

Diesella



18560120

User/Technical Manual

Contents subject to change without notice

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1. INTRODUCTION and INSTALLATION

General and Safety Information



- Risk of Electrical Shock: Disconnect all power sources before making cable connections to the scale platform or indicator.
- For use in dry environments only.
- Do not operate in hazardous areas.

- Read and understand all operating instructions before using this product. Keep this manual for future reference.
- Record the weight shortly after placing a load on the platform. After extended periods, the load cell's output signal may result in a less accurate reading.
- Place the scale on a hard, flat, and level surface before using.
- Avoid extended exposure to extreme heat or cold. Optimum operation is at normal room temperature. See operating temperature range in the specifications table. Allow the scale to acclimate to room temperature before using.
- Allow sufficient warm up time. Turn the scale on and allow up to 2 minutes for internal components to stabilize before weighing.
- Electronic scales are precision instruments. Do not operate near cell phones, radios, computers or other electronic devices that emit radio frequencies that may cause unstable readings.
- Avoid using in heavy vibration or heavy airflow conditions.

Specifications

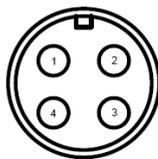
| Model | 18560120 |
|----------------------|---|
| Max Capacity | 120 kg / 250 lb |
| Readability | 0.02 kg / 0.05 lb |
| Display Resolution | 1:6000 |
| Construction | Epoxy painted carbon steel, stainless steel platform |
| Weighing Units | kg /lb / lb:oz |
| Calibration unit | kg |
| Application Modes | Weighing |
| Display | 16.5mm (0.65") 7-segment LCD, 5 1/2 digits, with blue backlight |
| Zero Range | ±20% of full capacity |
| Tare Range | Full capacity |
| Stabilization Time | <3 seconds |
| Operating Temp. | 40° to 105°F (5° to 40°C) |
| Humidity Range | <90% relative humidity, non-condensing |
| Power supply: | Alkaline Batteries: 4 x "AAA" size cells AC Adapter: 9Vdc/600mA, with central positive  |
| Interface | RS232 |
| Feet | Adjustable height |
| Safe Max Overload | 150% of capacity |
| Indicator Dimensions | 162x80x29mm (L x W x H) |
| Base Dimensions | 305 x 305 x 75mm (L x W x H) (Feet is adjusted to the maximum height) |

Contents

- Indicator
- DC9V 600mA Power Adapter
- Owner's Manual
- Scale Platform
- Outer Hexagonal Wrench

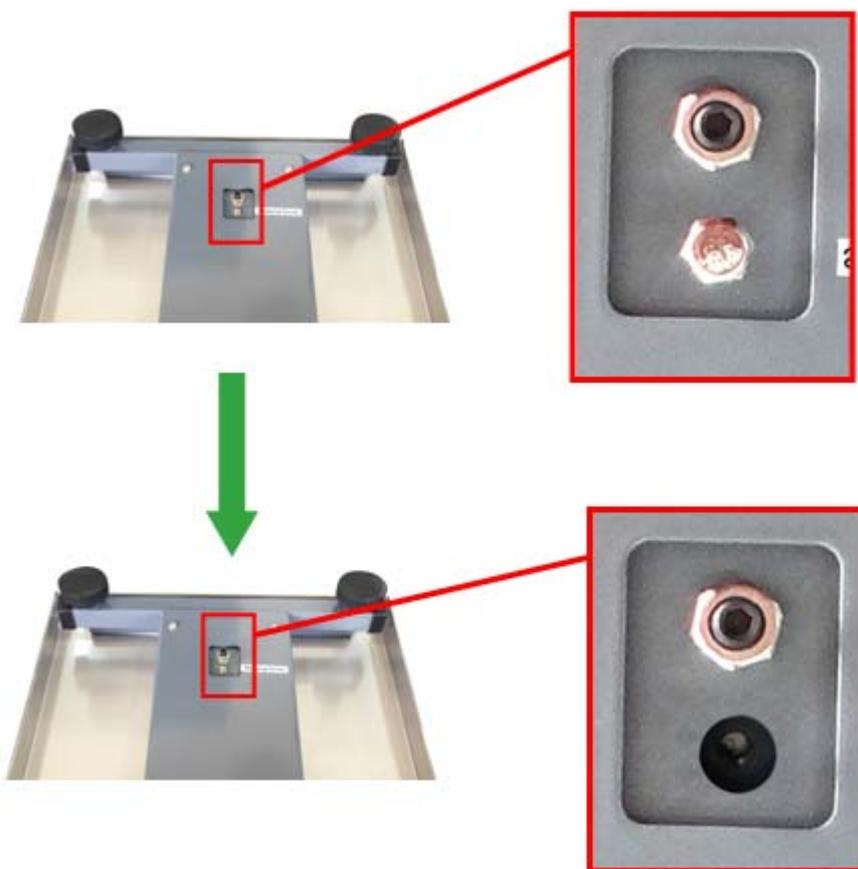
Load Cell Wiring

- PIN1----Red, Excitation +
- PIN2----Black, Excitation -
- PIN3----Green, Signal -
- PIN4----White, Signal +



Installation

1. Remove the scale from the packaging and place it on a work table with the feet facing up. Remove the shipping protection screw. See below pictures.



