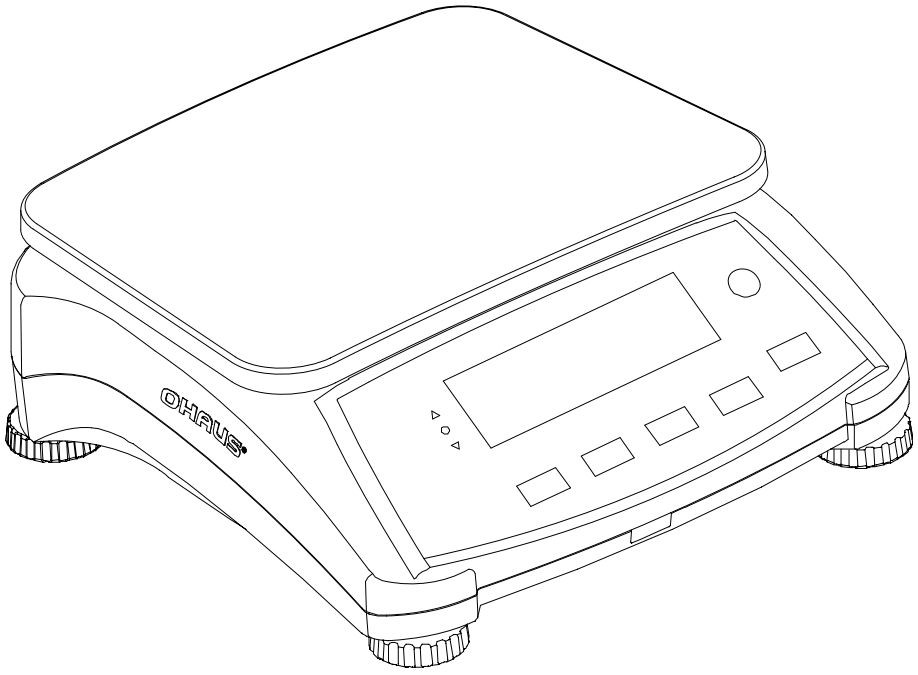
# Valor™ 7000 Series
## Instruction Manual



# 1. INTRODUCTION

This manual contains installation, operation and maintenance instructions for the Valor™ 7000 Series. Please read the manual completely before using the scale.

## 1.1 Definition of Signal Warnings and Symbols

Safety notes are marked with signal words and warning symbols. These show safety issues and warnings. Ignoring the safety notes may lead to personal injury, damage to the instrument, malfunctions and false results.

**Signal Words**

| | |
|---|---|
| **CAUTION** | for a hazardous situation with low risk, resulting in damage to the device or the property or in loss of data, or injuries if not avoided. |
| **Note** | (No symbol)<br>For useful information about the product |

**Warning Symbols**

Attention Symbol

Alternating Current

## 1.2 Safety Precautions

Please follow these safety precautions:

- Verify that the AC input voltage printed on the data label matches the local AC power supply.
- Do not drop loads on the platform.
- Make sure that the power cord does not pose a potential obstacle or tripping hazard.
- Do not position the scale in a way that makes it difficult to pull the power plug.
- Use only approved accessories and peripherals.
- Operate the scale only under ambient conditions specified in these instructions.
- Disconnect the scale from the power supply when cleaning.
- Do not operate the scale in hazardous or unstable environments.
- Do not immerse the scale in water or other liquids.
- Do not place the scale upside down on the platform.
- Only use weights within the scale’s capacity as specified in these instructions.
- Service should be performed only by authorized personnel.

# 2. INSTALLATION

## 2.1 Package Contents

- Scale
- Pan
- Sub-platform
- Power Cord
- Instruction Manual / CD
- Warranty Card
- In-use Cover

## 2.2 Installing Components

Install the sub-platform and metal pan as shown below. Press to lock the sub-platform into place.

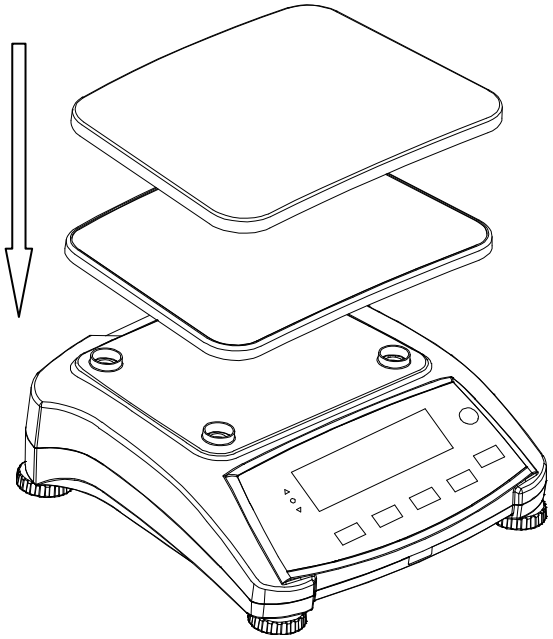


Figure 2-1. Install the sub-platform and metal pan

## 2.3 Selecting the Location

Use the scale on a firm, steady surface. Avoid locations with excessive air current, vibrations, heat sources, or rapid temperature changes. Allow sufficient space around the scale.

## 2.4 Leveling the Equipment

The Valor Series has a level indicator as a reminder that the scale should be leveled for accurate weighing. To level the scale, adjust the feet so the bubble is centered in the circle. Be sure the equipment is level each time its location is changed.

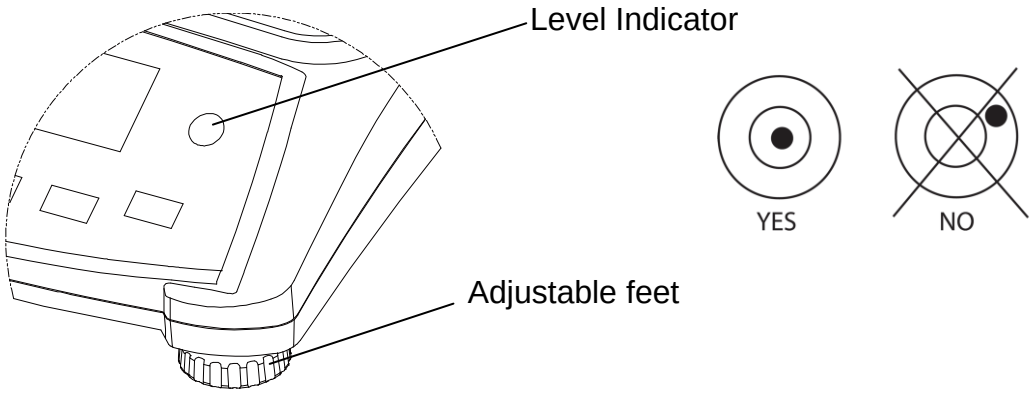



Figure 2-2. Level indicator

## 2.5 Connecting Power

AC power is used to power the scale when battery power is not needed. First, connect the AC power cord (supplied) to the power input jack then connect the AC plug to an electrical outlet.

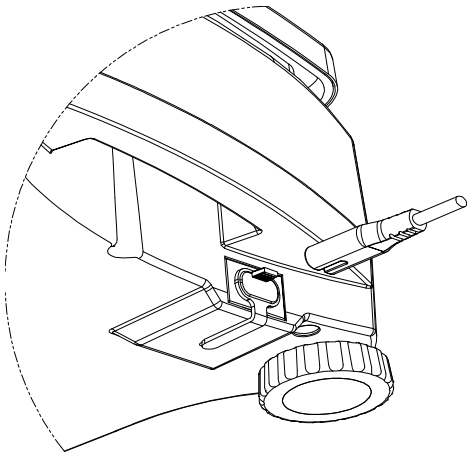


Figure 2-3A Connect the AC power plug to the input jack on the back of scale.

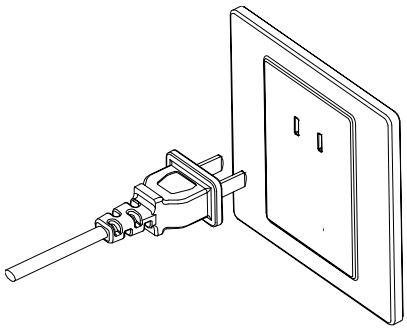


Figure 2-3B Connect AC power plug to the proper AC supply.

### 2.5.1 Battery Power:

The scale can be used on AC power immediately. Allow the battery to charge for 12 hours before using the scale on battery power. The Scale will automatically switch to battery operation if there is a power failure or the power cord is removed. With AC power, the scale is constantly charging, so the battery charge indicator (see item 11 in figure 3-2) will remain lit. The scale can be operated during charging, and the battery is protected against overcharging.
For maximum operating time, the battery should be charged at room temperature.

During battery operation, the battery symbol indicates the battery charge level remaining. The indicator will automatically turn off when the batteries are fully charged.

TABLE 2-1

| Symbol | Charge level |
|---|---|
| | 0 to 10 % Remaining |
| | 11 to 40 % Remaining |
| | 41 to 70 % Remaining |
| | 71 to 100 % Remaining |

**Notes:**
When battery symbol blinks fast, approximately 30 minutes working time is left.
When [LO.bAt] is displayed, the scale will shut off.
Charging the scale must be performed in a dry environment.

