

Junction Boxes / Simulators

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JB4SS

TuffSeal® Signal Trim Junction Box



Approvals



Specifications

Cable Fittings:

- P/N 88956:
 - (4) PG7 0.118-0.255 strain relief
 - (2) PG11 0.197-0.394 strain relief
 - (1) PreVent™ breather vent
- P/N 107700:
 - (4) PG9 0.138-0.315 strain relief
 - (2) PG11 0.197-0.394 strain relief
 - (1) PreVent™ breather vent

Enclosure:

Stainless Steel NEMA Type 4X

Connectors:

Spring clamp screwless, 12-28 AWG

Trimming:

Individual cell, signal trim

Temperature:

Operating Range: 0°F to 122°F (-18°C to 50°C)

Potentiometers:

100,000 ohm, 25-turn cermet

Circuit Board:

3.8 in x 2.3 in, with conformal coating

Warranty:

One-year limited warranty

Standard Features

- Stainless steel, NEMA Type 4X enclosure
- Jumpers to enable/disable a load cell
- PreVent™ breather vent
- Conformal coated circuit board
- Number of cells: Two, three or four single cells
- Expansion port

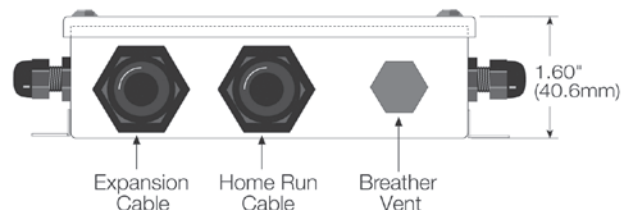
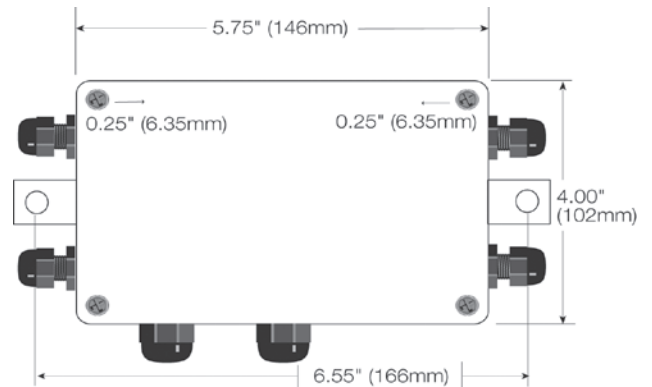
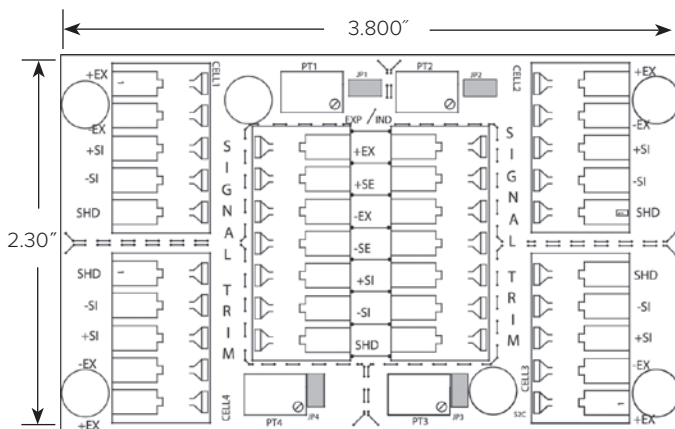
Applications

- Floor, tank, hopper scales

Part Number/Price

Part #	Description	Price
88956	JB4SS signal trim junction box with PG7 cord grips for load cells	\$275.00
107700	JB4SS signal trim junction box with PG9 cord grips for load cells	\$290.00
88958	Board only	\$175.00
182990	Board only with standoffs	\$180.00
165271	Enclosure only (Includes cord grips and filter)	\$150.00

Note: Do not mix junction box models or use other brands of junction boxes with Rice Lake junction boxes. There is a risk of system instability.



Specifications

Cable Fittings:

- (4) PG7 0.118-0.255 strain relief
- (2) PG11 0.197-0.394 strain relief
- (1) PreVent™ breather vent

Enclosure:

Stainless steel NEMA Type 4X

Temperature:

Operating Range: 0°F to 122°F (-18°C to 50°C)

Connectors:

Spring clamp screwless, 12-28 AWG

Trimming:

Individual cell, excitation trim

Potentiometers:

100 ohm, 25-turn cermet

Circuit Board:

3.8 in x 2.3 in, with conformal coating

Warranty:

One-year limited warranty

Approvals



Standard Features

- Stainless steel, NEMA Type 4X enclosure
- Jumpers to enable trimming
- PreVent™ breather vent
- Conformal coated circuit board
- Number of cells: Two, three or four single cells
- Expansion port

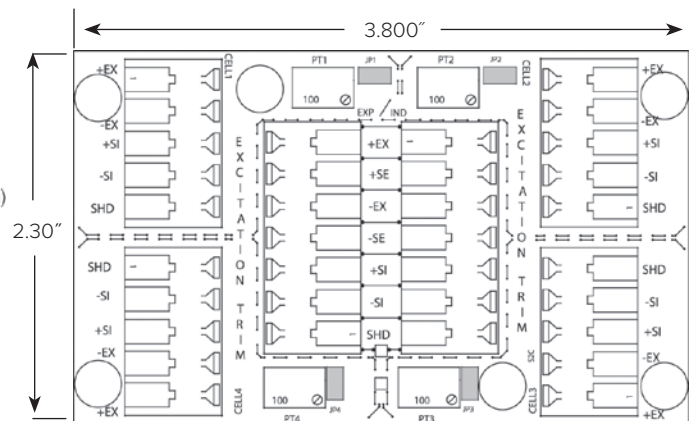
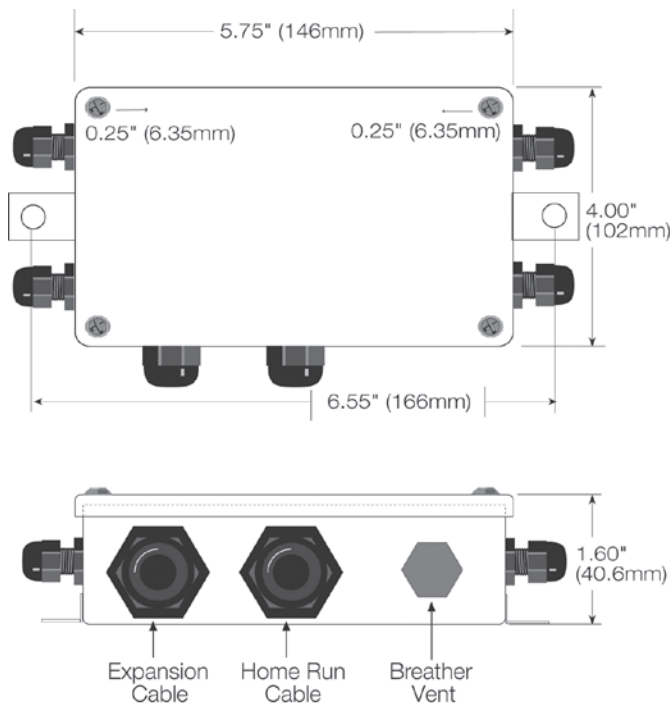
Applications

- Floor, tank, hopper scales

Part Number/Price

Part #	Description	Price
91779	JB4ES excitation trim junction box	\$275.00
89446	Board only	\$170.00
165271	Enclosure only (includes cord grips and filter)	\$150.00

Note: Do not mix junction box models or use other brands of junction boxes with Rice Lake junction boxes. There is a risk of system instability.



