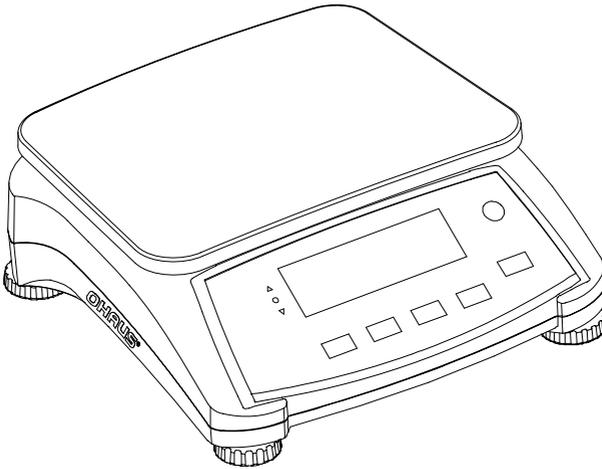




Ranger™ 2000 Series Instruction Manual



1. INTRODUCTION

This manual contains installation, operation and maintenance instructions for the Ranger™ 2000 Series. Please read the manual completely before using the scale.

1.1 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.
- 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
- Power Cord
- Warranty Card
- Pan
- Instruction Manual

2.2 Installing Components

Install the pan as shown below. Press to lock the pan into place.

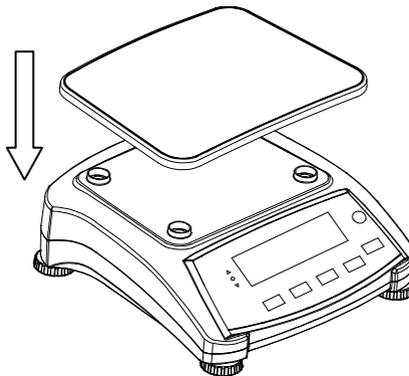


Figure 2-1. Installing the pan

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 Ranger Series has a level indicator as a reminder that the scale should be leveled for accurate weighing. There is a level bubble in a small round window on the front of the scale.

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.

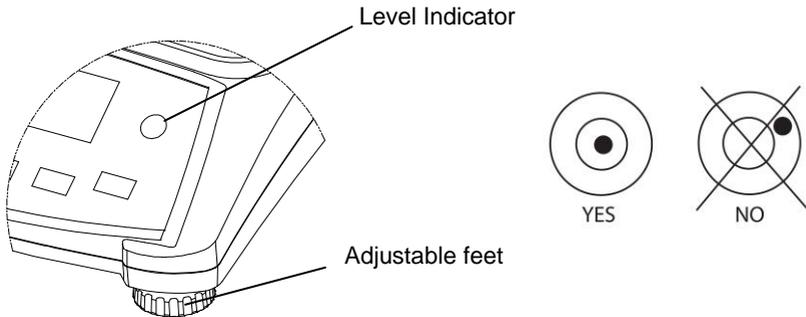


Figure 2-2. Level indicator

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.

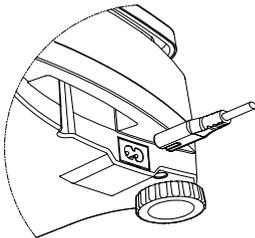


Figure 2-3A. Connect the power plug to the input jack on the back of scale.

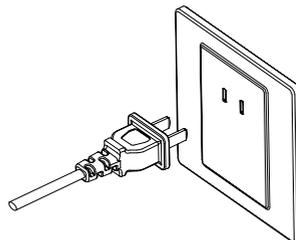


Figure 2-3 B. Connect AC power plug to the proper AC supply.

2.5.1 Battery Power:

The scale can be used on AC power immediately. The scale will automatically switch to battery operation if there is a power failure or the power cord is removed. 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.

Allow the battery to charge for 12 hours before using the scale on battery power.

During battery operation, the battery symbol (see item 9 in table 3-2) indicates the battery charging status. When charging, the symbol will blink slowly and when fully charged the symbol will be turned off.

TABLE 2-2

| Symbol | Charge level |
|---|----------------------------------|
|  | Battery in use: Symbol displayed |

Notes:

When battery symbol blinks fast, approximately 30 minutes working time is left.

