805HP

Handheld Digital Weight Indicator

Operations Manual (V1612)

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1. Introduction and Product Features

Thank you for choosing Anyload 805HP Handheld Digital Weight Indicator. The 805HP hand held digital weight indicator is a general purpose durable indicator that provides high accuracy, reliability, and multiple functions. The 805HP can drive up to eight 350Ω or thirty two 1000Ω load cells. With an IP65 ABS wash down enclosure, the 805HP digital weighing indicator is ideal for use in Transportation, Entertainment, Aerospace, Military, Food and Agricultural industry

Key Features include:

- Exceptionally long battery life: up to 1,600 hours with 3-AA batteries
- LED backlight and panoramic FSTN LCD view angle
- Material: ABS
- IP Rating: IP65
- LCD 6-digit display with LED backlight
- Non-volatile memory for reliable data saving
- Units of Measurement: kg, g, t, lb, Klb, N, kN, oz, user-defined unit
- Configurable 2 set-points for precaution and warning
- User-selectable display interval
- Overloading recording
- 10 user-selectable analog-to-digital converting frequency
- Weight calibration and digital calibration
- User-selectable auto power-off and power-saving timing
- Functions: Auto-Zero Tracking, Auto-Zero, Manual-Zero, Hold, Peak-Hold, TARE

This manual provides installation, operation and configuration information of 805HP indicator. It is recommended to go through the manual in details before installing, operating or configuring the indicator.

2. Safety Recommendations

Important instructions, which involve safety, are highlighted with the appropriate mark:

When it is required to work inside the indicator enclosure for some procedures described, the work can only be performed by qualified technical personnel.

3. Display Icon List

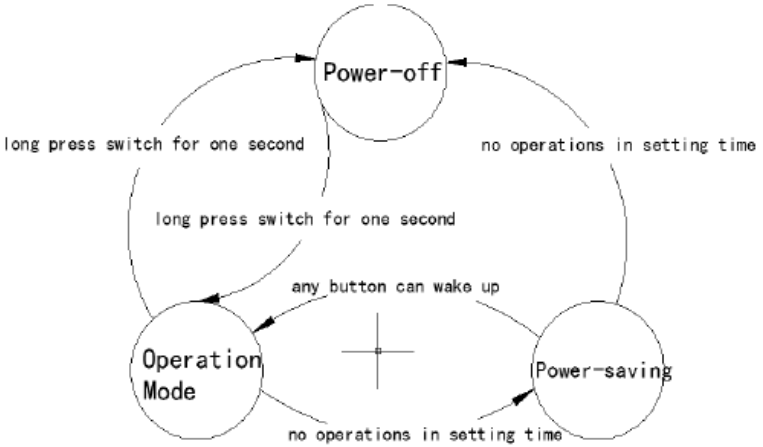
Icon	Meaning
	Battery Power
	Peak hold mode
M+	Save weight to memory
	Acquire Tare value
G	Gross weight
	Cumulate Mode
→0←	Zero Scale
((•))	Wireless communication is normal
	Weight surpassed “overload warning value “signal
	Signal stability
●●●	There is a hidden figure which will be shown on the following page

4. Key List

Buttons		Modes			
		Normal	Peak	Cumulate	Menu
 【SWITCH】	Short press				
	Long press	Turn Off		Turn Off	
 【CUMULATE】	Short press	Accumulate		Add weight to memory	Enter
	Long press	Go to Cumulate Mode		Return to normal weighing mode	Add/Delete decimal point

 【ZERO】	Short press	Zero scale			↑
	Long press			Clear Cumulative value	
 【HOLD】	Short press	Holding/ Cancel	Clear Peak Value	Show the lowest five digits	→
	Long press	Go to Peak Mode	Return to Normal Weighing Mode		
 【TARE】	Short press	Tare/Untare		Gross/Net Cumulative Value	↓
	Long press				
 【UNITS】	Short press	Switching units		Show the highest five digits	←
	Long press				