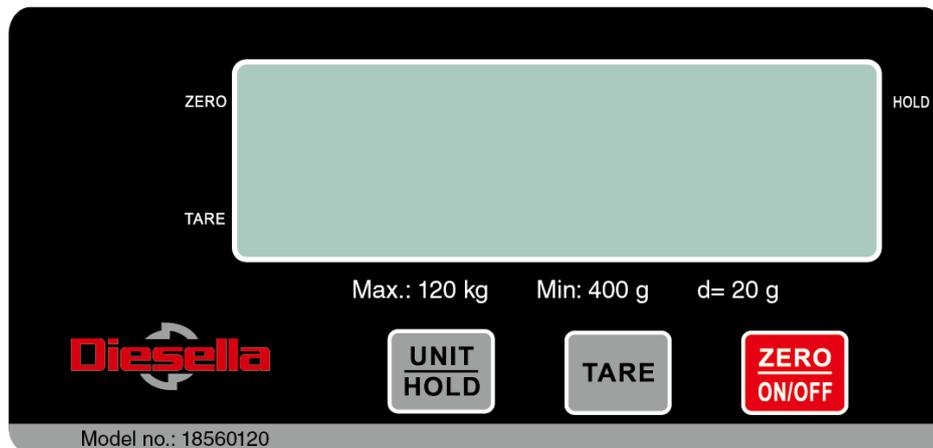
2. Place the scale on a hard, flat, and level surface.
3. Adjust the feet to level the scale.
4. Install the batteries or plug in the adapter. Now the scale is ready for use.

2. OVERVIEW OF CONTROLS AND FUNCTIONS

Indicator Display Character Definitions

| ASCII | LCD/LED Show | ASCII | LCD/LED Show | ASCII | LCD/LED Show |
|-------|---|-------|---|-------|---|
| 0 |  | A |  | N |  |
| 1 |  | B |  | O |  |
| 2 |  | C |  | P |  |
| 3 |  | D |  | Q |  |
| 4 |  | E |  | R |  |
| 5 |  | F |  | S |  |
| 6 |  | G |  | T |  |
| 7 |  | H |  | U |  |
| 8 |  | I |  | V |  |
| 9 |  | J |  | W |  |
| | | K |  | X |  |
| | | L |  | Y |  |
| | | M |  | Z |  |

Indicator Display



- ZERO- Scale is zeroed and gross weight is 0, tare is 0.
- TARE - Display reading is net weight; tare is not 0.
- lb, kg, oz - Unit of measure.
- Hold - Scale is in dynamic weighing mode.
 - Hold flashes - actual fluctuating weight is displayed.
 - Hold does not flash - locked weight is displayed

Function Keys

| KEY | MODE | | DEFINITION |
|------------------------------|---|------------|--|
| UNIT/HOLD | Weighing mode | <3 seconds | Enter or exit HOLD mode |
| | | >3 seconds | Select units of measure |
| | Setup or Calibration mode | | Change the digit on flashed position and click this button to add 1 |
| | Displaying A/D code or input voltage mode | | Choose the weight inner code or input working voltage to be displayed. |
| TARE | Weighing mode | | Tare the weight |
| | Setup or Calibration mode | | Confirm the input data and continue to next step |
| | Displaying A/D code or input voltage mode | | Choose filtered or un-filtered weight A/D data |
| ON/OFF/ZERO | Weighing mode | <3 seconds | Zero the platform weight |
| | | >3 seconds | Power off the scale |
| | Setup or Calibration mode/Displaying A/D code or input voltage mode | | Exit to normal weighing mode |
| ON/OFF/ZERO +UNIT/HOLD | Weighing mode (more than 3 seconds) | | Enter user parameter setup mode |
| ON/OFF/ZERO +TARE | Weighing mode (more than 3 seconds) | | Enter calibration mode |
| ON/OFF/ZERO +TARE +UNIT/HOLD | Weighing mode (more than 3 seconds) | | Go to Show A/D code or input working voltage of indicator mode |

4. Calibration

Note:

- (1) Before calibrating the scale, you should prepare standard weights (more than 10% of FS weight) for calibration.
 - (2) In the following steps, pressing **ZERO/ON/OFF** will exit calibration.
1. Move all weight from the scale. Under normal weighing mode, press and hold **TARE** and **ZERO/ON/OFF** keys for more than 4s to enter calibration mode.
 2. The indicator will show “*CAL - P*”, which means the scale is ready for calibration. Press the **TARE** key to confirm and continue into calibration mode.
 3. When “*CAL P0*” is displayed, the scale will begin to calibrate the zero-point of the scale. Remove all weight from the scale. Press the **TARE** key to confirm, or press the **ZERO/ON/OFF** to exit this mode. After receiving the reasonable zero-point data, the next step will automatically occur.
 4. When “*CAL P 1*” is displayed, the scale will be calibrated on second calibration point. xxxxxx kg (or lb) will be displayed. The default standard weight is 50%FS. Load 5%-100%FS weight on the scale, and use the **UNIT/HOLD** keys to input the loaded weight. Press the **TARE** key to confirm the input, and then the indicator will flash the input standard weight. After the scale becomes stable and receives the ADC's data corresponding to the standard weights, and if the data is reasonable and acceptable, the indicator will automatically be directed to next step. If the second point cannot be calibrated correctly, it will display “*CAL.Er*” and return back to **step3** for re-calibration.
 5. When “*CAL P 2*” is displayed, the scale will be calibrated on third calibration point. xxxxxx kg (or lb) will be displayed. The default standard weight is 100% FS. Load 10%-100%FS (this must be **equal or larger** than the weight from the second calibration point) weight on the scale. Use the **UNIT/HOLD** keys to input the standard weight's value. Press the **TARE** key to confirm. The indicator will flash the input weight. If the indicator receives reasonable data, it will go to next step automatically. If an error occurred, the scale will display “*CAL.Er*” and return back to **step3** for re-calibration.
 6. When “*CAL P 0*” is shown again, the scale will calibrate the zero-point again. Remove any weight from the scale, press the **TARE** key to confirm; the displayed data will flash. If the indicator receives reasonable data, it will calculate and store all parameters into EEPROM. Then it will auto-reset, and be directed to weighing mode. If an error occurred in calibration, the scale will display “*CAL.Er*” and then it necessary to repeat the procedure from step3.

5. View ADC Code or Power Voltage

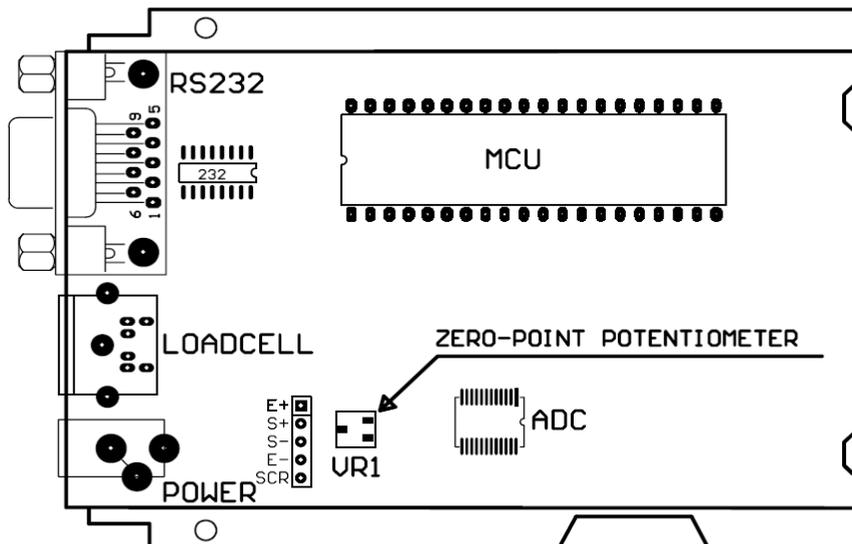
1. In normal weighing mode, press and hold **UNIT/HOLD** , **TARE** and **ZERO/ON/OFF** keys until “*CodE*” is shown, which means the indicator is working under display inner code mode. In this mode, you can examine the inner working voltage, the stability of weighing system, the variety value of A/D data as per the loaded weight.

NOTE:

- 1) The increment of ADC code for FS weight must be larger or equal to 2 times of selected display division; otherwise, the calibration cannot be properly completed. E.g. the display division is 0.1kg. Load 100kg standard weight on the platform, the increment of A/D code is at least $2 \times 100\text{kg}/0.1\text{kg} = 2 \times 1000 = 2000$. In this case, the scale can be calibrated. Otherwise, smaller division need to be chosen.
 - 2) The data should be stable; otherwise, the calibration cannot properly complete.
2. In this mode, you can calculate the proper ADC data at zero point by examining the A/D data for loaded weight. If the ADC increase for full capacity is NFS, the power-on zero range is set to $Z_p\%$ FS and zero key range is set to $Z_k\%$ FS. Then the proper ADC data of zero point is larger than $(Z_p\% + Z_k\%) \times \text{NFS}$.
 3. ADC increase for full capacity (NFS) can be calculated by: Load the weight W on the platform, and the ADC increase for W weight is Nw. The ADC increase for full capacity WFS is $(\text{NFS}) = (\text{Nw}) \times (\text{WFS}) / \text{W}$.