When [Lo.bAt] is blinking, 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

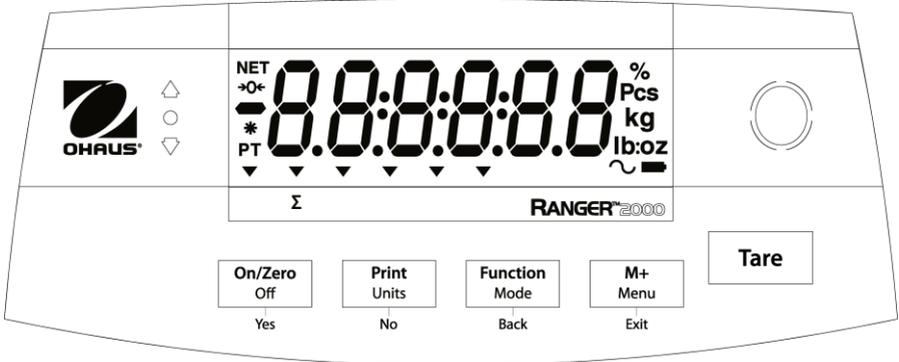


Figure 3-1. Ranger 2000 Control Panel

TABLE 3-1. Button Functions

| Button | Functions |
|-----------------|--|
| On/Zero | Short Press ¹ (when on): Sets display to zero (when off): Turns scale on |
| Off | Long Press ² (when on): Turns the scale off |
| Yes | Short Press (in Menu): Selects/accepts displayed setting |
| Print | Short Press: Sends current display value to serial port (auto print OFF). |
| Units | Long Press: Toggles through active weighing units |
| No | Short Press (in Menu): Toggles through available settings |
| Function | Short Press: Selects function setting |
| Mode | Long Press: Selects active mode |
| Back | Short Press (in Menu): Returns to previous setting |
| M+ | Short Press: Accumulates the weight or displays the accumulated information at 0 load. |
| Menu | Long Press: Enters User Menu |
| Exit | 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. |

Notes: ¹ Short Press: Press less than 1 second.

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

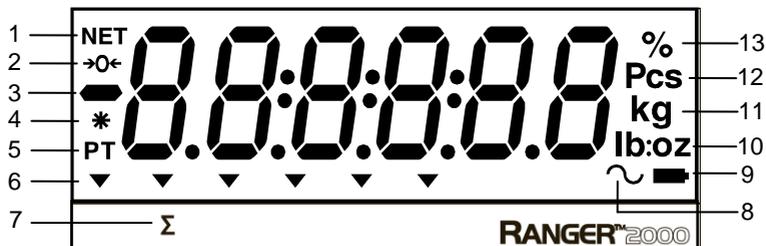


Figure 3-2. Display

TABLE 3-2. Symbols

| Item | Description | Item | Description |
|------|---------------------------|------|-----------------------------------|
| 1 | NET symbol | 8 | Dynamic symbol |
| 2 | Center of Zero symbol | 9 | Battery charge symbol |
| 3 | Negative symbol | 10 | Pound, Ounce, Pound:Ounce symbols |
| 4 | Stable weight symbol | 11 | Kilogram, gram symbols |
| 5 | Preset Tare, Tare symbols | 12 | Pieces symbol |
| 6 | Pointer symbols | 13 | Percent symbol |
| 7 | Accumulation symbol | | |

The colored LED indicators on the left side of the control panel are used in Check mode (section 3.6) and will light up according to the following rules:

- ⬆ (Red) Loads > Upper limit
- (Green) Loads \geq Lower limit and \leq Upper limit
- ⬇ (Yellow) Loads < Lower limit