JB4SP and JB4SPT

TuffSeal® Signal Trim Junction Box



Approvals



Specifications

Cable Fittings:

- (4) PG7 0.118-0.255 strain relief
- (2) PG11 0.197-0.394 strain relief
- (1) PreVent™ breather vent

Enclosure:

Molded FRP (NEMA Type 4X) enclosure with overlapping solid cover, stainless steel screws

Temperature:

Operating Range: 0°F to 122°F (-18°C to 50°C)

Connectors:

Spring clamp screwless, 12-28 AWG

Trimming:

Individual cell, signal trim

Potentiometers:

100,000 ohm, 25-turn cermet

Circuit Board:

3.8 in x 2.3 in, with conformal coating

Warranty:

One-year limited warranty

Standard Features

- Fiberglass Reinforced Polyester (FRP), NEMA Type 4X enclosure with stainless steel cover screws
- Jumpers to enable/disable a load cell
- PreVent™ breather vent
- Conformal coated circuit board
- Number of cells: Two, three or four single cells
- Expansion port

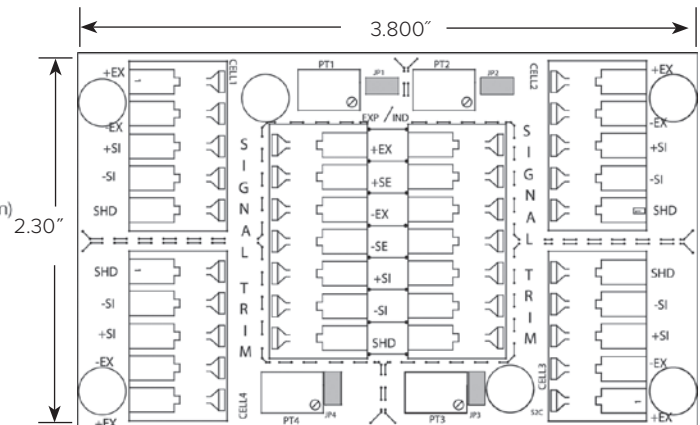
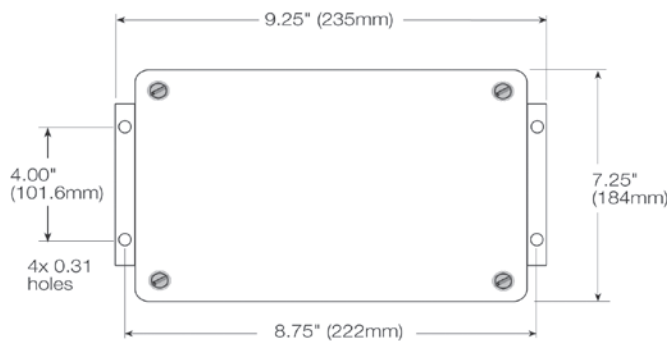
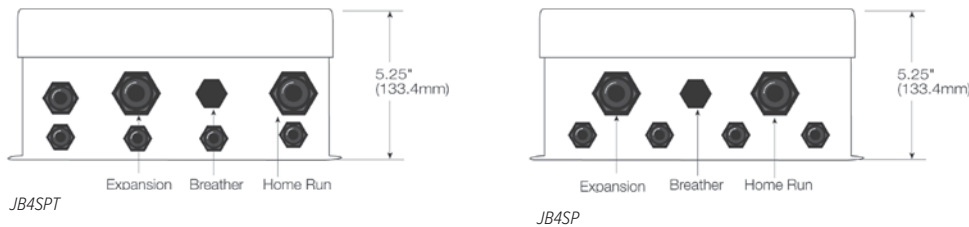
Applications

- Tank and hopper scales

Part Number/Price

Part #	Description	Price
91780	JB4SP signal trim four-channel with expansion	\$285.00
92762	JB4SPT signal trim with transient protection (not FM approved)	\$475.00
88958	Board only	\$175.00
89894	Transient board	\$235.00
165272	Enclosure only (does not include cord grips and filter)	\$145.00

Note: Do not mix junction box models or use other brands of junction boxes with Rice Lake junction boxes. There is a risk of system instability.



JB4EP and JB4EPT

TuffSeal® Excitation Trim Junction Box

Specifications

Cable Fittings:

- (4) PG7 0.118-0.255 strain relief
- (2) PG11 0.197-0.394 strain relief
- (1) PreVent™ breather vent

Enclosure:

Molded FRP (NEMA Type 4X) enclosure with overlapping solid cover, stainless steel screws

Temperature:

Operating Range: 0°F to 122°F (-18°C to 50°C)

Connectors:

Spring clamp screwless, 12-28 AWG

Trimming:

Individual cell, excitation trim

Potentiometers:

100 ohm, 25-turn cermet

Circuit Board:

3.8 in x 2.3 in, with conformal coating

Warranty:

One-year limited warranty

Approvals



PN 92763
Not FM approved



Photo of JB4EP

Standard Features

- Fiberglass Reinforced Polyester (FRP), NEMA Type 4X enclosure with stainless steel cover screws
- Jumpers to enable/disable a load cell
- PreVent™ breather vent
- Conformal coated circuit board
- Number of cells: Two, three or four single cells
- Expansion port

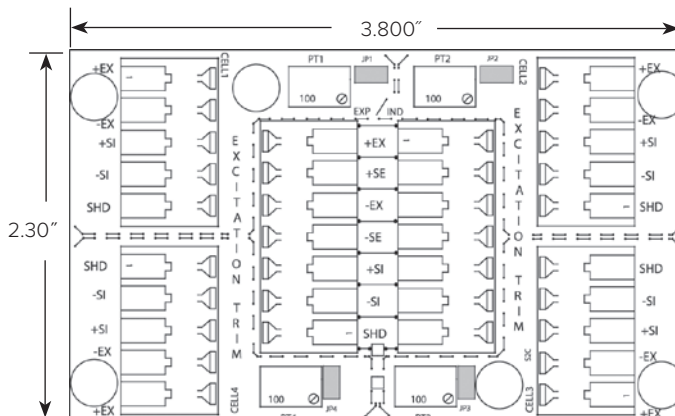
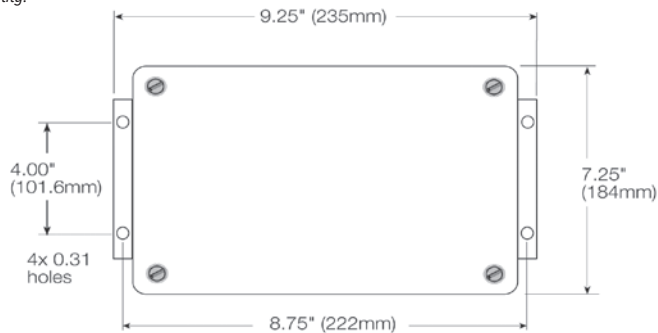
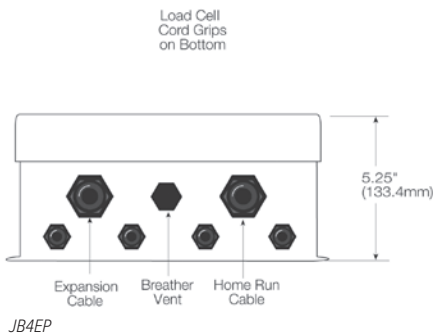
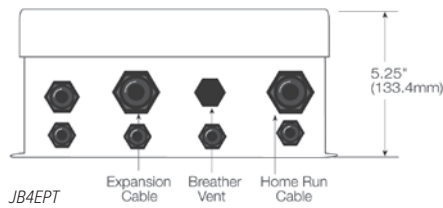
Applications

- Tank and hopper scales

Part Number/Price

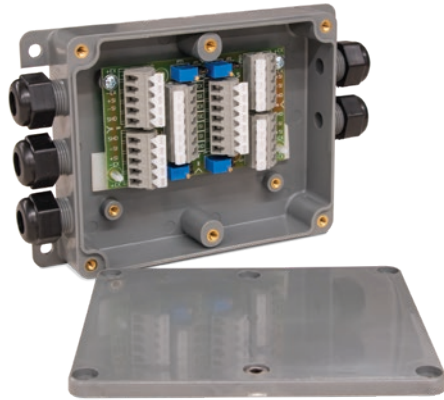
Part #	Description	Price
91781	JB4EP excitation trim junction box	\$285.00
92763	JB4EPT excitation trim junction box with transient protection (not FM approved)	\$475.00
89446	Board only	\$170.00
89894	Transient board	\$235.00
165272	Enclosure only (does not include cord grips or filter)	\$145.00

Note: Do not mix junction box models or use other brands of junction boxes with Rice Lake junction boxes. There is a risk of system instability.



EL204

Signal Trim Junction Box



Standard Features

- ABS enclosure with molded-in cable fittings
- Premium screw terminals
- Number of cells: Two, three or four single cells

Applications

- Floor, hopper, tank or livestock applications

Part Number/Price

Part #	Description	Price
73428	EL204 junction box	\$210.00
88958	Board only	\$175.00

Note: Do not mix junction box models or use other brands of junction boxes with Rice Lake junction boxes. There is a risk of system instability.

