



**DIGITAL FORCE GAUGE**

**HP Series**

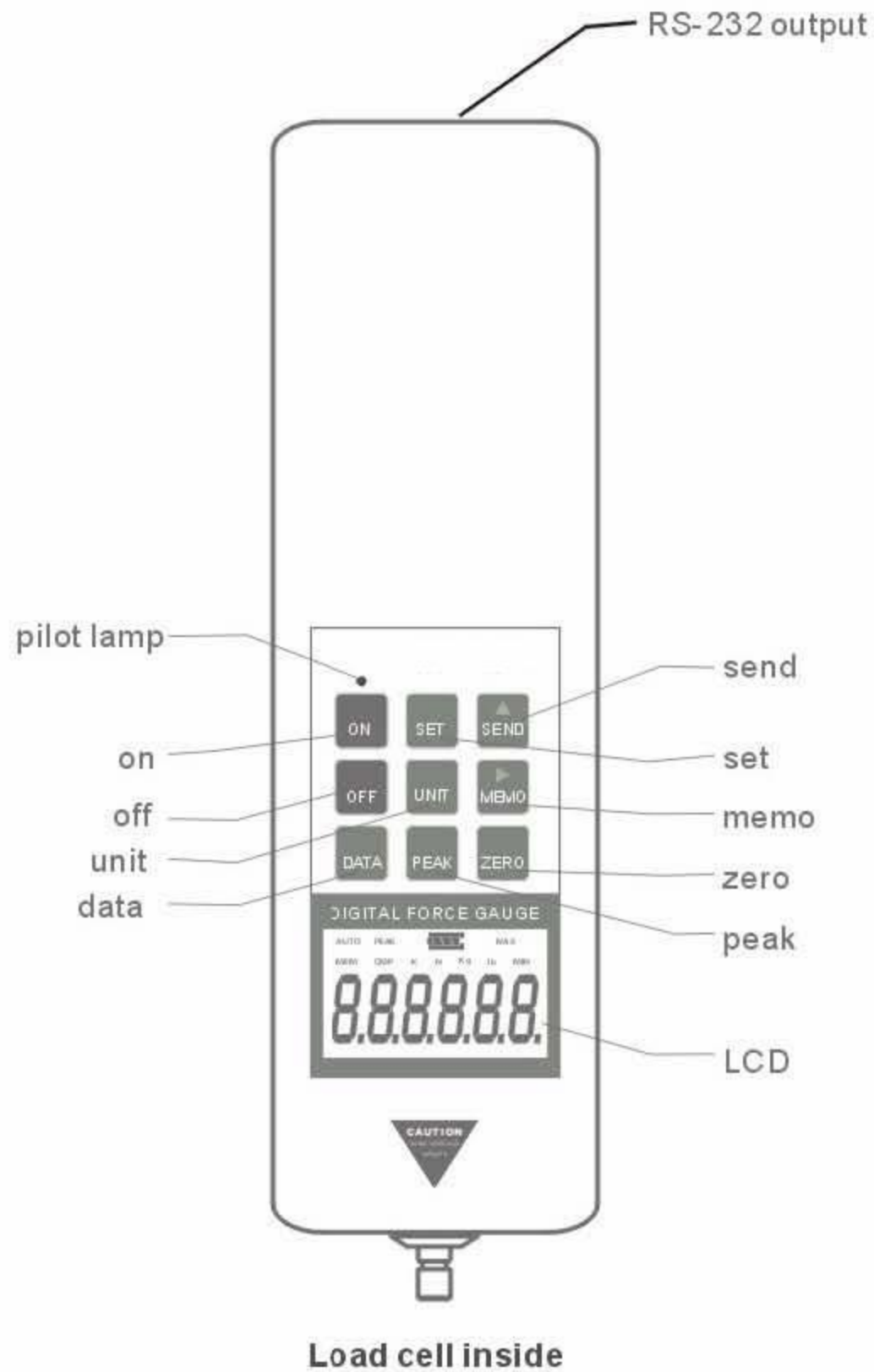
Catalog:

Parts description	1
Dimension	2
Parameter ( inside load cell )	3
Parameter ( outside load cell )	4
Maintenance	5
Functions	6
Specification	6
Screen description	7
Key function	8
Test	10
Memory data	11
Acceleration of gravity reset	11
RS-232C	11
Packing checklist	12

Thank you very much for your purchasing HP Series digital force gauge, HP Series force gauge with functions of high accuracy, easy operation, handy to carry out and so on. It with 5 different modes , outputting and saving results to PC to analysis, besides these functions it also can match synchronous software to get the testing graph, calculating the displacement and intensity of pressure when you input the speed and acreage .In order to get more accurate result, user also can reset the acceleration of gravity as local.

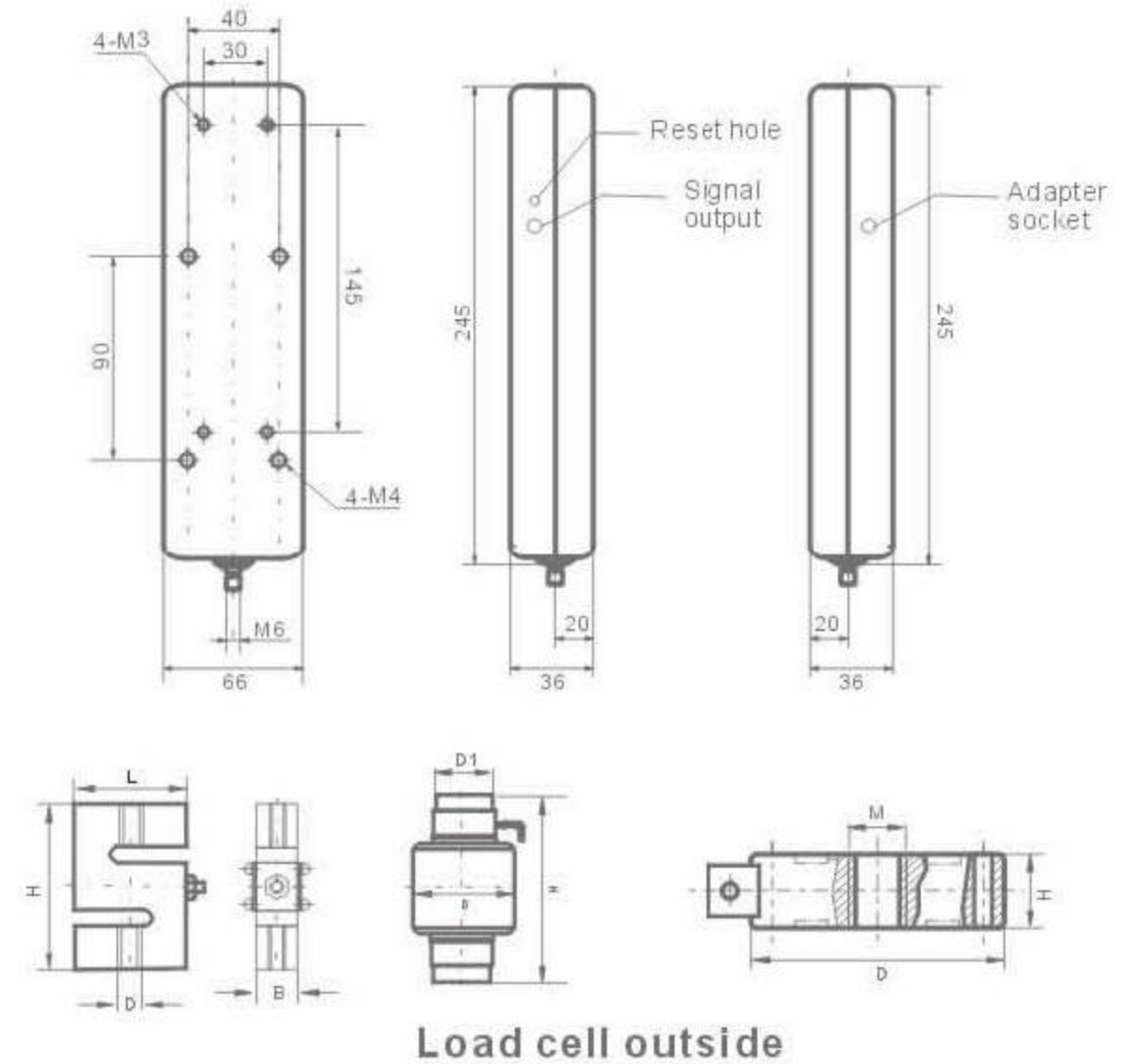
## DIGITAL FORCE GAUGE

### Parts of description



## DIGITAL FORCE GAUGE

### Dimension



Capacity	M	H	C	B	D	D1	Load cell
5KN	M12	51	76.2	19.1			S Beam compressive and tensile
10KN	M12	51	76.2	25.4			
50KN	M20*1.5	76.2	100.4	31.8			
100KN	M30*2	177.8	125	50.8			Disk type compressive and tensile
200KN		139.8			Φ76	Φ40	
500KN		150			Φ84	Φ44	Spoke type compressive and tensile
200KN	M36*2	45			Φ155		
300KN	M42*2	58			Φ180		
500KN	M42*2	64			Φ205		
1000KN	M70*3	90			Φ280		

## DIGITAL FORCE GAUGE

### Parameter ( Load cell inside )

Model	HP-2	HP-5	HP-10	HP-20	HP-50	HP-100	HP-200	HP-500	HP-1K
Capacity	2N	5N	10N	20N	50N	100N	200N	500N	1KN
Resolution	0.001N	0.001N	0.01N	0.01N	0.01N	0.1N	0.1N	0.1N	1N
Accuracy	±0.5%								
Units	kgf, lbf, N								
RS-232C	Connect to PC								
Power	Nicol AC Adaptor, also used as charging source								
Working voltage	AC 220V ( AC 110V can be specified )								
Load cell	Inside								
Working temperature	5°C~35°C								
Transport temperature	-10°C~60°C								
Relative moisture	15%~80%RH								
Working environment	No vibrancy and no cautery								

