Hardy Process Solutions sincerely appreciates your business. We encourage input about the performance and operation of our products from our customers. Should you not understand any information in this guide or experience any problems with this product, please contact our Technical Support Dept. at:

Phone: (858) 278-2900
Toll Free: 1-800-821-5831
FAX: (858) 278-6700
E-Mail: hardysupport@hardysolutions.com
Or visit our web site at:
http://www.hardysolutions.com

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HI 1734-WS Quick Start Guide

HI1734-WS POINT I/O Weigh Scale Module is used for high quality front end signal processing of load cells and load points (strain-gage type sensors) for all types of industrial manufacturing weighing applications through an Allen Bradley 1734 POINT I/O chassis.

This Quick Start Guide is designed for users of the HI 1734-WS module that have a high degree of familiarity with Allen Bradley 1734 POINT I/O systems and Hardy Process Solutions products. The Quick Start Guide provides basic procedures for installing, configuring, and operating a HI1734-WS POINT I/O Weigh Scale Module.

A complete Installation and Operation Manual can be found online: www.hardysolutions.com, navigate to **Products** > **PLC Weighing Modules** > **Weight Modules> HI 1734-WS** > **Documents and Programs**

CAUTION: UNPACK WITH CARE

PARTS ARE STATIC SENSITIVE!

Observe the following handling precautions:

- Wear an approved wrist-strap grounding device when handling the module
- Touch a grounded object to rid yourself of any electrostatic discharge prior to handling the module
- Handle the module from the bezel in front away from the connector. Never touch the connector pins.
- Do not install the module right next to an AC or high voltage DC module
- Route all the load voltage cables away from high voltage cables

WHEN UNPACKING, DO NOT DISCARD THE PACKING CASE OR ANY PACKING MATERIAL UNTIL THE CONTENTS OF THE PACKING CASE ARE INSPECTED AND CAREFULLY COMPARED WITH THE SHIPPING DOCUMENTS.

IF ANYTHING IS UNSATISFACTORY, PLEASE NOTIFY HARDY IMMEDIATELY BY CALLING, FAXING OR E-MAILING TO:

Customer Support Department
HARDY PROCESS SOLUTIONS
9440 Carroll Park Drive, Suite 150
San Diego, California 92121

Phone: (800) 821-5831
(858) 278-2900
FAX: (858) 278-6700

E-mail: hardysupport@hardysolutions.com
Web Address: www.hardysolutions.com

Notes:

Common Terms

AOP: Add-On-Profile.

Auto-Zero: Automatic zeroing of the scale as the gross weight nears its last zero point, subject to the cumulative limit of the Zero Tolerance parameter. **Auto-Zero Tolerance** is how much the Auto-Zero function can adjust at one time.

C2®: C2® Electronic Calibration allows a scale to be calibrated without the need for test weights. C2-certified sensors output digital information used to automate the calibration process.

Filter: Section used to stabilize weigh readings in an unstable environment resulting from excessive vibrations or occasional impact events.
WAVERSAVER eliminates unwanted noise from mechanical vibrations and is typically set at 1.0 Hz.
NUMAVERAGES set the number of readings to average to provide a stable weight during an impact event.

Gravity Correction: C2 load sensors are programmed to produce correct weight at STANDARD GRAVITY. Use the **Gravity Correction** parameter to adjust to your local gravity (see Hardy's website for a list of localized correction factors).

Motion Tol: Choose the level of acceptable scale instability.

Ref. Weight: The amount of test weights used during Cal Low.

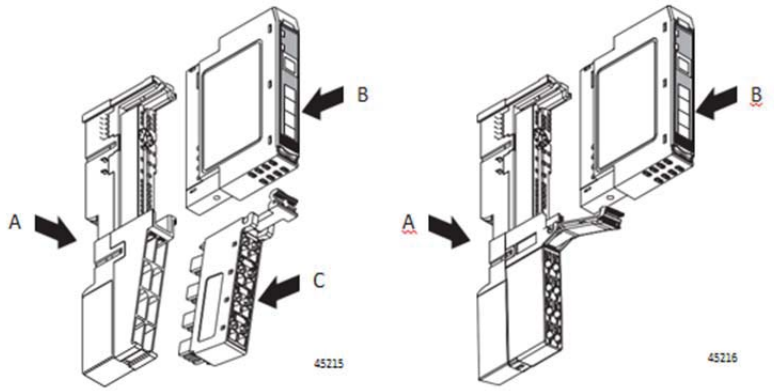
Sensitivity: The output signal in mV/V produced when the sensor is 100 percent loaded.