Specifications

Cable Fittings:

Five watertight nylon compression fittings, 0.210 in x 0.280 in (5.3 mm x 7.1 mm)

Connectors:

Spring clamp screwless, 12-28 AWG

Temperature:

Operating Range: 0°F to 122°F (-18°C to 50°C)

Trimming:

Individual cell trim, signal trim

Potentiometers:

100,000 ohm, 25-turn cermet

Enclosure:

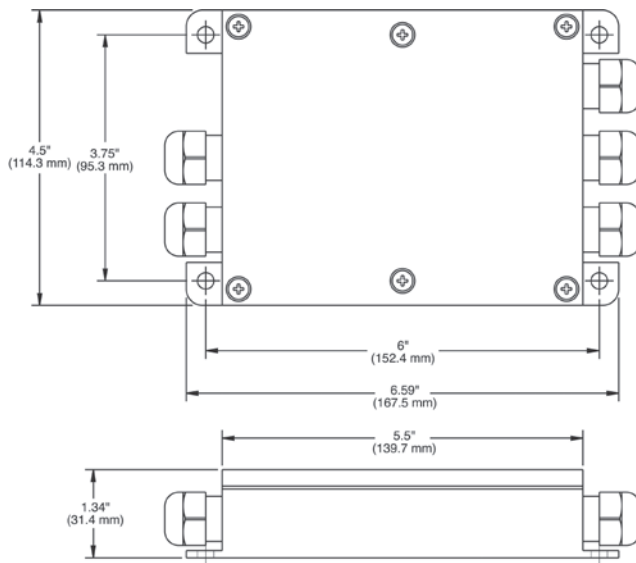
ABS with molded through-fittings, sealed six-screw lid

Circuit Board:

3.8 in x 2.3 in, with conformal coating

Warranty:

One-year limited warranty



Specifications

Cable Fittings:

Five nylon 0.187 in-0.312 in (4.7 mm-7.9 mm) cable strain reliefs

Connectors:

Electrovert 0.197 in (5.0 mm) miniature two piece connectors. Maximum wire size # 14 AWG, connectors are removable for easy wiring.

Trimming:

Individual cell trim, signal trim

Potentiometers:

100,000 ohm, 25-turn cermet

Temperature:

Operating Range: 0°F to 122°F (-18°C to 50°C)

Enclosure:

Stainless steel NEMA Type 4X, 40 PSI washdown

Circuit Board:

6.5 in x 1.5 in, with anti-fungal coating



Standard Features

- Stainless steel, NEMA Type 4X enclosure
- Strain relief cable fittings
- Removable connectors for easy wiring
- Number of cells: Two or four single cells (even number of cells only)
- Any unused channels require modification

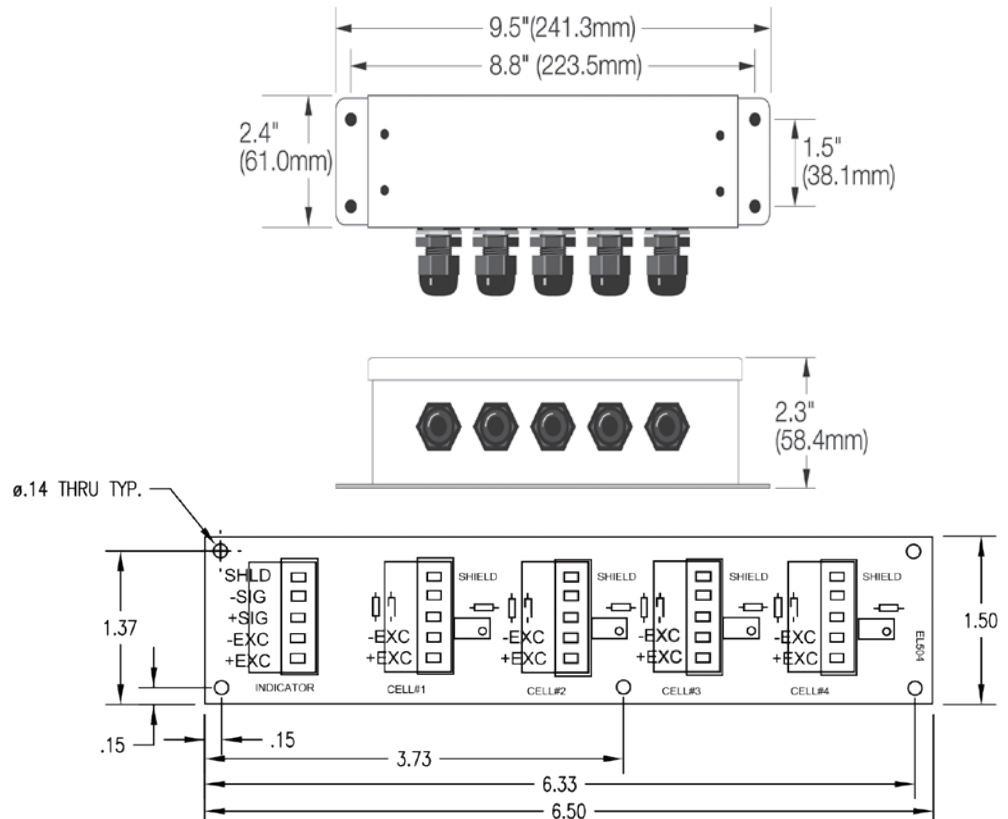
Applications

- Truck and floor scales
- Limited space installations

Part Number/Price

Part #	Description	Price
21165	EL504 signal trim junction box	\$395.00
21296	Board only	\$275.00
165274	Enclosure only	\$175.00

Note: Do not mix junction box models or use other brands of junction boxes with Rice Lake junction boxes. There is a risk of system instability.



JB8SP

TuffSeal® Signal Trim Junction Box



Approvals



Specifications

Cable Fittings:

- (9) 3/8 in NPT 0.157 in-0.314 in
- (2) 1/2 in NPT 0.272 in-0.472 in
- (1) PreVent™ breather vent

Enclosure:

Molded FRP (NEMA Type 4X) enclosure with overlapping solid cover, stainless steel screws

Connectors:

Pluggable screw type, 12-28 AWG

Trimming:

Individual cell trim, range

Potentiometers:

100,000 ohm, 25 turn cermet

Temperature:

Operating Range: 0°F to 122°F (-18°C to 50°C)

Circuit Board:

5.7 in x 7.2 in with conformal coating

Warranty:

One-year warranty

Standard Features

- Fiberglass Reinforced Polyester (FRP), NEMA Type 4X enclosure
- PreVent™ breather vent
- Conformal coated circuit board
- Removable load cell connectors
- Section and individual cell trim capability
- Number of cells: Two, four, six or eight single load cells (even number of cells only)
- Expansion port

Applications

- Truck, livestock and railroad scales

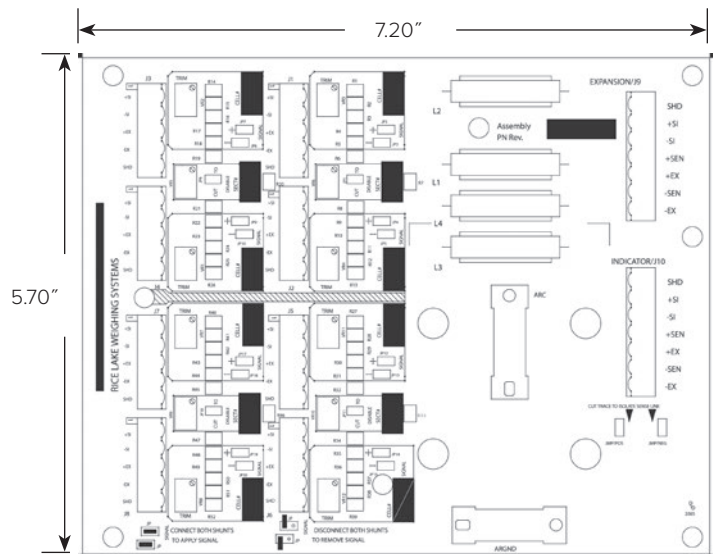
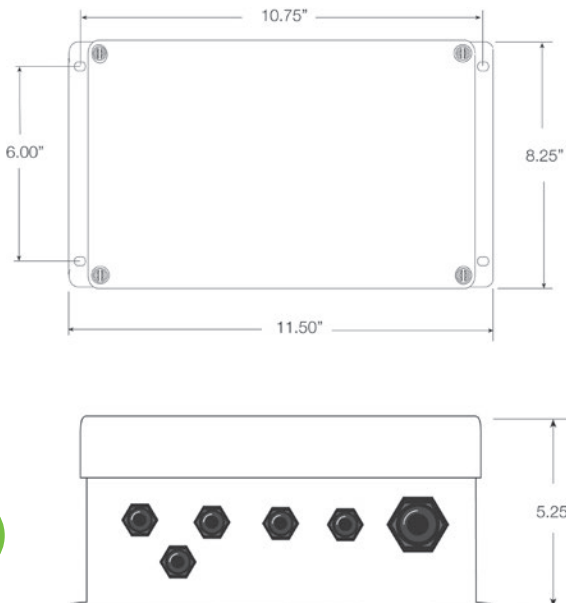
Part Number/Price

Part #	Description	Price
91782	JB8SP signal trim eight-channel with expansion	\$465.00
173807	JB8SP signal trim eight-channel with expansion, FM approved	\$495.00
89889	Board only	\$395.00
172415	Board only, FM approved	\$415.00
165273	Enclosure only (does not include cord grips and filter)	\$165.00

Note: Do not mix junction box models or use other brands of junction boxes with Rice Lake junction boxes. There is a risk of system instability.