5. Operation Mode

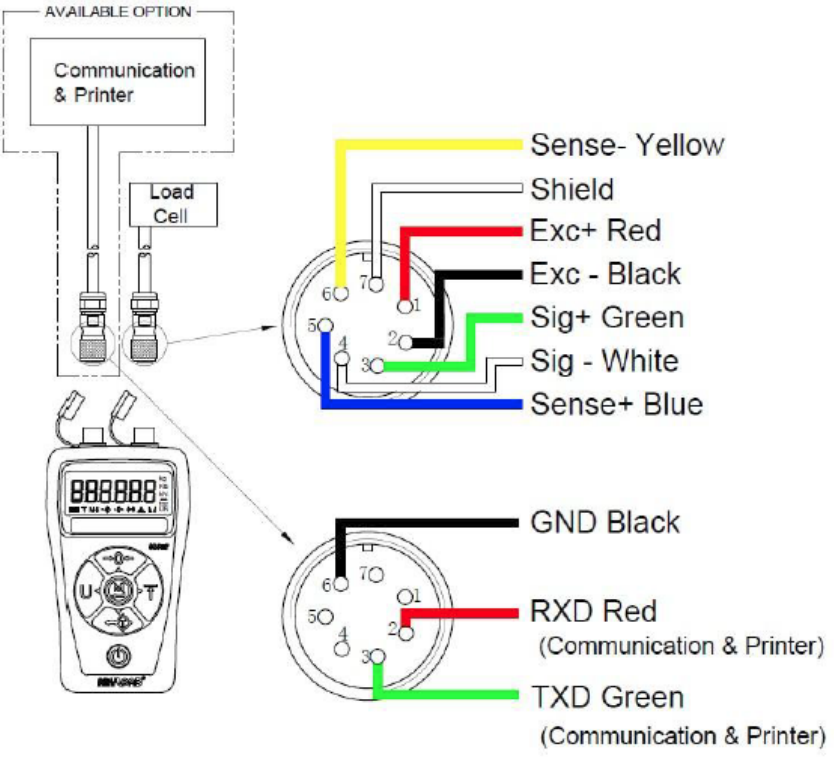


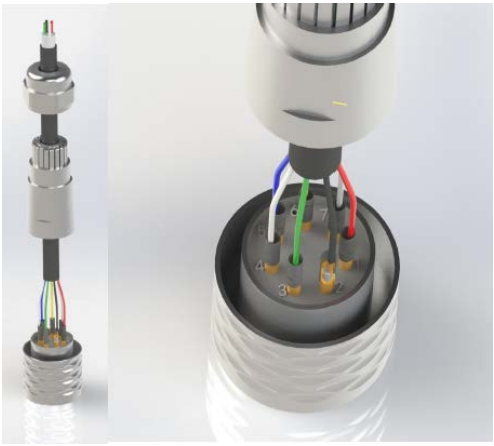
Operation mode	Function
Power-off	When the indicator is turned off, date will be saved in non-volatile memory.
Operation mode	When the indicator enter wake-up mode, all functions are enable, and the power run dynamically.
Power-saving	LCD is on, but backlight is off. RS-232 circuit shut down.

6. Start Up

6.1 805HP Wired Model

Connect load cell (communication & printer) to 805HP according to the following connection diagram:





Press【SWITCH】for one second, indicator is turned on. After indicator cycles through from 0 to 9, the indicator will enter Normal Weighing mode

6.2 805HP Wireless Model

The indicator was set to match the corresponding wireless transceiver before it leaves the factory. If you need to change the indicator or wireless transceiver due to radio frequency interference, you can configure the communication parameters with the following steps in Section 9.2- Wireless Communication of this manual.

7. Modes

Once the indicator is turned on or restarted the mode will automatically set to Normal Weighing mode. It can be set to various modes like Peak mode, Gross/Net Mode or Cumulate Mode

7.1 Normal Weighing Mode

When indicator is set to the Normal Weighing mode, T (Peak mark) will not appear in the display

7.1.1 Basic Operations in Normal Weighing Mode

I. Zero Scale

When in the Gross weight mode, (Tare mark) does not appear and (Gross weight) appears. Remove the load from the scale and wait until (Stable mark) appears. Press ↑【ZERO】, and (Zero mark) appears. Zero Scale setting completed

II. Acquire Tare Value

When no Tare is stored ([Tare mark] does not appear), place the load on the scale and wait until (Stable mark) appears. Press ↓【TARE】, Tare weight is stored. Display is in Net weight when (Tare mark) is displayed, (Gross weight mark) disappears.