## DIGITAL FORCE GAUGE

### Parameter ( Load cell outside )

Model	HP2K	HP5K	HP10K	HP20K	HP50K	HP100K	HP200K	HP500K	HP1000K
Capacity	2KN	5KN	10KN	20KN	50KN	100KN	200KN	500KN	1000KN
Resolution	1N	1N	0.01KN	0.01KN	0.01KN	0.1KN	0.1KN	0.1KN	1KN
Accuracy	±0.5%								
Units	kgf(Mgt), lbf(KIb), N(KN)								
RS-232C	Connect to PC								
Power	Nicol AC Adaptor, also used as charging source								
Working voltage	AC 220V ( AC 110V can be specified )								
Load cell	Outside(S Bea/Disk type /Spoke type )								
Working temperature	5°C~35°C								
Transport temperature	-10°C~60°C								
Relative moisture	15%~80%RH								
Working environment	No vibrancy and no cautery								

## DIGITAL FORCE GAUGE

### WARNING:



DO NOT OVERLOAD CAPACITY, TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

### → Warning and maintenance

- ▶ When you test the shock load, please select the max load value, which should be one time bigger than the measuring shock load, or it may be destroy the device or lead to grave accident.
- ▶ Great care should be taken on the scattering pieces being measured. In break down or shear test, wear protective mask to protect you from scattering pieces being tested.
- ▶ Do not use the damaged or warped hook. The damaged or warped hook may be off or broken and heavy measuring pieces may fall on your foot.
- ▶ Do not apply excessive load than rated, should load cell be damaged, and further heavy load is applied, parts may be broken, which may cause accident. It will make an alarm when the sensor load exceed 5%, please reduce the load immediately.
- ▶ Do not use other adapter, which is not provided with the gauge, it may be cause fire.
- ▶ Do not charge or operate the gauge in other voltage, which may be cause fire.
- ▶ Clean dirt and dust from gauge with soft cloth. After dipping cloth in the Neutral detergent water and squeeze out water, and clean dirt with the Cloth.
- ▶ Never disassemble, repair, and remodel the gauge by yourself, or it may cause other malfunction.