Options/Accessories

Part #	Description	Price
92734	Coupling, 1/2 in NPT cord grip to 3/4 in NPT conduit fitting	\$27.00
92735	Coupling, 3/8 in NPT cord grip to 3/4 in NPT conduit fitting	\$27.00



JB8SPT

TuffSeal® Signal Trim Junction Box

Specifications

Cable Fittings:

- (9) 3/8 in NPT 0.157 in-0.314 in
- (2) 1/2 in NPT 0.272 in-0.472 in
- (1) PreVent™ breather vent

Enclosure:

Molded FRP (NEMA Type 4X) enclosure with overlapping solid cover, stainless steel screws

Connectors:

Pluggable screw type, 12-28 AWG

Trimming:

Individual cell trim

Potentiometers:

100,000 ohm, 25-turn cermet

Temperature:

Operating Range: 0°F to 122°F (-18°C to 50°C)

Circuit Board:

5.7 in x 7.2 in with conformal coating

Warranty:

One-year warranty



Standard Features

- Transient Protection
- Fiberglass Reinforced Polyester (FRP), NEMA Type 4X enclosure
- PreVent™ breather vent
- Conformal coated circuit board
- Removable load cell connectors
- Section and individual cell trim capability
- Field replaceable transient protection
- One coupling, 0.5 in NPT cord grip to 0.75 in NPT conduit fitting for homerun cable
- Number of cells: Two, four, six or eight single load cells (even number of cells only)
- Expansion port

Applications

- Truck, livestock and railroad scales

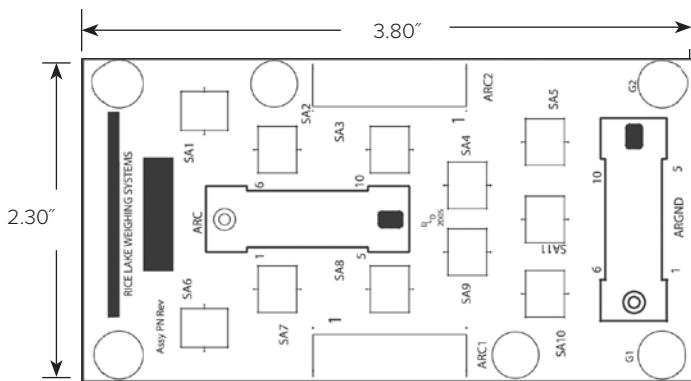
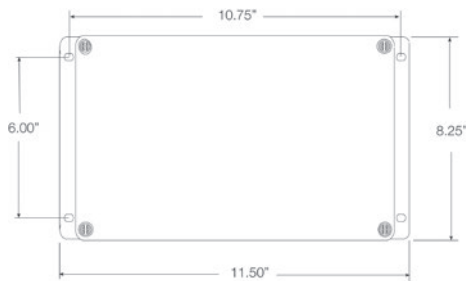
Part Number/Price

Part #	Description	Price
91783	JB8SPT signal trim junction box with transient protection	\$665.00
89889	Board only	\$395.00
89894	Transient board	\$235.00
165273	Enclosure only (does not include cord grips and filter)	\$165.00

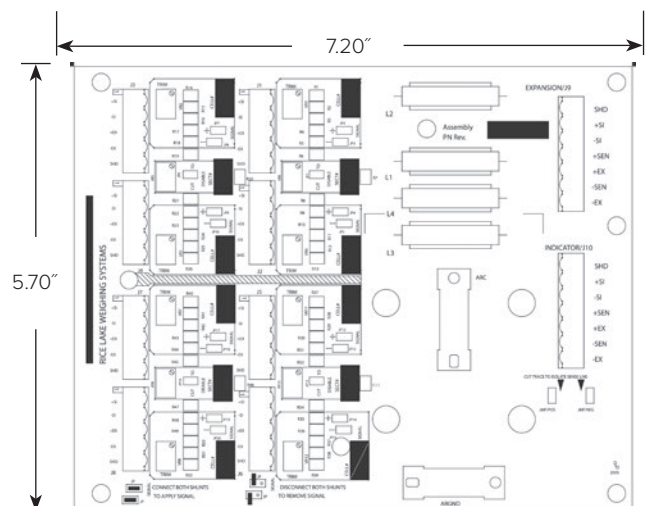
Note: Do not mix junction box models or use other brands of junction boxes with Rice Lake junction boxes. There is a risk of system instability.

Options/Accessories

Part #	Description	Price
92734	Coupling, 1/2 in NPT cord grip to 3/4 in NPT conduit fitting	\$27.00
92735	Coupling, 3/8 in NPT cord grip to 3/4 in NPT conduit fitting	\$27.00



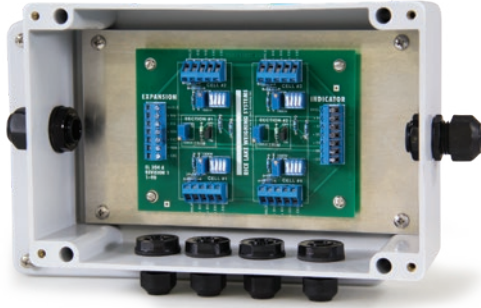
Transient Board



Load Cell Board

EL304A

Signal Trim Junction Box



Specifications

Cable Fittings:

Four nylon cable strain reliefs 0.079-0.236 in (2.0-6.0 mm)
Two nylon cable strain reliefs 0.236-0.354 in (6.0-9.0 mm)

Connectors:

Electrovert 0.197 in (5.0 mm) miniature screw terminals. Maximum wire size # 14 AWG

Trimming:

Individual cell and section, signal trim

Potentiometers:

100,000 ohm, 25-turn cermet

Enclosure:

FRP NEMA Type 4X, 40 PSI washdown

Standard Features

- Fiberglass Reinforced Polyester (FRP), NEMA Type 4X enclosure
- Strain relief cable fittings
- Individual cell signal disconnect switches
- Number of cells: Two or four single cells (even number of cells only)
- Corner and/or section trim applications
- Expansion port

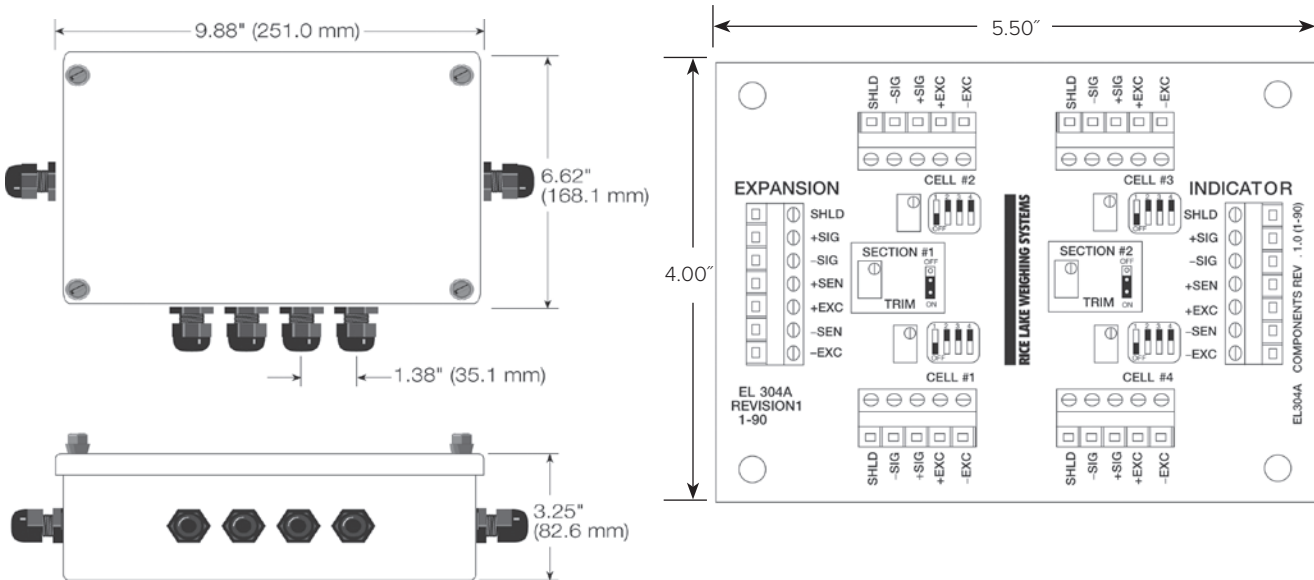
Applications

- Livestock scales
- Tank and vessel weighing

Part Number/Price

Part #	Description	Price
21169	EL304A signal trim four-channel junction box	\$325.00
21301	Board only	\$235.00
165275	Enclosure only (includes cord grips)	\$180.00

Note: Do not mix junction box models or use other brands of junction boxes with Rice Lake junction boxes. There is a risk of system instability.



