOS®

NEW

Torque waveform  
& wireless  
communication

## DIGITAL TORQUE METER HP SERIES



EcoPro Awards

Torque Meter HP Series

### HP-10

Sensor module  
Max torque 1.000N · m

### HP-100

Sensor module  
Max torque 10.00N · m

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<https://hios.com>



## HIOS's torque meter is one of the world's standards.

In 1970, when the concept of torque management still didn't exist, we developed the world's first electric screwdriver for industrial use which was capable of precise torque control through current control by dialing. In 1977, the company introduced an autoclutch screwdriver that automatically controlled accurate torque. This product led our technical innovation. In the next year, we began developing a torque meter to improve screw fastening quality control. The mechanism of the Fidaptor was developed by us to reduce the effect of inertia during torque measurement of a clutch type electric screwdriver and to enable accurate torque detection. Standards for screw fastening quality control have been established that led new innovations. Torque meters are currently used at manufacturing sites in more than 90 countries around the world.



# Newly Born

# HP SERIES

| MADE IN JAPAN

## Sending and receiving data wirelessly

This instrument is the first to feature the measured torque data transfer as standard in the series. Data can be transferred by wireless or cable connection, and that led improvement in usability.

## Highly visible display

The large display clearly shows the measured torque value and waveform, ensuring high visibility in a bright environment.

## Evolution of measurement modes

The continuity of the measured torque is graphically displayed in a waveform, making it easier to visually see changes in torque.

## Remote operation from an external device

The mode and threshold can be changed from an external device, allowing more convenient and efficient operation.

## Safe torque control

Features a PASS/Fail judgment function to judge the measured torque value. It supports daily quality control tasks in a production line such as screwdriver torque adjustment and setting.

## Data collection with specialized applications

Provides applications that facilitate torque management data collection in a production site. Supports productivity improvement, predictive maintenance, and quality traceability.

NEW

## HP-10

Sensor module  
Max torque 1.000N · m



NEW

## HP-100

Sensor module  
Max torque 10.00N · m



# Torque of various tools such as electric screwdriver can be checked with high accuracy. You can also

**function 01**

**NEW**

**Display**

The torque measurement value is displayed in waveform, and the PASS/FAIL judgment setting can also be visually checked on the display. The measured value, work rate, torque value, etc., are displayed in an easy-to-see way, supporting the improvement of work efficiency.

**Large 3.5 inch display**



**function 02**

**1 Measurement mode**

**NEW**

**TR1 (Torque waveform)**

Fluctuations in the torque from the start to the end of measurement are displayed in a waveform, and the maximum torque value is displayed as a fixed numerical value. When the load is out of the measurement range, the measurement is terminated.

**NEW**

**TR2 (Continuous torque waveform)**

The value of the load applied to the detector is displayed. Even if the load is outside the measurement range, the waveform data can be measured continuously. You cannot use PASS/Fail judgment.

**PEAK**

The highest actual measured value (peak value) during measurement is displayed. When CCW is selected, a minus sign is displayed.

**function 03**

**2 Unit**

You can choose from two types of units and switching between them is easy.

**NEW**

**3 PASS/Fail judgment threshold**

Reference values for judging the PASS/Fail of the measured peak value are displayed.

**NEW**

**4 Acceptable range for PASS/Fail judgment**

Sets the acceptable range to the numeric value set by the PASS/ Fail judgment threshold.

**5 Buzzer**

Displays the status of the buzzer sound such as to-bechecked or warning tone.

**NEW**

**6 Battery**

Displays the device's battery level or charging status.

# Drivers, torque screwdrivers, and torque wrenches easily collect and analyze measurement data.



## function 04

NEW

### 7 Auto reset mode

Auto reset mode is displayed. The display is automatically reset and the data is sent when the set time elapses after the measurement is finished.

NEW

### 8 PASS/Fail judgment result (PASS/FAIL)

Displays the judgment result of the measured value based on the PASS/Fail judgment threshold.

NEW

### 9 Torque waveform display

The continuity of the measured torque can be visualized with a waveform for a more intuitive understanding.

NEW

### 10 Auto power off mode

The screen saver starts automatically after a certain period of inactivity. After a certain amount of time elapses, the device enters auto power off mode, which automatically turns off the power.

## function 05

NEW

### Measurement data output

The measured torque data can be transferred to a PC or control device. For example, there are various connection methods such as using wireless technology or connecting a USB cable to a PC. You can also set the instrument from an external control device.