## DIGITAL FORCE GAUGE

- Parts description ( Page 1 )
- Dimension ( Page 2 )
- Parameter load cell inside ( Page 3 )
- Parameter load cell outside ( Page 4 )
- Function

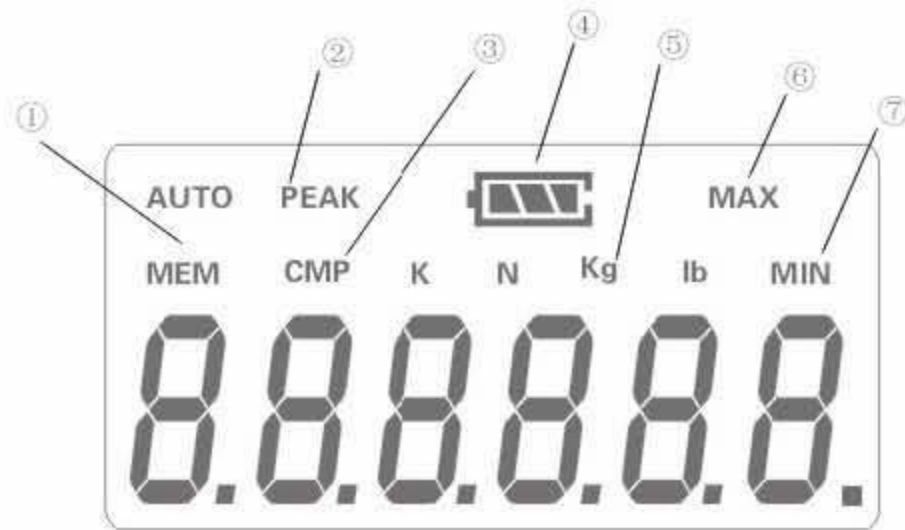
HP Series Digital force gauge is an efficient testing equipment. It with facility, high resolution, peak hold, large memory, inductive background light three units advantages, which is used not only for simple measurement of tension/compression force, but also used for various testing purpose; such as electric, lighter industry, textile, zipper button, scientific research institution, and fracture test. It also with an analysis software to get synchronous graph.

### → Specification

- ▶ high accuracy and resolution;
- ▶ peak hold function;
- ▶ peak automatic clearance function;
- ▶ Tolerance limit(up and down limit);
- ▶ automatic power off function;
- ▶ 3 units available: N, kgf, lbf;
- ▶ full range 150% overload;
- ▶ reset acceleration of gravity function;
- ▶ 2 sets of different installation size;
- ▶ LCD screen turn direction function;
- ▶ large memory;
- ▶ inductive background light;
- ▶ RS-232C port;
- ▶ Match synchronous analysis software, which can connect to PC to get synchronous graph, and also can reserve, print, analysis and so on.

## DIGITAL FORCE GAUGE

### → Screen description



#### ①. MEM

MEM will light up when memory data exist, press “DATA” to look over the value data.

#### ②. PEAK

3 modes: PEAK, AUTO PEAK, TRACK. When on PEAK mode, the value won't disappear until press ZERO key; When on AUTO PEAK mode, the value will disappear 1-9 seconds; when on TRACK mode, it can get real-time value.

#### ③. CMP

CMP will light up when comparator is on.

#### ④. [Battery Icon]

[Battery Icon] Will flash when battery voltage falls below 7.0V. If so, connect Meter to AC adaptor.

#### ⑤. UNIT

3 units available: N, Kg, lb, above HP-10K : KN, Kkg, Klb.

#### ⑥. MAX

Above up limit, MAX shows.

#### ⑦. MIN

Above low limit, MIN shows.

