HARDY
PROCESS SOLUTIONS
Measurement ▪ Automation ▪ Productivity

Models HI 1756-WS HI 1756-2WS
Weigh Scale Module

Applications

PROCESS WEIGHING

- *Batching/Blending*
- *Filling/Dispensing*
- *Level-by-Weight*
- *Check Weighing*

HI 1756-WS
Single Scale

HI 1756-2WS
Dual Scale

HI 1756-WS

The Button J1	
Pin	Signal
1	+ Exc
2	+ Sen
3	+ Sig
4	- Sig
5	- Sen
6	- Exc
7	C2 +
8	C2 -
9	Shield

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Made in U.S.A.

HI 1756-2WS

The Button J1		
Pin	Signal	
1	+ Exc	Channel 1
2	+ Sen	
3	+ Sig	
4	- Sig	
5	- Sen	
6	- Exc	
7	C2 +	
8	C2 -	
9	Shield	
10	+ Exc	Channel 2
11	+ Sen	
12	+ Sig	
13	- Sig	
14	- Sen	
15	- Exc	
16	C2 +	
17	C2 -	
18	Shield	

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Rockwell Automation
Encompass™ Product Partner
Global

Features

THE HARDY PROCESS TOOLBOX

The Hardy Process Toolbox is a set of productivity tools that support process weighing functions. Each tool saves time, increases accuracy, improves efficiency or reduces risk in process weighing applications.

PRODUCTIVITY
HARDY
PROCESS TOOLBOX
C2® eCAL™ IT®

C2® and eCAL™ Electronic Calibration

Electronic calibration without test weights

C2®
eCAL™

WAVERSAVER®
Ignores vibration on and around scales

INTEGRATED TECHNICIAN®
Weighing system monitoring and troubleshooting

IT INTEGRATED TECHNICIAN®

To learn more about the HI 1756-WS/ HI 1756-2WS visit our web site for:

• *full product specifications*
• *ordering information*
• *application notes*
• *operator's manual*

www.hardysolutions.com

Hardy's HI 1756-WS is available as a single slot, single or dual scale, weigh scale module that mounts in an Allen-Bradley® ControlLogix® Chassis. It reads weight and diagnostic data from strain gauge load sensors or load cells and communicates this data over the I/O chassis Backplane to the ControlLogix Processor. The HI 1756-WS module reduces installation cost and increases speed since no external stand-alone scale instrument with a wired communications link to the PLC is needed.

The HI 1756-WS conditions and digitizes the weight signal 110 times per second with over one million counts of resolution over a differential signal range of 0 to 15mV. It then transmits the selectable Gross, Net and/or Rate-of-Change data to the processor. This high resolution allows the module to tolerate large dead loads and over sizing of the load sensors while retaining a high level of usable resolution. The module supplies 5 volts of DC excitation to drive up to four 350 ohm load sensors or load cells associated with a single (-WS), or eight load cells associated with a dual (-2WS) scale. It will support additional load cells with an external power supply.

The HI 1756-WS supports the use of the producer/consumer technology in the ControlLogix system to transmit data. This type of communications is an intelligent data exchange in the system where the module produces data without having to be polled.

FEATURES
Two or three bi-color LEDs on the module's front panel report functional characteristics. Being a true ControlLogix module the HI 1756-WS supports removal and insertion under power.

C2® ELECTRONIC CALIBRATION
C2 enables electronic calibration of the weigh system without test weights. This saves system start-up costs and aggravation. Of course, even if C2 certified load sensors are not used, the system can still be calibrated the slow, traditional way using certified test weights.

WAVERSAVER®
WAVERSAVER eliminates the effects of unwanted plant vibration on or around the scale by permitting the weigh module to "see" through the unwanted vibration signals - as low as 0.25Hz - while yielding a stable actual reading.

INTEGRATED TECHNICIAN®
INTEGRATED TECHNICIAN, used in conjunction with an IT Junction Box, provides built-in system diagnostics that enable you to troubleshoot and diagnose your weighing system. You can read individual load sensor voltages and weights, make comparisons, and isolate individual system components for quick and easy troubleshooting.
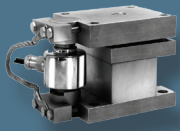
THE BUTTON®
With one push of a button the weigh scale module automatically calibrates the C2 certified weighing system, making it ready for use. This saves system start-up time costs and aggravations.

