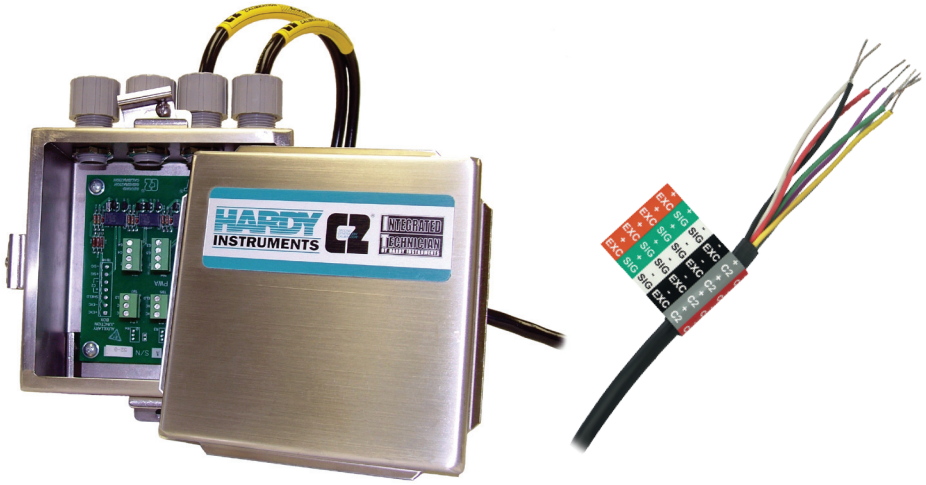
HARDY PROCESS SOLUTIONS
Measurement ▪ Automation ▪ Productivity

Model HI 215IT / 215JB
IT Junction Box and C2 Cable



Applications

PROCESS WEIGHING

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

Features

C2® Electronic Calibration

- *Electronic calibration without test weights*

INTEGRATED TECHNICIAN® (IT)

- *Weighing system monitoring and troubleshooting*

JUNCTION BOX

The Hardy C2® certified Junction Box contains circuitry in a waterproof enclosure which distributes the excitation voltage to up to four load points and transfers each load point's performance characteristics and weight signals to the weight controller. The junction box, without being opened, allows an instrument operator to switch in an internal test circuit to test the stability of the cable from the junction box to the INTEGRATED TECHNICIAN® (IT) equipped weighing instrument. In addition, individual load sensors can be isolated for weight and voltage readings all from the weighing instrument's front panel.

The box's unique removable multiple connector design allows for easy isolation and trouble-shooting of non-IT® capable weighing systems. Two junction boxes can be cabled together to handle up to eight load points from a single scale. Available in NEMA 4 rated painted steel, NEMA 4X rated stainless steel or fiberglass, each box comes with two packaged hole plugs and five cable grip fittings suitable for O.D. cable of 1/4 to 3/8 inches. A label is provided on the underside of the top cover to record load point positions. A non-C2 version with trim pots is also available.

C2® CABLE

Hardy C2® Certified Cable has been designed specifically for the electrically and mechanically harsh environments found in Process Weighing applications. While many process variables are transmitted at a 0-10 volt or 4-20 milliamp level, signals from load or force sensors are typically one thousand times smaller, or 0-0.010 volts. A ten pound change on a 100,000 pound scale would correspond to a signal change of 0.000001 volts (1 micro volt). Therefore, cabling must protect against electrical noise common in the plant environment.

It is also imperative that moisture not enter the cable as it would increase capacitance and allow coupling of voltage from the excitation wires to the signal wires. The coupling of voltage causes "drifting" weight indications. Use of improper cable between even the finest load sensors and instrumentation will yield poor weighing results. The costs and time delays of removing and replacing improper weighing system cable are prohibitive. To insure an effective weighing system, always specify Hardy C2 Certified Cable.