Negative value may be displayed because of error connect of loadcell or error position of the zero-point potentiometer on PCB; however, the software only deals with positive value. So, if you are the position of zero-point potentiometer is error; adjust potentiometer's position to make the ADC data will be positive value and larger than $(Z_p\% + Z_k\%) \times \text{NFS}$. Normally the indicator is factory-calibrated, and end users do not need this operation.

Below is the drawing of position of the zero-point potentiometer on PCB for conference, decrease ADC data by rotating clockwise, and increase ADC data by rotating counter-clockwise.



4. Press the **UNIT/HOLD** key to select displaying weight inner code or input the inner working voltage value. When “U x.xx” is displayed, the display digit is voltage value, and the unit is V. The proper working power voltage is between 5V to 8V.
5. Press the **TARE** key to display filtered or un-filtered weight A/D data; when ► is on, the data is filtered.
6. Press the **ZERO/ON/OFF** key to exit this mode and return to normal weighing mode.

6. Configuration Parameters Setup

1. When the scale is off, press and hold **ZERO/ON/OFF** and **UNIT/HOLD** keys until 'SEtUP' is shown, which indicates that the scale is in Configuration parameter setup mode.
2. During setup mode, press the **UNIT/HOLD** key to change the flashed digits. Press the **TARE** key to confirm the flashed digits. Press the **ZERO/ON/OFF** key to exit this mode.
3. Summary of Configuration Parameters Setting:

| Parameter | Default | Setting | 18560120 Factory Setting |
|-----------|---------|---|-----------------------------|
| P1.xy | 5 | Auto-off time: no auto-off; 01-15 minutes auto-off time | 5 |
| P2.xy | 02 | 0=no hold function; 1=hold larger weight reading; 2-50= unchangeable reading when the variety is within $\pm 2 \sim 50d$, auto release hold function when weight is below 10d and auto-hold new stable weight (more than 10d); | 1 |
| P3.x | 3 | 0=no RS232 function; 1=continuously output display data; 2= continuously output gross, TARE and net weight; 3=output display data one time when scale is stable; 4=output gross, TARE and net weight one time when scale become stable; 5=Bio-RS232; 6= continuously output display data use five numbers; 7= output display data use five numbers when scale is stable; | 1 |
| P4.x | 3 | Baud rate for RS232: 0=1200bps, 1=2400bps, 2=4800bps, 3=9600bps, 4=19200bps | 3 |
| P5.x | 0 | RS232 format: 0=8N1, 1=7O1, 2=7E1 | 0 |
| P6.xy | 5 | Resolution select: 00=500, 08=2400, 16=7500, 24=35000, 01=600, 09=2500, 17=8000, 25=40000, 02=750, 10=3000, 18=10000, 26=50000, 03=800, 11=3500, 19=12000, 27=60000, 04=1000, 12=4000, 20=15000, 28=70000, 05=1200, 13=5000, 21=20000, 29=75000, 06=1500, 14=6000, 22=25000, 30=80000, 07=2000, 15=7000, 23=30000, 31=100000 | 14 |
| P7.x | 0 | Division select: 0=1, 1=2, 2=5 | 1 |