III. Remove Stored Tare Value

When indicator has stored tare weight value other than 0 ([Tare mark] appears), press ↓【Tare】to remove the stored tare weight value. Display is in Gross weight mode when (Tare mark) is not displayed.

7.2 Gross/Net Mode

When tare weight is stored (indicator has stored tare weight value other than 0), press ↓【TARE】to change from net weight to gross weight or vice versa.

(Gross Weight mark) appears when in gross weight mode.
(Gross Weight mark) disappears when in net weight mode.

7.3 Peak Mode

To activate Peak Weighing Mode, long press →【HOLD】and (Peak mark) appears

I. Peak/Normal Weighing Mode

When (Peak mark) appears, peak mode is activated. Display always shows the maximum value of load which has been applied to the load cell. When the load is removed, display still shows the peak load. When (Peak mark) disappears, peak mode is deactivated. Value shown on display changes according to the load applied to the load cell. Long press → 【HOLD can change indicator from Peak mode to Normal Weighing mode, or vice versa.

II. Remove Peak Mode Value

When Peak mode is on ((Peak mark] appears), remove the load and short press → 【HOLD】.Peak mode value is removed, and indicator starts another Peak mode operation

7.4 Cumulate Mode

I. Save Value of Weight to Memory

Short press ↙ 【CUMULATE】, display will flash 'total'. M+ (Memory mark) will appear. Weight is now saved to memory

II. Show Accumulated Weight

Long press ↙ 【CUMULATE】, indicator changes to Cumulate mode from weighing mode or peak mode, or vice versa.

When indicator is in Cumulate mode, display shows the accumulated total gross weight value

III. Gross/Net Mode

Press ↓ 【TARE】, indicator changes from Gross mode to Net mode, or vice versa.

Display shows total gross weight value while (Gross Weight mark) appears.
Display shows total net weight value while (Gross Weight mark) disappears

IV. Clear Cumulative Value

Long press ↑【ZERO】 , total gross weight value and total net weight value will be cleared

7.5 Calibration Mode

In this mode, you have to enter the menu and parameter settings module. (*Refer to Section 10 of this manual for Calibration of the scale)*

8. Configurations and Menu Operations

8.1 Menu Operations

I. Menu Settings

	【ZERO】	【TARE】	【UNITS】	【HOLD】	【CUMULATE】
short press	↑	↓	←	→	↙
long press					add/delete decimal point

II. Menu Operations

Entering in the menu :

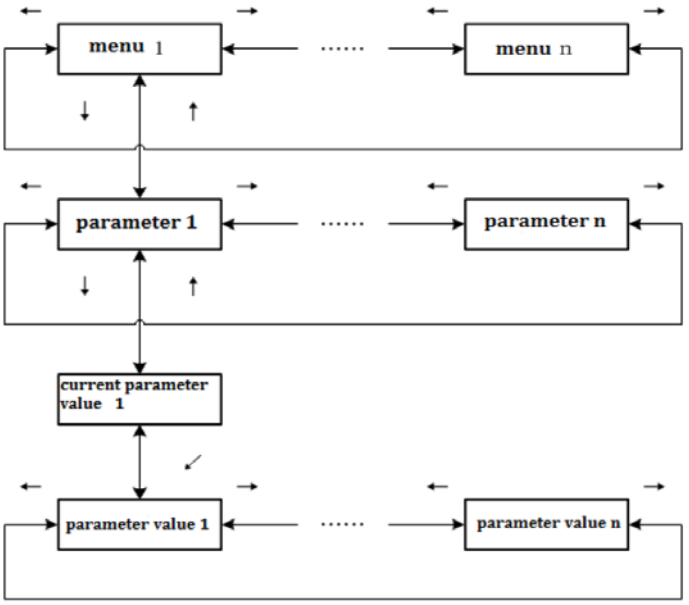
Press ↑,↓ at the same time for 1 second, the indicator will show P00000 asking for the password. The password is P00805

Press directional ←,→,↑,↓ to input the passwords, and press ↙ to enter the configuration menu.

