



Beijing Lanetech Square Co. Ltd.

HP Series Digital Force gauge (New generation) Users' Manual



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Function

HP Series digital force gauge(new generation) is an upgraded version of the old HP Series, it with higher resolution and precision, which widely applied for compression and tension test, breaking test, material strength test and many other different filed. In order to get more accurate result, user can reset the acceleration of gravity as local, and match a suitable test stand for testing. New generation HP Series with a powerful analysis software to get synchronous graph, which can save, print, analysis the records. The software also can get a test report, judging the qualified value, unqualified value, max value, min value, average value directly.

Caution:

Do not apply excessive load than rated, should sensor be damaged, and further heavy load is applied, parts may be broken, which may cause accident. Fixtures weight must be not exceed 20% of the full range.

Specification

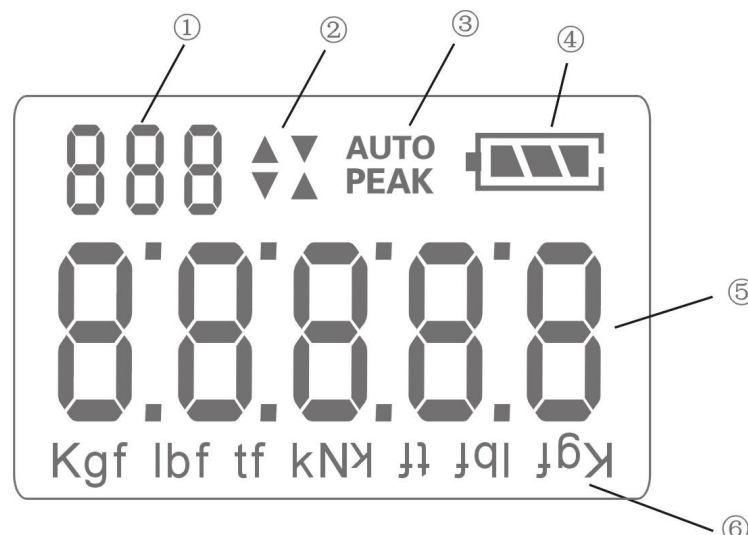
1. High accuracy and resolution ;
2. Peak hold function;
3. Peak automatic clearance function(1-9 Seconds);
4. Tolerance limit (upper and lower limit);
5. Light for judging qualified and unqualified value;
6. Long stand-by time and utility time, with lithium battery and low power chip
7. 30 memory data for calculate the average, Max, Min value.



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8. Automatic power off function(0-99 Minutes);
9. 3 units available(N, Kn/kgf, gf, tf/lbf, k lbf) ;
10. Full range 150% overload;
11. Reset acceleration of gravity function (9.700-9.900);
12. LCD screen turn direction function;
13. Inductive background light;
14. RS-232C to USB Port;
15. 2 sets installation size(145*30mm M3 / 90*40mm M4) ;
16. Signal output function a: Exceeding the set point to send a signal to control other equipments;
17. Signal output function b: Break stop function, match our motorized test stand for get the stop function when the material break;
18. Match synchronous analysis software, which can connect to PC to get synchronous graph, and also can reserve, print, analysis.

Screen description



①

On TRACK mode, test value over upper limit, -H- shows;

On TRACK mode, test value under lower limit, -L- shows;

Web site: www.lanequalityys.com; Skype: macywangmm
E-mail: sales@lanequalityys.com macywanghongmei@126.com



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On TRACK mode, test value over lower limit and under upper limit, -o- shows;
On PEAK and AUTO PEAK mode, it shows the number of peaks (000-030) ;
When view data, it shows the number of data(000-030) and Max value, Min value, Agerage value.

②.

The direction mark of compression and tension: When arrowhead ectad, it means tension. When arrowhead entad, it means compression.

③

Shows PEAK is peak mode,

Shows AUTO PEAK is auto peak mode,

Shows nothing is track mode.

④ 

Battery indicater, please charge when low voltage, charging time is 5 hours,

The longest charging time is no more than 12 hours

⑤

Test value display area

⑥

Unit display area

Key function



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1. ON

Power switch, press it the light will on.

2. OFF

Power is switched off when press 3 seconds.

3. DATA

Press DATA key to look over the memory data, use MEM key and ZERO key to choose value, it will show Max value, Min value and average value, and press DATA key again to exit.

4. UNIT

3 units available: (N, kN,kgf, gf, tf, lbf, k lbf)

When the value lower 5N, unit is (N / gf / lbf)

When the value over 5N and within 500N, unit is (N / kgf / lbf)

When the value over 500N and within 5KN, unit is (KN / kgf / lbf)

When the value over 5KN and within 50KN, unit is (KN / tf / lbf)



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When the value over 50KN and within 5000KN, unit is (KN / tf / k lbf)

5. PEAK

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

6. SEND

In normal working condition, press SEND key to change the direction of the reading. On the SET mode, the function is forward.