| Parameter | Default | Setting | 18560120 Factory Setting |
|-----------|---------|---|-----------------------------|
| P8.x | 0 | Decimal point in calibration: 0= x1, 1= x0.1, 2= x0.01; 3= x0.001; 4= x0.0001; 5= x10 | 2 |
| P9.x | 0 | Calibration unit: 0=kg, 1=lb | 0 |
| P10.x | 3 | Weighing units enable: 0=only kg; 4=kg or lb:oz; 1=only lb; 5=lb or lb:oz; 2=only lb:oz; 6=kg, lb, or lb:oz 3=kg or lb; | 3 |
| P11.x | 7 | Power-on zero-point range: 0=calibration zero -point $\pm 1\%$ FS; 1=calibration zero -point $\pm 2\%$ FS; 2=calibration zero-point $\pm 5\%$ FS; 3=calibration zero-point $\pm 10\%$ FS; 4=calibration zero-point $\pm 20\%$ FS; 5=calibration zero-point $\pm 50\%$ FS; 6=calibration zero-point $\pm 100\%$ FS; 7=No limitation | 7 |
| P12.x | 6 | Zero range for ZERO button: 0= Power-on zero-point $\pm 1\%$ FS; 1= Power-on zero-point $\pm 2\%$ FS; 2= Power-on zero-point $\pm 3\%$ FS; 3= Power-on zero-point $\pm 4\%$ FS; 4= Power-on zero-point $\pm 5\%$ FS; 5= Power-on zero-point $\pm 10\%$ FS; 6= Power-on zero-point $\pm 20\%$ FS; 7= Power-on zero-point $\pm 50\%$ FS; 8= Power-on zero-point $\pm 100\%$ FS; 9= No limitation | 4 |
| P13.x | 0 | Weight signal is in power-on zero point range, Choose which data as current power-on zero point: 0= current weight ; 1= calibration zero-point; 2=switch-off zero-point | 0 |
| P14.x | 3 | Weight signal is not in power-on zero point range, Choose which data as current power-on zero point: 0= current weight ; 1= calibration zero-point; 2=switch-off zero-point; 3=continuously display "0-----" | 1 |
| P15.x | 6 | Zero tracking range: 0=0d, no tracking; 1= $\pm 0.25d$; 2= $\pm 0.5d$; 3= $\pm 1d$; 4= $\pm 1.5d$; 5= $\pm 2d$; 6= $\pm 3d$; 7= $\pm 4d$; 8= $\pm 5d$ | 4 |
| P16.x | 2 | Data filter intensity: 0=very weak, 1=weak, <u>2=middle</u> , 3=strong | 2 |

| Parameter | Default | Setting | 18560120 Factory Setting |
|-----------|---------|--|-----------------------------|
| P17.x | 1 | Check weight stability range: 0= $\pm 0.5d$; 1= $\pm 1d$; 2= $\pm 1.5d$; 3= $\pm 2d$; 4= $\pm 3d$; 5= $\pm 4d$; 6= $\pm 5d$; 7= $\pm 6d$; 8= $\pm 7d$; 9= $\pm 8d$ | 1 |
| P18.x | 1 | Overload limit range: 0=FS+0d; 1=FS+9d; 2=101%FS; 3=102%FS; 4=105%FS; 5=110%FS; 6=120%FS; 7=150%FS; 8=200%FS; 9=No limitation | 1 |
| P19.X | 2 | Backlight on-off mode selection (if it is installed): 0= Backlight is always off; 1= Backlight is always on; 2= Backlight is auto on and auto off. It is auto off after 10s when scale goes to stable and has no key operation, and it is auto on when scale is unstable or there's some key operation. | 2 |

4. Some Detailed Explanation

P3.x: RS232 mode setting

P3.0: No RS232 function. It will not transmit or receive any data although the scale is with RS232 hardware. RS232 function can be only activated when scale is in normal weighing mode.

P3.1: Continuously output of the current displayed reading and unit, and it does not receive any data.

The output format is as below:

<LF>< reading, minus, decimal point, weight unit><CR><EXT>

P3.2: Continuously output of the current gross weight, TARE weight and net weight reading data including unit, and not accept any data. The format is as follows:

<LF><Gross: reading, minus, decimal point, unit><CR><EXT>

<LF> <TARE: reading, decimal point, unit><CR><EXT>

<LF> <Net: reading, minus, decimal point, unit><CR><EXT>

The number of position used: weight reading ---7;

Minus ---1;

Decimal point ---1;

Weight unit ---2 or 4;

P3.3: When the scale is stable, it will output the current displayed weight reading automatically one time including unit, and not accept data. The output format is same as P3.1

P3.4: When the scale is stable, it will output the current gross weight, TARE weight and net weight data including unit automatically one time, and not accept data. The output format is same as P3.2

P3.5: Bio-RS232 data output.

P3.6: Continuously output of the current net weight in gram with five numbers. The output format is as below:

<LF>< x x x x x><CR><EXT>

If net weight is larger than range, ">>>>>" will be transmitted, and If net weight is below 0, "-----" will be transmitted.

P3.7: When the scale is stable, it will output the current net weight in gram with five numbers. The output format is same as P3.6.

P9.x: Calibration unit

As per the setting of P7, P8 and P9, following table is listed,

Table1: use Kg as calibration unit:

| Calibration division value | Display division value in different weight unit that can be used | | |
|----------------------------|--|---------------|---------------|
| | kg | lb | lb:oz |
| 0.0001kg | 0.0001kg | 0.0002lb | Not available |
| 0.001kg | 0.001kg | 0.002lb | Not available |
| 0.01kg | 0.01kg | 0.02lb | 0.5oz |
| 0.1kg | 0.1kg | 0.2lb | 5 oz |
| 1kg | 1kg | 2lb | Not available |
| 10kg | 10kg | 20 lb | Not available |
| 0.0002kg | 0.0002kg | 0.0005 lb | Not available |
| 0.002kg | 0.002kg | 0.005 lb | 0.1 oz |
| 0.02kg | 0.02kg | 0.05 lb | 1 oz |
| 0.2kg | 0.2kg | 0.5 lb | Not available |
| 2kg | 2kg | 5 lb | Not available |
| 20kg | 20kg | 50 lb | Not available |
| 0.0005kg | 0.0005kg | 0.001 lb | Not available |
| 0.005kg | 0.005kg | 0.01 lb | 0.2 oz |
| 0.05kg | 0.05kg | 0.1 lb | 2oz |
| 0.5kg | 0.5kg | 1 lb | Not available |
| 5kg | 5kg | 10 lb | Not available |
| 50kg | 50kg | Not available | Not available |