If invalid password is entered, display will re-enter weighing mode.

III. Menu Structure and Parameter Description

The menu structure and keys operation are shown in the following flow diagram:



There are 4 directional keys ←,→,↑,↓to be used for the operation. ←,→ are used for horizontal movement in the same level menu and parameters. ↑,↓are used for moving up and down through different level menus.

Use ←,→ to choose a parameter in a menu and use↓ to move to the next level menu or parameter.

When moving into a parameter of a menu, the indicator shows the previous choice.

If you want to change the parameter values, use ↙ to move into the parameter change status. When the parameter of a menu is a fixed value, use←,→ to move horizontally. Use ↙ to store the selected parameter and to return to the last menu.
When a parameter value of a menu is editable, directional keys ←,→ are used to edit the digit selected, directional keys ↑,↓ are used to increase and decrease the value of the selected digit. Press ↙ to save the input values and exit

In the actual menu structure, the selected menu item is displayed horizontally. The parameter value with the symbol 〔〕 is the default value of system reset.

Menu	Display	Parameter	Parameter Value
USEr	bEEP	buzzer switch	[on]/off
	LIt En	background light switch	[on]/off
	LIGhE	Background light turn off time/ s	dis/1/2/3/5/[10]/15/20/30/60
	A oFF	Auto off time/min	[dis]/1/2/3/5/10/15/20/30/60
	KG	Unit kg	[on]/off
	t	Unit t	on/[off]
	G	Unit g	on/[off]
	Lb	Unit lb	on/[off]
	oZ	Unit oz	on/[off]
	KLb	Unit klb	on/[off]
	n	Unit N	on/[off]
	Kn	Unit kN	on/[off]
	Un	Unit UN	on/[off]
	Un uAL	User's unit	Any Number
	dFt U	Default unit	[kg]/lb/t/g/oz/klb/N/kN/user's unit
ouEr	PrE	Overload Warning	[on]/off
	PrE u	Overload Warning value	Any Number (lower than Overload Alarm value)
	ouEr	Overload Alarm	[on]/off
	ouEr u	Overload Alarm value	Any Number (higher than Overload Warning value)
	AI GA	Historical maximum overload value	(read only)
ConFIG	InCrE	Division value	0.001/0.002/0.005/0.01/0.02/0.05/ 0.1/0.2/0.5/0.1/0.2/0.5/[1]/2/5/ 10/20/50

	CAP	Rated Weighing	Any number
	rAtE	Sampling speed/Hz	4.17/6.25/8.33/[10]/12.5/ 16.7/33.2/50/62/123
	Stb t	Stability Judgement times/s	[0.5]/1/2
	Stb r	Stability judgement range/d	0.1/0.2/0.3/0.4/[0.5]/0.75/ 1/1.25/1.5/1.75/2/2.5/3/ 3.5/4/5
	G	Acceleration of gravity value	Any number
CAL	ZEro	Zero A/D count	(read only)
	LoAd	Calibrated weight	Any number
	CAL	Calibrated point A/D count	(read only)
	tArE	Zero offset value	(read only)
dCAL	ZEro	Zero A/D count	Any number
	LoAd	Calibrated weight	Any number
	CAL	Calibrated A/D count	Any number
oUt (For wired version only)	Con	Serial communication	on/[off]
	bAUd	Baud rate/bps	[1200]/2400/4800/9600
	bIt	Output DB	[8n1]/8o1/8E1
	tYPE	Communication mode	[contin]/reque
rAdIo (For wireless version only)	rF rAt	Wireless radio frequency	[2Hz]/3Hz/4Hz/5Hz
	Addr	Wireless address	0~255 Any number
	SEEP	Automatic channel search	
	bAnd	Manual switching channel	1~16
	GAIn	Wireless gain	1~8
SYS	uEr	Software version	(read only)
	rESEt	System parameter reset	
	nodE	Software Mode	[None]/OIML/NTEP/Canada