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

ANY-WEIGH Scales

Weighing Instruments Dedicated to Your Applications

Controllers, Weigh Modules, Transmitters

Allen-Bradley® Compatible Plug-in Weigh Scale Modules

HI 3000 Series and HI 4050 Controllers

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MODEL #	DESCRIPTION
C2 Cable	C2 Certified, 8-Conductor
HI 215JB -	Non-IT Junction Box
HI215IT -	Junction Box with INTEGRATED TECHNICIAN
XX = IT or JB	
HI 215XX-SS1	Stainless Steel Standard
HI 215XX-SS2*	Stainless with Trim Pots
HI 215JB-SS3**	Stainless with TB-10
HI 215JB-SS4*	Stainless with Trim pots and TB-10
HI 215XX-PS1	Painted Standard
HI 215XX-PS2*	Painted with Trim Pots
HI 215JB-PS3**	Painted with TB-10
HI 215JB-PS4**	Painted with Trim pots and TB-10
HI 215XX-FG1	Fiberglass Standard
HI 215XX-FG2*	Fiberglass with Trim Pots
HI 215JB-FG3**	Fiberglass with TB-10
HI 215JB-FG4*	Fiberglass with Trim Pots and TB-10
HI 215XX-SC	Summing card, no enclosure
HI 215XX-SCT*	Summing card w/ trimpots, no enclosure
HI 215JB-SCB**	Summing card with TB-10, no enclosure
HI 215JB-SCBT*	Summing card with Trim Pots and TB-10, no enclosure

**Not for use with C2 load points*

*** For more than 4 load cells use two junction boxes/cards one with TB-10*

JUNCTION BOX

Approvals

- CE
- FM, Class I, II & III, Div 1 & 2 Groups A, B, C, D, E, F & G

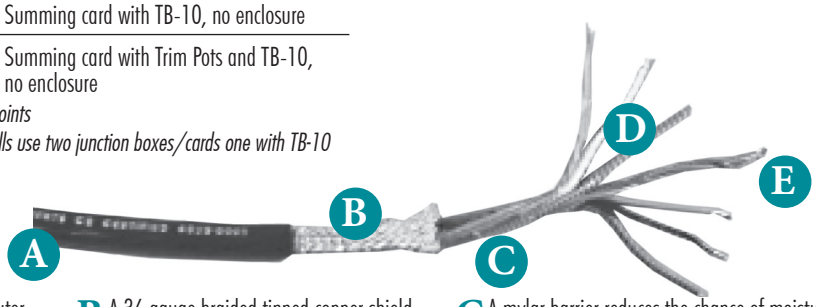
Warranty

- Two-year warranty against defects in workmanship

C2 CABLE

Recommended wiring for color code cabling between the junction box and instrumentation when using ADVANTAGE™ line and all other load points.

+ Excitation	Red
+ Sense	Blue
+ Signal	Green
- Signal	White
- Sense	Brown
- Excitation	Black
+ C2	Gray
- C2	Violet



A The thick (0.060") outer jacket protects signal leads from minor nicks and cuts, and helps keep moisture and contaminants out. The vinyl material used is flexible for conduit bends and slides more easily in long conduit runs. Additionally, this material resists many corrosive substances.

B A 36 gauge braided tinned copper shield provides better than 85% coverage and tight braid angles to reduce the chance of outside electrical noise reaching the signal leads. Unlike other process measurements, incremental changes in weight correspond to signal changes typically in the range of 0.0000001 volts (0.1 micro volt). Without proper shielding, common plant electrical noise can cause fluctuation and incorrect weight readings.

C A mylar barrier reduces the chance of moisture reaching the signal lea ds should the cable be nicked. Moisture between signal leads increases the capacitance between signals and results in cross coupling of voltages and incorrect weight readings.

D The 22 gauge wire is stranded for reliability in bends and is color coded for easy installation.

E Two wires make up a twisted pair to reduce capacitance for C2 signals and provide a constant cable impedance.

To learn more about the HI 215JB visit our web site for:

- ***full product specifications***
- ***ordering information***
- ***application notes***
- ***technical description***
- ***operator's manual***

www.hardysolutions.com

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