COMPONENTS TO COMPLETE YOUR HARDY SYSTEM

Hardy Bench Scales, Floor Scales and Load Points

Hardy carries a wide variety of strain gauge load points and scale bases to accommodate your application requirements.

ADVANTAGE Series Load Point with C2 Calibration

Hardy Bench Scales

Weighing Instruments Dedicated to Your Applications

Controllers, Weigh Modules, Weight processors

Allen-Bradley® Compatible Plug-in Weigh Scale Modules

HI 3000 Series HI 4050 Controllers and HI 6000 Series

SPECIFICATIONS

Power
- Provided from the backplane of the rack: +5Vdc, +24Vdc

Backplane Current
- < 1 Amp @ 5Vdc 5W
- < 0.0125 Amp 0.3 @ 24Vdc with 4 350 ohm L.

Inputs
- Signal: -0.3mV through +15.3 mVdc
- Sense: +5Vdc
- C2® Electronic Calibration

Outputs
- Excitation 5Vdc to 8.75Vdc

Common Mode Rejection
- 100dB at or below 60 Hz (minimum)

Resolution
- Internal, 1:8,388,608

Conversion Rate
- 110 updates per second

Vibration Frequency Rejection
- 0.25 Hz and above in 5 selectable steps
- WAVERSAVER®

Weight
- 1.1 lb (0.5 kg)

Environmental Conditions
- Operating Temperature: 0 to 60°C (32 to 140°F)
- Storage Temperature: -40 to 85°C (-40 to 185°F)

Relative Humidity
- 5 to 95% (non-condensing)

Weighing Modes
- Net, Gross, Rate-of-Change

Calibration
- Electronic (C2)
- Traditional (test weights)

Averages
- 1-255 user selectable in single increments

Indicators
- "OK" Module Status, tri-color LED
- "Scale 1" Functional Data, tri-color LED
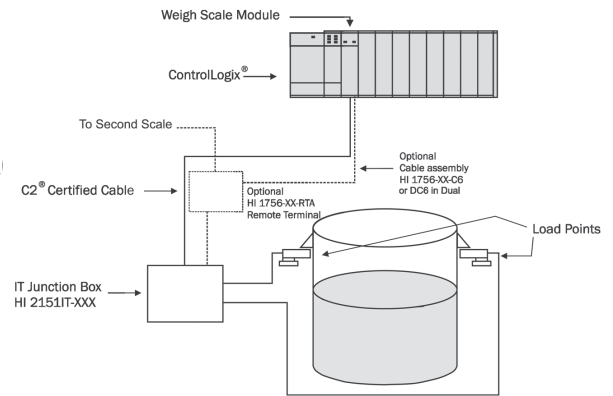- "Scale 2" Functional Data, tri-color LED

Approvals
- UL, CUL, CE

Warranty
- Two-year warranty against defects in workmanship

TYPICAL CONFIGURATION

OPTIONS

• Remote Termination Assembly (-RTA)
The weigh scale module optional Remote Termination Assembly provides connection points between the cable assembly to the module and individual wires from the junction box, or load sensors, of up to two scales. The RTA is designed for standard DIN mounting rails or standoffs. With an HI 1756-RTA configuration, the weigh scale modules can be replaced without disturbing the wiring.

• Cable (-C6 -DC6)
Hardy provides an optional 6-foot (1.8m) cable assembly from the weigh scale module to the remote termination assembly for both single and dual configuration.

HI 1756-WS-RTA-C6	Single weigh scale module with remote termination assembly and cable
HI 1756-2WS-RTA-DC6	Dual weigh scale module with remote termination assembly and cable
HI 1756-WS	Single weigh scale module alone
HI 1756-2WS	Dual weigh scale module alone
HI 1756-XX-RTA	Remote termination panel alone; supports two single-scale and one dual-scale module
HI 1756-XX-C6	Single-scale 6-foot (1.8m) cable from RTA to a single module
HI 1756-XX-DC6	Dual-scale 6-foot (1.8m) cable from RTA to 2 single modules or one dual module

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Since 1993

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