Arlyn UpScale – Checkweighing Addendum

As featured in page 123 of the Arlyn UpScale User Manual

37 CHECKWEIGHING

37.1 Overview

Checkweighing is a process that allows a scale operator to quickly determine of a weight placed on the scale meets the desired weight specification. The scale can be configured to determine a certain weight range is within viability and therefore perform multiple functions as a result such as:

a) Show indicators such as "Hi", "Lo" or "OK" that immediately informs the operator about the nature of the item being weighed.
b) Perform Setpoint functions (like turning on a Valve or trickle feed) so as to automatically add or remove product depending on the comparison result.

The scale can also store multiple Checkweighing configurations or "Definitions" which can be easily retrieved and activated either through manual entry or (if equipped) using a Barcode Scanner and RFID Scanner.

37.2 Checkweighing Quick Start

The following section describes how to quickly get started on Checkweighing using default settings.

NOTE: If Checkweighing is not enabled in your scale, please contact us at www.arlynscales.com/contact-us or at (800) 645-4301. You can determine if Checkweighing is enabled by looking for the Checkweighing option under "Options Setup" in Settings.

1) On the Front Panel (Main Weight Screen), press on the left-hand side of screen as shown in the image below. This show "Hi", "Lo" or "OK" depending on Checkweighing default settings.
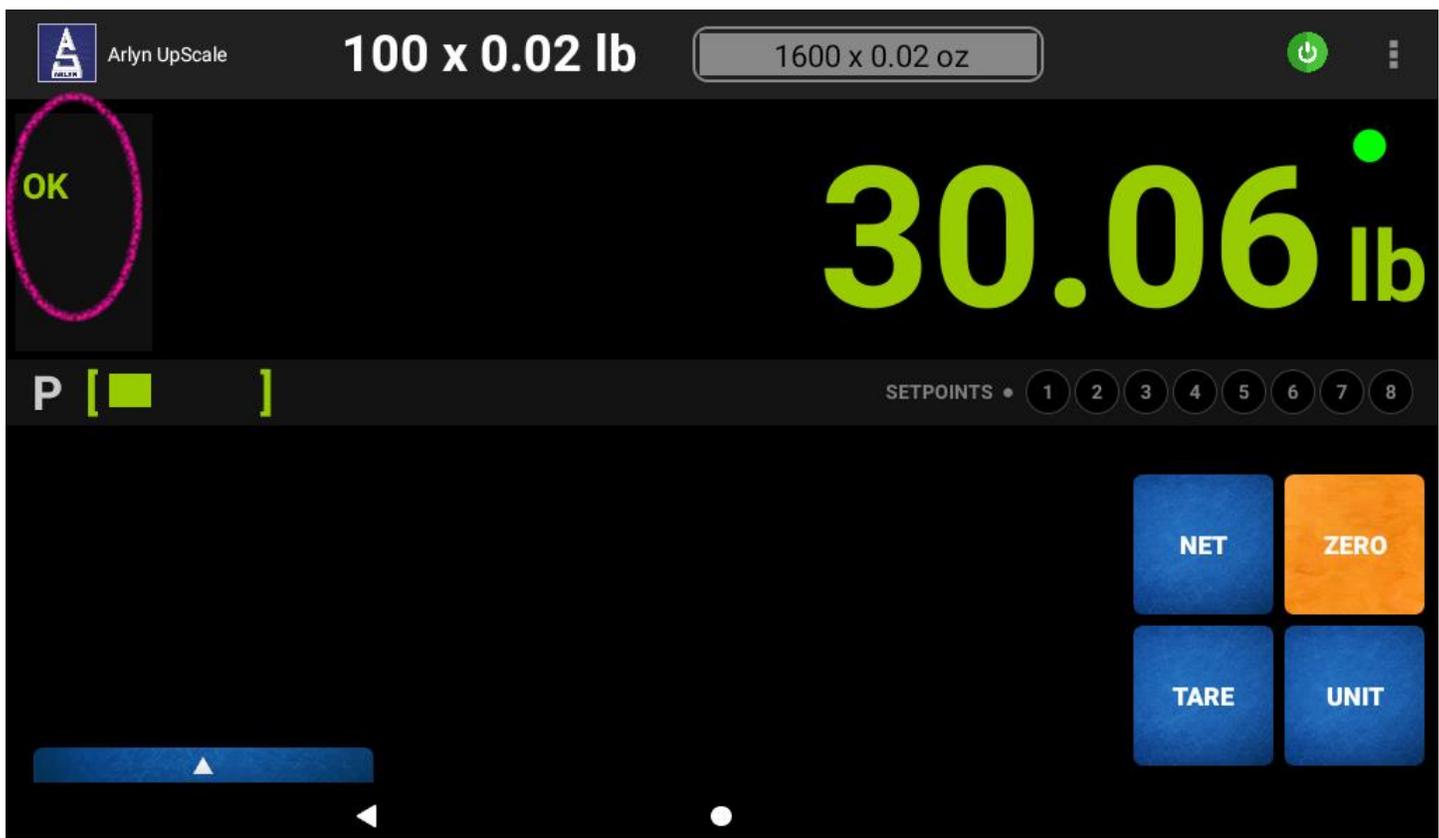
2) A dialog box will pop up showing you multiple input methods for Checkweighing.