**CAUTION: Battery is to be replaced only by an authorized Ohaus service dealer. Risk of explosion can occur if the rechargeable battery is replaced with the wrong type or if it is not properly connected. Dispose of the lead acid battery according to local laws and regulations.**

# 3. OPERATION

## 3.1 Controls

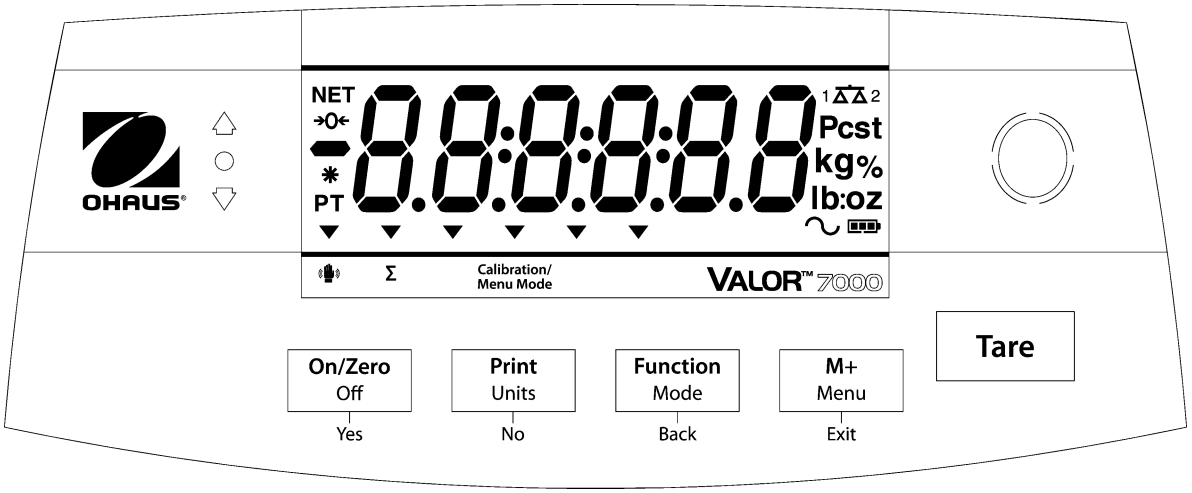



Figure 3-1. Valor 7000 Front Control Panel with LCD Display.

TABLE 3-1

| Button | Functions |
|---|---|
| **On/Zero**<br><br>**Off**[3]<br>**Yes** | Short Press[1] (when on): Sets display to zero<br>(when off): Turns scale on<br>Long Press[2] (when on): Turns the scale off<br>Short Press (in Menu): Selects/accepts displayed setting |
| **Print**<br>**Units**<br>**No** | Short Press: See Interface Manual for operation description.<br>Long Press: Toggles through active weighing units<br>Short Press (in Menu): Toggles through available settings |
| **Function**<br>**Mode**<br>**Back** | Short Press: Selects function setting<br>Long Press: Selects active Mode<br>Short Press (in Menu): returns to previous settings |
| **M+**<br><br>**Menu**<br>**Exit** | Short Press: Accumulates the weight and displays the accumulated information at 0 load.<br>Long Press: Enters User Menu<br>Short Press (in Menu): Quickly exit User Menu |
| **Tare** | Short Press: Enter/clear a tare value. Clears the accumulation when the accumulation information is displayed. |
| | The IR Sensor can be programmed to act as “touchless” buttons. See section 4.3 for the available settings. |

**Notes:** [1] Short Press: Press less than 1 seconds.

[2] Long Press: Press and hold for more than 2 seconds.

[3] Press and hold the **Off** button until OFF is displayed, then release the button.

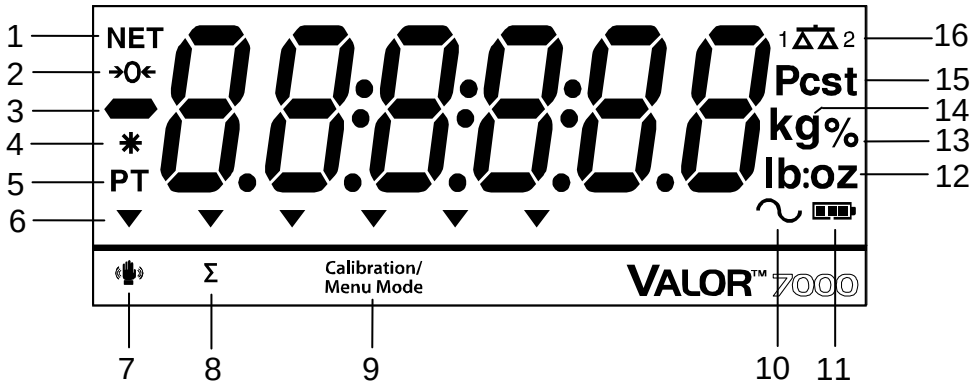



Figure 3-2. LCD Display

TABLE 3-2

| Item | Description | Item | Description |
|---|---|---|---|
| 1 | NET symbol | 9 | Calibration / Menu Mode symbol |
| 2 | Center of Zero symbol | 10 | Dynamic symbol (not used) |
| 3 | Negative symbol | 11 | Battery charge symbol |
| 4 | Stable weight symbol | 12 | Pound, Ounce, Pound:Ounce symbols |
| 5 | Preset Tare, Tare symbols | 13 | Percent symbol |
| 6 | Pointer symbols | 14 | Kilogram, gram symbols |
| 7 | IR Sensor symbol | 15 | Pieces symbol, tonne symbol (both not used) |
| 8 | Accumulation symbol | 16 | Scale symbol (not used) |

The colored LED indicators on the left side of the control panel are used in Check mode (section 3.5) and will light up according to the following rules:

- △ (Red) Loads > Upper limit
- ○ (Green) Loads ≥ Lower limit and ≤ Upper limit
- ▽ (Yellow) Loads < Lower limit

Figure 3-3. Valor 7000 back LCD Display

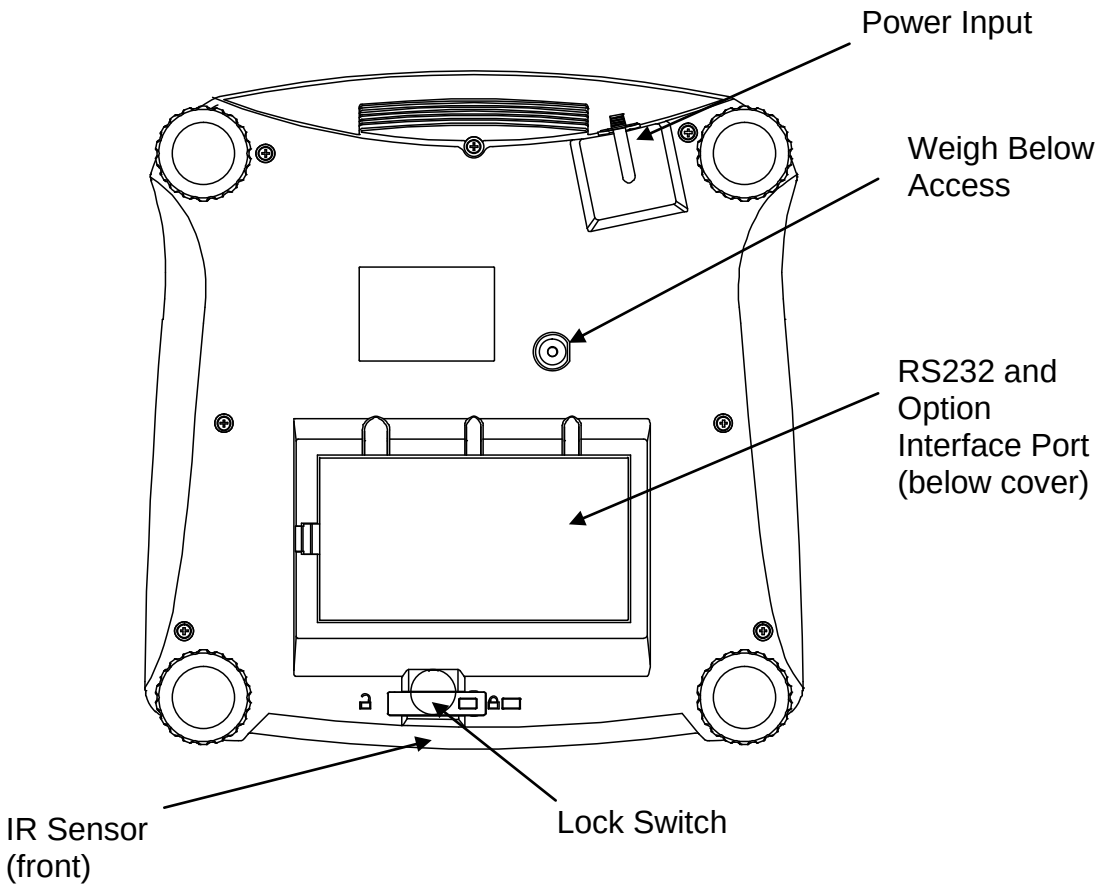



Figure 3-4. Below view of Valor 7000

**IR Sensors**

The Valor 7000 is equipped with two IR sensors, one at the front (see figure 3-5) and one at the rear (see figure 3-3). The front and rear sensors perform the same function. The sensors can be activated by a hand or other object that is placed at a specified distance in front of the sensor locations. The sensor activation distance will vary based on the reflective nature of the object. If unwanted activations occur due to unique situations the sensor can be turned off. See section 4.3 Setup Menu for available settings.

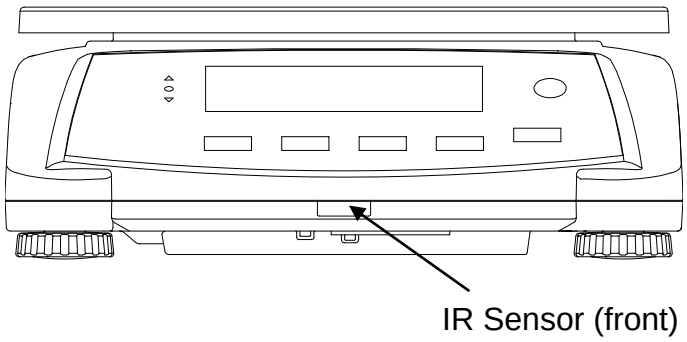



Figure 3-5. Front view of Valor 7000

## 3.2 Turning Scale On/Off

To turn the scale on, press and hold the **On/Zero Off** button for 1 second. The scale performs a display test, momentarily displays the software version, and then enters the active weighing mode.

To turn the scale off, press and hold the **On/Zero Off** button until OFF is displayed.

## 3.3 Weigh Mode

This mode is the factory default setting.

1. If needed, press and hold **Mode** until [WEIGH] (Weigh) is displayed.
2. If required, place an empty container on the pan and press **Tare**.
3. Add sample to the pan or container. The display shows the weight of the sample.

## 3.4 Percent Mode

This mode measures the weight of a sample as a percentage of a reference weight.