Connection methods:

Bluetooth/USB/RS-232C(optional)

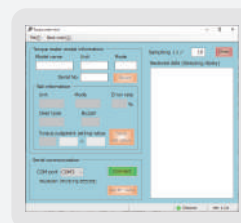
NEW

### Collection and accumulation of measurement data

The measured data is transferred to the PC and the data can be easily collected and accumulated through the application. The data can also be exported to a CSV file to be used for evaluation and analysis tools.

Supported OS: Windows 10/Windows 11

#### PC application



#### CSV output

#### Graphical analysis



#### TR2 (continuous torque waveform) use case

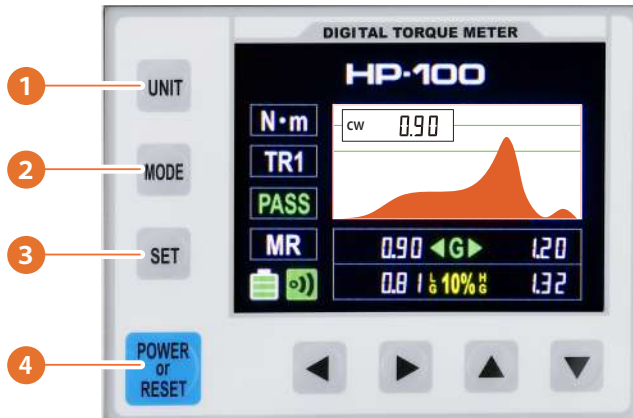
Displays data captured in application in an Excel waveform, etc.





## Names and functions of the operation panel

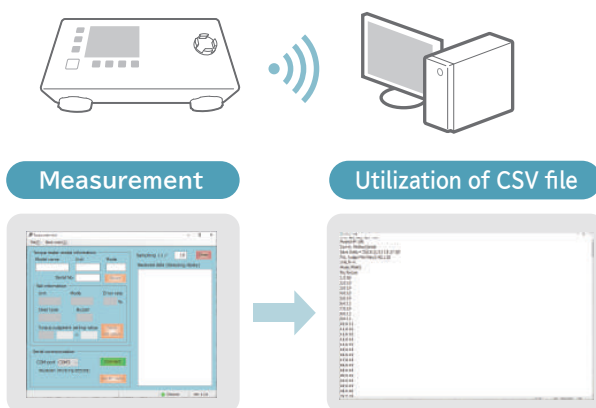
In addition to the highly visible and easy-to-operate large display, the PASS/Fail judgment, more battery capacity, and various functions are newly featured, leading dramatic improvement in work efficiency. The ease of use and functionality have improved more than ever - now it proposes new work style.



- 1 **UNIT** Possible to change measuring unit as below according to your needs.
- 2 **MODE** The measurement mode can be easily switched between PEAK (peak), TR1 (waveform), and TR2 MODE (continuous waveform).
- 3 **SET** Various functions such as buzzer sound setting, automatic data transmission setting, PASS/Fail judgment setting, etc., can be set to improve work efficiency.
- 4 **POWER or RESET** Turns on the power and sends measured data. There is also an auto reset mode that automatically sends data without pressing a button.

## External output

Connects the measurement data by wireless or wired connection to an external device and transfers the data.

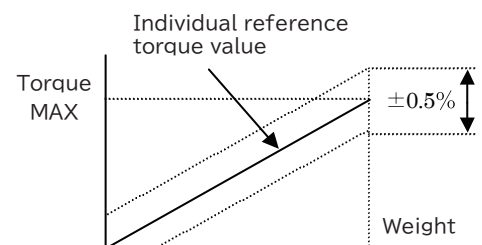


### Communication setting parameters




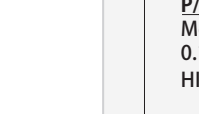
Item	Baud rate	Data length	Strip bit	Parity	CTS/RTS-control	Format	Delimiter
Comm. parameters	115,200 bps	8 bit	1 bit	none	none	ASC II	LF

## Measurement accuracy

HIOS's torque meter achieves high accuracy within  $\pm 0.5\%$  on F.S. (full scale). Each torque meter obtains the highest measurement value among the four-point test values. This assures reliable quality.