3) Make sure that the "Quick Entry" checkbox on the top right corner is checked.
4) Enter the High (Max) Weight and Low (Min) Weight specification of your product. Press the "SET" button to confirm the settings.
5) When pressing the "SET" button, the gray status bar at the bottom of the dialog box will show the weights you confirmed.
6) Press the OK button to confirm the settings.

The "High" and "Low" weight determines the "good" window of your product weight. Place the product on the scale platform and take a look at the right hand side of the weight value.

- If the product weight falls within the range you specified, it will show as "**OK**".
- If the product weight is above the "Hi" weight specified, it will show as "**Hi**".
- If the product weight is below the "Lo" weight specified, it will show as "**Lo**".

This is the quickest way to get started on Checkweighing. For more complex functions, see the rest of the sections below.

37.3 Checkweighing Configuration

The Checkweighing Settings screen can be accessed by pressing the Quick Action Menu button and going to SETTINGS→CHECKWEIGHING.

The following screen is presented below.

There are 4 sections to the Checkweighing Settings screen.

Enable & Select Checkweighing	This section allows the operator to quickly enter the part number of a Checkweighing Definition record (if it exists) and activate it.
Checkweighing Definitions	Create multiple Checkweighing Definitions and store them in the scale. Easily retrieve them by using the Part Number (P/N) or Part Name designation from the Front Panel Main Weight screen or on this Checkweighing Settings screen.
Control Settings	Setup Checkweighing Control behavior focusing on the "Quick Entry" prompt dialog (for the Front Panel) as well as Setpoint behavior, if equipped.
Advanced Settings	Override system behavior on Checkweighing configuration.

37.3.1 Enable & Select Checkweighing

Once you have created a Checkweighing Definition record, you can easily retrieve and activate the record without going through the reconfiguring process again. Follow the steps below to activate a Checkweighing Definition record.

NOTE: The Checkweighing Definition record must exist in the scale database for this to work. See the Checkweighing Definitions section on steps to create new record.

1) Enter the Part Number or Part Name you stored in the Checkweighing Definitions in the given fields under the "Enable And Select Checkweighing" section.
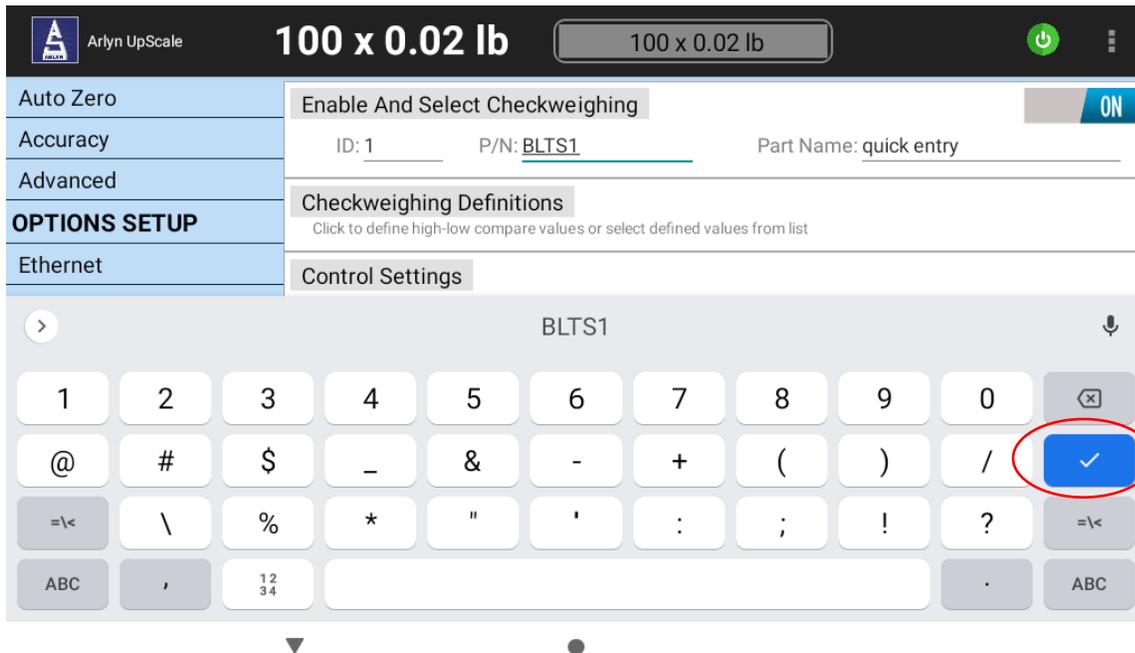
2) Press the "Check" (✔) key on the keypad to confirm the entry. If the record exists, the Part Name field will populate with the correct name. If the record does not exist, the message "Value not found" will display on the screen.