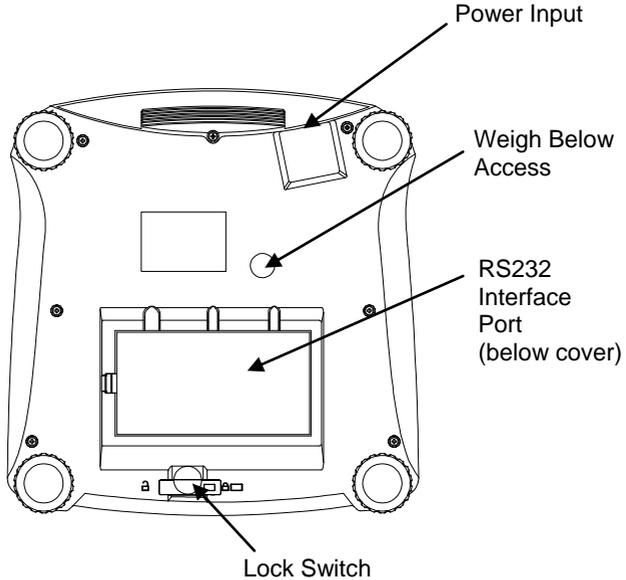


Figure 3-4. Below view of Ranger 2000

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 [**PERCENT**] is displayed. [**CLRRF**] (clear reference) will then display. If no reference weight exists, the scale will display [**PUERRF**], 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 [**PUERRF**].
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 [**PERCENT**] is displayed. Press **Yes** when [**CLRRF**] is displayed.

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

3.5 Counting Mode

This mode counts large numbers of items based on the weight of a reference count.

1. Place an empty container on the pan and press **Tare**.
2. Press and hold **Mode** until [**COUNT**] (Count) is displayed. [**CLRPLW**] (Clear Average Piece Weight, APW) will then display.
If no APW exists, the scale will display [**PUERRF**], proceed to step 5.
3. Press **No** to use the stored APW. Proceed to step 7.
4. Press **Yes** to establish an APW.
5. The scale will then display the stored sample size, i.e. [**PUERRF**]. Press **No** or **Back** to toggle the choices (5, 10, 20, 50 or 100).
6. Put the indicated number of pieces on the pan then press **Yes** to calculate the APW. The display shows the piece count.
7. Add additional pieces until the desired count is reached.

8. To clear the stored APW press and hold **Mode** until [Count] is displayed. Press **Yes** when [Clr.PW] is displayed.

Note: Press **Function** to view the current APW.

3.6 Check Mode

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

3.6.1 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. [CLL INT] (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 [000.000 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.
For numeric settings, please see section 4.2 for details.

3.6.2 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 [Pwt.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 [Pwt.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 100**] (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 [**000.000** %]. 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.
For numeric settings, please see section 4.2 for details.

3.6.3 Check Count

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

1. Press and hold **Mode** until [**CHECK**] (Check) is displayed. [**CLr.PW**] (clear APW) will then display.
If no APW exists, the scale will display [**Pwt. 10**], proceed to step 5.
2. Press **No** to use the stored APW and proceed to step 5.
3. Press **Yes** to establish a new APW. Scale will now display [**Pwt. 10**]. Press **No** or **Back** to toggle the choices (5, 10, 20, 50 or 100).
4. Put the indicated number of pieces on the pan then press **Yes** to calculate the APW.
5. The scale will display [**CL.L 100**] (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 [**000000** Pcs]. 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 quantity range, the yellow LED will light. If the sample is within the target quantity range, the green LED will light. If the sample is over the target quantity range, the red LED will light.

Note: Press **Function** to view the low and high check limits.
For numeric settings, please see section 4.2 for details.

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.)

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.

3.7 Dynamic Mode

This mode allows the user to weigh an unstable load such as a moving animal. The weight is held on the display until reset. Manual, semi-automatic and automatic start/reset methods are available.

Manual operation (DYNAMIC is set to MANUAL in the Mode menu):

1. Press and hold **Mode** until [**dyRRrT**] (Dynamic) is displayed. [**rERdy**] (Ready) will then be displayed.
2. Place the load on the pan and press the **Function** key to start measurement.

During the average period, the countdown timer decreases in one second increments.

3. After completed countdown, the average weight will be displayed. The tilde symbol will blink indicating that the current weight is being held.

4. Manually reset the countdown timer by pressing the **Function** key. [**rERdy**] (Ready) will then be displayed.

Note: If Set0 has been selected, the countdown timer is not displayed. The first weight larger than 5d will be displayed and held.