Table2: use LB as calibration unit:

| Calibration division value | Display division value in different weight unit that can be used | | |
|----------------------------|--|-----------|---------------|
| | Kg | lb | Lb:oz |
| 0.0001lb | Not available | 0.0001lb | Not available |
| 0.001 lb | 0.0005 kg | 0.001 lb | Not available |
| 0.01 lb | 0.005 kg | 0.01 lb | 0.2 oz |
| 0.1 lb | 0.05 kg | 0.1 lb | 2 oz |
| 1 lb | 0.5 kg | 1 lb | Not available |
| 10 lb | 5 kg | 10 lb | Not available |
| 0.0002 lb | 0.0001 kg | 0.0002 lb | Not available |
| 0.002 lb | 0.001 kg | 0.002 lb | Not available |
| 0.02 lb | 0.01 kg | 0.02 lb | 0.5 oz |
| 0.2 lb | 0.1 kg | 0.2 lb | 5 oz |
| 2 lb | 1 kg | 2 lb | Not available |
| 20 lb | 10 kg | 20 lb | Not available |
| 0.0005 lb | 0.0002 kg | 0.0005 lb | Not available |
| 0.005 lb | 0.002 kg | 0.005 lb | 0.1 oz |
| 0.05 lb | 0.02 kg | 0.05 lb | 1 oz |
| 0.5 lb | 0.2 kg | 0.5 lb | Not available |
| 5 lb | 2 kg | 5 lb | Not available |
| 50 lb | 20 kg | 50 lb | Not available |

P10.x: Select the weighing unit that may be chosen by pressing **UNIT/HOLD**.

P12.x: Zero range for **ON/OFF/ZERO** button operation

If zero key can be activated, it can clear the TARE weight. If zero point is above the setting range, the indicator will show “0- - -”, and if zero point is below the setting range, “0_ _ _” will be shown.

P15.x: Zero tracking range

Choose the zero tracking range as per the stability of weighing system, accuracy and weight excursion. The normal setting is $\pm 0.5d \sim \pm 1.5d$.

P16.x: Data filter intensity

The larger the chosen digit is, data filter intensity is stronger, and the speed of data updating is lower.

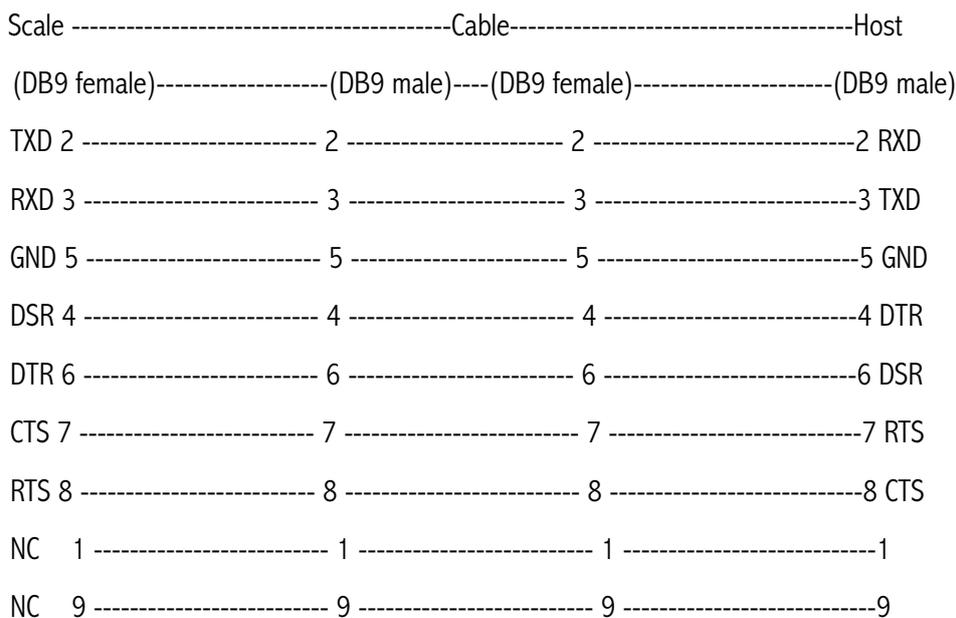
P17.x: Range of weight stability checking

If the variety of weight reading is within the setting range continuously for several times, the scale is recognized as stable. The normal setting is $\pm 1d \sim \pm 3d$.