37.3.2 Checkweighing Definitions

To utilize quick recall of Checkweighing configurations, you can create Checkweighing Definitions to store multiple configurations in the scale database.

To do this, follow the steps below:

1) Press on "Checkweighing Definitions" section on the screen.
2) This should bring up the Definitions Records table as shown below:

3) The "Green" highlight on the ID column shows the current activated record. Perform the following actions to manage records on this screen:
   a. **Add**: To add a new record, press the "+" button on the top right corner to bring up a dialog prompt.

Enter the values of the Checkweighing Definition as relevant and press "Save". You can now retrieve this record by entering the P/N on the Settings screen or the Quick Entry screen on the Front Panel.

b. **Edit**: To edit an existing record, just tap on any record to bring up the Edit dialog prompt.
c. **Delete**: Press and Hold a record to bring up an "Action Bar" at the top of the screen. Use the "Trash" icon to delete the record. See the illustration below:

Press the "SETTINGS" button at the bottom right of the screen to exit this table.

37.3.3 Checkweighing Control Settings

The Checkweighing Control Settings allow you to setup the Checkweighing behavior focusing on the "Quick Entry" prompt dialog (for the Front Panel) as well as Setpoint behavior, if equipped.
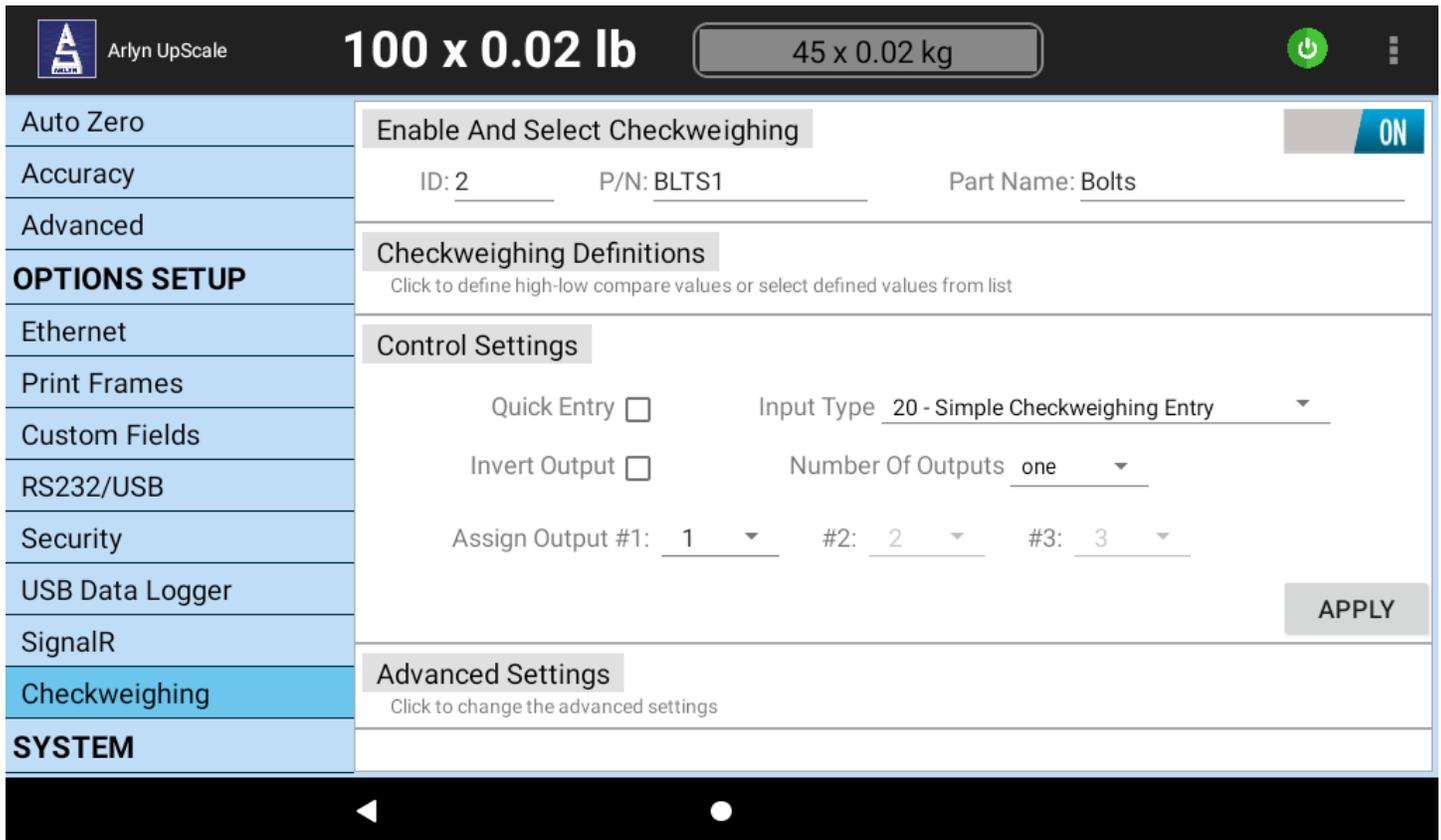
The following explanation describes what each configuration parameter does.

Quick Entry   Sets up the Checkweighing Prompt Dialog to show fields that allows the operator to configure Checkweighing behavior on the fly on the Front Panel.

Input Type   Select which Checkweighing Input Type is preferred on the Prompt Dialog. There are three (3) Input types available on the scale.

  i.   Simple Checkweighing Entry.
  ii. Checkweighing with Hi Lo Tolerance.
  iii. Center Weight with Tolerance.

