# GRAM LP7517F Weighing Indicator User Manual



Contents



GRAM

## GRAM LP7517F Weighing Indicator

## Summary

LP7517F/FP indicator is developed for weighing transpalette. The indicator can be placed on the top cap of a transpalette. Two versions are available: LP7517F without a printer incorporated; LP7517FP with incorporated printer.

### Main function

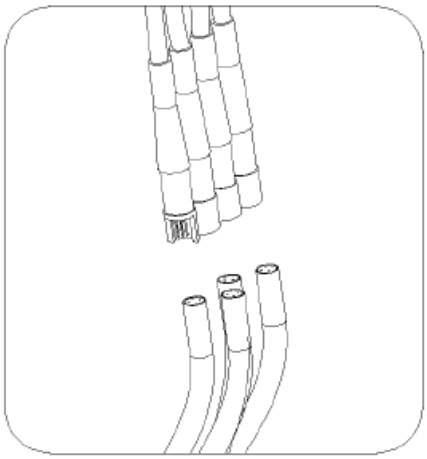
- General weighing: Zero / Tare / Total
- Automatic power off and power saving function
- Battery capacity indication

## Installation

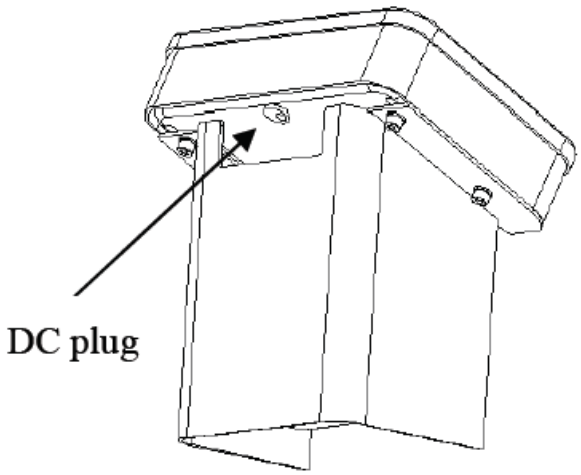
### Electrical connection

### Connection indicator with Load cells

LP7517F/FP can be connected to 4 pcs 350Ω Load cells. Place connector as specified below:



Load cell interface depiction




DC power supply

**Power connection**

LP7517F is powered by 5V/1A adaptor, plug the adapter directly into the “DC” pin at the back cover of the indicator.

LP7517FP is powered by 8.4V/1A charger, plug the charger directly into the “DC” pin at the back cover of the indicator.

## Operation

### Keys and display


Display


Key

**Weighing indicator display instruction:**

| LED display | Instruction |
|---|---|
| 8 | Weighing data display |
| kg | Weight unit kg |
| lb* | Weight unit lb* |
| Hold | Hold the data |
| Peak | Hold the peak weight |
| Tare | Display Tare status |
| Gross | Gross weight display |
| Net | Net weight display |
| Total | Total weight |
| | The weighing data is stable |
| | Zero, indicating zero weight |
| Hi | Upper limit |
| OK | Within limit |
| Lo | Lower limit |

**Keys' function**

| Symbol | Name | Function |
|---|---|---|
|  | On/Off<br>unit convert* | 1. Press 3 seconds to power on or power off<br>2. Press key to convert units* |
|  | Hold | Enter and exit “Hold” mode |
|  | Total | 1. Accumulating operations<br>2. Use with “Print” to check the total weight |
|  | Tare/Zero | 1. Clear weight within zero range<br>2. Exceed zero range, tare function<br>3. Long press to preset tare |
|  | Print | 1. Press with On/Off enter the calibration<br>2. Long press to print<br>3. Use with “Tare/Zero” weight 10 times |

**Operation**
**ON/OFF**

Press the button for 3 seconds to power on or power off.

**kg/lb Conversion**
If you select kg/lb conversion, in normal weighing mode, press “On/Off” key to perform kg/lb conversion.

**Tare/Zero**
During the weighing process, if the zero range ±2% is exceeded and the reading is stable, press “Tare/Zero” to start the net weighing mode. The display will then display net weight zero, the Tare and Net light indicators will switch on, Gross light indicator will switch off.
During the weighing process, if the weight stays within in the zero range ±2% and it is stable, press “Tare/Zero” to return to gross weighing mode, the display will show gross weight zero, the Gross light indicator will switch on, Tare and Net lights will switch off.

**Preset tare**
Press “Tare” for 2 seconds and enter the Tare weight to configure the tare function.

**HOLD**
This indicator includes the following functions: peak hold, hold and auto-hold.
Settings Menu (4.2.2):

- C11=0 “Hold” function unavailable
- C11=1 Peak hold
- C11=2 Hold
- C11=3 Auto-hold

**Peak hold**
Press the “Hold” key, this will cause the Hold light to switch on, and the maximum data will be displayed on the weighing indicator. Press “Hold” key again to exit the hold function.