1. If required place an empty container on the pan and press **Tare**.
2. Press and hold **Mode** until [PErcnt] is displayed. [CLr.rEF] (clear reference) will then display. If no reference weight exists, the scale will display [Put.rEF], proceed to step 5.
3. Press **No** to use the stored reference weight and proceed to step 6.
4. Press **Yes** to establish a new reference. Scale will now display [Put.rEF].
5. Add the desired reference material to the pan or container. Press **Yes** to store the reference weight. The display shows 100%.
6. Replace the reference material with the sample material. The display shows the percentage of the sample compared to reference weight.
7. To clear the stored reference press and hold **Mode** until [PErcnt] is displayed. Press **Yes** when [CLr.rEF] is displayed.

**Note:** Press **Function** to view the current reference weight.

## 3.5 Check Mode

Use this mode to compare the Weight or Percent of items to a target range. The scale supports positive, negative and zero check weighing.
Refer to section 4.5 to set the desired Check sub-mode.

### 3.5.1 Check Weighing

Set Checkweigh to Weight in the Mode menu. Use this mode to compare the weight of items to a target weight range.

1. Press and hold **Mode** until [CHECK] (Check) is displayed. [CL.L IN?] (clear check limits) will then display.
2. Press **No** to use the stored check limits and proceed to step 5.
3. Press **Yes** to establish new check limits. The scale will then display [SEt. Lo]. Press **Yes** to view the “Low” limit value. Press **Yes** to accept or **No** to edit the “Low” limit value. The stored value then displays with the first digit highlighted [0.00.000 kg]. Repeatedly press **No** until the desired number appears. Press **Yes** to accept and highlight the next digit. Repeat until all the digits are correct. Press **Yes** to accept the “low” limit value, [SEt. H.] will be displayed.
4. Repeat the same procedure to accept or edit the “high” value.
5. If required, place an empty container on the pan and press **Tare**.
6. Place sample material on the pan or in the container. If the sample weight is under the target weight range, the yellow LED will light. If the sample is within the target weight range, the green LED will light. If the sample is over the target weight range, the red LED will light.

**Note:** Press **Function** to view the low and high check limits.

### 3.5.2 Check Percent

Set Checkweigh to Percent in the Mode menu. Use this mode to compare the percentage of items to a target percent range.

1. Press and hold **Mode** until [CHECK] (Check) is displayed. [CLr.rEF] (clear reference) will then display.
   If no reference weight exists, the scale will display [PUt.rEF], proceed to step 4.
2. Press **No** to use the stored reference weight and proceed to step 5.
3. Press **Yes** to establish a new reference. Scale will now display [PUt.rEF].
4. Add the desired reference material to the pan or container. Press **Yes** to store the reference weight.
5. The scale will display [CL.L IN?] (clear Check limits).
6. Press **No** to use the stored check limits and proceed to step 9.
7. Press **Yes** to establish new check limits. The scale will then display [SEt. Lo]. Press **Yes** to view the “Low” limit value. Press **Yes** to accept or **No** to edit the “Low” limit value. The stored value then displays with the first digit highlighted [0.00.000 %]. Repeatedly press **No** until the desired number appears. Press **Yes** to accept and highlight the next digit. Repeat until all the digits are correct. Press **Yes** to accept the “low” limit value, [SEt. H.] will be displayed.
8. Repeat the same procedure to accept or edit the “high” value.

9. If required, place an empty container on the pan and press **Tare**.
10. Place sample material on the pan or in the container. If the sample weight is under the target percentage range, the yellow LED will light. If the sample is within the target percentage range, the green LED will light. If the sample is over the target percentage range, the red LED will light.

**Note:** Press **Function** to view the low and high check limits.

**Positive Check**
Positive check is used to determine when the material added to the scale is within the target range. In this case the UNDER and OVER limits must be positive values. (The OVER limit must be greater than the UNDER limit.)
Add material to the scale until it is within the ACCEPT (green) range.

**Negative Check**
Negative check is used to determine when the material removed from the scale is within the target range. In this case the UNDER and OVER limits are both negative values.
The UNDER limit must be greater than the OVER limit (for example: UNDER= -10/OVER= -15).
Place the item to be weighed on the scale and press **Tare**.
Remove a portion of the item until it is within the ACCEPT range.

**Zero Check**
Zero check is used when comparing subsequent samples to an initial reference sample. In this case, the UNDER limit must be a negative value and the OVER limit must be a positive value.

Place the reference item on the scale and press **Tare**. Remove the reference sample and place the item to be compared on the scale to determine if it is within the ACCEPT range.

## 3.6 Accumulation and Statistics

The Accumulation feature enables manual or automatic totalizing of displayed values. Statistical data (total accumulated, min and max weight or %, and total number of weighments) is stored in memory for review and printing. Accumulation works together with each application mode except Dynamic.

### 3.6.1 Accumulating Displayed Values

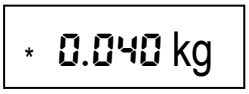
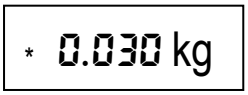
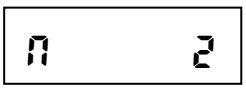
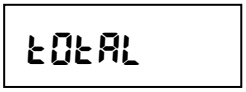
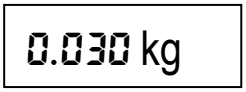
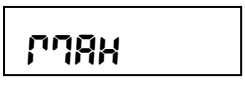
With ACCUMULATE set to MANUAL, place the item on the scale and press the **M+** key to add the weight to accumulation data. The ∑ pointer will keep flashing until the weight is removed.
With ACCUMULATE set to AUTO, place the item on the scale. The displayed value is accumulated automatically. The ∑ pointer will keep flashing until the weight is removed.

### 3.6.2 Viewing and Clearing Statistical Data

When the pan is cleared, press the **M+** key to display the statistical information. To clear the accumulation data press the **Tare** key while the statistical information is displayed. The display shows [CLr.ACC]. Press the **Yes** key to clear the stored data and return to current mode.

**Notes:** The item must be removed from the pan before the next item can be accumulated.
Only stable weights are stored to accumulation data.
Changing the mode will clear the accumulation data.
**When Legal for Trade is ON, the display must return to 0 gross. Otherwise, the ∑ pointer will continue flashing. Gross loads and net loads cannot be added to the same total. If the first load is a gross weight, future loads must also be gross weights. If the first load is a net weight, future loads must also be net weights.**

Example:

| | |
|---|---|
| In weighing mode; sub menu ACCUM setting, select MANU:<br>If required, place an empty container on the pan and press **Tare**. | |
| Step i: Put the weight (0.04 kg) on the pan and press **M+** key. The **Σ** pointer indicator will keep flashing until the weight is removed. |  |
| Step ii: Remove the weight from the pan. Put another weight (0.03 kg) and press **M+** key: |  |
| Step iii: Remove the weight from the pan: | |
| Step iv: Press **M+** key to display the statistical information: |  <br>  <br> <br> <br>  <br>  |
| Step v: If required, follow section 3.6.2 to clear the accumulation data. | |

# 4. MENU SETTINGS

The User Menu allows the customizing of scale settings.
Note: Additional Sub-Menus may be available if Interface Options are installed. See Interface User Manual for the additional setting information.

## 4.1 Menu Navigation

**User Menu:**

| Menu: | ***C.A.L*** | ***S.E.t.U.P*** | ***r.E.A.d*** | ***M.O.d.E*** | ⇨ |
|---|---|---|---|---|---|
| Menu Items: | Span<br>Lin<br>GEO<br>End | Reset<br>Pwr.Un<br>Zero<br>A. Tare<br>Bp.Sig<br>Bp.Key<br>IR Func<br>IR Adj<br>Accum<br>End | Reset<br>Stable<br>Filter<br>AZT<br>Light<br>A.Off<br>End | Reset<br>Weigh<br>Percnt<br>Check<br>End | |

| ⇨ | ***U.n.i.t*** | ***P.r.i.n.t.1*** | ***C.O.M.1*** | ***L.O.C.k*** | ***E.n.d*** |
|---|---|---|---|---|---|
| Menu Items: | Reset<br>kg<br>g<br>lb<br>oz<br>lb:oz<br>End | Reset<br>Stable<br>A.Print<br>Contnt<br>Layout<br>Data.Tr<br>End | Reset<br>Baud<br>Parity<br>Stop<br>Handsh<br>Alt.Cm<br>End | L.Cal<br>L.Setup<br>L.Read<br>L.Mode<br>L.Unit<br>L.Print<br>L.COM<br>End | |

**Notes:**

Some modes/units may not be available in all models.
When LEGAL FOR TRADE is set to ON (LFT Switch in locked position), the menu settings are affected as follows:

- Calibration (C.A.L) menu is not accessible
- Zero Range is locked at 2%
- Stable Range setting is locked at 1d
- Auto-Zero Tracking setting is locked at 0.5d
- Unit menu is locked at the current setting
- Stable Only is locked On
- Auto Print/ Continuous is disabled
- Lb:oz is locked at Off.
- IR Sensor and Filter menus may be locked at the current settings, if required by local weights and measures regulations

Summary of button navigation functions in menu mode:

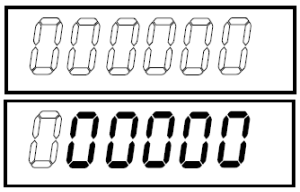
-- **Yes** Allows entry into the displayed menu.
- Accepts the displayed setting and advances to the next item.

-- **No** Skips by the displayed menu.
- Rejects the displayed setting or menu item and advances to the next available item.

-- **Back** Moves backwards through the upper and middle level menus.
- Backs out of a list of selectable items to the previous middle level menu.

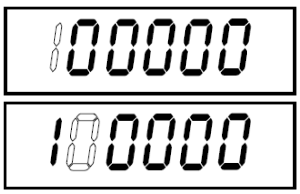
-- **Exit** Exits from menu directly to the active weighing mode.

For menu items with numeric settings such as Capacity, the current setting is displayed with all digits flashing.
Press the **No** button to begin editing.
The first digit is displayed flashing.



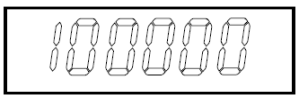
Press the **No** button to increment the digit or press the **Yes** button to accept the digit and move to the next digit.

Repeat this process for all digits.



Press the **Yes** button when the last digit has been set.

The new setting is displayed with all digits flashing. Press the **Yes** button to accept the setting or press the **No** button to resume editing.



This method also applies to setting Checkweigh under and over targets.

For End menu items, pressing the **Yes** button advances to the next menu, while pressing the **No** button returns to the top of the current menu.