Each of these parameters is detailed in the Checkweighing Input Types section.

The rest of the Control behavior is relevant if you have Setpoint Control equipped in your scale. Checkweighing with Setpoint control allows the scale to toggle discrete digital setpoint outputs (3.3V or 0V) to control valves or set off alarms. It also enjoys Enhanced Setpoint Functionality such as Email and Print (See the Setpoint Email & Print section for further details on these features).

Number of Outputs   Select the number of outputs for your Checkweighing behavior. The number of outputs determine what is assigned to the "Hi", "Lo" and "OK" triggers. Refer to the table below:

Number of Outputs	Behavior
None	- No outputs are triggered based on Checkweighing result
One	- "Hi" and "Lo" will both trigger output 1. - "OK" will trigger nothing.
Two	- "Lo" – Trigger output 1 - "Hi" – Trigger output 2

Three	- "Lo" – Trigger output 1
	- "OK" – Trigger output 2
	- "Hi" – Trigger output 3

Invert Output   By default, if an output is triggered, it will be transition from OFF -> ON. If the Invert Output option is checked, then the triggered output will transition from ON -> OFF.

Assign Output   Select which output pins in the Setpoint will be triggered based on the table above. You have an option to select up to 8 pins. (See the Setpoint Controller section for pinout).

Press the APPLY button confirm changes on the Control behavior.

37.3.4 Checkweighing Notification

37.3.4.1 OVERVIEW

This section allows you to setup the Checkweighing function to send a PRINT or EMAIL when a any of the "Hi", "Lo" or "OK" conditions are met. All conditions are mutually inclusive (can be set simultaneously).

The PRINT data will be sent through any of the Digital Outputs equipped on the scale such as RS-232, USB, Ethernet TCP/IP, Wi-Fi etc. The data sent will be dependent upon the Print Frame selected in Print Frames screen.