7. MEMO

On the TRACK mode, this key is useless

On the PEAK mode, press MEMO key can save the value

When looking over the memory data, the function is upward.

8. ZERO

In normal working conditions, the function is zero value

On looking over the memory data mode, the function is downward

Not on looking over the memory data mode, press ZERO key for 5 seconds, all memory data will clean up.

9. SET

Press SET key 1 time , it will show "Hid", 2 seconds later it will shows testing window; press "SET " key 2,3,4,5,6,7,8,9,10,11 times, it will shows " Lod", "CoA", "LES", "GrA", "APE", "SAC", "OFF", "bLi", "Con", "byd" one by one , after 2 seconds it will shows relevant information , using SEND key and SET key to adjust. After setting, press ZERO key to exit and save the setting.

Hid upper limit value setting

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When test value above the upper limit value, -H- shows and red light on and buzzer warning.

Lod lower limit value setting

When test value under the lower limit value, -L- shows and red light on.

CoA comparative value setting

When test value exceed the CoA value, buzzer warning and it will output a 5V voltage to control external equipment, like our HDV/HTH/HSV motorized test stand.

Note: when the “byd” function on, the CoA value is invalid.

LES influence value setting

On AUTO PEK mode, If the test value under the LES value, it will not be saved automatic.

GrA Acceleration of gravity setting

Reset acceleration of gravity function (9.700-9.900)

SAC Number of peak setting

Set the number of peaks. (1-30 pcs)

OFF Auto-off time setting

Auto-off time without operation: 0-99 minutes, 0 means it will not automatically shut off.

bLi Time of background light setting

Background light time: 0-99 Seconds, 0 means background light closed.

Con Computer communication setting

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E-mail: sales@lanequalitys.com macywanghongmei@126.com



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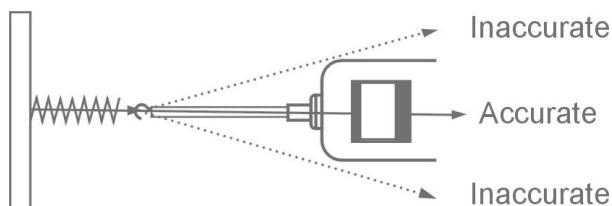
Computer communication ON or OFF.

Byd Break stop function setting

Break stop function ON or OFF.

Test

1. Turn on the force gauge,
2. Choose a suitable unit,
3. Choose a suitable grip, grip weight must be not exceed 20% of full range,
4. Hold or fix the force gauge on the test stand tightly,
5. In orde to get more precision result, please put the force gauge and the tested sample co-line,
6. Power off the force gauge after test, then clear and put the accessories into the packing box.



Data store and data clear

1. Data storage

On PEAK mode, press MEM key to storage the test value. The most number of peak is 30 pcs, it will stop storage when full.

