

Model HI 215JB **Junction Box and C2 Cable**



Applications

PROCESS WEIGHING

- Batching/Blending
- Filling/Dispensing
- Level-by-Weight
- Check Weiahina

Features

accuracy, improves

THE HARDY PROCESS TOOLBOX

The Hardy Process Toolbox is a set of productivity tools that delivers válue across process weighing functions. Each tool saves time, increases



efficiency or reduces risk in your process weighing applications.

Electronic calibration without test weights

A C2 system includes load points, junction box, cabling and weighing instrumentation, and is designed to make calibration easier than ever before. Upon installation or re-calibration, a Hardy instrument automatically searches for C2 certified load points and records their performance characteristics. Entering a reference point is all that's needed to bring your system on-line within seconds.



JUNCTION BOX

The Hardy C2[®] certified HI 215JB 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 box's unique removable multiple connector design allows for easy isolation and trouble-shooting of weighing systems. Two junction boxes can be cabled together to handle up to eight load points from a single scale using the TB10 option.

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 $C2^{(R)}$ 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.



Weighing Instruments Dedicated to Your Applications

Controllers, Weigh Modules, Weight Processors









MODEL #	DESCRIPTION	
C2 Cable	C2 Certified, 8-Conductor	
HI 215JB-SS1	Stainless Steel Standard	
HI 215JB-SS2*	Stainless with Trim Pots	
HI 215JB-SS3**	Stainless with TB-10	
HI 215JB-SS4*	Stainless with Trim pots and TB-10	
HI 215JB-PS1	Painted Standard	
HI 215JB-PS2*	Painted with Trim Pots	
HI 215JB-PS3**	Painted with TB-10	
HI 215JB-PS4**	Painted with Trim pots and TB-10	
HI 215JB-FG1	Fiberglass Standard	
HI 215JB-FG2*	Fiberglass with Trim Pots	
HI 215JB-FG3**	Fiberglass with TB-10	
HI 215JB-FG4*	Fiberglass with Trim Pots and TB-10	
HI 215JB-SC	Summing card, no enclosure	
HI 215JB-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

<u>Current in ma</u>

- Max ma for 4 360Ω LCs: 57
- Max ma for 8 360Ω LCs: 114
- Max ma for 4 1100Ω LCs: 18
- Max ma for 8 1100Ω LCs: 38

<u>Approvals</u>

• CE 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 $^{\text{TM}}$ line and all other load points.

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

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. • 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.

E

- **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.



Hardy Process Solutions

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> > 04/15

- Visit our web site for:
- full product specifications
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 operator's manual
- operator s manual

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