8.2 Overload

I. Records Overload

This indicator records the real time overload situation. When loading weight exceeds the overload alarm set value, the background light flashes (if background light is enabled), the panel shows ⚠ (warning), the display flashes, and shows the error message oUEr

When loading weight exceeds the overload alarm set value, the background light flashes (if background light is enabled), the panel shows (warning signs), the display flashes, shows the error message ALArn, and the buzzer warns intermittently

If, overload weight exceeds the historical maximum overload weight, the historical maximum overload weight will be updated

II. Clears Overload Records

Press the ↑, ↓ key, and hold for 1 second, indicator pops up the password screen P00000.

Press the arrow keys ←, →, ↑, ↓ Enter the password 80500, then press ↙ key. The screen displays oU CLr and will clear the overload cumulative value.

8.3 Modify Password

Press the ↑, ↓ key, and hold for 1 second, indicator pops up the password screen. P00000.

Press the arrow keys ←, →, ↑, ↓ Enter the password 08050, then press ↙ key Display shows the password menu (PWORD). Press ↓ to enter.
The first parameter is the user's password (USER P), press ↓ to enter, display the current password, for example 054321. Note that the password is effective only within five- digital, one hundred thousand digits will be discarded. Press ↙ key to start modification, press the arrow keys ←, →, ↑, ↓ enter the new password, press ↙ key again to save, press ↑ key to return to the previous menu.

9. Communication

The 805HP indicator has two ways in communicating to the scale:

9.1 RS232 Communication

The indicator has a standard RS-232 serial output interface to connect to large screen monitors, computers or other peripherals. Its effective connection cable length is 15 meters and beyond this length may lead to a high error rate.

To turn on/off serial communication, enter the configuration menu and press → until the indicator shows oUt Press ↓ to enter the submenu Con and select on/off with ←,→. Press ↙ to confirm selection

I. Serial communication baud rate

Serial communication baud rates 1200bps, 2400bps, 4800bps, 9600bps are available. The baud rate is set in the submenu bAUd using ←,→. Press ↙ to confirm selection.

II. Data frame format

Data frame format is set in bIt submenu. Press ↓ to enter the submenu and use the ←,→ to select your desired format. Press ↙ to confirm selection.
Serial output format can be configured as 8N1 / 8O1 / 8E1. 8N1 means 1 start bit, 8 data bits, 1 stop bit, no parity. 8O1 means 1 start bit, 8 data bits, 1 stop bit, odd parity. 8E1 means 1 start bit, 8 data bits, 1 stop bit, even parity.
Indicator outputs data in the form of byte frame. Every byte frame is constituted by eight bytes of data, and all the bytes are ASCII.
|=|D0|D1|D2|D3|D4|D5|D7|

Each frame begins with '=' (0x3D).
Each frame contains seven data bytes, including decimal point '.' (0x2E).MSB first, and the LSB follows. If there is a negative sign '-' (0x2D), then it will be transmitted first.
For example, transmit 70.15, that is transmitting | = | | | 7 | 0 |. | 1 | 5 | For example, transmit -32.5, that is transmitting | = | | | - | 3 | 2 | | 5 |.

III. Communication mode

Two communication modes can be selected in TYPE submenu. Press ↓ to enter the submenu and use the ←,→, to select your desired communication mode. Press ↙ to confirm selection.

When the parameter is configured to contin, indicator transmits data in the form of one frame after the other .
When the parameter is configured to reque, if and only if the indicator receives ASCII code '@' character, it will send a data frame.

9.2 Wireless Communication

The indicator can operate at 433Mhz and 915Mhz frequencies. The effective distance between the scale and indicator is maximum of 75 meters.