## DIGITAL FORCE GAUGE

### → Key function



#### ON

Turn on the power, before testing press ZERO key first.

#### OFF

Power is switched off.

#### MEMO

Press MEMO key to save value data; Press DATA key to look over saved value data; Press ZERO key to clear and press SEND key to output.

#### UNIT

3 units available: N, Kg, lb, above HP-10K : KN, Kkg, Klb.

#### PEAK

3 modes convert automatic: PEAK, AUTO PEAK, TRACK.

## DIGITAL FORCE GAUGE

### SEND

Press SEND key to change the direction of the reading. On the mode of SET, the function is forward.

### DATA

Press DATA key to look over the memory data, and press ZERO key to exit.

### ZERO

Displayed load value becomes zero. Used for clearing test data and setting load value to zero.

### SET

Press SET key 1 time, it will show "TEST", 2 seconds later it will show testing window; press "TEST" key 2, 3, 4, 5, 6, 7 times, it will show "AODT", "LODT", "HIDT", "CPDT", "LIGHT", "OFFT" one by one, after 2 seconds it will show relevant information, using SEND key (forward) and MEMO key (rightward) to adjust, when "SETEND" shows on LCD, then you can start to test.

0000 load track mode	0004 push peak mode
0001 standard test mode	0005 contact point hold mode
0002 push pull test mode	0006 hold contact point mode
0003 pull peak mode	

#### ▶ AODT peak capture line

Press SET key 2 times, AODT shows on LCD, using SEND key to adjust the data after 2 seconds. When you set the capture line as  $F_a$ , the gauge only can memory the value which above the peak capture line.

#### ▶ LODT low limit

Press SET key 3 times, LODT shows on LCD, using SEND key to

## DIGITAL FORCE GAUGE

adjust the data after 2 seconds. When the testing value lower than the low limit, MIN will show on LCD.

#### ▶ HIDT high limit

Press SET key 4 times, HIDT shows on LCD, using SEND key to adjust the data after 2 seconds. When the testing value higher than the high limit, MAX will show on LCD.

#### ▶ CPDT comparison value setting

Press SET key 5 times, CPDT shows on LCD, using SEND key to adjust the data after 2 seconds later. When testing value exceed the comparison value, it will make hum alarm.

#### ▶ LIGHT inductive background light

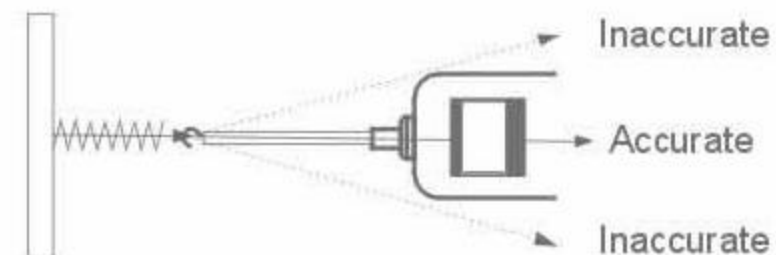
Press SET key 6 times, LIGHT shows on LCD, using SEND key to adjust it (yes or no can be select) after 2 seconds.

#### ▶ OFFT power off time setting

Press SET key 7 times, OFFT shows on LCD, using SEND key to adjust it (10-90 minutes can be select) after 2 seconds.

### → Test

- ▶ Turn on force gauge;
- ▶ Choose a suitable grip;
- ▶ Hold or fix the force gauge on the test stand tightly;
- ▶ In order to get more precision result, please put the force gauge and the tested sample co-line.
- ▶ Turn off the power source after test, then clear and put the parts and accessories into the packing box.