Span Weight: The amount of test weights used during Cal High.

Tare Weight: Difference between Gross Weight and Net Weight, typically used to subtract the know weight of a vessel to determine Net Weight of the vessel contents.

Zero Tol: Total allowable weight that can be zeroed from the scale, with the initial zero point being established during calibration.

Installation Procedure



1734-TOP or 1734-TOPS
One-piece Terminal Base with Screw or Spring Clamp

The base (A) mounts onto the DIN rail and provides the backplane. Bases and Terminal blocks are available from Allen Bradley. The HI1734-WS module (B) snaps into the base, **set the KEY position to 2.** The optional removable terminal block (C) also snaps into the base and provides terminations for field-side connections, as well as system power for the backplane.

For best performance, Hardy recommends use of 8-slot or 12-slot screw-down terminals. Spring clamps are only recommended when using solid-core wiring (not commonly used with sensors). 8-slot blocks can only be used with 4 conductor load cells without sense lines.

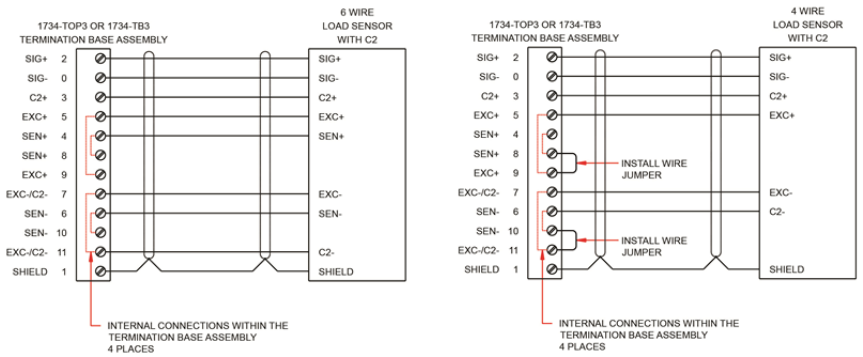
Termination base assembly screw lock wire size range:
14 AWG-22 AWG, wire tightening torque: 7 lb-in [0.6nm] nominal.

Available backplane power and bandwidth can limit the number of HI1734-WS modules connected together in a POINT I/O system. For detailed installation instructions of a POINT I/O system, please visit:

http://literature.rockwellautomation.com/idc/groups/literature/documents/sg/1734-sg001_-en-p.pdf

Detailed specifications and power requirements for the HI1734-WS module can be found in the Installation and Operation Manual.

Wiring



CAUTION: Over tightening screw down terminal blocks can shear sensor wires and cause intermittent or complete failure of the weighing system.

The HI 1734-WS weigh scale module is connected to external load cells or sensors using the terminal blocks. A single sensor can be connected directly as shown in the above diagrams; a group of sensors are typically connected through a Junction Box using the same pin-outs shown above.

NOTE: THE HI1734 is not compatible with HI 215 Junction Boxes. Please ensure that the HI1734 is installed with the HI6020IT or HI 6020JB Junction Boxes.

Skip C2+ and C2- connections when using sensors NOT supplied by Hardy Process Solutions. (C2® Electronic Calibration allows a scale to be calibrated without the need for test weights.)

Further detail and diagrams for connecting various junction boxes, sensors, load cells and alternate terminal blocks available from Allen Bradley can be found in the ***Installation & Operations Manual***.