## 4.2 Cal Menu

Enter this menu to perform calibrations.

**Initial Calibration**

When the scale is operated for the first time, a span calibration is recommended to ensure accurate weighing results. Before performing the calibration, be sure to have the appropriate calibration weights as listed in table 4-1. Ensure that the LFT switch / calibration lock is set to unlock position. See figure 5-1.

Or adjust the GEO setting according to your location (see table 4-2).

**Procedure:**

Press and hold **Menu** until [MENU] (Menu) is displayed. When the button is released, the display will show [C.A.L]. Press **Yes** to accept. [SPAN] will then be shown. Press **Yes** to begin the span calibration. [ 0 kg] will be displayed. Press **Yes** to accept. [--C--] will be displayed while zero reading is stored. Next, the display shows the calibration weight value. Place the specified calibration mass on the pan. Press **Yes** to accept the weight or **No** to select an alternate weight. [--C--] will be displayed while the reading is stored. The display will show [donE] if the calibration was successful. The scale returns to the previous application mode and is ready for use.

TABLE 4-1

| Required Span Calibration Mass (sold separately) | | | |
|---|---|---|---|
| **Capacity** | **Mass*** | **Capacity** | **Mass*** |
| 1500g | 1.5kg / 3lb | 15000g | 15kg / 30lb |
| 3000g | 3kg / 6lb | 30000g | 30kg / 60lb |
| 6000g | 6kg / 15lb | | |

Notes: When active unit is g or kg, the calibrating unit will be in kg.
When active unit is lb, oz or lb:oz, the calibrating unit will be in lb.
For linearity calibration, the calibration Mass is fixed.
Mid-point is always half of full capacity.

| | |
|---|---|
| Span: | Perform |
| Linearity: | Perform |
| Geographic: | |
| Adjustment: | Set 0...**12**...31* |
| End Calibration: | Exit menu |

***Bold** always represents factory default value.*

### Span [SPAN]

Initiates a span calibration procedure (zero and span)

### Lin [L in]

Initiates a linearity calibration procedure (zero, mid-point and span).

### GEO [GEO]

Geographical Adjustment Factor (GEO) is used to adjust the calibration based on the current location. Settings from 0 to 31 are available with 12 being the default.
Refer to table 4-2 to determine the GEO factor that corresponds to your location.

### End Cal [End]

Advance to the next menu or return to the top of the current menu.

## 4.3 Setup Menu

Enter this menu to set scale parameters. Default settings are **bold**.

| | |
|---|---|
| Reset: | **no**, yes |
| Power On Unit: | **auto**, kg, g, lb, oz, lb:oz |
| Zero Range: | 2%, **10%** |
| Auto Tare: | **off**, on, on-acc |
| Beeper Signal: | **off**, accept, under, over, under-over |
| Beeper Key: | **off**, on |
| IR Func: | **disp**, zero, func, tare, print |
| IR Adjust: | off, low, **high** |
| Accumulation: | off, auto, **manual** |
| End Setup: | Exit menu |

### Reset [rESEt]

Reset the Setup menu to factory defaults.

NO = not reset
YES = reset

### Power on unit [PWr.Un]

Set the unit of measure displayed at startup.

AUTO = last unit in use when turned off
kg = kilograms
g = grams
lb = pounds
oz = ounces
lb:oz = pound ounces

### Zero Range [ZEr0]

Set the percentage of scale capacity that may be zeroed.

2% = zero up to 2 percent of capacity
10% = zero up to 10 percent of capacity

### Auto Tare [A.tArE]

Set the automatic tare functionality.

OFF = Automatic Tare is disabled
ON = the first stable gross weight is tared
ON-ACC = stable gross loads within the accept limits are tared (in Check weighing mode)

### Beeper Signal [bP.S iG]

Set how the beeper responds in Check Weighing mode.

OFF = the beeper is disabled
ACCEPT = the beeper will sound when the weight is within the Accept range.
UNDER = the beeper will sound when the weight is below the Under setting.
OVER = the beeper will sound when the weight is above the Over setting.
OVER-UNDER = the beeper will sound when the weight is below the Under setting or above the Over setting.

### Beeper Key [bP.tEY]

Set whether the beeper sounds when a button is pressed.

OFF = no sound
ON = sound

**IR Func** [ IR.F]
Define the sensor function. Both sensors will have the same function.

- DISP = turn on backlight
- ZERO = scale performs zero operation
- FUNC = scale performs function operation
- TARE = scale performs tare operation
- PRINT = scale performs print operation

**IR Adjust** [ Ir.Adj]
Set the distance at which the sensor will respond.

- OFF = disabled
- LOW = around 50 mm / 2 inches
- HI = around 100 mm / 4 inches

**Accumulation** [ACCUM]
Set the accumulation functionality.

- OFF = accumulation disabled
- AUTO = automatic accumulation
- MAN = manual accumulation

**End Setup** [End]
Advance to the next menu or return to the top of the current menu.

## 4.4 Readout Menu

Enter this menu to set user preferences. Default settings are **bold**.

| | |
|---|---|
| Reset: | **no**, yes |
| Stable Range: | 0.5, **1**, 2, 5 |
| Filter: | low, **medium**, high |
| Automatic-Zero Tracking: | off, **0.5**, 1, 3 |
| Light: | off, on, **auto** |
| Auto Off: | **off**, 1, 5, 10 |
| End Readout: | Exit menu |

### Reset [rESEt]

Reset the Read menu to factory defaults.

NO = not reset
YES = reset

### Stable Range [StAbLE]

Set the amount the reading can vary while the stability symbol remains on.

0.5d = 0.5 scale division
1d = 1 scale division
2d = 2 scale division
5d = 5 scale division

### Filter [F ILtEr]

Set the amount of signal filtering.

LOW = less stability, faster stabilization time
MED = normal stability, stabilization time
HI = greater stability, slower stabilization time

### AZT [AZt]

Set the automatic zero tracking functionality.

OFF = disabled
0.5d = the display will maintain zero until a change of 0.5 divisions per second has been exceeded.
1d = the display will maintain zero until a change of 1 divisions per second has been exceeded.
3d = the display will maintain zero until a change of 3 divisions per second has been exceeded.

### Light [L IGHt]

Sets backlight functionality.

OFF = always off
ON = always on
AUTO = turns on when a button is pressed or the displayed weight changes.

### Auto off [A.OFF]

Set the automatic shut off functionality.

OFF = disabled
1 = powers off after 1 minute of no activity
5 = powers off after 5 minute of no activity
10 = powers off after 10 minute of no activity

**End Readout** [End]
Advance to the next menu or return to the top of the current menu.

## 4.5 Mode Menu

This sub-menu activates modes so they will be available for use with the Mode button. Weigh mode is always active. Default settings are **bold**.

| | |
|---|---|
| Reset: | **no**, yes |
| Weigh: | off, **on** |
| Percent: | off, **on** |
| Check: | **off**, weigh, percnt |
| End Mode: | Exit menu |

**Reset** [rESEt]
Reset the Mode menu to factory defaults.
NO = not reset
YES = reset

**Weigh** [WEIGH]
Set the status.
OFF = disabled
ON = enabled

**Percent** [PErCNt]
Set the status.
OFF = disabled
ON = enabled

**Check** [CHECK]
Set the sub-mode
OFF = disabled
WEIGH = weight mode
PERCNT = percent mode

**End Mode** [End]
Advance to the next menu or return to the top of the current menu.

**Note:** Available modes vary by model and local regulations.

## 4.6 Unit Menu

This sub-menu activates units so they will be accessible with the **Units** button. The units in the menu must be turned “on” to be active.

**Note:** Available units vary by model and local regulations.

## 4.7 Print1 Menu

Enter this menu to set printing parameters. Default settings are **bold**.
**Note:** The Print2 menu is only displayed if a second interface is installed.

| | |
|---|---|
| Reset: | **no**, yes |
| Stable Only: | **off**, on |
| Auto Print: | **off**, on stable, interval, continuous, accept |
| Content: | Result (-> off, **on**) |
| | Gross (-> **off**, on) |
| | Net (-> **off**, on) |
| | Tare (-> **off**, on) |
| | Header (-> **off**, on) |
| | Footer (-> **off**, on) |
| | Mode (-> **off**, on) |
| | Unit (-> off, **on**) |
| | Info (-> **off**, on) |
| | Accu (-> **off**, result, all) |
| Layout: | Format (->**S**,M) |
| | Feed (->**Line**, 4 Lines, form) |
| Data Transfer: | **off**, on |
| End Print: | Exit menu |

### **Reset** [rESEt]

Reset the Print menu to factory defaults.

NO = no reset
YES = reset

### **Stable Only** [StAbLE]

Set the printing criteria.

OFF = values are printed immediately
ON = values are only printed when the stability criteria are met

### **Auto Print** [A.Pr mt]

Set the automatic printing functionality.

OFF = disabled
ON.STAB = printing occurs each time the stability criteria are met[1]
INTER = printing occurs at the defined interval[2]
CONT = printing occurs continuously
ACCEPT = printing occurs each time the display is within the Checkweigh accept range and stability criteria are met.

[1] When ON.STAB is selected, set the condition for printing, where:

LOAD = printing occurs when the load is stable and greater than zero
LOAD.ZR = printing occurs when any load is stable and equal to or greater than zero.

[2] When INTER is selected, set the Print Interval.

1 to 3600 (seconds)

**Content** [CONTENT]

Define the content of the printed data. See section 7.4 for sample printouts.

**Result**

Set the status.

OFF = disabled
ON = the displayed reading is printed

**Gross**

Set the status.

OFF = disabled
ON = the gross weight is printed

**Net**

Set the status.

OFF = disabled
ON = the net weight is printed

**Tare**

Set the status.

OFF = disabled
ON = the Tare weight is printed

**Header**

Set the status.

OFF = disabled
ON = the Header is printed

**Note:** See section 7.3.1 for how to enter Header line.

**Footer**

Set the status.

OFF = disabled
ON = the Footer is printed

**Note:** See section 7.3.1 for how to enter Footer line.

**Mode**

Set the status.

OFF = disabled
ON = the Mode is printed

**Unit**

Set the status.

OFF = disabled
ON = the Unit is printed

**Info**

Set the status.

OFF = disabled
ON = the reference information is printed (ex. check limits)

**Accu**

Set the status.