37.3.4.2 OPERATION

- **Print Checkbox is enabled** → The scale will send (or Print) data out when the condition set by "Notify Trigger" is met. For example, from the screenshot above, the scale will only send data if the "OK" condition is met.
- **Email Checkbox is enabled** → The scale will email out the weight frame when the condition set by "Notify Trigger" is met. This option can be used for those scales equipped with Ethernet TCP/IP or Wi-Fi options.

Caution: The email feature should be used very carefully. It is not intended to be used for quick setpoint triggers for very short-term weight changes (such as in a valve control environment, or check-weighing). If email is enabled for this purpose, then you will spam your inbox with Setpoint emails and possibly cause the scale to undergo severe performance issues as it attempts to send out multiple emails in a short period of time.

The email feature is perfect for those cases where you want to monitor the weight of something for a long period of time. The intent to have the scale send you an email notification when it reaches your pre-defined target weight.

37.3.5 Advance Settings

These settings are for advanced functionality that are designed to override standard Checkweighing behavior. Do not change these settings unless it is recommended by Arlyn Scales Service Technician.

37.4 Checkweighing Input Types

The Arlyn UpScale provides different methods of performing Checkweighing. They range from being a simple system, such as entering fixed high and low weight requirements, to complex systems that may require tolerance specifications.

There are three Checkweighing Input Types:

37.4.1 Simple Checkweighing Entry (Input Type - 20)

This Checkweighing input type allows for configuring strict High Weight and Low Weight specification. With only two fields to specify, it is the simplest way to configure the scale to perform the Checkweighing function.

The Checkweighing Prompt on the Front Panel will show as below:

Hi   Enter the *high weight* value according to your Product weight range.

Lo   Enter the *low weight* value according to your Product weight range.

Resultant Formula $Lo \leq Product\ Weight \leq Hi$

If the Product Weight falls between Low and High you specified, the "OK" indicator will show. Otherwise the "Lo" or "Hi" Indicator will show based on the weight reading.

Press the SET button to confirm the parameters. The status bar at the bottom of the dialog should show the new settings.

37.4.2 Checkweighing with Hi/Lo Tolerance (Input Type - 21)

Checkweighing with Tolerance allows the operator to not only enter the fixed limits but also add tolerances. The tolerances can be added as actual weight values, percentages or ratios.

Checkweighing Selection

Select From Database   Quick Entry ☑

P/N: _____   Part Name: quick entry

Compare Value   SET

ID: 1   P/N: _____   Part Name: quick entry

High Weight: 50.0   High Tolerance: 0.5

Low Weight: 20.0   Low Tolerance: 0.5

ID: 1   Hi: 50.50000   Lo: 19.50000   CANCEL   OK

In the above example, the High Weight and Low Weight are specified as fixed values of 50 lbs and 20 lbs. The High Tolerance is specified as 0.5 lb and the Low Tolerance is specified as 0.5 lb.

Pressing the SET button, the resultant calculations are given on the gray status bar.

Resultant Formula $(Low\ Weight - Low\ Tolerance) \leq Product\ Weight \leq (High\ Weight +\ High\ Tolerance)$

37.4.3 Center Weight with Tolerance (Input Type – 22)

This input type allows the operator to specify a single Center value along with a ± Tolerance. This is useful for those applications that require product weights to be verified with very tight tolerances.

Checkweighing Selection

Select From Database   Quick Entry ☑

P/N: _____   Part Name: quick entry

Compare Value   SET

ID: 1   P/N: _____   Part Name: quick entry

Center Value: 50.0   Tolerance(±): .5

ID: 1   Hi: 50.50000   Lo: 49.50000   CANCEL   OK

Center Value   Enter the expected weight of the Product you are trying to verify in your production process.

Tolerance (±)   Enter the expected tolerance for the weight of the Product. If the product falls above or below this tolerance, the scale will indicate "Hi" or "Lo" respectively. Otherwise it will show "OK".

Resultant Formula $(Center\ Value - Tolerance) \leq Product\ Weight \leq (Center\ Value + Tolerance)$

Press the SET button to confirm the parameters.

37.5 Checkweighing Support

For further help on clarification of parameters as well as configuration, feel free to reach out to us online at www.arlyncales.com/contact-us or on the phone at (800) 645-4301.

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