Semi-automatic operation (DYNAMIC is set to SEMI in the Mode menu):

1. Press and hold **Mode** until [**dyRRr**] (Dynamic) is displayed. [**rERdy**] (Ready) will then be displayed.
2. Place the load on the pan to start measurement.
During the average period, the countdown timer decreases in one second increments.
3. After completed countdown, the average weight will be displayed. The tilde symbol will blink indicating that the current weight is being held.
4. Manually reset the countdown timer by pressing the **Function** key. [**rERdy**] (Ready) will then be displayed.

Note: If Set0 has been selected, the countdown timer is not displayed. The first weight larger than 5d will be displayed and held.

Automatic operation (DYNAMIC is set to AUTOMATIC in the Mode menu):

1. Press and hold **Mode** until [**dyRRr**] (Dynamic) is displayed. [**rERdy**] (Ready) will then be displayed.
2. Place the load on the pan to start measurement.
During the average period, the countdown timer decreases in one second increments.
3. After completed countdown, the average weight will be displayed. The tilde symbol will blink indicating that the current weight is being held.
4. Remove the load and the display will reset after 10 seconds, [**rERdy**] (Ready) will then be displayed.

Notes: If Set0 has been selected, the countdown timer is not displayed. The first weight larger than 5d will be displayed and held.
Alternatively, the display may be manually reset by pressing the **Function** key.

3.8 Accumulation and Statistics

The Accumulation feature enables manual or automatic totalizing of displayed values. Statistical data is stored in memory for review and printing. Accumulation works together with each application mode except Dynamic.

3.8.1 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 Σ icon 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 Σ icon will keep flashing until the weight is removed.

3.8.2 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.

Accumulation Example:

In weighing mode; sub menu ACCUM setting, select TARE. 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 icon 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:

Step v: If required, follow section 3.8.2 to clear the accumulation data.



3.9 Additional Features

To use the Weigh Below hook feature, remove power from the scale and remove the protective cover for the weigh below opening. Install the hook (accessory) into the access hole at the bottom of the scale as shown. Do not over tighten, tighten finger tight. Mount the scale onto an appropriate assembly that allows free working space below the hook. See figure 3-5.

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

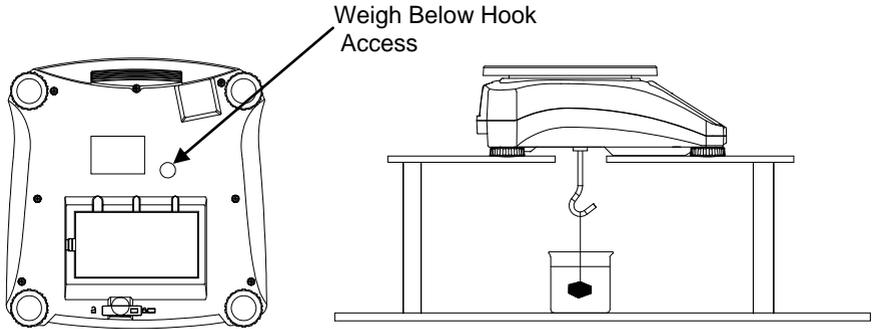


Figure 3-5. Setup for the Weigh Below Hook

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 Structure

User Menu:

| Menu: | <i>C.A.L</i> | <i>S.E.t.U.P</i> | <i>r.E.A.d</i> | <i>M.O.d.E</i> | ➡ |
|-------------|---------------------------|---|--|--|---|
| Menu Items: | Span Lin GEO End | Reset Pwr.Un Zero A.Tare Bp.Sig Bp.Key Accum End | Reset Stable Filter AZT Light Sleep A.Off End | Reset Weigh Percnt Count Check Dynam End | |

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

Notes:

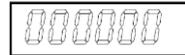
- Some modes/units may not be available in all models.
- When LEGAL FOR TRADE is set to ON (Lock Switch in locked position), the menu settings are affected as follows:
- Calibration (*C.R.L*) menu is not accessible.
- Zero Range setting is locked at 2%.
- Stable Range setting is locked at 1d.
- Auto-Zero Tracking setting is locked at 0.5d.
- Units are locked at their current settings.
- Stable Only is locked On.
- Auto Print/ Continuous is disabled.
- lb:oz is locked Off.