OFF = disabled
RESULT = the Accumulation result is printed
ALL = all the Accumulation data is printed

**Layout** [LAYOUt]
Set the format of the data output to a printer or computer.

**Format**
Set the printing format.
MULTI = a multi-line (single column style) printout is generated.
SINGLE = a single line printout is generated.

**Feed**
Set the paper feed.
LINE = move a paper up one line after printing
4LF = move a paper up four lines after printing
FORM = a form feed is appended to the printout

**Data Transfer** [dAtA.tr]
Output weighing results directly to a PC application.
OFF = disabled
ON = enabled

**Notes:**
Data Transfer Function is not supported in Win7/8. OHAUS provides SPDC software for Win7/8 users.
If the weighing value is a negative number, set the target cell in TEXT format. Otherwise, Excel will not distinguish it as a negative number.
Please do not use this function during continuous printing.

**End Print** [End]
Advance to the next menu or return to the top of the current menu.

## 4.8 COM1 Menu

Enter this menu to define communication parameters. Default settings are **bold**.

| | |
|---|---|
| Reset: | **no**, yes |
| Baud Rate: | 300…**9600**…19200 |
| Parity: | 7 even, 7 odd, 7 none, **8 none** |
| Stop bit: | **1**, 2 |
| Handshake: | **none**, On-Off |
| Alternate command: | Print (A…**P**…Z), Tare (A…**T**…Z), Zero (A…**Z**) |
| End COM: | Exit menu |

**Note:** The COM2 menu is only displayed if a second interface is installed.

### Reset [rESEt]

Reset the COM menu to factory defaults.

NO = no reset
YES = reset

### Baud Rate [bAUd]

Set the baud rate.

300 = 300 bps
600 = 600 bps
1200 = 1200 bps
2400 = 2400 bps
4800 = 4800 bps
9600 = 9600 bps
19200 = 19200 bps

### Parity [PAr itY]

Set the data bits and parity.

7 EVEN = 7 data bits, even parity
7 ODD = 7 data bits, odd parity
7 NONE = 7 data bits, no parity
8 NONE = 8 data bits, no parity

### Stop bit [StOP]

Set the number of stop bits.

1 = 1 stop bits
2 = 2 stop bits

### Handshake [H.ShAkE]

Set the flow control method. Hardware handshaking is only available for COM1 menu.

NONE = no handshaking
ON-OFF = XON/XOFF software handshaking

### Alternate command [ALt.Cm]

Define command character for the Print, Tare and Zero commands

**Print**

Set the alternate command character for Print

A to Z.

**Tare**

Set the alternate command character for Tare

A to Z.

**Zero**

Set the alternate command character for Zero.

A to Z.

### End COM1, End COM2 [End]

Advance to the next menu or return to the top of the current menu.

## 4.9 Lock Menu

The Lock menu is a software controlled option which can lock menu settings to prevent tampering. Default settings are **bold**.

| | |
|---|---|
| Reset: | **no**, yes |
| Lock Cal: | **off**, on |
| Lock Setup: | **off**, on |
| Lock Read: | **off**, on |
| Lock Mode: | **off**, on |
| Lock Unit: | **off**, on |
| Lock Print: | **off**, on |
| Lock COM: | **off**, on |
| End Menu Lock: | Exit menu |

### Reset [rESEt]

Reset the Lock menu to factory defaults.

NO = no reset

YES = reset

### Lock Cal [L.CAL]

Set the status.

OFF = Calibration menu is not locked

ON = Calibration menu is locked

### Lock Setup [L.SEtuP]

Set the status.

OFF = Setup menu is not locked

ON = Setup menu is locked

### Lock Read [L.rEAd]

Set the status.

OFF = Readout menu is not locked

ON = Readout menu is locked

**Lock Mode** [L.Mod]
Set the status.
OFF = Mode menu is not locked
ON = Mode menu is locked

**Lock Unit** [L.Unit]
Set the status.
OFF = Unit menu is not locked
ON = Unit menu is locked

**Lock Print** [L.Print]
Set the status.
OFF = Print menu is not locked
ON = Print menu is locked

**Lock COM** [L.COM]
Set the status.
OFF = COM menu is not locked
ON = COM menu is locked

**End Lock** [End] – Advance to the next menu or return to the top of the current menu.

## 4.10 End Menu

Press ‘No’ to advance to the Calibration menu. Press ‘Yes’ to exit the menu and return to the current application mode.

## 4.11 Additional Features

To use this feature, remove AC power from the scale and remove the protective cover for the weigh below opening. Install a suitable hook into the access hole at the bottom of the scale as shown (refer to section 6.4 for optional hook). Do not over tighten, tighten finger tight. Mount the scale onto an appropriate assembly that allows free working space below the hook. See figure 4-1.