If you need to change the indicator or wireless transceiver, or because of radio frequency interference, you can configure the communication parameters to re-obtain high-quality communications in the following steps:

Set up a wireless address: The wireless transceiver has its own independent and fixed communication address with codes 0 - 255. The wireless communication works when the address code of the indicator is consistent with the address of the wireless transceiver. Check Addr parameter values of the rAdIo menu and make any necessary changes to match the address code of the wireless transceiver.

Automatic Channel Search: After completing the wireless address set up, execute command SEEP. Indicator will automatically search the wireless transceiver channels from 1- 16. If the channel search is successful, the indicator will display PASS. If the channel search fails, the indicator displays FAIL. Check if the wireless transceiver power supply is normal, if the communication distance is too far, and if radio frequency interference exists.

Manually switch channels: When multiple sets of wireless systems are needed in the same location, wireless systems of the same channel may interfere with each other. To avoid this, you need to manually switch channels. Using different channels to distinguish between different wireless systems will ensure high quality wireless communications. To manually change channels, execute command bAnd of the rAdI o menu. Press ←、→ key to choose the designated channel number (1- 16), and press ↙ key to execute the handover command. If the channel matches successfully, the indicator displays PASS. If the channel fails, the indicator displays FAIL. Switching command is repeatable until channel match is successful

Set communication power: To set communication power, execute command GAI n of the rAdIo menu. Press ←、→ key to and select the power level (1 - 8), press ↙ key to perform the set command. When the power settings are successful, the indicator displays PASS. When the power setting fails, the indicator displays FAIL. Switching command can be executed repeatedly until switched successfully

10. Calibration and Parameter Settings

The following are the requirements in calibration:

- The scale can only be recalibrated using the 805HP indicator. The scale and indicator shall established a stable communication
- Test Weights
- Make sure Local Gravity is in line with the gravity stored in the indicator, otherwise, change it according to the local gravity value

10.1 Weight Calibration

The weight calibration consists of the following steps:

- Zero A/D count
- Weight Calibration.
- Calibrated point A/D count
- Zero offset value（Zero offset can be re-corrected when using hooks or chains to hang the test weights.）

The following describes calibration procedure for each of the calibration methods:

1) Enter the configuration menu, the indicator shows USEr , Remove all loads. If hooks or chains are used to hang the test weights, load the hooks or chains.

2) Press → until the indicator shows CAL . Press ↙ to move into zero A/D count.

3) The indicator shows ZEro , press ↙ to zero calibration. The indicator shows the A/D count for the zero calibration, e.g. 505 147. Press ↙ again to save the value and go to the next menu.

4) The indicator shows LoAd . Load test weights, press ↙. The indicator shows the test weight value, e.g. 000500 . Press ←,→,↑,↓ to input the test weight value. Press ↙ to save the value and go to the next menu

5) The indicator shows CAL . Press ↙ to calibrate span. The A/D count for the span calibration is shown, e.g. 885920. Press ↙ again to save the calibration value and go to the next menu.

6) When the indicator shows tArE , there are 2 options:
6.1) If no chains or hooks are used to hang the test weights during calibration, remove the test weight and press the start key to finish the calibration and return to weighing mode

6.2) If hooks or chains are used during the calibration, remove these and the test weights. With all weight removed, press ↙ to re-zero (this function can be used to remove the tare weight deviation if the hooks or chains are used to hang the test weights). The indicator shows the current A/D count, e.g. 500 187. Press ↙ again to finish the calibration and return to weighing

***Suggestion**: When calibration is finished, record the A/D count of zero and span calibration, so that you may re-calibrate your indicator simply by entering the recorded A/D count of zero and span calibration*

10.2 Digit Calibration

The digit calibration consists of the following steps:

- zero A/D count
- weight Calibration.
- Calibrated point A/D count

The following describes calibration procedure for each of the calibration methods:

1) Enter the configuration menu, the indicator shows USEr.

2) Press → until the indicator shows dCAL. Press ↙ to move into zero A/D count.

3) The indicator shows ZEro Press ↙ and the indicator will show 0000 Press ←,→,↑,↓ to input the new zero A/D count. Press ↙ again to save and go to the next menu.