Calibration

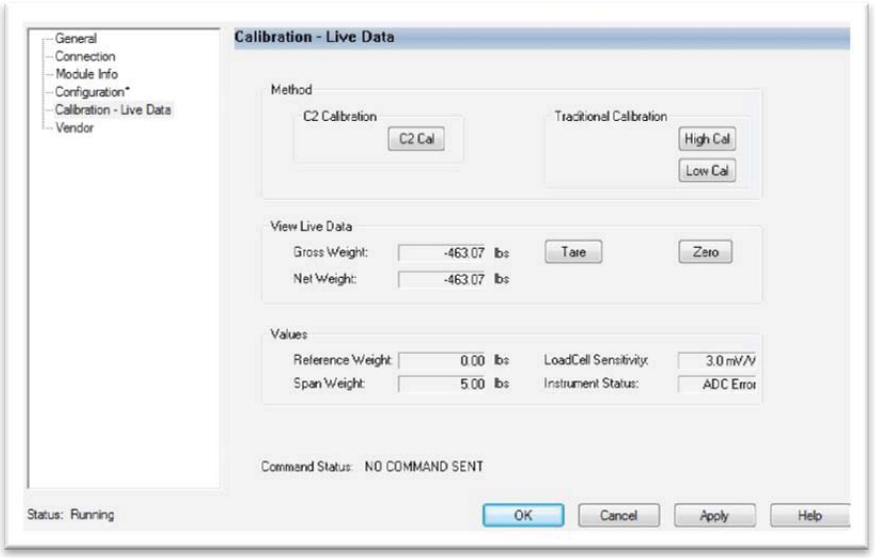
Select a calibration method and follow the steps below to calibrate the scale system.

C2 – Electronic Calibration (also called eCAL)

1) Remove all weight from the scale.
2) Set gravity correction for the location of the weighing system
    a. See users guide for the correct correction factor
3) Press C2 Cal.
4) Place a verification weight on the scale to ensure calibration is successful.

Hard Cal- Traditional Calibration

1) Verify that the **Reference Weight** and **Span Weight** have been set correctly in the configuration tab.
2) If Reference Weight=0, remove all weight from the scale.
3) Click **Low CAL** to set the low point on the calibration curve.
4) Place a physical Span Weight onto the scale equal to the amount input into the configuration tab.
5) Press **High Cal** to complete the calibration process.



Suggested Steps When Setting Up a Module for the First Time

Set Up

1) Select Unit of Measure
2) Input Motion Tolerance
3) Input Zero Tolerance
4) Enable/Disable Auto-Zero Tracking
5) Input Auto-Zero Tolerance if applicable

↓

Filter

1) Select Waversaver setting
2) Input Num Averages

↓

Calibration Settings

1) Select Load Cell Sensitivity
2) Input Gravity Corr. (if using C2)
3) Input Reference Weight (if not using C2)
4) Input Span Weight (if not using C2)

↓

Confirm

1) Click Apply to load parameters

↓

Calibration

1) Choose a Calibration Method
    a. C2 eCal
    b. Hard Cal
2) Complete Calibration Procedure

Initial Set-Up

1. Once modules are installed and all connections are complete, power up the system.

2. To make or change settings, there must be power to both the PLC and the module. Verify that the LED's are lit for normal operation.

LED Light	Status
Steady Green	Running (Normal)
Flashing Green	Error No Calibration
Steady Red	Error Read Failure or Error EEPROM Write
Flashing Red	Read Convert Error

See ***HI 1734-WS Installation & Operations Manual*** for troubleshooting procedures related to Steady or Flashing Red LEDs

3. Set-up communications between the ControlLogix PLC and the HI1734-WS Weigh Scale module. For detailed instructions, refer to an RS Logix manual.

4. Search for the HI1734-WS AOP in RS Logix or download from the Hardy website, located in **Documents and Programs.**

    a. Install AOP into RS Logix by adding into the RS Logix project.
    b. Double click AOP located in the RS Logix project tree to set-up and configure HI1734-WS paramters.

5. In the General Tab of the AOP, select and name the 1734-WS module to configure. Check Slot location.

6. Open the Configuration Tab and begin to follow the **Suggested Steps when setting up a module for the first time** section of this Quick Start Guide.

7. Check **Enable Copy Config. Table** to download parameters set in the AOP. These parameters become default in the event of a power cycle and will over-write any changes that were done outside the AOP (i.e.: those made in Ladder Logic or via a Faceplate).

8. Optional Faceplates and Add-On-Instructions for the HI 1734-WS module are available on the Hardy Process Solutions website under the **Documents and Programs** tab for the module.