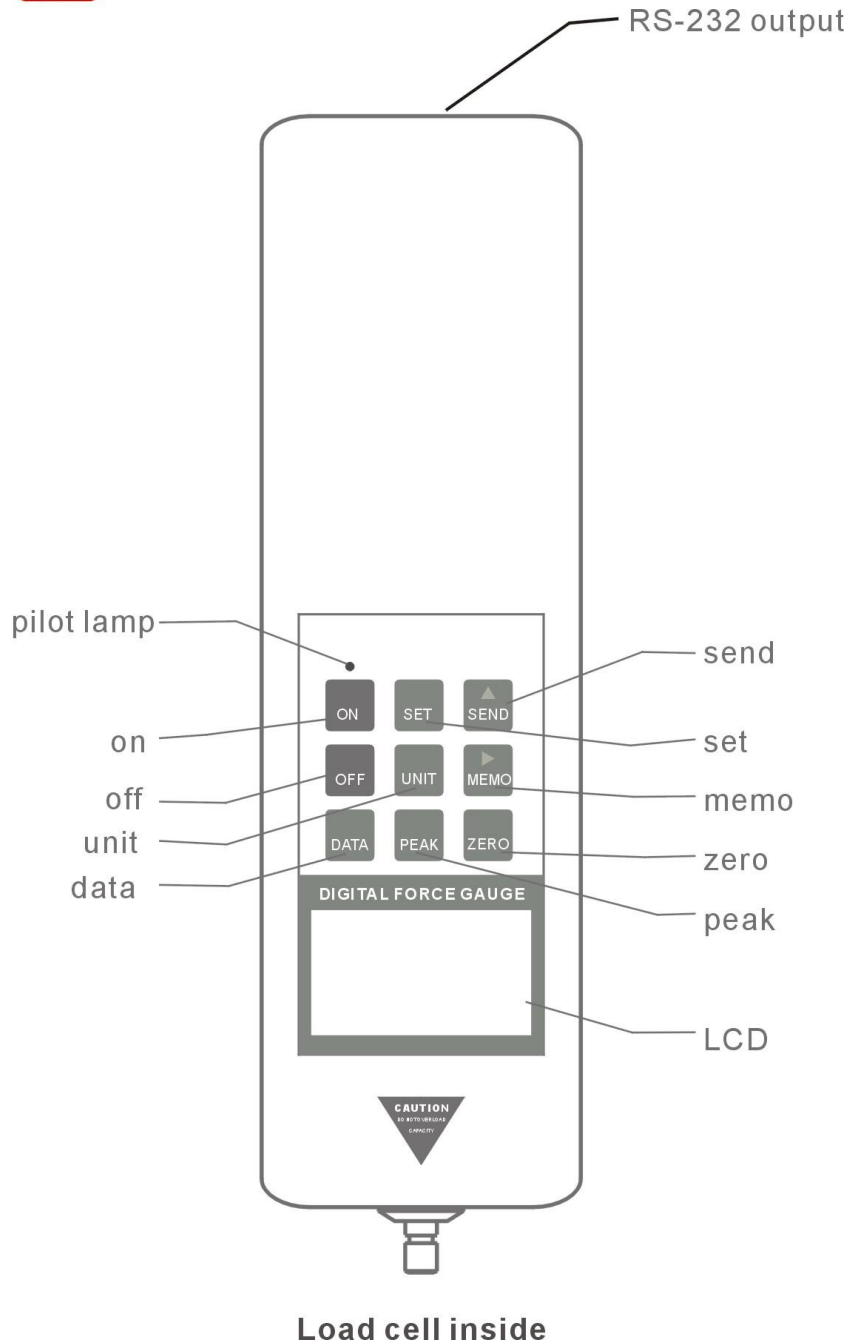
2. Memory data clear

In normal working conditions, press ZERO key for 5 seconds, all memory date will be cleared.

Parts of description



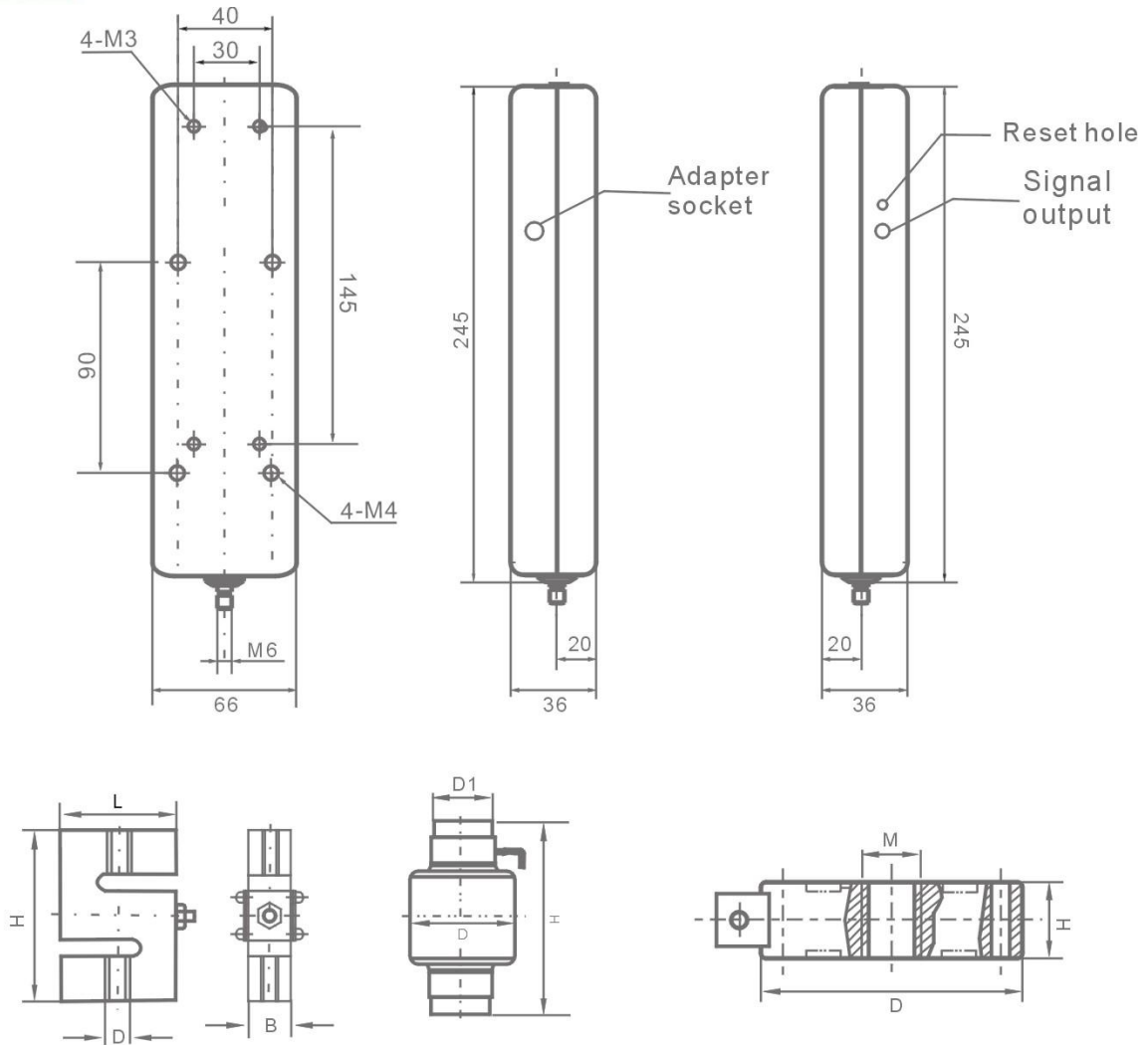
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Dimension