P18.x: Overload range that can be displayed (when weight is larger than range, “-----” will be shown):

7. Details about RS232

7.1 RS-232 connects between scale and Host:



Note: The indicator DB9 female's pin4 and pin6 is shorted, pin7 and pin8 is shorted!

7.2 When P3 is set to 5:

7.2.1) The baud rate and data format is fixed as per P4 and P5 setting. Responses to serial commands will be immediate, or within one weight measure cycle of the scale. One second should be more than adequate for use as a time-out value by remote (controlling) device.

7.2.2) The length of the weight field will be 7 digit weight data, one for minus sign, one for decimal point, two for measure unit (e.g. “lb”, “kg”). If the unit is lb:oz, another two for “lb” and one for a space (<sp>) after lb. Units of measure abbreviations are always lower case.

7.2.3) If the weight is overcapacity, the scale will return nine ‘^’ characters (the field of minus sign, decimal point, weight data is filled by ‘^’).

If the weight is under capacity, it will return nine ‘_’ characters (the field of minus sign, decimal point, and weight data is filled by ‘_’).

If the zero point is error, it will return nine ‘_’ characters.

7.2.4) The character will be ‘-’ for negative weight or a space character for positive weight. Minus sign follows after the first digit.

7.2.5) Useless leading zero before digits is suppressed.

7.3 Key to symbols used

<LF> Line Feed character (hex 0AH)

<CR> Carriage Return character (hex 0DH)

<ETX> End of Text character (hex 03)

<SP> Space (hex 20H)

H1H2H3 Three status bytes

<p> Polarity character including minus sign for negative weight and a pace character for positive weight

W1-W7 weight data

<dp> decimal point

U1U2 measure units, kg, lb, or oz

7.4 Commands and response

7.4.1 Command: W<CR> (57h 0dh)

Response:

①<LF> ^ ^ ^ ^ ^ ^ ^ ^ ^ u1u2<CR><LF>H1H2H3<CR><ETX>---over capacity

②<LF> _____u1u2<CR><LF> H1H2H3 <CR><ETX>---under capacity

③<LF>-----u1u2<CR><LF> H1H2H3<CR><ETX>---zero-point error

Note: If the weight unit is lb: oz, U1U2= oz in above item ①②③.

④<LF><p>w1w2w3w4w5w6<dp>w7u1u2<CR><LF>H1H2H3<CR><ETX> ---

Scale is stable, and the current weight unit is kg or lb. With or without decimal point and the position is as per the P9 setting and current unit.

⑤<LF><p>w1w2w3w4w5lb<sp>w6w7<o><z><CR>H1H2H3<CR><ETX> or

<LF><p>w1w2w3w4lb<sp> w5w6<dp>w7oz<CR>H1H2H3<CR><ETX> ----

The current unit is lb: oz.

7.4.2 Command: S<CR> (53h 0dh)

Response: <LF> H1H2H3<CR><ETX>

7.4.3 Command: Z<CR> (5ah 0dh)

Response: <LF> H1H2H3<CR><ETX>

Zero function is activated and it returns to current scale status. Just like pressing **ON/OFF/ZERO** button,

If ZERO function cannot be activated, it will return to current scale status.

7.4.4 Command: T<CR> (54h 0dh)

Response: <LF> H1H2H3<CR><ETX>

TARE function is activated, and then returns scale status. Just like pressing **TARE** button, If TARE

function cannot be activated, it will return to current scale status.

7.4.5 Command: U<CR> (55h 0dh)

Response: <LF>u1u2<CR><LF> H1H2H3<CR><ETX>

Changes units of measure and return scale status with new units, just like pressing **UNIT/HOLD** button.

The new measure unit should be allowed to use as per P10 setting. If weight unit is lb:oz, u1u2= “lb oz”

7.4.6 Command: L<CR> (4ch 0dh)

Response: <LF> H1H2H3 <CR><ETX>

If Hold function can be activated, it will enable/disable hold (lock) function, like the **UNIT/HOLD** key is pressed, and returns scale status.

7.4.7 Command: X<CR> (58h 0dh)

Response: power off the scale, just like press down the **ON/OFF/ZERO** key to turn off the scale.