4.2 Menu Navigation

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 Check limits, 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. The first digit can be used to scroll between positive and negative value.



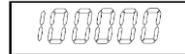
Repeat this process for all digits.



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.

4.3 Calibration 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 unlocked 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.R.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.

| Suggested Span Calibration Mass (sold separately) | | | |
|---|-------------------|--------|-------------------|
| Max | Mass ¹ | Max | Mass ¹ |
| 1500g | 1.5kg / 3lb | 15000g | 15kg / 30lb |
| 3000g | 3kg / 6lb | 30000g | 30kg / 60lb |
| 6000g | 6kg / 15lb | | |

Note: ¹ Pound masses are used when calibrating in the lb unit.

| | |
|------------------------|------------------|
| 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.

4.4 Setup Menu

Enter this menu to set scale parameters.

| | |
|----------------|--|
| Reset: | no , yes |
| Power on unit: | auto , kg, g, lb, oz, lb:oz |
| Zero Range: | 2%, 10% |
| Beeper Signal: | off , accept, under, over, under-over |
| Beeper Key: | off , on |
| Accumulation: | off , auto, manual |
| End Setup: | Exit menu |

Reset [**rE5Et**]

Reset the Setup menu to factory defaults.

- NO = not reset
- YES = reset

Power on unit [**PLJr.0A**]

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 [**ZE-0**]

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.tA-E**]

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.5 tG**]

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.
- UNDER-OVER = the beeper will sound when the weight is below the Under setting or above the Over setting.

Beeper Key [bP.FEY]

Set whether the beeper sounds when a button is pressed.

- OFF = no sound
- ON = sound

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.

4.5 Readout Menu

Enter this menu to set user preferences.

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

Note: * Default AZT value for model R21PHE30 is '3'.

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

Auto-Zero Tracking [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 [LIGHT]

Set the light intensity.

- LO = low light intensity
- MED = medium light intensity
- HI = high light intensity

Sleep [SLEEP]

Set the display shut off time.

- OFF = disabled (display will stay on until power off)
- ON = display will turn off in one minute in the absence of key or weight action

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.

4.6 Mode Menu

This menu activates modes so they will be available for use with the Mode button.

| | |
|-----------|-----------------------------------|
| Reset: | no , yes |
| Weigh: | off, on |
| Percent: | off, on |
| Count: | off, on |
| Check: | off , weigh, percnt, count |
| Dynamic: | off , man, semi, auto |
| End Mode: | Exit menu |

Reset [**rESEt**]

Reset the Mode menu to factory defaults.

NO = not reset
YES = reset

Weigh [**WJ EIGH**]

Set the status.

OFF = disabled
ON = enabled

Percent [**PERCENT**]

Set the status.

OFF = disabled
ON = enabled

Count [**COUNT**]

Set the status.

OFF = disabled
ON = enabled

Check [**CHECK**]

Set the sub-mode.

OFF = disabled
WEIGH = weight mode
PERCNT = percent mode
COUNT = count mode

Dynamic [**DYNAMIC**]

Set the status.

OFF = disabled
MAN = averaging and resetting are initiated manually.
SEMI = averaging is automatically initiated.
 resetting is manually initiated.
AUTO = averaging and resetting are automatically initiated.

End Mode [**End**]

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

4.7 Unit Menu

This 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.

4.8 Print Menu

Enter this menu to set printing parameters.

| | |
|----------------|--|
| 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 [**AutoPrint**]

Set the automatic printing functionality.

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

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.

When INTER is selected, set the Print Interval.

- 1 to 3600 (seconds)

Content [CONTENT]

Define the content of the printed data.

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 instructions how to enter Header line.

Footer

Set the status.

- OFF = disabled
- ON = the Footer is printed

Note: See section 7.3.1 for instructions 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

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 generate.

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.T.R]

Output weighing results directly to a PC application.

OFF = disabled

ON = enabled

Windows XP Setup:

1. Click Start Menu in Windows XP and click Settings -> open **Control Panel**.
2. Double click **Accessibility Options** in Control Panel.
3. Select the **General** tab.
4. Check **Use Serial Keys**, and click the **Settings** button.
5. Select the **Serial Port**, set the Baud rate to **9600** and click **OK**.
6. Close the Control Panel.
7. Run Excel to open one blank sheet. Focus the cursor on one item. At this time, if scale sends data to the PC through the RS232 port, the data will be put into the cell, and the cursor will automatically move to the next vertical cell.