Specifications

Mounting Centers:

3.75 in x 2.31 in (95.2 mm x 58.7 mm)

Cable Fittings:

Nylon waterproof strain-relief type

Temperature:

Operating Range: 0°F to 122°F (-18°C to 50°C)

Cable Diameter:

0.079-0.314 in

Potentiometers:

100,000 ohm, 25-turns cermet

Trimming:

Individual cell and section signal and excitation trimming

Terminal Block:

Rated 300V/15A; 7-position screw terminal can each accommodate up to #16 AWG

Warranty:

One-year limited warranty



Standard Features

- Transient protection
- Fiberglass Reinforced Polyester (FRP), NEMA Type 4X enclosure
- Signal or excitation trim
- Front panel mounting
- Strain relief cable fittings
- Number of cells: 1 through 10
- Trims odd numbers of cells without modification

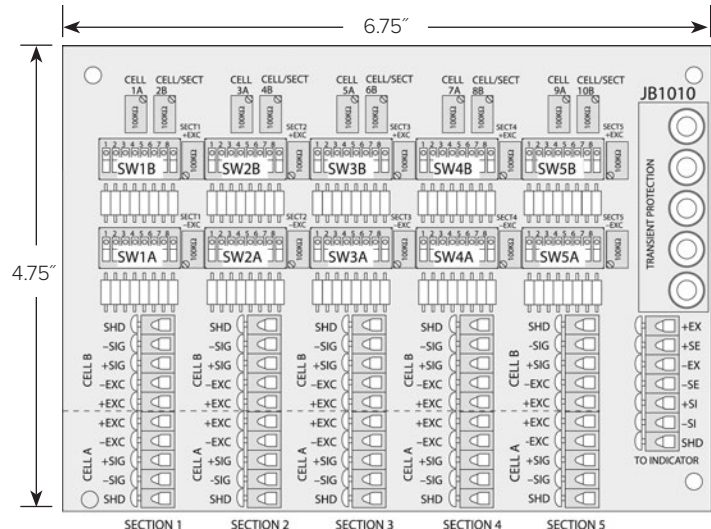
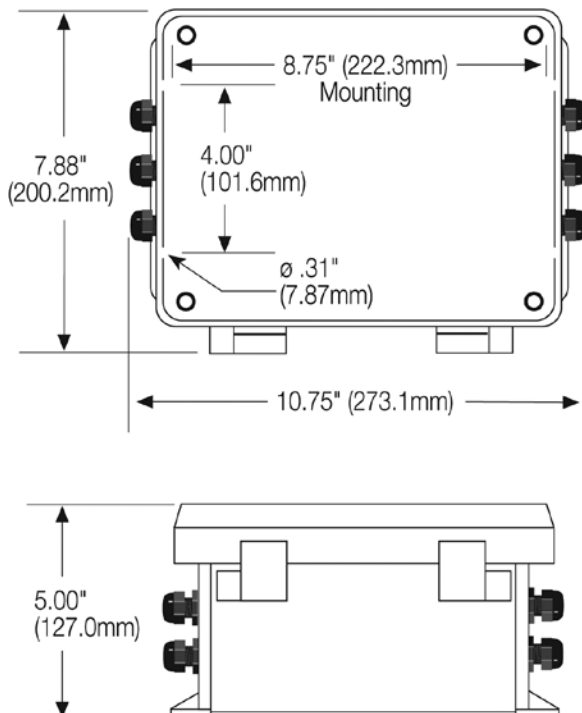
Applications

- Tank, truck, railroad, hopper and floor scales
- Universal field replacement of existing boxes
- Expansion of existing scales

Part Number/Price

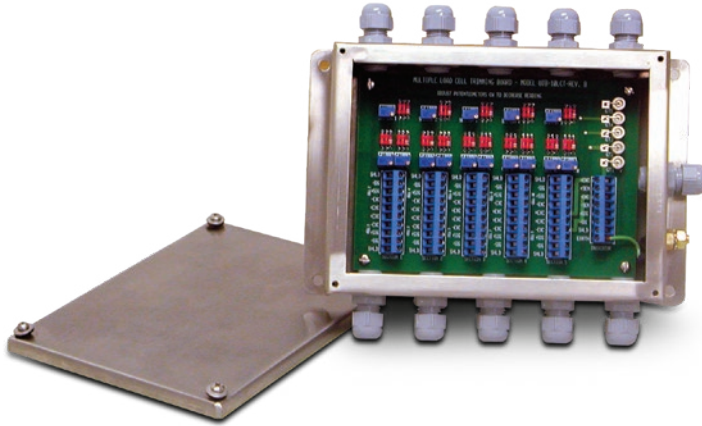
Part #	Description	Price
36231	JB1010 signal/excitation trim junction box	\$685.00
36351	Board only	\$475.00
165276	Enclosure only (includes cord grips)	\$275.00

Note: Do not mix junction box models or use other brands of junction boxes with Rice Lake junction boxes. There is a risk of system instability.



JB1010ST

Signal Trim Junction Box



Specifications

Cable Fittings:

11 nylon cable strain reliefs for cable dimension range: 0.079-0.314 in

Connectors:

Electrovert 0.197 miniature screw terminals, Five positions
Maximum wire size: # 14 AWG
External enclosure ground stud

Trimming:

Individual cell and section signal trim

Potentiometers:

100,000 ohm, 25-turn cermet, individual trim
100 ohm potentiometers for section trimming

Enclosure:

Stainless steel

Temperature:

Operating Range: 0°F to 122°F (-18°C to 50°C)

Circuit Board:

6.5 in x 4.5 in

Warranty:

One-year limited warranty

Standard Features

- Transient protection using gas discharge tubes
- Stainless steel, NEMA Type 4X enclosure
- Section and individual cell trim capability
- Compact enclosure only 1.75 in deep
- Strain relief cable fitting
- Number of cells: Two, four, six, eight or 10 single load cells
- Any unused channels require modification
- Legal for Trade sealing screws, wire and seal included

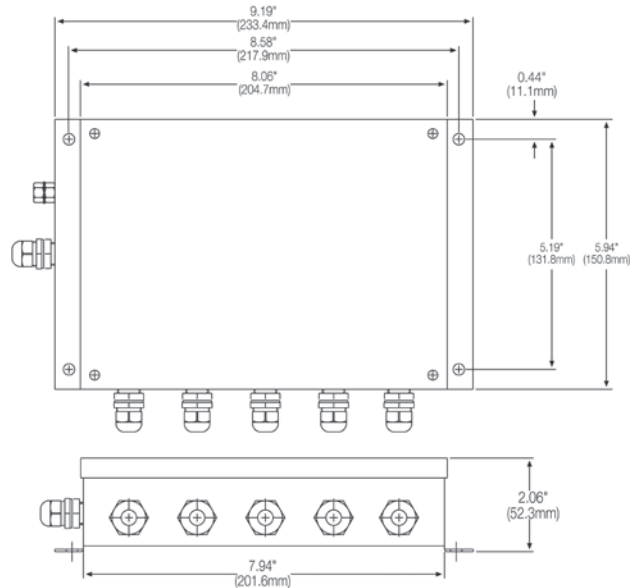
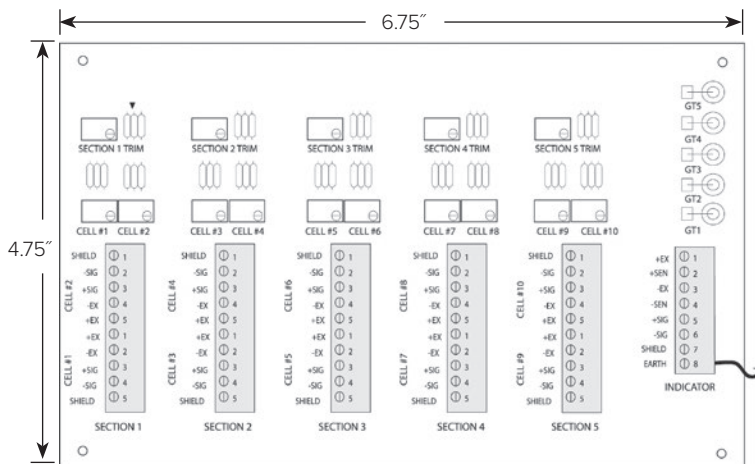
Applications

- Tank, truck and railroad scales
- Summing 10 load cells with individual and section trimming capability

Part Number/Price

Part #	Description	Price
68813	JB 1010ST signal trim junction box	\$615.00
68811	Board only	\$465.00
165277	Enclosure only (includes cord grips)	\$485.00

Note: Do not mix junction box models or use other brands of junction boxes with Rice Lake junction boxes. There is a risk of system instability.



