

Junction Boxes / Simulators

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JB4SS

TuffSeal® Signal Trim Junction Box



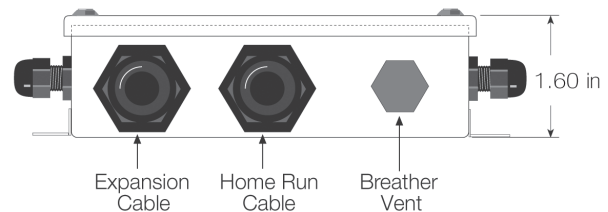
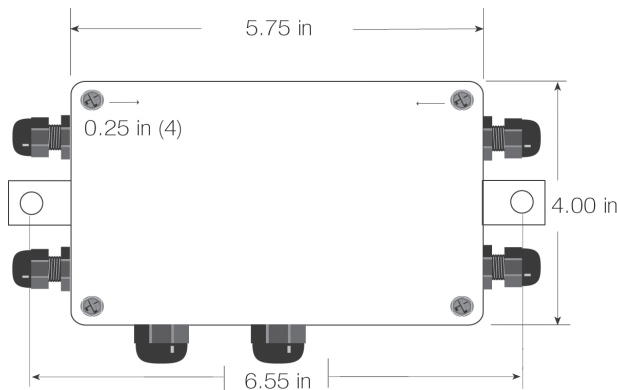
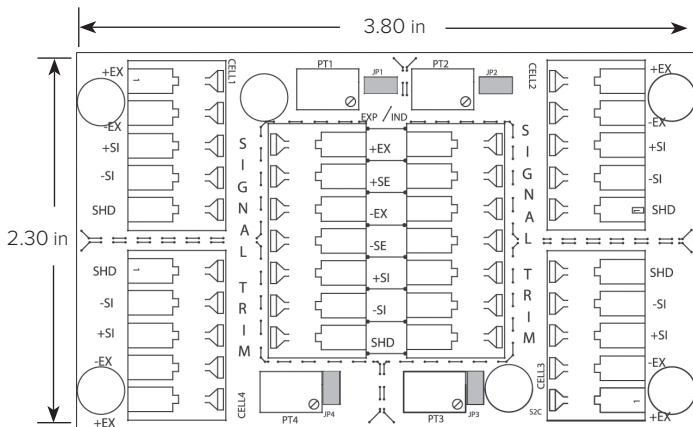
Approvals



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.



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

Specifications

Cable Fittings:

P/N 88956:

- (4) PG7 0.118 to 0.255 in strain relief
- (2) PG11 0.197 to 0.394 in strain relief

P/N 107700:

- (4) PG9 0.138 to 0.315 in strain relief
- (2) PG11 0.197 to 0.394 in strain relief

Rating/Material:

- NEMA Type 4X
- Stainless steel

Connectors:

- Spring clamp screwless, 12 to 28 AWG

Trimming:

- Individual cell, signal trim

Temperature:

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

Potentiometers:

- 100,000 ohm, 25-turn cermet

Circuit Board:

- 3.8 × 2.3 in, with conformal coating

Warranty:

- One-year limited

Approvals:

- cFMus

JUNCTION BOXES / SIMULATORS



Standard Features

- 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

Specifications

Cable Fittings:

- (4) PG7 0.118 to 0.255 in strain relief
- (2) PG11 0.197 to 0.394 in strain relief

Rating/Material:

- NEMA Type 4X
- Stainless steel

Connectors:

- Spring clamp screwless, 12 to 28 AWG

Trimming:

- Individual cell, excitation trim

Temperature:

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

Potentiometers:

- 100 ohm, 25-turn cermet

Circuit Board:

- 3.8 × 2.3 in, with conformal coating

Warranty:

- One-year limited

Approvals:

- cFMus

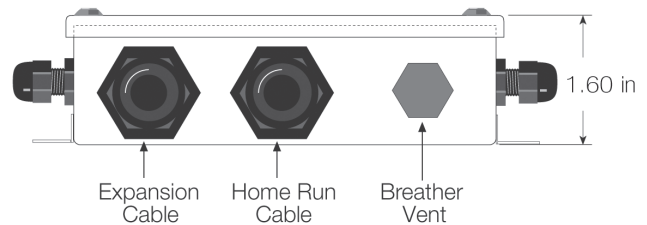
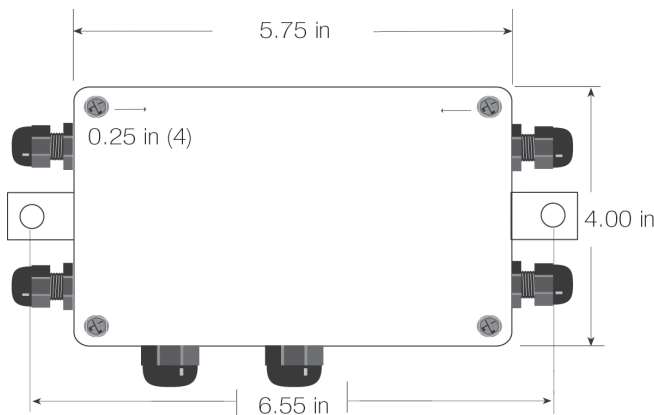
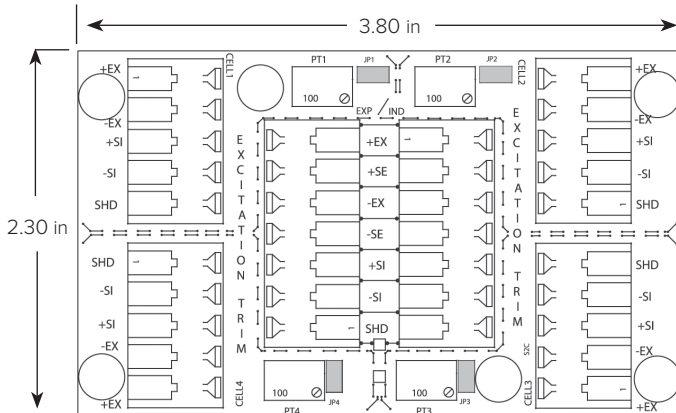
Approvals



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.



JUNCTION BOXES /
SIMULATORS

JB4SP and JB4SPT

TuffSeal® Signal Trim Junction Box



Approvals



PN 92762
Not FM approved



Standard Features

- 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

Specifications

Cable Fittings:

- (4) PG7 0.118 to 0.255 in strain relief
- (2) PG11 0.197 to 0.394 in strain relief

Rating/Material:

NEMA Type 4X
Polycarbonate with overlapping solid cover,
stainless steel screws

Connectors:

Spring clamp screwless, 12 to 28 AWG

Trimming:

Individual cell, signal trim

Temperature:

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

Potentiometers:

100,000 ohm, 25-turn cermet

Circuit Board:

3.8 × 2.3 in, with conformal coating

Warranty:

One-year limited

Approvals:

cFMus

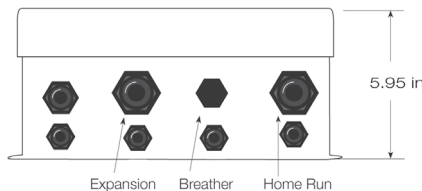
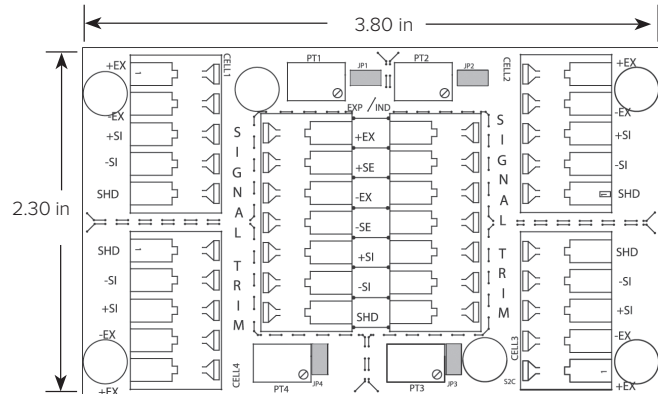
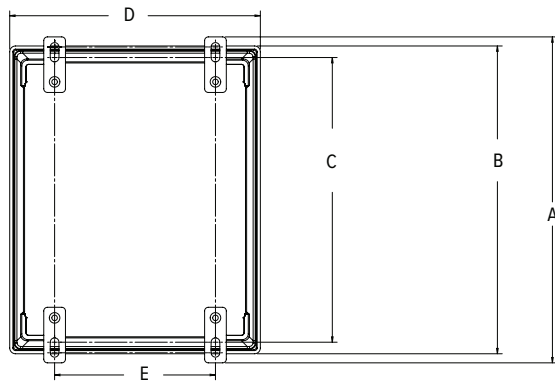
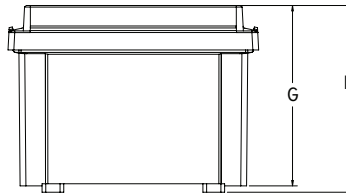
Part Number/Price