- **Hold**

  Press the “Hold” key, this will cause the Hold light to switch on, and the data will be displayed on the weighing

indicator. Press “Hold” key again to exit the hold function.

- **Auto-hold**

  If the weight on the scales exceeds 20d and it is maintained stable, the indicator will display the data for 6 seconds and the “Hold” light will switch on, after 6 seconds the indicator will return to the general weighing mode, and the “Hold” light will switch off.

- **Total**
- **Accumulation operation**

  At Zero mode, load weight until the scale shows the stable reading, then press “Total” key to enter the accumulation mode, “Total” light will then switch on, display will show “n001” message, and then display loaded weight. Unload the weight, the scale will return to zero, load weight again until the stable reading is achieved, then press “Total”, display will show “n002” message, then the loaded weight will be displayed. This operation can be repeated maximum 999 times.

- **Check the total weight operation**

  Hold “Print”, then press “Total” at the same time, the display will show “n**”, (accumulating times) and then the total weight will be displayed. If the total weight does not exceed 6 digits, it is displayed as the whole reading, otherwise, for example, if the total weight consists of 8 digits, the first 4 digits will be displayed first, then the last 4 digits. For example, the first 4 digits are “0012”, the last 4 digits is “34.56”, it means the actual weight is “1234.56”

- **Exit accumulate function**

  In order to exit the accumulative mode, when active, press “Total” key, the indicator will then show “clr n” message, prompting about clearing the total weight, press the key to confirm it and exit; If total weight is cleared, when the display shows “clr n” message, press “Tare/Zero” to change to “clr y”, which will clear the total weight display. Press “Print” to clear the total weight and exit accumulating mode.

- **High resolution**

  Press “Set” and “Tare” keys simultaneously, to enter high 10 times standard resolution mode. The normal weighing mode will be established after 3 seconds.

- **Upper and lower limit alarm**

  In order to establish the upper and lower limit indications, please set C13= Upper limit, C14=Lower limit. When the measured weight exceeds the limit, the “Hi” light will switch on, and indicator will produce an sound; when the weight is below the lower limit, the “Lo” light will switch on. In case the weight is within the limit, the “OK” light will switch on.

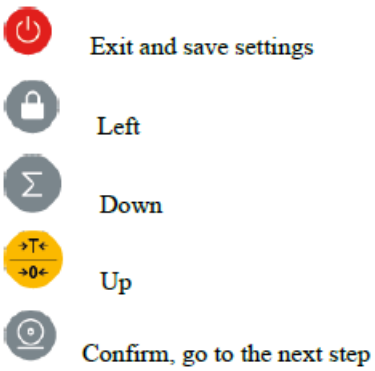
## Calibration & parameter settings

### Enter calibration

There have two ways to enter the settings menu:

1. When the “CAL” switch is off, press  then press  at the same time, hold it, you will enter C08-C39 setting.
2. Take out all of screws on the back of the indicator, then press  down the “span”,  press and then press at the same time, you will enter C01-C39 setting.

**Keys' function**




**Calibration**

- C01 UNIT
- [C01 ] Press [
- C1 1] Selected unit is kg
- [C1 2] Selected unit is lb*
- Press , go to the next step

**C02 Set decimal digits**

- [C02 ] Press
- option:0/1/2/3/4
- [C2 0] no decimal point
- [C2 1] one decimal point
- [C2 2] two decimal points
- [C2 3] three decimal points
- [C2 4] four decimal points
- Press , go to the next step

**C03 Division setting**

[C03 ] Press

- [C3 1] d=1
- [C3 2] d=2
- [C3 5] d=5
- [C3 10] d=10
- [C3 20] d=20
- [C3 50] d=50
- Press , go to the next step
- C04 Maximum capacity

**For example: max weighing 100kg:**

Set [0100.00] Press , go to the next step
C05 Zero calibration
Option: 0=no zero calibration 1= zero calibration necessary
In order to calibrate zero, please choose option 1 and ensure the scale is empty and the stability indicator light is on. Count down [CAL 10] ~ [CAL 0], then the indicator will show [0.00] (example for two decimals).

**C06 Loading calibration**

[C06], press , the [C6 0] message will appear, press , the message will change to [C6 1], press again, the [SPAn ] message will appear, depending on max capacity settings, please add a suitable known weight on scale,  closest to the max capacity, heavier than 10% max at least.

**For example: the weight is 80kg, as below:**

- [0080.00]
- [CAL 9]……
- [0080.00]
- [CAL End]
- Once the countdown is over, the indicator will show the loaded weight, loading calibration is finished.
- If you want to set an application parameter, press , if you want to exit, press button.
- C07 Default parameters settings
- [C7 0] Do not restore the default parameters
- [C7 1] Restore the default parameters
- Note: After the above parameters settings is completed, please avoid setting the default parameters often, in order to avoid the original setting parameters lost.