Replacement Junction Boxes, Boards or Components

Model	Complete J-Box Replacement	Replacement Board Only	Replacement Cord Grips	Replacement Pressure & Condensation Vent	Desiccant Pack
JB4SS	88956 \$275.00	88958 \$175.00	58983=PG7 \$5.00 59001=PG11 \$3.70	88733 PreVent™ breather (vent) \$22.00 88734 (vent nut) \$1.05	92240 \$1.17
JB4ES	91779 \$275.00	89446 \$170.00	58983=PG7 \$5.00 59001=PG11 \$3.70	88733 PreVent™ breather (vent) \$22.00 88734 (vent nut) \$1.05	92240 \$1.17
JB4SP JB4SPT	91780 \$285.00 92762 \$475.00	88958 (load cell) \$175.00 & 89894 (transient protection) \$235.00	58983=PG7 \$5.00 59001=PG11 \$3.70	88733 PreVent™ breather (vent) \$22.00 88734 (vent nut) \$1.05	16039 \$2.23
JB4EP JB4EPT	91781 \$285.00 92763 \$475.00	89446 (load cell) \$170.00 & 89894 (transient protection) \$235.00	58983=PG7 \$5.00 59001=PG11 \$3.70	88733 PreVent™ breather (vent) \$22.00 88734 (vent nut) \$1.05	16039 \$2.23
EL204	73428 \$210.00	88958 \$175.00	N/A	N/A	N/A
JB8SP	91782 \$465.00 173807 FM approved \$495.00	89889 \$395.00 172415 FM approved \$415.00	15655 (cord grip) \$2.10 & 15656 (nut) \$1.05 =3/8" NPT 15628 (cord grip) \$5.00 & 15630 (nut) \$3.00 =1/2" NPT	88733 PreVent™ breather (vent) \$22.00 88734 (vent nut) \$1.05	16039 \$2.23
JB8SPT	91783 \$665.00	89889 (load cell) \$395.00 & 89894 (transient protection) \$235.00	15655 (cord grip) \$2.10 & 15656 (nut) \$1.05 =3/8" NPT 15628 (cord grip) \$5.00 & 15630 (nut) \$3.00 =1/2" NPT	88733 PreVent™ breather (vent) \$22.00 88734 (vent nut) \$1.05	16039 \$2.23
EL304A	21169 \$325.00	21301 \$235.00	N/A	N/A	N/A
JB1010	36231 \$685.00	36351 \$475.00	N/A	N/A	N/A
JB1010ST	68813 \$615.00	68811 \$465.00	N/A	N/A	N/A
EL210	91781 , JB4EP* \$285.00	92472 \$155.00	58983=PG7 \$5.00 59001=PG11 \$3.70	N/A	N/A
EL211A	91780 , JB4SP* \$285.00 (However the board does not have section trim capabilities)	92473 , \$160.00 (However the board does not have section trim capabilities)	58983=PG7 \$5.00 59001=PG11 \$3.70	N/A	N/A
EL604-AL	88956 , JB4SS* \$275.00	88958 \$175.00	58983=PG7 \$5.00 59001=PG11 \$3.70	N/A	N/A
EL604STA	88956 , JB4SS* \$275.00	88958 \$175.00	58983=PG7 \$5.00 59001=PG11 \$3.70	N/A	N/A
EL604ETA	91779 , JB4ES* \$275.00	89446 \$170.00	58983=PG7 \$5.00 59001=PG11 \$3.70	N/A	N/A
EL504	21165 \$395.00	21296 \$275.00	N/A	N/A	N/A
JB808S	91782 , JB8SP* \$465.00	92471 \$385.00	15655 (cord grip) \$2.10 & 15656 (nut) \$1.05 =3/8" NPT 15628 (cord grip) \$5.00 & 15630 (nut) \$3.00 =1/2" NPT	N/A	N/A
JB818ST	91783 , JB8SPT* \$665.00	Need (!) 77445 \$55.00 (!) 89889 \$395.00, & (!) 89894 \$235.00	15655 (cord grip) \$2.10 & 15656 (nut) \$1.05 =3/8" NPT 15628 (cord grip) \$5.00 & 15630 (nut) \$3.00 =1/2" NPT	N/A	N/A

*See catalog pages for enclosure dimensions

iQUBE²®

Digital Diagnostic Junction Box



APPROVALS



Specifications

Enclosure:

Stainless steel or Fiberglass Reinforced Polyester (FRP), NEMA Type 4X enclosure

Voltage Input:

115/230 V AC power supply DC/DC converter for 9-36V
6-12 V DC to CPU

Load Cell Inputs:

Four channels per board up to four networked boards

A/D Sampling Rate:

2.5-500 Hz (selectable)

Temperature Range:

Certified: 14°F to 104°F (-10°C to 40°C)
Operating: -13°F to 140°F (-25°C to 60°C)
Storage: 14°F to 158°F (-25°C to 70°C)

Analog signal sensitivity:

0.3 uV/grad at 30 Hz
0.5 uV/grad at 100 Hz
1.2 uV/grad at 500 Hz

Load Cell Excitation:

5 V DC, 57 mA maximum per channel

Analog range:

-4.5 mV/V to 4.5 mV/V

Approvals:

NTEP 03-032A1
Measurement Canada - AM-5561, Rev. 1
UL E151461
CE

Warranty:

Two-year limited warranty

Standard Features

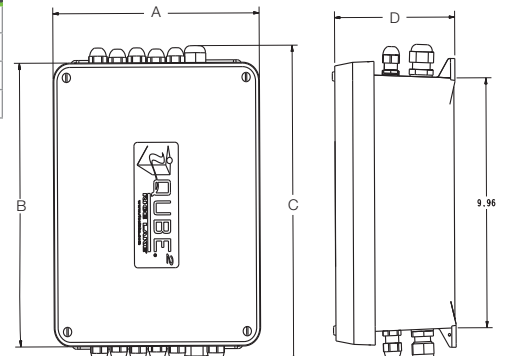
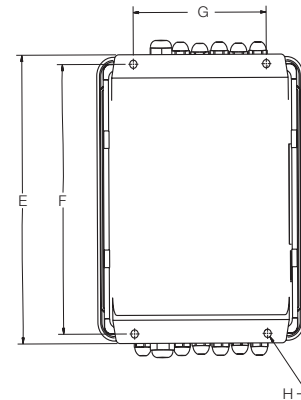
- iQUBE²® board has four A/D channels
- Stainless steel or Fiberglass Reinforced Polyester (FRP), NEMA Type 4X enclosure
- Supports networking up to four boards, for 16 A/D channels; connection can be up to four separate platforms with a system total, or four separate scale systems
- Diagnostic routines for weighing errors and system health
- Cell tests for overloaded, underloaded, zero reference, drift, noise and unbalanced conditions
- Onboard status LEDs for communication and visual bi-color indication of cell health
- Cell emulator compensates for load cell failure until a repair can be made
- Cal-Match[®] algorithm automatically trims and calibrates the scale in one pass of test weights (stopping over each mount)
- Standard communication RS-232/RS-422
- Option card slot for fiber-optic, Ethernet TCP/IP, wireless TCP/IP, USB or RS-232/485
- Four digital I/O per card, for push-button operation, setpoint control or cell status
- Communicates to 920i[®], 1280, VIRTUⁱ2[®] using ASCII serial commands

Applications

- Truck and railroad scales
- Tank and hopper scales
- Multi-channel scales

Dimensions

Stainless Steel 8 in x 10 in			
A	8.91 in (226.3 mm)	E	11.50 in (292.1 mm)
B	10.13 in (257.3 mm)	F	10.75 in (268.5 mm)
C	12.57 in (319.3 mm)	G	6.00 in (152.4 mm)
D	4.29 in (109 mm)	H	0.312 in (7.9 mm)
FRP Large 10 in x 12 in			
A	11.30 in (287 mm)	E	13.53 in (343.7 mm)
B	13.33 in (338.6 mm)	F	12.76 in (324.1 mm)
C	14.00 in (355.6 mm)	G	8.00 in (203.2 mm)
D	5.57 in (141.5 mm)	H	0.312 in (7.9 mm)
FRP Small 8 in x 10 in			
A	9.31 in (236.5 mm)	E	11.51 in (287.2 mm)
B	11.31 in (287.2 mm)	F	10.75 in (273.1 mm)
C	12.85 in (326.4 mm)	G	6.00 in (152.4 mm)
D	5.42 in (137.7 mm)	H	0.312 in (7.9 mm)