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

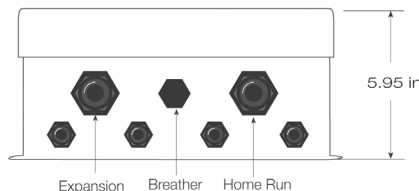
Note: Do not mix junction box models or use other brands of junction boxes with Rice Lake junction boxes. There is a risk of system instability.

Dimensions

Enclosure			
A	10.04 in	E	4.00 in
B	9.52 in	F	5.95 in
C	8.50 in	G	5.71 in
D	7.43 in		



JB4SPT



JB4SP

JUNCTION BOXES / SIMULATORS

JB4EP and JB4EPT

TuffSeal® Excitation Trim Junction Box

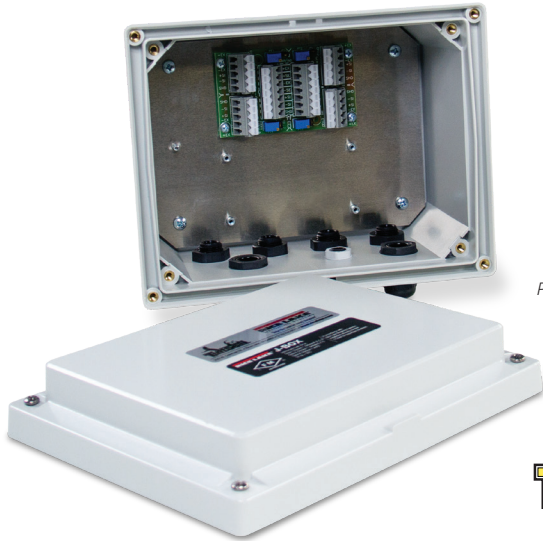


Photo of JB4EP



Approvals



Standard Features

- 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

Specifications

Cable Fittings:

- (4) PG7 0.118 to 0.255 in strain relief
- (2) PG11 0.197 to 0.394 in strain relief

Rating/Material:

- NEMA Type 4X
- Polycarbonate with overlapping solid cover, stainless steel screws

Connectors:

- Spring clamp screwless, 12 to 28 AWG

Trimming:

- Individual cell, excitation trim

Temperature:

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

Potentiometers:

- 100 ohm, 25-turn cermet

Circuit Board:

- 3.8 × 2.3 in, with conformal coating

Warranty:

- One-year limited

Approvals:

- cFMus

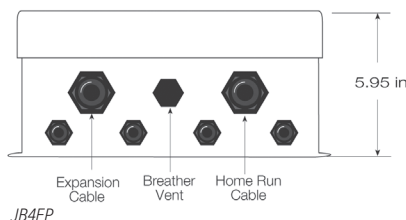
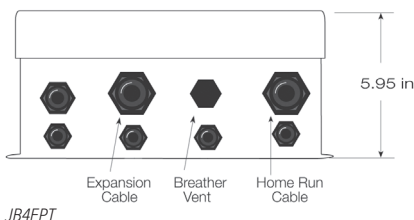
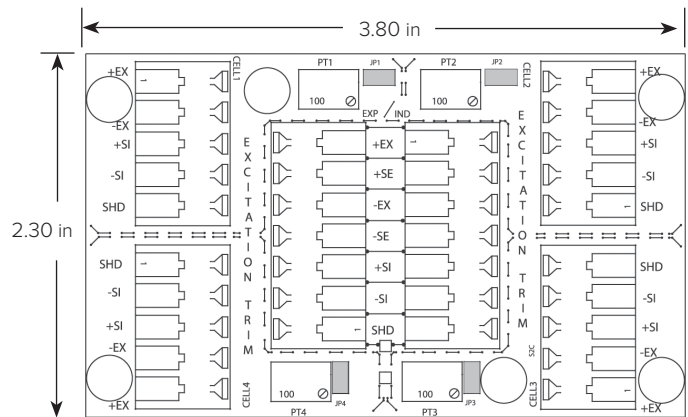
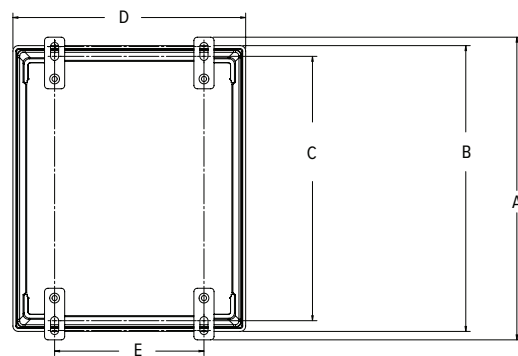
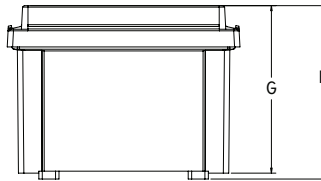
Part Number/Price

Part #	Description	Price
91781	JB4EP excitation trim junction box	\$285.00
92763	JB4EPT excitation trim junction box with transient protection	\$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.

Dimensions

Enclosure			
A	10.04 in	E	4.00 in
B	9.52 in	F	5.95 in
C	8.50 in	G	5.71 in
D	7.43 in		

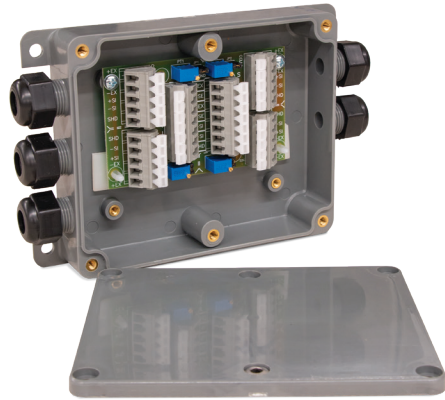


Load Cell
Cord Grips
on Bottom

JUNCTION BOXES /
SIMULATORS

EL204

Signal Trim Junction Box



Standard Features

- ABS enclosure with molded-in cable fittings
- Number of cells: two, three or four single cells

Applications

- Floor, hopper, tank or livestock applications

Specifications

Cable Fittings:

Five water tight nylon compression fittings, 0.210 × 0.280 in

Enclosure:

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

Connectors:

Spring clamp screwless, 12 to 28 AWG

Trimming:

Individual cell, signal trim

Temperature:

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

Potentiometers:

100,000 ohm, 25-turn cermet

Circuit Board:

3.8 × 2.3 in, with conformal coating

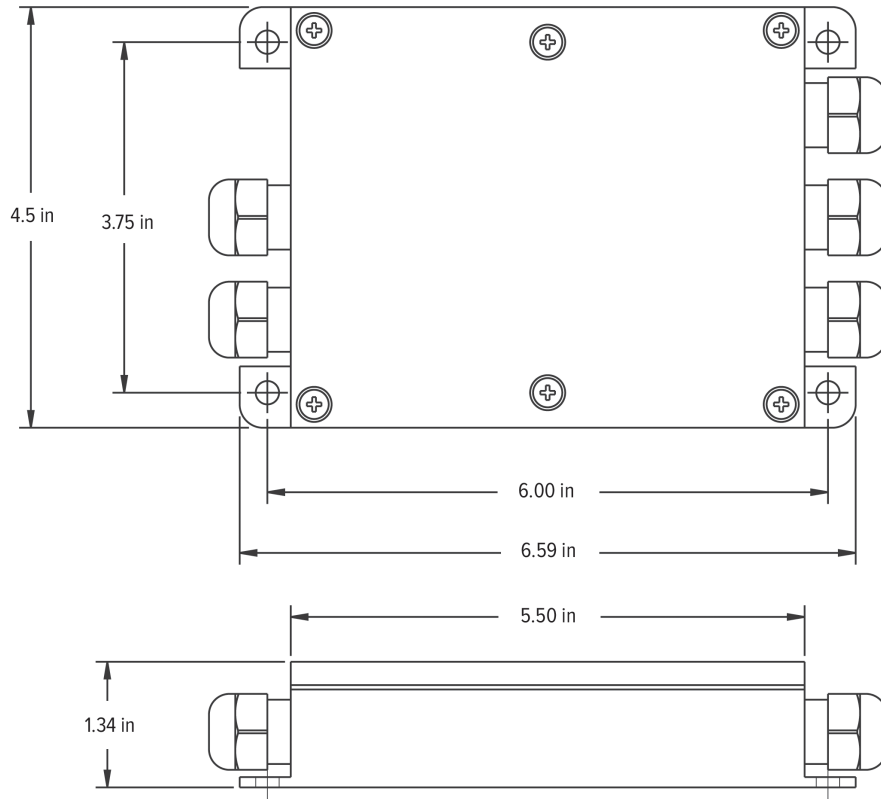
Warranty:

One-year limited

Part Number/Price

Part #	Description	Price
73428	EL204 junction box	\$225.00
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.



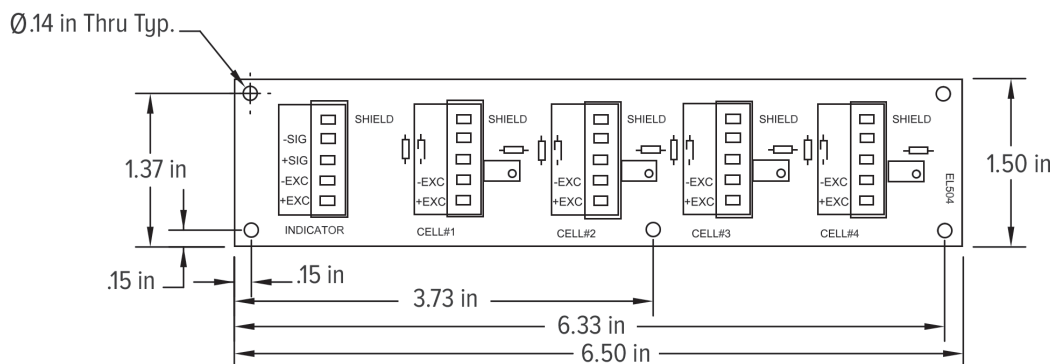
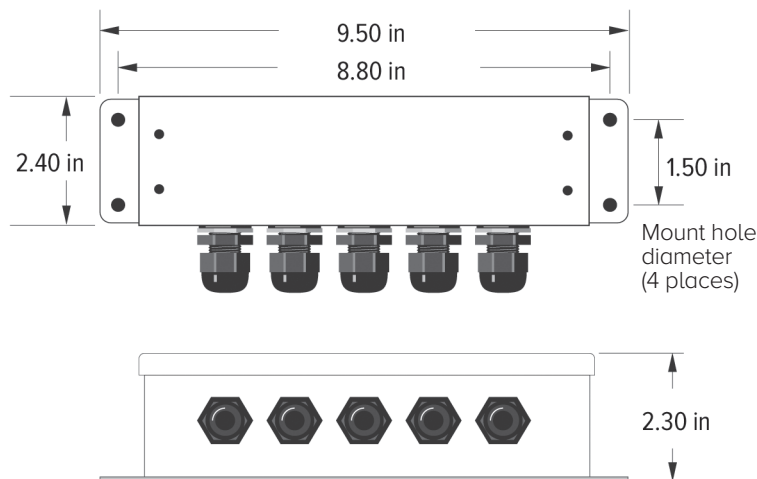
JUNCTION BOXES / SIMULATORS



Part Number/Price

Part #	Description	Price
21165	EL504 signal trim junction box	\$395.00
21296	Board only	\$275.00
165274	Enclosure only (includes cord grips and cover)	\$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. Any unused channels require modification.