Notes:

For Windows 7 setup, contact Ohaus.

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.

4.9 COM Menu

Enter this menu to define communication parameters.

| | |
|--------------------|--|
| 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 |

Reset [**rEStt**]

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 tP**]

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 bit
2 = 2 stop bits

Handshake [**HANDSH**]

Set the flow control method.

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

Alternate command [ALt.Cmnd]

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 COM [End]

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

4.10 Lock Menu

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

| | |
|----------------|-----------|
| 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.MODE]

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.

4.11 End Menu

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

TABLE 4-2. GEO CODES

| Latitude | | 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 |
| Latitude | | 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.

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 seals, wire seals or plastic ties.

Note: 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 setting is locked at 2%.
- Stable Range setting is locked at 1d.
- Auto-Zero Tracking setting is locked at 0.5d.
- Units are locked at their current settings.
- Stable Only is locked On.
- Auto Print/ Continuous is disabled.
- lb:oz is locked Off.

5.1 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, see section 4.3.
3. Set the switch to Locked. See figure 5-1.

5.2 Verification

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

5.3 Sealing

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.

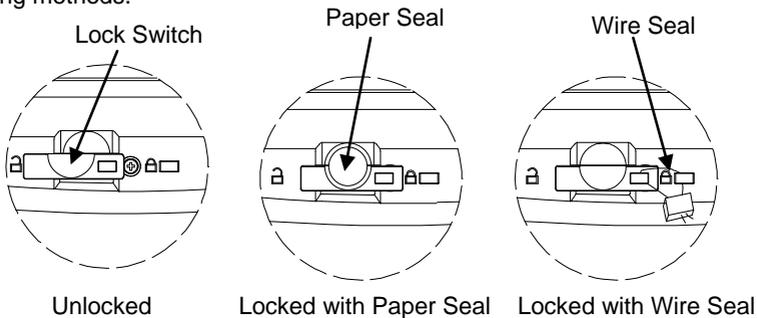


Figure 5-1. Sealing

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

The following table 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 Unstable environment | Perform calibration Move scale to suitable location |
| Cannot calibrate | LFT locked | See chapter 5 for 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 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 Unstable environment Incorrect calibration weight | Calibration value outside allowed limits Move the scale to suitable location 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. |
| 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

| | |
|----------------------|---------------|
| In Use Cover | 30037450 |
| Weighing Below Hook | 30025993 |
| Printer | Contact Ohaus |
| Communication Cables | Contact Ohaus |

7. TECHNICAL DATA

The technical data is valid under the following ambient conditions:

Operating temperature: -10°C to 40°C

Relative humidity: 20% to 85% relative humidity, non-condensing

Height above sea level: Up to 2000 m

Power: AC power 200-240V 50/60 Hz, internal rechargeable sealed lead acid battery