Part Number/Price

Part #	Description	Est. Weight	Price
With AC Power Supply			
108425*	iQUBE2, four-channel, FRP 8 in x 10 in junction box	9 lb	\$1,200.00
108426	iQUBE2, four-channel, FRP 10 in x 12 in junction box	11 lb	\$1,400.00
108427	iQUBE2, eight-channel, FRP 10 in x 12 in junction box	11 lb	\$2,300.00
108428*	iQUBE2, four-channel, stainless steel 8 in x 10 in junction box	13 lb	\$2,250.00
Without Power Supply			
108429*	iQUBE2, four-channel, FRP 8 in x 10 in junction box	8 lb	\$1,100.00
108430	iQUBE2, four-channel, FRP 10 in x 12 in junction box	10 lb	\$1,350.00
108431	iQUBE2, eight-channel, FRP 10 in x 12 in junction box	10 lb	\$2,200.00
108432*	iQUBE2, four-channel, stainless steel 8 in x 10 in junction box	12 lb	\$2,250.00
Conduit Adaptors			
92734	Conduit adaptor 3/8 in NTP to 3/4 in NPT		\$27.00
92735	Conduit adaptor 1/2 in NTP to 3/4 in NPT		\$27.00

* Enclosure size 8in x 10in required for truck scale junction box pocket

Note: Do not mix junction box models or use other brands of junction boxes with Rice Lake junction boxes. There is a risk of system instability.

Options/Accessories

Part #	Description	Price
108433	Four-channel iQUBE2 board with cables and connectors	\$900.00
97475	DC/DC power supply, 9-36 VDC (requires factory installation)	\$225.00
108434	Remote power supply 115/230 VAC and transient board with enclosure	\$350.00
109396	Transient board	\$65.00
110949	Transient board with mount	\$80.00
161954	Hotspot in FRP enclosure	\$3,175.00
Communication Card		
108579	RS-232/RS-485 port	\$260.00
77142	Ethernet TCP/IP	\$420.00
108671	Wireless LAN 802.11 B/G	\$570.00
93245	USB port	\$185.00
77143	Fiber-optic board	\$200.00
77788	Fiber-optic board (installed in 920i)	\$200.00
Duplex Fiber (Max Run 350 ft)		
78026	Fiber-optic cable, 100 ft	\$175.00
78027	Fiber-optic cable, 200 ft	\$328.00
78910	Fiber-optic cable, custom length	\$1.75/ft
Home Run Cable		
116587	EL166 16 gauge, six conductor, shielded	\$2.65/ft
Software		
108436	Virtui2 activation part number	\$500.00
112262	Firmware update flash cable	\$50.00
920i® Indicators for use with iQUBE2, requires version 4 software		
77790	920i universal, 115 VAC, without A/D	\$2,325.00
77791	920i universal, 230 VAC, without A/D	\$2,325.00
93243	920i deep universal, 115 VAC, without A/D	\$2,525.00
93244	920i deep universal, 230 VAC, without A/D	\$2,525.00
77792	920i panel mount, 115 VAC, without A/D	\$2,325.00
77793	920i panel mount, 230 VAC, without A/D	\$2,325.00
77794	920i wall mount, 115 VAC, without A/D	\$2,975.00
77795	920i wall mount, 230 VAC, without A/D	\$2,975.00



Sample Configurations*

*Not an actual system—illustrates connectivity

iQUBE²®

Digital Diagnostic Junction Box

JUNCTION BOXES/SIMULATORS

Options/Accessories

Part #	Description	Price
1280 Indicators for use with iQUBE2		
189623	1280 7in touch-only, AC power supply, no power cord, standard display, without A/D	\$2,880.00
188526	1280 7in touch-only, AC power supply, no power cord, high visibility display, without A/D	\$2,980.00
188395	1280 12in touch-only, AC power supply, no power cord, high visibility display, without A/D	\$3,605.00
181073	1280 panel mount, DC power supply, no power cord, standard display, without A/D	\$2,880.00
178473	1280 panel mount, AC power supply, no power cord, high visibility display, without A/D	\$2,980.00
205677	1280 wall mount, AC power supply, U.S. power cord, standard display, without A/D	\$3,480.00
171667	1280 wall mount, AC power supply, U.S. power cord, high visibility display, without A/D	\$3,580.00
174750	1280 panel mount, AC power supply, no power cord, standard display, without A/D	\$2,880.00
174207	1280 universal, AC power supply, Europe power cord, standard display, without A/D	\$3,080.00
171582	1280 universal, AC power supply, U.S. power cord, standard display, without A/D	\$3,080.00
188713	1280 universal, DC power supply, no power cord, standard display, without A/D	\$3,080.00
171540	1280 universal, DC power supply, no power cord, high visibility display, without A/D	\$3,180.00
172419	1280 universal, AC power supply, U.S. power cord, high visibility display, without A/D	\$3,180.00

www.ricelake.com | Phone: 800-472-6703

RICE LAKE

EL168

1-Cell Junction Box

Specifications

Dimensions:

(W x L x D) 4 in x 4 in x 2.5 in

Mounting Centers:

3.75 in x 2.31 in (95.2 mm x 58.7 mm)

Temperature:

Operating Range: 0°F to 122°F (-18°C to 50°C)

Cable Fittings:

Nylon waterproof strain-relief type

Cable Diameter:

0.079 in-0.314 in (2.0 mm-8.0 mm)

Terminal Block:

Rated 300 V/15 A; seven-position, screw terminal can each accommodate up to # 16 AWG

Warranty:

One-year limited warranty



Standard Features

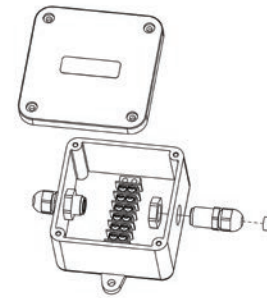
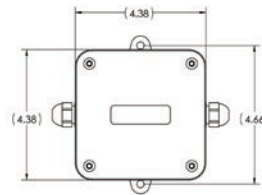
- Non-metallic PVC enclosure with separate input and output cable fittings
- No soldering, compression or swaged fittings are required

Applications

- For splicing or extending load cell cable

Part Number/Price

Part #	Description	Price
21161	EL168 one-cell junction box	\$80.00



Specifications

Protection Type:

Six-wire type with separate shield

Maximum Excitation Voltage:

22.8 VDC

Response Time:

Five nanoseconds

Peak Surge Currents:

100 amps

Series Resistance:

0.0 ohm

Series Inductance:

0.0 μh

Grounding:

10 AWG wire or larger (not provided)

Cable Fitting:

(2) nylon strain relief for 0.187-0.312 in diameter cable

Enclosure:

Impact-resistant polycarbonate NEMA Type 4X, maximum 40 psi washdown

Operating Temperature:

4°F to 121°F (-20°C to 85°C)

Circuit Board Dimensions:

2.22 x 2.22 in

Dimensions:

(W x H x D) 4.38 x 3.15 X 3.38

Warranty:

One-year limited warranty

Standard Features

- Avalanche diode design
- Full six-wire with shield protection
- NEMA Type 4X enclosure
- Unlimited number of parallel load cells; up to eight in series
- Terminal lugs provided

Applications

- Protects load cells and indicators from voltage transients
- Tank, bin and hopper scales
- Truck and railroad scales
- Suitable for outdoor use

Part Number/Price

Part #	Description	Price
33185	TP75 DC transient protection	\$335.00

Options/Accessories

Part #	Description	Price
31164	Circuit board only	\$260.00



TP75 DC

Transient Protection

UJB3T6 DC

Transient Protection



Standard Features

- Factory serviceable
- Full six-wire with shield protection
- #6 SEMS screw type; accepts spade lugs, tinned leads or bare wires up to #12 AWG
- Up to eight parallel or summed load cells
- 50K baud maximum transmission frequency

Applications

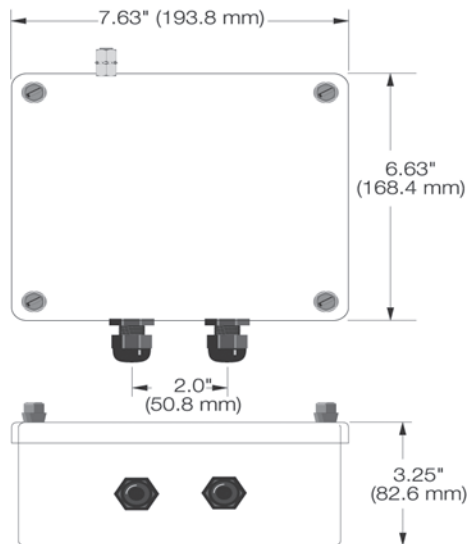
- Protects load cells from voltage transients
- Compatible with signals down to 1 μ V per grad
- Installations exposed to significant transients
- Protects serial communication lines