4) The indicator shows LoAd ess ↙ and the indicator will show 0000 Press ←,→,↑,↓ to input the new test weight value. Press ↙ to save and go to the next menu.

5) The indicator shows CAL Press ↙ and the indicator will show 0000 . Press ←,→,↑,↓ to input the new Span A/D count. Press ↙ again to save and finish the digit calibration

11. Troubleshooting Guides

PROBLEM	POSSIBLE CAUSE	SOLUTION
No display in the indicator	Defective battery	Replace
	Defective button/s	Requires authorized service
	Power button not properly pressed	Press and hold ON/OFF key for three

		seconds
Digits flash (indicator)	Low battery	Replace battery
Display does not respond to load changes	Faulty load cell	Requires authorized service
	Out of calibration	Re- calibration
Displayed weight shows large error	Scale is not Zeroed before applying weight	Press ZERO before applying weight
	Requires recalibration	See calibration
	Units (Kg/lb) wrong selection	See operation
Wireless distance shortened	Wireless indicator's battery is low	Replace battery.
	Adjust the RF Power output in the indicator	See operation

12. Technical Specifications

Features & Specifications	805HP-WL (Wireless Indicator)	805HP (Wired Indicator)
Electrical Performance:		
Link Connection/Interface	Within 2.4 Ghz Radio Frequency-16 available channels to avoid interference (duplex).	Wired with RS-232 compatible interface
Non-linearity	±0.001%F.S. Max	
Zero Temp. Drift	±10nV/°C	
Max. Capacity Temp. Drift	±3ppm/°C Max	
Max. Display Resolution	1/10,000	
Min. Input Sensitivity	0.3 μV/e	
Input signal range:	0mV~±25mV	
Load cell Excitation Voltage	1.22Vdc	
Power Supply	3 x AA 1.5V alkaline batteries	
Power Consumption	Tested with 2200mAh alkaline batteries ≥500 hour with 380Ω load cell in idle mode	

	≥250 hour with 380Ω load cell in weighing mode ≥1000 hour with 1000Ω load cell in idle mode ≥350 hour with 1000Ω load cell in weighing mode	
Display:		
Display	6-digit panoramic FSTN LCD with LED back light	
Sampling Frequency	4.17/6.25/8.33/10/12.5/16.7/33.2/50/62/123Hz are user-selectable.	
Display content	Display can show a positive or negative number, and decimal point can be selected to any position.	
Units of Measurement	kg/lb/t/g/oz/klb/N/kN/ are user-selectable units. Measurements units can be enabled independently and switched. The default unit can be selected.	
Enclosure material	ABS	
IP Rating	IP65	
Ports	RS-232C (optional)	RS-232C
Functions:		
Overload protection	User-selectable overload warning value and alarm value. Overload warning and alarm can be enabled or disabled Overload alarm peak records can be reviewed	
Functions	2 set-points calibration, Zero scale, Tare, Low battery warning, Peak-hold.	
Power-down storage	Date can be saved after power-off. Date can also be saved after removing batteries.	
Power-saving	If inactive for a period of time set by user, the auto power-saving mode will activate. If inactive for a period of time set by user, the auto power-off mode will activate.	
Functions :		
Zero	Yes	
Tare In / Tare Out	Yes	
Hold	Yes (with Peak Hold)	
Low Voltage Alarm	Yes	
Battery Supervision	Yes	
Overload Alarm / Record	2 Alarm Set Point (Lower and Higher) - records overload	
Calibration	2-set-points calibration is required for linearity	

	correction
Digital Calibration	Yes
Unit Switch	Kg, g, t, lb, Klb, N, kN, oz, User's defined unit
Gravity Acceleration Switch	Yes
Tare Set	Yes
Total / Delete / Clear Total	Yes
View Total	Yes
Resolution Switch	Yes
Auto-Off Set	Yes
Idle Set	Yes
Tare Range	100% F.S.
Zero Range	4% F.S.
Operation Temperature Range	(-20°C ~50°C) (-4°F~122°F)

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