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Load cell outside

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			
200KN		139.8			Φ 76	Φ 40	Disk type compressive and tensile
500KN		150			Φ 84	Φ 44	
200KN	M36*2	45			Φ 155		Spoke type compressive and tensile
300KN	M42*2	58			Φ 180		
500KN	M42*2	64			Φ 205		
1000KN	M70*3	90			Φ 280		



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Parameter (loadcell inside)

Model	HP-2	HP-3	HP-5	HP-10	HP-20	HP-30	HP-50	HP-100	HP-200	HP-300	HP-500	HP-1K
Capacity	2N	3N	5N	10N	20N	30N	50N	100N	200N	300N	500N	1kN
Resolution	0.0001N	0.001N	0.001N	0.001N	0.001N	0.01N	0.01N	0.01N	0.01N	0.1N	0.1N	0.0001KN
Accuracy	±0.5%											
Units	N/KN,g/ kg, lb											
RS-232C	RS-232Connect to PC											
Power	lithium battery 5V 1700mAh											
Working voltage	AC In 110~240V 50-60Hz 200mA Out 5V 0.5A											
Load cell	Inside											
Working temperature	5℃~35℃											
Transport temperature	-10℃~60℃											
Relative moisture	15%~80%RH											
Working environment	No vibrancy and no cautery											



Parameter (loadcell outside)

Model	HP-2K	HP-3K	HP-5K	HP-10K	HP-20K	HP-30K	HP-50K	HP-100K	HP-200K	HP-300K	HP-500K	HP-1000K
Capacity	2KN	3KN	5KN	10KN	20KN	30N	50KN	100KN	200KN	300KN	500KN	1000KN
Resolution	0.0001KN	0.001KN	0.001KN	0.001KN	0.001KN	0.01KN	0.01KN	0.01KN	0.01KN	0.1KN	0.1KN	0.1KN
Accuracy	±0.5%							±1%				
Units	KN, kg/t, lb/KIb											
RS-232C	RS-232Connect to PC											
Power	lithium battery 5V 1700mAh											
Working voltage	AC In 110~240V 50-60Hz 200mA Out 5V 0.5A											
Load cell	Outside(S Bea/Disk type /Spoke type)											
Working temperature	5℃~35℃											
Transport temperature	-10℃~60℃											
Relative moisture	15%~80%RH											
Working environment	No vibrancy and no cautery											



Packing list

Parts Model Quantity	pressure grip	Tensile grip	extensive shaft	assistant connector	RS-232 Cable	Screws	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



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WARNING

1. Please do not hit the LCD or put object on LCD.
2. Do not press the keys with point tools.
3. Do not store or operate in the follow conditions
Wet area
Dusty area
Where oil or chemicals
Where is shake
4. When your hand is wet, please do not plus the adaptor, to avoid electrical shock.
5. Clean dirt and dust from tester with soft cloth. After dipping cloth in the neutral detergent water and squeeze out water, and clean dirt with the cloth. Do not use volatile chemical liquid to clean the tester, such as benzene, thinner, alcohol, etc.
6. Please take the tester the tester lightly.
7. Please do not dissemble the tester. It will damage the tester.
8. If there is fault, please contact with the seller or the factory.