Part Number/Price

Part #	Description	Price
21134	UJB3T6	\$465.00

Options/Accessories

Part #	Description	Price
21135	Six-wire load cell transient protector, board only	\$285.00



Specifications

- Protection Type:**
Six-channel type with separate shield
- Maximum Excitation Voltage:**
20 VDC or 20 VAC
- Clamping Voltage:**
75 VDC or 75 VAC
- Clamping Time:**
75 VDC Stages <100 nanoseconds typical
- Peak Surge Currents:**
75 VDC Stage-5000 amperes
- Maximum Serial Transmission Rate:**
50K baud
- Series resistance:**
0.219 ohm typical
- Series inductance:**
110 μ H typical
- Grounding:**
20 ft insulated # 10 AWG wire
- Cable Fitting:**
Two nylon strain relief for 0.079-0.236 in diameter cable
- Enclosure:**
Fiberglass-Reinforced Polyester (FRP) NEMA Type 4X, maximum 40 psi washdown
- Operating Temperature:**
14°F to 104°F (-10°C to 40°C)
- Circuit Board:**
6.75 x 4.75 in with anti-fungal coating
- Dimensions:**
7.63 W x 6.63 H x 3.25 in D
- Warranty:**
One-year limited warranty

TP232 RS-232

High Energy Serial Protection



Specifications

Clamping Voltage (Stage One):
72 V DC minimum, 108 V DC maximum

Series Resistance (Stage Two):
2.7 ohm

Clamping Voltage (Stage Three):
14.3 V minimum, 15.7 V maximum

Temperature:
Operating Range: 0°F to 122°F (-18°C to 50°C)

Clamping Time:
Less than 5 x 10-9 seconds

Connectors:
Five-position terminal blocks

Dimensions:
Approximately 4.5 L x 3.3 W x 1.8 in H

Weight:
Approximately 0.42 lb

Approvals:
CE Marked

Warranty:
One-year limited warranty

Standard Features

- Two metal mounting brackets
- Three stages of protection: Gas discharge tube, series resistor and transient voltage suppressor (TVS)
- Two terminal posts for ground
- RS-232 high energy surge protector
- Terminal blocks for transmit, receive, request to send, clear to send and signal ground
- Safe for use with computers and PLCs

APPROVALS



Applications

- Indicators
- Remote displays
- Printers
- Computers
- PLC

Part Number/Price

Part #	Description	Price
69201	TP232	\$187.00

Options/Accessories

Part #	Description	Price
17778	12 in ground strap	\$19.00
17781	24 in ground strap	\$21.00
69516	Additional installation manual	\$6.00

Specifications

Variable Range:
0-3 mV/V

Impedance:
700 ohm nominal

Temperature:
Operating Range: 0°F to 122°F (-18°C to 50°C)

Connectors:
Binding posts suitable for banana plug or 14 gauge wire

Temperature Coefficient:
±100 ppm/ °C

Dimensions:
(W x L x H) 4.5 in x 3.5 in x 1.25 in

Warranty:
One-year limited warranty



Ranger 1
Variable Range Simulator

Standard Features

- ABS plastic case, weighs less than 1 lb
- Large vernier knob, smooth 10-turn potentiometer
- Ideal tool for troubleshooting a scale system, bench testing stability of indicators and setpoint simulation
- Binding posts are color coded to ISA S37.8 standard

Part Number/Price

Part #	Description	Price
68029	Ranger 1 variable range simulator	\$160.00

Options/Accessories

Part #	Description	Price
21116	Cable (4 ft) with banana plugs	\$68.00

Ranger 3

Variable Range Simulator



Standard Features

- ABS plastic case, weighs less than 1 lb
- Fixed rotary switch, -0.5 mV/V to 4.5 mV/V in nine steps of 0.5mV/V per step
- Ideal tool for calibrating the indicator A-D offset and gain setting
- A/D calibration steps for -0.5 mV/V for offset and 4.5 mV/V for gain
- Used in testing, troubleshooting and calibrating digital weight indicators
- Binding posts are color coded to ISA S37.8 standard

Part Number/Price

Part #	Description	Price
68030	Ranger 3 simulator	\$385.00

Options/Accessories

Part #	Description	Price
21116	Cable with banana plugs	\$68.00

Specifications

- Range:**
-0.5 mV/V-4.5 mV/V range
- Impedance:**
350 ohm nominal
- Nonlinearity:**
Less than 0.02%
- Connectors:**
Binding posts suitable for banana plug or 14-gauge wire
- Temperature Coefficient:**
±5 ppm/ °C
- Dimensions:**
(W x L x H) 4.5 in x 3.5 in x 1.25 in
- Warranty:**
One-year limited warranty

Transducer Simulator 4



Standard Features

- Designed for high accuracy
- Sealed lid with neoprene O-ring
- Dustproof and crush tested to 500 lb
- Four operational modes include: vernier adjustment, calibrated adjustment, 0.25 mV/V offset and 0.50 mV/V offset
- Ideal for setpoint or batching simulation

Part Number/Price

Part #	Description	Price
22513	Transducer simulator 4	\$835.00

Options/Accessories

Part #	Description	Price
21116	Cable with banana plugs	\$68.00

Specifications

- Range:**
Choose any fixed setting ± 0.25 mV or 0.50 mV through a 10-turn wire-wound potentiometer with locking clutch, fixed and variable
- Maximum Voltage:**
15 V
- Linearity:**
Less than ± 0.02% full scale
- Temperature Coefficient:**
Absolute 5 ppm/°C; Tracking less than 0.5 ppm/°C
- Load Factors:**
Simulates one, two, three, four or eight 350-ohm load cells; or two, four, six, eight or 16 700-ohm load cells
- Offset:**
+0.25mV/V for use with digitally calibrated meters requiring positive dead load for calibration
- Connectors:**
Six-way binding posts, suitable for loose wires or banana jacks
- Warranty:**
One-year limited warranty

Ranger 5

Variable Range Simulator



Specifications

Fixed Steps:

-0.5 mV/V-4.5 mV/V range

Vernier:

Variable range: up to 0.5 mV/V, up to 1 mV/V, up to 1.5 mV/V

Impedance:

350 ohm nominal

Nonlinearity:

Less than 0.02%

Connectors:

Binding posts suitable for banana plug or 14 gauge wire

Temperature Coefficient:

± 5 ppm/°C

Dimensions:

(L x W x H) 4.5 in x 3.5 in x 1.25 in

Warranty:

One-year limited warranty

Standard Features

- ABS plastic case, weighs less than 1 lb
- Fixed rotary switch, -0.5 mV/V to 4.5 mV/V in nine steps of 0.5 mV/V per step
- 10-turn vernier knob with locking graduated dial
- Vernier selection of four ranges: Off, fine, medium and coarse
- Ideal tool for calibrating indicator A/D offset and gain setting
- A/D calibration steps for -0.5 mV/V for offset and 4.5 mV/V for gain
- Used in testing, troubleshooting and calibrating digital weight indicators
- Binding posts are color coded to ISA S37.8 standard

Part Number/Price

Part #	Description	Price
68031	Ranger 5 simulator	\$485.00

Options/Accessories

Part #	Description	Price
21116	Cable with banana plugs	\$68.00

Ranger 7

Variable Range Simulator



Specifications

Vernier:

Two ranges; one is equal to the sum of the 0.05 mV/V switch and the 0 mV/V-0.5 mV/V switch. The other is the sum of the 0.5 mV/V, 0.1 mV/V and 0.01 mV/V switches.

Load Impedance:

Three settings:
 X0.5= 700 ohms
 X1= 350 ohms (one standard load cell)
 X4= 87.5 ohms (four load cell platform)

Linearity:

± 0.01% + 1æV

Connectors:

Low Thermal Electronics, Type 2758 precision gold plated binding posts Standard banana jacks or 14 AWG wire

Temperature Coefficient:

5 ppm/°C

Zero Offset:

± 0.0005 mV/V

Output Range:

0 mV/V-3 mV/V in 0.01 mV/V steps

LED Annunciators:

EXC +
 EXC -
 Offset ON
 0.5 mV/V
 0.1 mV/V

Standard Features

- Designed for high resolution
- Used in high precision testing, troubleshooting and calibrating digital weight indicators
- Switchable offset
- Painted die-cast enclosure

Part Number/Price

Part #	Description	Price
157323	Ranger 7 high resolution calibration simulator	\$945.00

Options/Accessories

Part #	Description	Price
21116	Cable with banana plugs	\$68.00