**Note:** Never allow the scale to rest directly on the hook.

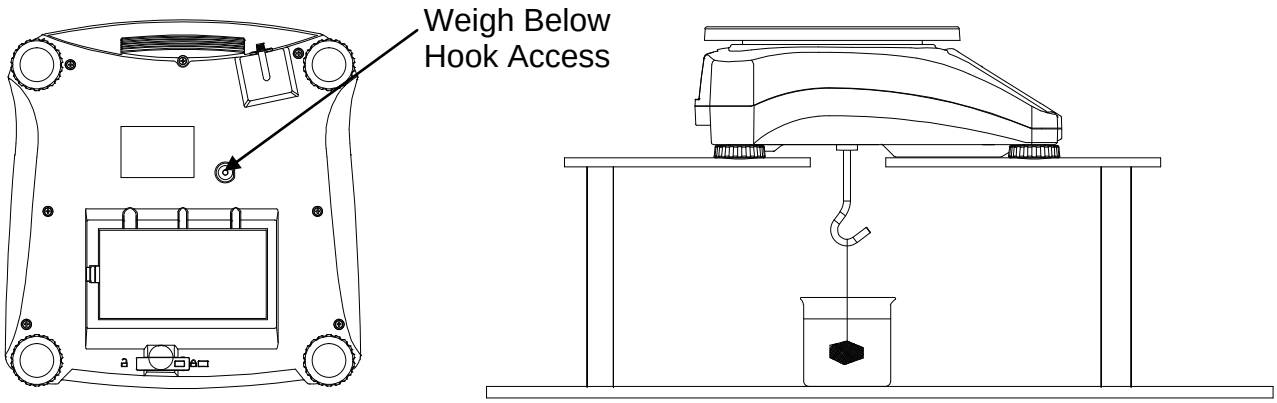



Figure 4-1. Setup for the Weigh Below Hook

TABLE 4-2. GEO CODES

| | | Elevation in meters | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0 | 325 | 650 | 975 | 1300 | 1625 | 1950 | 2275 | 2600 | 2925 | 3250 |
| | | 325 | 650 | 975 | 1300 | 1625 | 1950 | 2275 | 2600 | 2925 | 3250 | 3575 |
| | | Elevation in feet | | | | | | | | | | |
| | | 0 | 1060 | 2130 | 3200 | 4260 | 5330 | 6400 | 7460 | 8530 | 9600 | 10660 |
| | | 1060 | 2130 | 3200 | 4260 | 5330 | 6400 | 7460 | 8530 | 9600 | 10660 | 11730 |
| Latitude | | GEO value | | | | | | | | | | |
| 0°00' | 5°46' | 5 | 4 | 4 | 3 | 3 | 2 | 2 | 1 | 1 | 0 | 0 |
| 5°46' | 9°52' | 5 | 5 | 4 | 4 | 3 | 3 | 2 | 2 | 1 | 1 | 0 |
| 9°52' | 12°44' | 6 | 5 | 5 | 4 | 4 | 3 | 3 | 2 | 2 | 1 | 1 |
| 12°44' | 15°06' | 6 | 6 | 5 | 5 | 4 | 4 | 3 | 3 | 2 | 2 | 1 |
| 15°06' | 17°10' | 7 | 6 | 6 | 5 | 5 | 4 | 4 | 3 | 3 | 2 | 2 |
| 17°10' | 19°02' | 7 | 7 | 6 | 6 | 5 | 5 | 4 | 4 | 3 | 3 | 2 |
| 19°02' | 20°45' | 8 | 7 | 7 | 6 | 6 | 5 | 5 | 4 | 4 | 3 | 3 |
| 20°45' | 22°22' | 8 | 8 | 7 | 7 | 6 | 6 | 5 | 5 | 4 | 4 | 3 |
| 22°22' | 23°54' | 9 | 8 | 8 | 7 | 7 | 6 | 6 | 5 | 5 | 4 | 4 |
| 23°54' | 25°21' | 9 | 9 | 8 | 8 | 7 | 7 | 6 | 6 | 5 | 5 | 4 |
| 25°21' | 26°45' | 10 | 9 | 9 | 8 | 8 | 7 | 7 | 6 | 6 | 5 | 5 |
| 26°45' | 28°06' | 10 | 10 | 9 | 9 | 8 | 8 | 7 | 7 | 6 | 6 | 5 |
| 28°06' | 29°25' | 11 | 10 | 10 | 9 | 9 | 8 | 8 | 7 | 7 | 6 | 6 |
| 29°25' | 30°41' | 11 | 11 | 10 | 10 | 9 | 9 | 8 | 8 | 7 | 7 | 6 |
| 30°41' | 31°56' | 12 | 11 | 11 | 10 | 10 | 9 | 9 | 8 | 8 | 7 | 7 |
| 31°56' | 33°09' | 12 | 12 | 11 | 11 | 10 | 10 | 9 | 9 | 8 | 8 | 7 |
| 33°09' | 34°21' | 13 | 12 | 12 | 11 | 11 | 10 | 10 | 9 | 9 | 8 | 8 |
| 34°21' | 35°31' | 13 | 13 | 12 | 12 | 11 | 11 | 10 | 10 | 9 | 9 | 8 |
| 35°31' | 36°41' | 14 | 13 | 13 | 12 | 12 | 11 | 11 | 10 | 10 | 9 | 9 |
| 36°41' | 37°50' | 14 | 14 | 13 | 13 | 12 | 12 | 11 | 11 | 10 | 10 | 9 |
| 37°50' | 38°58' | 15 | 14 | 14 | 13 | 13 | 12 | 12 | 11 | 11 | 10 | 10 |
| 38°58' | 40°05' | 15 | 15 | 14 | 14 | 13 | 13 | 12 | 12 | 11 | 11 | 10 |
| 40°05' | 41°12' | 16 | 15 | 15 | 14 | 14 | 13 | 13 | 12 | 12 | 11 | 11 |
| 41°12' | 42°19' | 16 | 16 | 15 | 15 | 14 | 14 | 13 | 13 | 12 | 12 | 11 |
| 42°19' | 43°26' | 17 | 16 | 16 | 15 | 15 | 14 | 14 | 13 | 13 | 12 | 12 |
| 43°26' | 44°32' | 17 | 17 | 16 | 16 | 15 | 15 | 14 | 14 | 13 | 13 | 12 |
| 44°32' | 45°38' | 18 | 17 | 17 | 16 | 16 | 15 | 15 | 14 | 14 | 13 | 13 |
| 45°38' | 46°45' | 18 | 18 | 17 | 17 | 16 | 16 | 15 | 15 | 14 | 14 | 13 |
| 46°45' | 47°51' | 19 | 18 | 18 | 17 | 17 | 16 | 16 | 15 | 15 | 14 | 14 |
| 47°51' | 48°58' | 19 | 19 | 18 | 18 | 17 | 17 | 16 | 16 | 15 | 15 | 14 |
| 48°58' | 50°06' | 20 | 19 | 19 | 18 | 18 | 17 | 17 | 16 | 16 | 15 | 15 |
| 50°06' | 51°13' | 20 | 20 | 19 | 19 | 18 | 18 | 17 | 17 | 16 | 16 | 15 |
| 51°13' | 52°22' | 21 | 20 | 20 | 19 | 19 | 18 | 18 | 17 | 17 | 16 | 16 |
| 52°22' | 53°31' | 21 | 21 | 20 | 20 | 19 | 19 | 18 | 18 | 17 | 17 | 16 |
| 53°31' | 54°41' | 22 | 21 | 21 | 20 | 20 | 19 | 19 | 18 | 18 | 17 | 17 |
| 54°41' | 55°52' | 22 | 22 | 21 | 21 | 20 | 20 | 19 | 19 | 18 | 18 | 17 |
| 55°52' | 57°04' | 23 | 22 | 22 | 21 | 21 | 20 | 20 | 19 | 19 | 18 | 18 |
| 57°04' | 58°17' | 23 | 23 | 22 | 22 | 21 | 21 | 20 | 20 | 19 | 19 | 18 |
| 58°17' | 59°32' | 24 | 23 | 23 | 22 | 22 | 21 | 21 | 20 | 20 | 19 | 19 |
| 59°32' | 60°49' | 24 | 24 | 23 | 23 | 22 | 22 | 21 | 21 | 20 | 20 | 19 |
| 60°49' | 62°90' | 25 | 24 | 24 | 23 | 23 | 22 | 22 | 21 | 21 | 20 | 20 |
| 62°90' | 63°30' | 25 | 25 | 24 | 24 | 23 | 23 | 22 | 22 | 21 | 21 | 20 |
| 63°30' | 64°55' | 26 | 25 | 25 | 24 | 24 | 23 | 23 | 22 | 22 | 21 | 21 |
| 64°55' | 66°24' | 26 | 26 | 25 | 25 | 24 | 24 | 23 | 23 | 22 | 22 | 21 |
| 66°24' | 67°57' | 27 | 26 | 26 | 25 | 25 | 24 | 24 | 23 | 23 | 22 | 22 |
| 67°57' | 69°35' | 27 | 27 | 26 | 26 | 25 | 25 | 24 | 24 | 23 | 23 | 22 |
| 69°35' | 71°21' | 28 | 27 | 27 | 26 | 26 | 25 | 25 | 24 | 24 | 23 | 23 |
| 71°21' | 73°16' | 28 | 28 | 27 | 27 | 26 | 26 | 25 | 25 | 24 | 24 | 23 |
| 73°16' | 75°24' | 29 | 28 | 28 | 27 | 27 | 26 | 26 | 25 | 25 | 24 | 24 |
| 75°24' | 77°52' | 29 | 29 | 28 | 28 | 27 | 27 | 26 | 26 | 25 | 25 | 24 |
| 77°52' | 80°56' | 30 | 29 | 29 | 28 | 28 | 27 | 27 | 26 | 26 | 25 | 25 |
| 80°56' | 85°45' | 30 | 30 | 29 | 29 | 28 | 28 | 27 | 27 | 26 | 26 | 25 |
| 85°45' | 90°00' | 31 | 30 | 30 | 29 | 29 | 28 | 28 | 27 | 27 | 26 | 26 |

# 5. LEGAL FOR TRADE

When the scale is used in trade or a legally controlled application it must be set up, verified and sealed in accordance with local weights and measures regulations. It is the responsibility of the purchaser to ensure that all pertinent legal requirements are met.

## 5.1 Capacity Label

A label showing the capacity and readability of the scale must be installed near each display. If the Capacity Labels were installed prior to delivery, no further action is needed. If the Capacity Labels were not installed, they have been placed in the packaging material. Affix the labels above the displays as shown in Figure 5-1.

**Note:** The Capacity Labels will be destroyed upon removal, so only attempt to install them once.

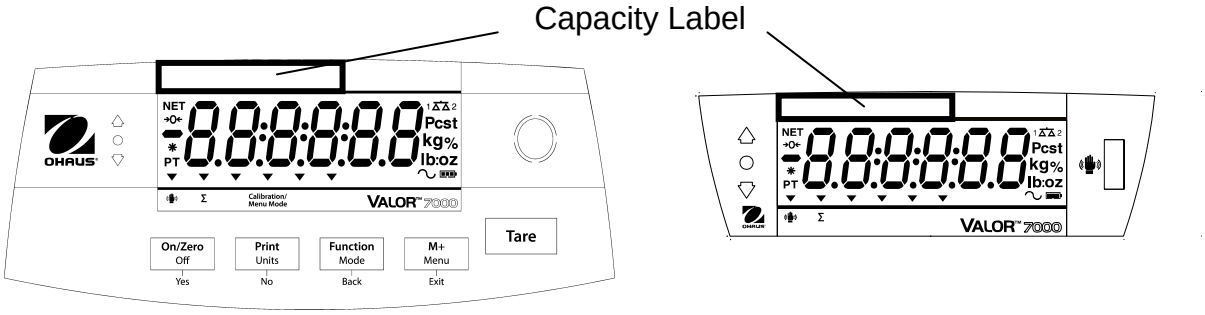



Figure 5-1. Front and rear display Capacity Label locations

## 5.2 Settings

Before verification and sealing, perform the following steps:

1. Verify that the menu settings meet the local weights and measures regulations.
2. Perform a calibration as explained in Section 4.2.
3. Set the switch to Locked. See figure 5-2.

The Menu Lock switch limits changes to the Cal, Setup, Readout, Unit and Print menus. The switch in type approved models may set some scale settings as required by the approval agency. The switch may be secured using paper or wire seals.

**Note:** When LEGAL FOR TRADE is set to ON (LFT Switch in locked position), the menu settings are affected as follows:

Calibration (CAL) menu is not accessible
Zero Range is locked at 2%
Stable Range setting is locked at 1d
Auto-Zero Tracking setting is locked at 0.5d
Unit menu is locked at the current setting
Stable Only is locked On
Auto Print/ Continuous is disabled
Lb:oz is locked at Off.
IR Sensor and Filter menus may be locked at the current settings, if required by local weights and measures regulations

## 5.3 Verification and Sealing

The local weights and measures official or authorized service agent must perform the verification procedure.

### 5.3.1 Physical Seals

For jurisdictions that use the physical sealing method, the local weights and measures official or authorized service agent must apply a security seal to prevent tampering with the settings. Refer to the illustration below for sealing methods.

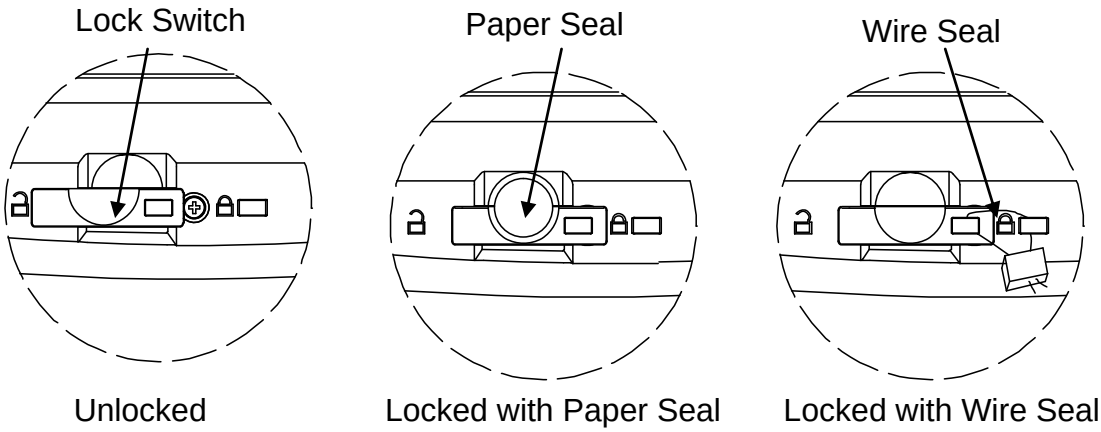



Figure 5-1. Sealing

### 5.3.2 Audit Trail Seal (USA and Canada only)

For jurisdictions that use the audit trail sealing method, the local weights and measures official or authorized service agent must record the current configuration and calibration event counter values at the time of sealing. These values will be compared to values found during a future inspection.

**Note:** A change to an event counter value is equivalent to breaking a physical seal.

The audit trail uses two event counters to record changes to configuration and calibration settings.

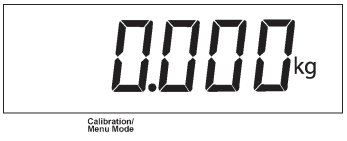
- The configuration event counter (CFG) will index by 1 when exiting the menu if one or more of the following menu settings are changed: Zero Range, Stable Range, Auto Zero Tracking (AZT), Units (kg, g, oz, lb or lb:oz) or Stable Only.
- The calibration event counter (CAL) will index by 1 when exiting the menu if a Span Calibration or GEO setting change is made. Note that the counter only indexes once, even if several settings are changed.