Main supply voltage fluctuations: up to $\pm 10\%$ of the nominal voltage

7.1 Specifications

TABLE 7-1

| MODEL | R21PE1502 | R21PE3 | R21PE6 | R21PE15 | R21PE30 | R21PHE30 |
|--|---|--|---|--|---|---|
| Capacity x Readability (Max x d non-approved) | 1.5kg x 0.00005kg 1500g x 0.05g 3 lb x 0.0001 lb 48oz x 0.002oz | 3kg x 0.0001kg 3000g x 0.1g 6 lb x 0.0002 lb 96oz x 0.004oz | 6kg x 0.0002kg 6000g x 0.2g 15 lb x 0.0005 lb 240oz x 0.01oz | 15kg x 0.0005kg 15000g x 0.5g 30 lb x 0.001 lb 480oz x 0.02oz | 30kg x 0.001kg 30000g x 1g 60 lb x 0.002 lb 960oz x 0.04oz | 30 kg x 0.0001kg 30000g x 0.1g 60 lb x 0.0002 lb 960oz x 0.004oz |
| Maximum Displayed Resolution | 1:30000 | | | | | 1:300000 |
| Repeatability | ± 0.1 g | ± 0.2 g | ± 0.4 g | ± 1 g | ± 2 g | ± 1 g |
| Linearity | ± 0.1 g | ± 0.2 g | ± 0.4 g | ± 1 g | ± 2 g | ± 1 g |
| Weighing Units | g, kg, lb, oz, lb:oz | | | | | |
| Tare Range | To capacity by subtraction | | | | | |
| Stabilization Time | ≤ 1 second | | | | | |
| Weight Display | Red LED 6-digit 7-segment, 28 mm / 1.1 inches digit height | | | | | |
| Keyboard | 5 mechanical buttons | | | | | |
| Application Modes | Weighing, Dynamic Weighing / Display Hold, Counting, Check Weigh, Check Counting, Check Percent, Percent Weighing, Accumulation | | | | | |
| Battery Operating Time (at 20°C) | 110 hours | | | | | |
| Construction | ABS plastic housing, ABS plastic platform with Stainless steel inset | | | | | |
| Pan Dimensions | 225 x 300 mm | | | | | |
| Net Weight | 3.9 kg / 8.6 lb | | | | | |
| Gross Weight | 5.15 kg / 11.4 lb | | | | | |

7.2 Drawings

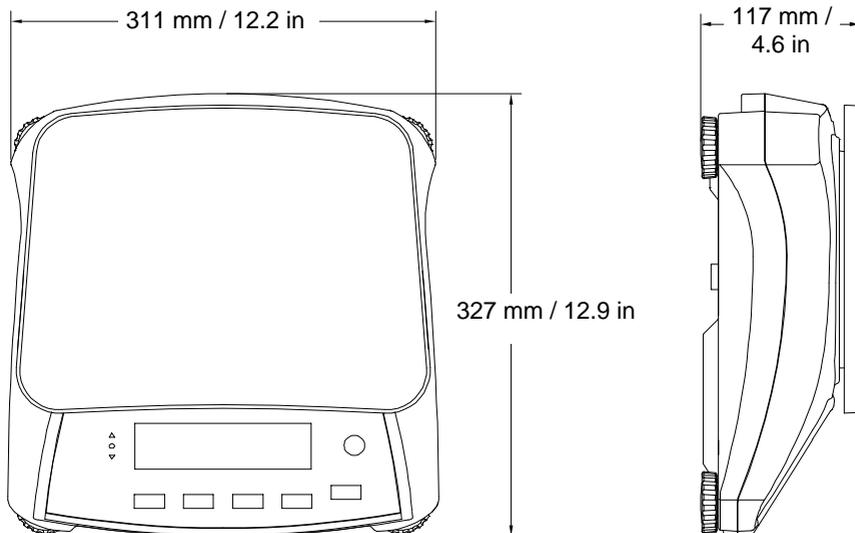


Figure 7-1. Dimensions

7.3 Communication

The scale is equipped with an RS232 interface 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.

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). Sending 0T clears tare (if allowed). |
| PU | Print current unit: g, kg, lb, oz, lb:oz, t, c (custom). |
| xU | Set scale to unit x: 1=g, 2=kg, 3=lb, 4=oz, 5=lb:oz, 6=t. |
| xM | Set scale to mode x. 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

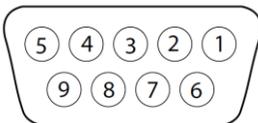


Figure 7-2. RS232 Pins

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 |
| <no line printed> | Information line | If Printx → Content → Info is ON |
| MODE: WEIGH | Mode line | If Printx → Content → Application Mode is ON. 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. Info is ON. |
| N: 4 | Accumulation line | If Printx → Content → Accu is All |
| TOTAL: 45.78 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 |

Count Mode Printout

| | Description | Comment |
|-------------|--------------------|---|
| 2222 PCS N | 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: COUNT | Mode line | If Printx → Content → Application Mode is ON |
| APW: 5 g | Information line | If Printx → Content → Info is ON |

Check (Weigh) 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 |

Dynamic 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: DYNAMIC | | Mode line | If Printx → Content → Application Mode is ON |
| LEVEL: 10 | | 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 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.

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