**Application parameter settings**

- C08 Warning tone
- [C8 1] Open warning tone
- [C8 0] Close warning tone
- C09 Power off automatically
- [C9 0] Do not power off automatically.
- [C9 10] Keep on for 10 min, then power off automatically
- [C9 30] Keep on for 30 min, then power off automatically
- [C9 60] Keep on for 60 min, then power off automatically
- C10 Power saving setting

**[C10 0] Turn off the power saving**

- [C10 1] Switch off backlight after 3 minutes
- [C10 2] Switch off backlight after 5 minute
- C11 Hold

**[C11 0] No Hold function**

- [C11 1] Peak hold
- [C11 2] Data hold
- [C11 3] Auto-hold
- C12 Hold time (if you choose C11=4, you can set the time)
- Enter a sampling time of 0-9 seconds
- C13 Upper limit alarm value
- C14 Lower limit alarm value
- C15 Check inner code
- C16 Date settings
- Enter the date
- C17 Time settings
- Enter the time
- 4.2.3 Communication settings
-
- C18 Serial interface settings
- [C18 0] No sending
- [C18 1] Big display
- [C18 2] Print format output
- [C18 3] Command mode (Z=Zero T=Tare R=Reply weight)
- [C18 4] Continuous sending
- C19 Baud rate
- [C19 0] 1200bit/s
- [C19 1] 2400bit/s
- [C19 2] 4800bit/s
- [C19 3] 9600bit/s
- [C19 4] 600bit/s
- 4.2.4 Application settings
- C20 Manual Zero Settings
- [C20 00] Do not set zero manually
- [C20 01] Manual Zero range ±1% Max. Capacity
- [C20 02] Manual Zero range ±2% Max. Capacity
- [C20 04] Manual Zero range ±4% Max. Capacity
- [C20 10] Manual Zero range ±10% Max. Capacity
- [C20 20] Manual Zero range ±20% Max. Capacity
- [C20100] Manual Zero range ±100% Max. Capacity
- C21 Initial zero settings
- [C21 0] Do not set the initial zero
- [C21 1] Initial zero range±1% Max. Capacity
- [C21 2] Initial zero range±2% Max. Capacity
- [C21 5] Initial zero range±5% Max. Capacity
- [C21 10] Initial zero range±10% Max. Capacity
- [C21 20] Initial zero range±20% Max. Capacity 14
- [C21100] Initial zero range±100% Max. Capacity
- C22 Zero tracking range

- [C22 0.0] No zero tracking
- [C22 0.5] ±0.5d
- [C22 1.0] ±1.0d
- [C22 2.0] ±2.0d
- [C22 3.0] ±3.0d
- [C22 4.0] ±4.0d
- [C22 5.0] ±5.0d

**C23 Zero tracking time**

- [C23 0] No zero tracking
- [C23 1] 1 second
- [C23 2] 2 seconds
- [C23 3] 3 seconds

**C24 Overload range**

- [C24 09] Over 9d than Max. Capacity
- C25 Negative display
- [C25 00] Less than -9d
- [C25 10] Less -10% Max. Capacity
- [C25 20] Less -20% Max. Capacity
- [C25 50] Less -50% Max. Capacity
- [C25100] Less -100% Max. Capacity

**C26 Standstill time**

- [C26 0] Quick
- [C26 1] Medium
- [C26 2] Slow

**C27 Standstill range**

- [C27 1] ±1d
- [C27 2] ±2d
- [C27 5] ±5d
- [C27 10] ±10d
- C28 Dynamic filter
- [C28 0] Close dynamic filter 15
- [C28 1] Low dynamic filter
- [C28 3] Medium dynamic filter
- [C28 5] High dynamic filter
- C29 Noise filter
- [C29 0] Close noise filter

- [C29 1] Low filter
- [C29 2] Medium filter
- [C29 3] High filter
- C30 Date format
- [C30 0] 99.09.29
- [C30 1] 09/29/99
- [C30 2] 29/09/99
- [C30 3] 1999/09/29
- C31 kg/lb conversion
- [C31 0] Do not use kg/lb conversion
- [C31 1] Allow kg/lb conversion
- C35 Print format
- Enter 0~99
- C36 Local gravitational acceleration

**Enter local gravitational acceleration**

- C37 Destination gravitational acceleration
- Enter destination gravity acceleration
- C38 Version number view

**Displays the date, software version, and hardware version, respectively**

- C39 multi-interval application
- [C39 0] normal mode
- [C39 1] multi-interval mode
- C40 Livestock scale delay
- Enter the scale delay of 0 to 9 seconds
- C41~C49 Print related configuration

**Exit settings**

In order to exit settings, for example, after introducing the option [C10 1]  , press  in order to confirm it, then press to exit and save the settings.