The event counters can be viewed by pressing and holding the MENU button.
While the button is held, the display will show MENU followed by Audit.

Release the button when Audit is displayed to view the audit trail information.

The audit trail information is displayed in the format CFGxxx and CALxxx.

The scale then returns to normal operation



# 6. MAINTENANCE

## 6.1 Cleaning

The housing may be cleaned with a cloth dampened with a mild detergent if necessary. Do not use solvents, chemicals, alcohol, ammonia or abrasives to clean the housing or control panel.

## 6.2 Troubleshooting

Table 6-1 lists common problems and possible causes and remedies.
If the problem persists, contact OHAUS or your authorized dealer.

TABLE 6-1

| Symptom | Possible Cause | Remedy |
|---|---|---|
| Cannot turn on | No power to scale | Verify connections and voltage |
| Poor accuracy | Improper calibration<br>Unstable environment | Perform calibration<br>Move scale to suitable location |
| Cannot calibrate | LFT locked | See chapter 5 for more information |
| Cannot access mode | Mode not enabled | Enter menu and enable mode |
| Cannot access unit | Unit not enabled | Enter menu and enable unit |
| Battery icon flashing | Low Battery error | Connect the scale to AC power and charge the battery |
| Err 8.1 | Power On Error | Weight reading exceeds Power On Zero limit |
| Err 8.2 | Power On Error | Weight reading below Power On Zero limit |
| Err 8.3 | Over Range Error | Weight reading exceeds Overload limit |
| Err 8.4 | Under Range Error | Weight reading below Underload limit |
| Err 8.5 | Tare out of range | Adjust tare value to be within range |
| Err 8.6 | Display overflow | Weight exceeds 6 digits. |
| Err 9.5 | Calibration data error | Calibration data not present |
| -------- | Busy | Displayed during tare setting, zero setting, printing |
| --NO-- | Action not allowed | Function not executed |
| CAL E | Calibration error<br>Unstable environment<br>Incorrect calibration weight | Calibration value outside allowed limits<br>Move the scale to suitable location<br>Use correct calibration weight |
| Lo.rEF | Low reference weight warning | Increase reference weight |
| rEF.Err | Unacceptable reference weight | Reference weight too small. Weight on the pan is too small to define a valid reference weight. Increase reference weight |
| NO.ACC | Gross and net weights cannot be accumulated together | Only accumulate gross or net weights (only works in LFT) |
| Battery fails to charge fully | Battery is defective | Have battery replaced by Ohaus authorized service dealer. |

## 6.3 Service Information

If the troubleshooting section does not resolve or describe your problem, contact your authorized OHAUS service agent. For service assistance or technical support in the United States call toll-free 1-800-526-0659 between 8:00 AM and 5:00 PM EST. An OHAUS product service specialist will be available to provide assistance. Outside the USA, please visit our web site, **www.ohaus.com** to locate the OHAUS office nearest you.

## 6.4 Accessories

| | |
|---|---|
| Ethernet Interface Kit | 30037447 |
| 2nd RS232 Interface Kit | 30037448 |
| USB Interface Kit | 30037449 |
| Weighing Below Hook | 30037450 |
| In Use Cover | 30007445 |
| In User Cover (10 pcs set) | 30007469 |
| Printer | Contact Ohaus |
| Communication Cables | Contact Ohaus |

# 7. TECHNICAL DATA

The technical data is valid under the following ambient conditions:
Indoor use only
Operating temperature: -10°C to 40°C
Relative humidity: 20% to 85% relative humidity, non-condensing
Altitude: Up to 2000 m
Power: AC power 100-240V 50/60 Hz, internal rechargeable sealed lead-acid battery
Current rating: 0.5A
Mains supply voltage fluctuations: up to ± 10% of the nominal voltage
Installation category: II
Pollution degree: 2

## 7.1 Specifications

TABLE 7-1

| **MODEL** | **V71P1502T** | **V71P3T** | **V71P6T** | **V71P15T** | **V71P30T** |
|---|---|---|---|---|---|
| Capacity x Readability (Max x d non-approved) | 1.5 kg x 0.00005 kg<br>1500 g x 0.05 g<br>3 lb x 0.0001 lb<br>48 oz x 0.002 oz | 3 kg x 0.0001 kg<br>3000 g x 0.1 g<br>6 lb x 0.0002 lb<br>96 oz x 0.005 oz | 6 kg x 0.0002 kg<br>6000 g x 0.2 g<br>15 lb x 0.0005 lb<br>240 oz x 0.01 oz | 15 kg x 0.0005 kg<br>15000 g x 0.5 g<br>30 lb x 0.001 lb<br>480 oz x 0.02 oz | 30 kg x 0.001 kg<br>30000 g x 1 g<br>60 lb x 0.002 lb<br>960 oz x 0.05 oz |
| Maximum Displayed Resolution | 1:30000 | | | | |
| Capacity x Readability (Max x e approved) | 1.5 kg x 0.0005 kg<br>1500 g x 0.5 g<br>3 lb x 0.001 lb<br>48 oz x 0.02 oz | 3 kg x 0.001 kg<br>3000 g x 1 g<br>6 lb x 0.002 lb<br>96 oz x 0.05 oz | 6 kg x 0.002 kg<br>6000 g x 2 g<br>15 lb x 0.005 lb<br>240 oz x 0.1 oz | 15 kg x 0.005 kg<br>15000 g x 5 g<br>30 lb x 0.01 lb<br>480 oz x 0.2 oz | 30 kg x 0.01 kg<br>30000 g x 10 g<br>60 lb x 0.02 lb<br>960 oz x 0.5 oz |
| Approved Resolution | 1:3000 | | | | |
| Repeatability | ±0.0001 kg | ±0.0002 kg | ±0.0005 kg | ±0.001 kg | ±0.002 kg |
| Linearity | ±0.0001 kg | ±0.0002 kg | ±0.0005 kg | ±0.001 kg | ±0.002 kg |
| Weighing Units | LFT OFF: g, kg, lb, oz, lb:oz<br>LFT ON: g, kg, lb, oz<br>EC and OIML Approved models: g, kg | | | | |
| Tare Range | To capacity by subtraction | | | | |
| Stabilization Time | ≤ 1 second | | | | |
| Safe Overload Capacity | 150 % of capacity | | | | |
| Front Display | LCD with white LED backlight<br>6-digit 7-segment, 28 mm / 1.1 inches digit height | | | | |
| Back Display | LCD with white LED backlight<br>6-digit 7-segment, 18.5 mm / 0.7 inches digit height | | | | |
| Keyboard | 5 mechanical buttons | | | | |
| Application Modes | Weighing, Check Weighing, Check Percent, Percent Weighing, Accumulation | | | | |
| Battery Operating Time (at 20ºC) | 210 hours with backlight turned off | | | | |
| Construction | ABS plastic housing with 304 stainless steel platform | | | | |
| Approval Class | III | | | | |
| Pan Dimensions | 225 x 300 mm / 8.9 x 11.8 in | | | | |
| Shipping Dimensions | 397 x 447 x 195 mm / 15.6 x 17.6 x 7.7 in | | | | |
| Net Weight | 4.2 kg / 9.3 lb | | | | |
| Gross Weight | 5.45 kg / 12 lb | | | | |

## 7.2 Drawings

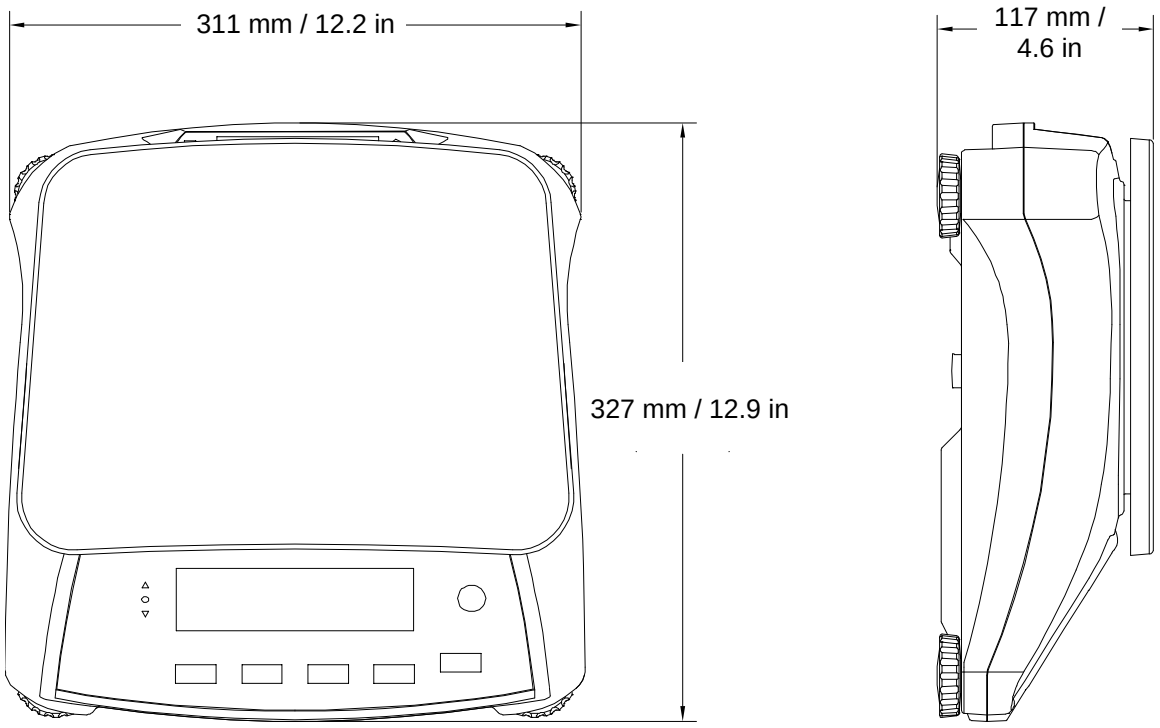



Figure 7-1. Dimensions

## 7.3 Communication

The scale is equipped with an RS232 interface (COM1) located under the Options Cover. Connecting the scale to a computer enables you to operate the scale from the computer, as well as receive data such as displayed weight.

### 7.3.1 Interface Commands

Communicate to the scale using the command characters listed in Table 7-2 below.