## DIGITAL FORCE GAUGE

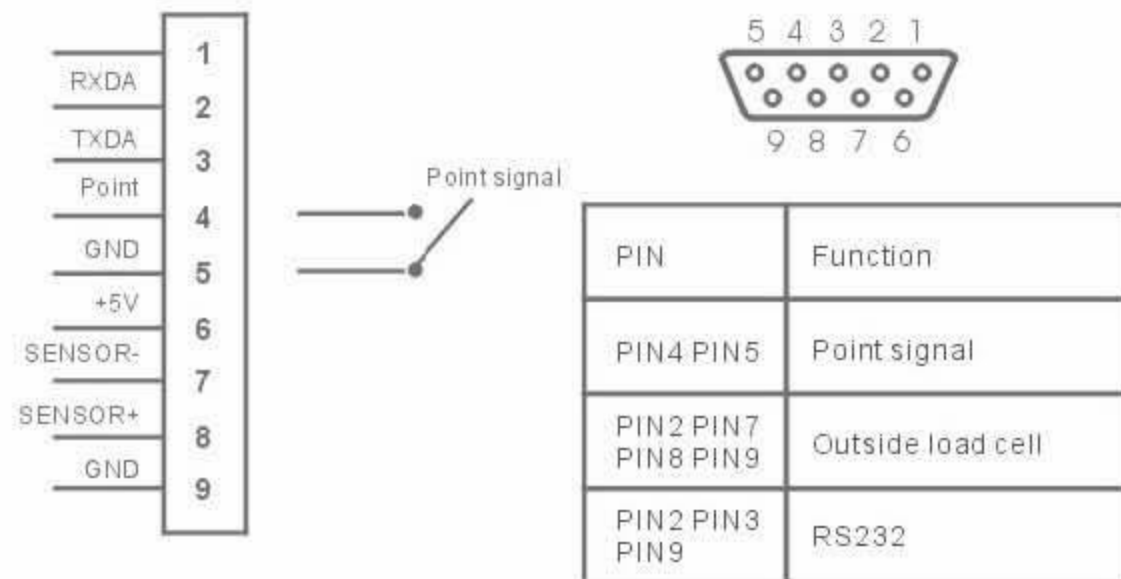
### → Memory data

- ▶ **Memory data** On the mode of PEAK, After testing ,press MEMO key value date will be saved; Press DATA key to look over the memory data, number will show first , value data will show 2 seconds later, press PEAK key to exit and start to next test. It can save 896 value data, “O.E” shows on LCD, it means the no. 897 value data won’ t be saved.
- ▶ **Clear memory** Press ZERO key for 4 seconds, whole value date will be cleared , “MEM” will disappear.
- ▶ **RS-232C** HP Series force gauge can connect to PC, outputting the value data to PC for analysis.

### → Acceleration of gravity reset

- ▶ Before turn on the gauge, please press PEAK key for long time, then press ON key, next you can input your local acceleration of gravity, then press SET key the gauge will turn off.

### → RS-232 output ( 9 pins)



## DIGITAL FORCE GAUGE

### → Packing checklist

Parts Model	Quantity	pressure grip	Tensile grip	extensive shaft	assistant connector	RS-232 Cable	S:reus	user manual	calibration certificate	Adapter	Software
HP-2		4	1	1	1	1	8	1	1	1	1
HP-5		4	1	1	1	1	8	1	1	1	1
HP-10		4	1	1	1	1	8	1	1	1	1
HP-20		4	1	1	1	1	8	1	1	1	1
HP-50		4	1	1	1	1	8	1	1	1	1
HP-100		4	1	1	1	1	8	1	1	1	1
HP-200		4	1	1	-	1	8	1	1	1	1
HP-500		4	1	1	-	1	8	1	1	1	1
HP-1k		4	1	1	-	1	8	1	1	1	1
HP-2k		3	2	-	-	1	-	1	1	1	1
HP-5k		3	2	-	-	1	-	1	1	1	1
HP-10K		3	2	-	-	1	-	1	1	1	1
HP-20K		3	2	-	-	1	-	1	1	1	1
HP-50K		3	2	-	-	1	-	1	1	1	1
HP-100K		include sensor	-	-	-	1	-	1	1	1	1
HP-200K		include sensor	-	-	-	1	-	1	1	1	1
HP-500K		include sensor	-	-	-	1	-	1	1	1	1
HP-1000K		include sensor	-	-	-	1	-	1	1	1	1