7.4.8 Command: all others

Response: <LF>? <CR><ETX>

Unrecognized command

7.5 Output status bit meaning:

The status bit definition:

| Bit | Byte 1 (H1) | Byte 2 (H2) | Byte 3 (H3) |
|-----|----------------------|-----------------------|---------------------|
| 0 | 0=stable | 0= not under capacity | 01=normal work mode |
| | 1= not stable | 1= under capacity | 10= hold work mode |
| 1 | 0= not at zero point | 0= not over capacity | 00=not define |
| | 1= at zero point | 1= over capacity | 11= not define |
| 2 | 0=not AD over | 0=not Zero Over | 0= gross weight |
| | 1=AD over | 1=Zero Over | 1= net weight |
| 3 | 0= eeprom OK | 0=not Zero down | 0=not AD down |
| | 1= eeprom error | 1= Zero down | 1=AD down |
| 4 | always 1 | always 1 | always 1 |
| 5 | always 1 | always 1 | always 1 |
| 6 | always 0 | always 1 | always 0 |
| 7 | parity | Parity | parity |

8. Symbol Definitions:

- \square - - - - Zero point is over the setting range
- \square _ _ _ _ Zero is below the setting range
- $\overline{A}d$ - - - - ADC is over max. range;
- $\overline{A}d$ _ _ _ _ ADC is below min. range;
- - - - - - Weight signal is too large
- _ _ _ _ _ - Weight signal is too small
- $\overline{E}E\overline{P}E\overline{O}$ The EEPROM can't be accessed;
- $\overline{E}E\overline{P}E\overline{I}$ The parameters are not same with backup data;
- $\overline{E}E\overline{P}E\overline{Z}$ The setting parameter(s) is not in normal range;.
- $\overline{C}AL - \overline{P}x$ Scale's calibration point;
- $\overline{C}AL\overline{E}r$ There is an error in calibration
- **Hold(H)** Hold function is active.
- Net** ◀ The display reading is net weight
- Zero** ◀ The scale is at zero point
- $\overline{C}AP\overline{-}$ The the setting full capacity will be displayed

- d--* The division will be displayed
- Px.y* The No. x parameter is set to y.
- L o.bAt* The voltage of batteries or input power is below 4.7V

9. Trouble shooting:

| SYMPTOM | PROBABLE CAUSE | REMEDY |
|---|---|---|
| Does not turn on. | <ol style="list-style-type: none"> AC adapter is not securely connected Low battery Indicator is damaged | <ol style="list-style-type: none"> Re-plug the AC adapter or rotate the plug to securely connect to the scale Replace the batteries Replace with a new indicator & perform calibration |
| <i>Ad---</i> | <ol style="list-style-type: none"> The cable from platform to indicator is not correctly connected, or disconnected, or short circuit Indicator is damaged Load cell cable is broken Load cell is damaged | <ol style="list-style-type: none"> Check the cable or replace with a new cable Replace with a new indicator and perform calibration. Return the scale for repair |
| <i>Ad---</i> | | |
| <i>0---</i> | Indication is out of key zero range | Reduce weight on platter till indication is within key zero range. |
| <i>0---</i> | Weight reading below Power On Zero limit. | <ol style="list-style-type: none"> Loosen the shipping protection screws Check whether an object is stuck between scale base, if yes, remove the object. Perform zero calibration. |
| <i>---</i> | <ol style="list-style-type: none"> Weight reading exceeds Overload limit The weight value cannot be displayed in the current unit of measure because it exceeds 6 digits. | <ol style="list-style-type: none"> Reduce load on the scale until a weight value is displayed. Use a more appropriate unit of measure. |
| <i>---</i> | Weight reading below Under load limit | <ol style="list-style-type: none"> loose the shipping protection screws Perform zero calibration |
| <i>EEPE 1</i> | The parameters are not same with backup data | Re-set Setup parameters as technical manual instructed. |
| <i>EEPE 2</i> | Setting parameter(s) is not in normal range | Re-set USER parameters per the Technical manual |
| <i>CALE r</i> | <ol style="list-style-type: none"> Input data or loaded weight is too small, too big Weight signal is unstable, un-linear | <ol style="list-style-type: none"> Input correct data, load correct weight onto platform. Return the scale for repair |
| Cannot zero the display | <ol style="list-style-type: none"> Load on scale exceeds allowable limits. (20%FS) Load on the scale is unstable | <ol style="list-style-type: none"> Remove load from the scale. Wait for the load to stabilize. then press the ZERO/ON/OFF key to zero the display |
| <ol style="list-style-type: none"> Max. CAPACITY not same as marked on overlay Any function invalid Any units missed | CONFIG and USER parameters are not correctly set | Re-set CONFIG and USER parameters per the Technical manual |
| Weighing is not accurate | <ol style="list-style-type: none"> An object is stuck between the load cell and scale base Load cell received a heavy impact | <ol style="list-style-type: none"> Remove the object Perform Linearity calibration Loose the shipping protection screws. Place the load on the center of the weighing platform |