TABLE 7-2

| Command | Function |
|---|---|
| IP | Immediate Print of displayed weight (stable or unstable). |
| P | Print displayed weight (stable or unstable). |
| CP | Continuous Print. |
| SP | Print on Stability. |
| xS | 0S: Turn off “Stable Only” menu item and allow unstable print. 1S: Turn on “Stable Only” menu item and only print stable print. |
| xP | Interval Print x = Print Interval (1-3600 sec), 0P turns auto print OFF |
| Z | Same as pressing Zero Key. |
| T | Same as pressing Tare Key. |
| xT | Download Tare value in grams (positive values only).<br>Sending 0T clears tare (if allowed). |
| PU | Print current unit: g, kg, lb, oz, lb:oz |
| xU | Set scale to unit x: 1=g, 2=kg, 3=lb, 4=oz, 5=lb:oz |
| xM | Set scale to mode x. Sending only M will scroll to next enabled mode. |
| PV | Version: print name, software revision and LFT ON (if LFT is set ON). |
| H x “text” | Enter Header line, where x = line number 1 to 5, “text” = header text up to 24 alphanumeric characters. |
| F x “text” | Enter Footer line, where x = line number 1 to 2, “text” = rear text up to 24 alphanumeric characters. |
| \EscR | Global reset to reset all menu settings to the original factory defaults (Escape key + ‘R’ Key). |

### 7.3.2 Connections for RS232

The 9-pin female subminiature “D” connector COM1, is provided for interfacing to other devices. The pin connections are as follows:
Active pins: PIN 2 = TXD, PIN 3 = RXD, PIN 5 = Ground

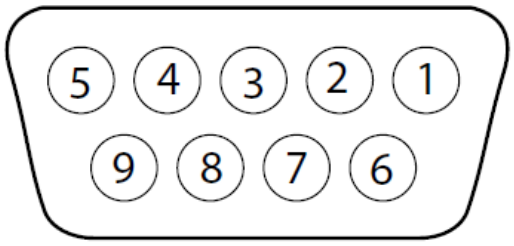



Figure 7-2. RS232 Pins

## 7.4 Printouts

The following sample print outs are generated by the **Print** button, "P" Command or alternate print command. The content of the printout is defined in the Print Content menu item.

### Weigh Mode Printout

| | Description | Comment |
|---|---|---|
| `12.34 kg` | Result line | If Printx → Content → Result is ON |
| `12.34 kg G` | Gross value line | If Printx → Content → Gross is ON and a tare value is entered |
| `11.11 kg N` | Net value line | If Printx → Content → Net is ON and a tare value is entered |
| `1.23 kg T` | Tare value line | If Printx → Content → Tare is ON and a tare value is entered |
| `MODE: WEIGH` | Mode line | If Printx → Content → Application Mode is ON |
| `<no line printed>` | Information line | If Printx → Content → Info is ON |

### Weigh Mode with Accumulation Printout

| | Description | Comment |
|---|---|---|
| `12.34 kg` | Result line | If Printx → Content → Result is ON |
| `12.34 kg G` | Gross value line | If Printx → Content → Gross is ON and a tare value is entered |
| `11.11 kg N` | Net value line | If Printx → Content → Net is ON and a tare value is entered |
| `1.23 kg T` | Tare value line | If Printx → Content → Tare is ON and a tare value is entered |
| `MODE: WEIGH` | Mode line | If Printx → Content → Application Mode is ON |
| `N: 4` | Accumulation line | If Printx → Content → Accu is All |
| `TOTAL: 50.35 kg` | Accumulation line | If Printx → Content → Accu is All |
| `MIN: 11.11 kg` | Accumulation line | If Printx → Content → Accu is All |
| `MAX: 14.85 kg` | Accumulation line | If Printx → Content → Accu is All |

### Percent Mode Printout

| | Description | Comment |
|---|---|---|
| `102.83 %` | Result line | If Printx → Content → Result is ON |
| `12.34 kg G` | Gross value line | If Printx → Content → Gross is ON and a tare value is entered |
| `11.11 kg N` | Net value line | If Printx → Content → Net is ON and a tare value is entered |
| `1.23 kg T` | Tare value line | If Printx → Content → Tare is ON and a tare value is entered |
| `MODE: PERCNT` | Mode line | If Printx → Content → Application Mode is ON |
| `REF WGT: 12 kg` | Information line | If Printx → Content → Info is ON |

### Check Weighing Mode Printout

| | Description | Comment |
|---|---|---|
| `12.34 kg OVER` | Result line | If Printx → Content → Result is ON, UNDER/ACCEPT/OVER |
| `12.34 kg G` | Gross value line | If Printx → Content → Gross is ON and a tare value is entered |
| `11.11 kg N` | Net value line | If Printx → Content → Net is ON and a tare value is entered |
| `1.23 kg T` | Tare value line | If Printx → Content → Tare is ON and a tare value is entered |
| `MODE: CHECKWEIGH` | Mode line | If Printx → Content → Application Mode is ON |
| `UNDER TARGET 1.00 kg` | Information line | If Printx → Content → Info is ON |
| `OVER TARGET 2.00 kg` | Information line | If Printx → Content → Info is ON |

## 7.5 Output Format

The printout string has a fixed length of 22 characters for most applications except check weighing. For check weighing mode, the printout string has a fixed length of 29 characters.

Weight string print format:

Check Weighing application:

| Field | Weight (Right aligned) | Space | Unit (Right aligned) | Space | Stability (?) | Space | T/N/G/PT (Right aligned) | Space | Application Status (Right aligned) | Term. |
|---|---|---|---|---|---|---|---|---|---|---|
| **Length** | 11 | 1 | 5 | 1 | 1 | 1 | 2 | 1 | 6 | 2 |

Non-Check Weighing application:

| Field | Weight (Right aligned) | Space | Unit (Right aligned) | Space | Stability (?) | Space | T/N/G/PT (Right aligned) | Term. |
|---|---|---|---|---|---|---|---|---|
| **Length** | 11 | 1 | 5 | 1 | 1 | 1 | 2 | 2 |

Each field is followed by a single delimiting space (ASCII: 32).

**Definitions:**

Weight - Up to 11 characters, right justified, - at immediate left of most significant character (if negative).

Unit - Up to 5 characters, right justified. If the Unit in the Print Content menu was set to OFF, the unit will be removed in the weight string and replaced by spaces.

Stability - “?” character is printed if not stable. If weight is stable a space is printed.

T/N/G/PT - “T” is printed for a tare weight, “N” printed if weight is net weight, ‘G’ or nothing printed if weight is a gross weight, 'PT' is printed if the tare weight is Pre-set Tare.

Application Status (for Check) – Fixed to 6 characters. Display status like " Under", "Accept" and "Over" for check weighing.

Terminating Character(s) - terminating character(s) printed depending on FEED menu setting.

## 7.6 Compliance

Compliance to the following standards is indicated by the corresponding mark on the product.

| Mark | Standard |
|---|---|
| CE | This product conforms to the EMC Directive 2004/108/EC, the Low Voltage Directive 2006/95/EC and the Non-Automatic Weighing Instrument Directive 2009/23/EC.<br>The Declaration of Conformity is available online at europe.ohaus.com/europe/en/home/support/compliance.aspx. |
| | AS/NZS CISPR 11 |
| C SA US MC173467 | CAN/CSA-C22.2 No. 61010-1-12, UL Std. No. 61010-1 (3rd edition) |
| NSF | NSF/ANSI 169–2009 |
| United States Department of Agriculture USDA Accepted Equipment | NSF/ANSI/3-A 14159-1-2010 |

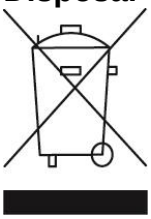
**Important notice for verified weighing instrument**

Weighing Instruments verified at the place of manufacture bear one of the preceding marks on the packing label and the green ‘M’ (metrology) sticker on the descriptive data plate. They may be put into service immediately.

Weighing Instruments to be verified in two stages have no green ‘M’ (metrology) on the descriptive data plate and bear one of the preceding identification marks on the packing label. The second stage of the initial verification must be carried out by an authorized and certified service organization established within the European Community or by the National Notified Body.

The first stage of the initial verification has been carried out at the manufacturers work. It comprises all tests according to the adopted European standard EN 45501:1992, paragraph 8.2.2.
If national regulations limit the validity period of the verification, the user of the weighing instrument must strictly observe the re-verification period and inform the respective weights and measures authorities.

**Disposal**



In conformance with the European Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE) this device may not be disposed of in domestic waste. This also applies to countries outside the EU, per their specific requirements.
The Batteries Directive 2006/66/EC introduces new requirements from September 2008 on removability of batteries from waste equipment in EU Member States. To comply with this Directive, this device has been designed for safe removal of the batteries at end-of-life by a waste treatment facility.

Please dispose of this product in accordance with local regulations at the collecting point specified for electrical and electronic equipment. If you have any questions, please contact the responsible authority or the distributor from which you purchased this device.

Should this device be passed on to other parties (for private or professional use), the content of this regulation must also be related.

Disposal instructions in Europe are available online at europe.ohaus.com/europe/en/home/support/weee.aspx. Thank you for your contribution to environmental protection.

**FCC Note**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

**Industry Canada Note**

This Class B digital apparatus complies with Canadian ICES-003.

**ISO 9001 Registration**

In 1994, OHAUS Corporation, USA, was awarded a certificate of registration to ISO 9001 by Bureau Veritus Quality International (BVQI), confirming that the OHAUS quality management system is compliant with the ISO 9001 standard's requirements. On June 21, 2012, OHAUS Corporation, USA, was re-registered to the ISO 9001:2008 standard.

## LIMITED WARRANTY

OHAUS products are warranted against defects in materials and workmanship from the date of delivery through the duration of the warranty period. During the warranty period OHAUS will repair, or, at its option, replace any component(s) that proves to be defective at no charge, provided that the product is returned, freight prepaid, to OHAUS. This warranty does not apply if the product has been damaged by accident or misuse, exposed to radioactive or corrosive materials, has foreign material penetrating to the inside of the product, or as a result of service or modification by other than OHAUS. In lieu of a properly returned warranty registration card, the warranty period shall begin on the date of shipment to the authorized dealer. No other express or implied warranty is given by OHAUS Corporation. OHAUS Corporation shall not be liable for any consequential damages.

As warranty legislation differs from state to state and country to country, please contact OHAUS or your local OHAUS dealer for further details.

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