## Specifications

Model name		HP-10		HP-100	
					
Interface		Bluetooth (Standard)	RS-232C (Optional)	Bluetooth (Standard)	RS-232C (Optional)
Meas. range	N•m	0.015-1.000		0.15-10.00	
	N•cm	1.5-100.0		15-1000	
	lbf•in	0.15-9.00		1.5-90.0	
	kgf•cm	0.15-10.00		1.5-100.0	
Min. display unit		10digit ※1			
Meas. mode		PEAK, TR1 (torque waveform), TR2 (continuous torque waveform)			
Meas. direction		Right-hand screw, left-hand screw			
Meas. accuracy		Within ±0.5% (F.S.)			
Charging and scalability		Supports the following with a micro USB Type-B port: • Charging • Data transfer (USB 2.0: up to 480Mb/s)			
b p a o w e r & y	Input	AC100-240V 50/60Hz 0.4A			
	Output	DC5V 2A 10W			
	All models are equipped with 1000 mA Ni-MH battery 3.6 V (operating voltage 3.3 V), maximum 300 mA when the power is ON				
	Torque meas & data transmission	Up to 2.5 hours			
	Charging time	5 hours			
	Charge cycles	500			
Power consumption		Max. 1.5 W or less	*The value may vary depending on the operating environment and conditions.		
Size (W x D x H)		230 x 110 x 50 mm (excluding the largest protrusion) *For more information, download the DXF file from the website.			
Weight		1.94kg			
Operating environment	Temperature	15~35°C			
	Relative humidity	25-65% (no condensation)			
Accessories		Device, USB cable, AC adapter, Fidaptor, case, Inspection Certificate, certificate3-item (Inspection Certificate, Calibration, Traceability chart)		HIOS Bit Drive Type Only: grease, threaded shaft and Fidaptor spring	

\*1 About digit The digit is displayed without decimal point. [Examples] 0.001=1 digit, 0.025=25 digit, 0.10=10 digit, 1.25=125 digit

## Order Codes

Model	measuring unit	Order Codes <HIOS Drive>		Model	measuring unit	Order Codes <1/4 HEX Drive>	
		Bluetooth	RS232C			Bluetooth	RS232C
HP-10	NN	HP-10-NN-R3	HP-10-NN-R3-W	HP-10X	NN	HP-10X-NN-R3	HP-10X-NN-R3-W
	NL	HP-10-NL-R3	HP-10-NL-R3-W		NL	HP-10X-NL-R3	HP-10X-NL-R3-W
	NK	HP-10-NK-R3	HP-10-NK-R3-W		NK	HP-10X-NK-R3	HP-10X-NK-R3-W
	KL	HP-10-KL-R3	HP-10-KL-R3-W		KL	HP-10X-KL-R3	HP-10X-KL-R3-W
HP-100	NN	HP-100-NN-R3	HP-100-NN-R3-W	HP-100X	NN	HP-100X-NN-R3	HP-100X-NN-R3-W
	NL	HP-100-NL-R3	HP-100-NL-R3-W		NL	HP-100X-NL-R3	HP-100X-NL-R3-W
	NK	HP-100-NK-R3	HP-100-NK-R3-W		NK	HP-100X-NK-R3	HP-100X-NK-R3-W
	KL	HP-100-KL-R3	HP-100-KL-R3-W		KL	HP-100X-KL-R3	HP-100X-KL-R3-W

\*measuring unit: [NN]→N•m⇔N•cm [NL]→N•m⇔lbf•in [NK]→N•m⇔kgf•cm [KL]→kgf•cm⇔lbf•in

## Fidaptor

### Appicabel models / HP-10

#### P/N:TF4G-Z

Measurement range:  
0.15-0.6 N•m (yellow)  
HIOS Shank H4



#### P/N:TF6SG-Z

Measurement range:  
0.15-0.6 N•m (yellow)  
Hexagonal Shank (2-step shaft)  
Upper: 5HEX, lower: 1/4 HEX



#### P/N:TF4SG-Z

Measurement range:  
0.25 N•m or smaller (red)  
HIOS Shank H4



#### P/N:TF4S-Z

Measurement range:  
0.25 N•m or smaller (red)  
HIOS Shank H4  
Without safety protection cover



### Appicabel models / HP-100

#### P/N:TF5G-Z

Measurement range:  
0.5-3 N•m (black)  
HIOS Shank H5



#### P/N:TF6XG-Z

Measurement range:  
0.5-3 N•m (black)  
Hexagonal Shank 1/4 HEX



#### P/N:TF6U-Z

Measuring range:  
for high torque screwdriver  
measurement: 3-9 N•m (black)  
Hexagonal Shank 1/4 HEX  
Without safety protection cover



#### P/N:TF6UP-Z

For CL-9000NL  
Measurement range:  
3-9 N•m (black)  
HEX Shank 1/4HEX  
Without safety protection cover



### For automotive industry Soft joint type

NEW

Recommended for measurements of  
high-torque, high-rotation tools and  
fastening to elastic parts.

#### P/N:TFJSJ-006N-HEX

Measurement range:  
1.0-6.0 N•m  
Hexagonal Shank 1/4HEX



#### P/N:TFJSJ-006N

Measurement range:  
1.0-6.0 N•m  
M8 Hexagonal socket head cap screw