## Maintenance

**Troubleshooting method**

| Error | Error description | Solution |
|---|---|---|
| Display UUUUUU | 1. The loaded weight exceeds the overload range of Max. Capacity<br>2. Wrong or no connection with the load cell.<br>3. Load cell unavailable | 1. Decrease loaded weight<br>2. Check the load cell connection.<br>3. Check the load cell input and output resistance for appropriateness. |
| Display nnnnnn | 1. Calibration is not correct<br>2. Cell single line is connecting a wrong line.<br>3. The load cell is damaged. | 1. Check whether the scale is resisted or not, and the scale feet are levelled.<br>2. Check the load cell connection.<br>3. Check the load cell input and output resistance for appropriateness. |
| ERR1 | During calibration, no weight was introduced or input weight exceeds max capacity. | Introduce the correct weight |
| ERR2 | During calibration, the added weights were nor sufficient. | Added weight shall be at least 10% of Max. Capacity, It is recommended to use the weights at 60-80% of Max. capacity |
| ERR3 | During calibration, input the reading is negative. | 1. Check the connection.<br>2. Check if the load cell is damaged.<br>3. Restart calibration, if the error reappears, please replace the PCB. |
| ERR4 | During calibration, the reading is unstable | Ensure the added weight and the scale are stable, restart calibration. |
| ERR5 | EEPROM check error | Change PCB. |
| ERR6 | Exceeded Zero range | Unload weight. |
| ERRAD | AD chip fault | Change PCB. |

**Daily maintenance**

1. In order to ensure the clear display of the indicator and prolong its life, the indicator should not be placed under direct sunlight.
2. The load cell and the indicator should be well connected, the system should have a good ground, away from strong electric field or magnetic field.
3. Do not use indicator outdoors in high humidity conditions, please power the indicator off. 4. Power off the device during the operation of connecting and disconnecting.

**Battery maintenance**

In the lower right corner of the indicator a field will indicate the battery voltage.
If the battery voltage is too low, when the last grid blinks, please charge. The battery grid flickers when charging, and the charging time is generally 6-8 hours.
The battery grid will then appear full. The indicator has a built-in intelligent charge management chip, which can continue to use power supply after being fully charged, preventing battery overcharge.
LP7517FP charger red light will change into green to indicate a fully-charged battery.

**Restore default parameters**

Enter settings menu, set C07=1, press then, press  , press  i order to exit the settings, all parameters will be back to default setting.
Note: Consider that restoring default parameters is a task which should be performed by professional technicians as it might cause the scale to lose calibration.

**Default parameter table**

| Parameter | Description | Default value |
|---|---|---|
| C01 | Calibration unit | 1 |
| C02 | Decimal digits | 0 |
| C03 | Division value | 2 |
| C04 | Max capacity | 10000 |
| C05 | Empty scales calibration | 0 |
| C06 | Capacity calibration | 0 |
| C07 | Restore the default parameters | 0 |
| C08 | Warning tone | 1 |
| C09 | Automatic power off | 0 |
| C10 | Power saving mode | 3 |
| C11 | Hold function | 2 |
| C12 | Livestock weighing mode | 5 |
| C13 | Upper limit warning | 000000 |
| C14 | Lower limit warning | 000000 |

| | | |
|---|---|---|
| C15 | Inner code display | |
| C16 | Date | |
| C17 | Time | |
| C18 | Serial interface data output method | 0 |
| C19 | Serial interface Baud rate | 3=9600 |
| C20 | Manual zero setting | 2 |
| C21 | Initial zero setting | 10 |
| C22 | Automatic zero tracking range | 0.5 |
| C23 | Automatic zero tracking time | 1 |
| C24 | Overload range | 9 |
| C25 | Negative display range | 10 |
| C26 | Standstill time | 1 |
| C27 | Standstill range | 2 |
| C28 | Dynamic filter | 1 |
| C29 | Noise filter | 2 |
| C30 | Date format | 0 (1*) |
| C31 | kg/lb conversion | 0 (1*) |
| C35 | Print format | 1 |
| C36 | Local gravitational acceleration | 9.7936 |
| C37 | Destination gravitational acceleration | 9.7936 |
| C38 | Version number view | |
| C39 | Multi-interval application | 0 |
| C40 | Livestock scale delay | |

NOTE: “*” this option is only available in USA version.

## Documents / Resources

| | |
|---|---|
|  | GRAM LP7517F Weighing Indicator [pdf] User Manual<br>LP7517F, LP7517FP, LP7517F Weighing Indicator, LP7517F, Weighing Indicator, Indicator |

## References

- **User Manual**