Standard Features

- Strain relief cable fittings
- Removable connectors for easy wiring
- Number of cells: two or four single cells (even number of cells only)

Applications

- Truck and floor scales
- Limited space installations

Specifications

Cable Fittings:

Five nylon 0.187 to 0.312 in cable strain reliefs

Rating/Material:

NEMA Type 4X, 40 psi washdown
Stainless steel

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, signal trim

Temperature:

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

Potentiometers:

100,000 ohm, 25-turn cermet

Circuit Board:

6.5 × 1.5 in, with anti-fungal coating

Warranty:

One-year limited

JB8SP

TuffSeal® Signal Trim Junction Box



Approvals



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

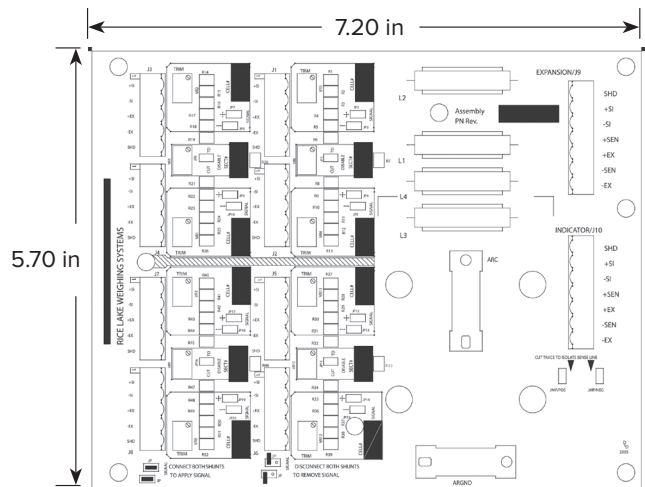
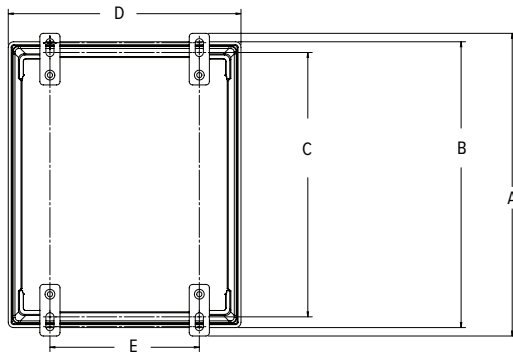
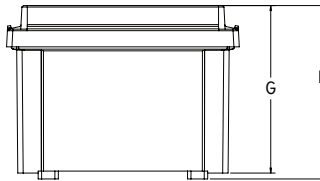
Note: Do not mix junction box models or use other brands of junction boxes with Rice Lake junction boxes. There is a risk of system instability.

Options/Accessories

Part #	Description	Price
215178	Mounting tabs-new style (set of 4, includes screws), polycarbonate	\$15.00
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

Dimensions

Enclosure			
A	12.13 in	E	9.32 in
B	11.45 in	F	5.98 in
C	11.38 in	G	6.95 in
D	10.59 in		



Standard Features

- Polycarbonate, 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

Specifications

Cable Fittings:

- (9) 3/8 in NPT 0.157 to 0.314 in
- (2) 1/2 in NPT 0.272 to 0.472 in

Rating/Material:

NEMA Type 4X
Polycarbonate with overlapping solid cover, stainless steel screws

Connectors:

Pluggable screw type, 12 to 28 AWG

Trimming:

Individual cell, range trim

Temperature:

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

Potentiometers:

100,000 ohm, 25 turn cermet

Circuit Board:

5.7 × 7.2 in with conformal coating

Warranty:

One-year limited

Approvals:

cFMus



Standard Features

- Transient protection
- 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 inch NPT cord grip to 0.75-inch 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

Specifications

Cable Fittings:

- (9) 3/8 in NPT 0.157 to 0.314 in
- (2) 1/2 in NPT 0.272 to 0.472 in

Rating/Material:

NEMA Type 4X
Polycarbonate with overlapping solid cover, stainless steel screws

Connectors:

Pluggable screw type, 12 to 28 AWG

Trimming:

Individual cell trim

Temperature:

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

Potentiometers:

100,000 ohm, 25-turn cermet

Circuit Board:

5.7 × 7.2 in with conformal coating

Warranty:

One-year limited

Part Number/Price

Part #	Description	Price
91783	JB8SPT signal trim junction box with transient protection	\$700.00
89889	Board only	\$395.00
89894	Transient board	\$235.00
165273	Enclosure only (does not include cord grips and filter)	\$165.00

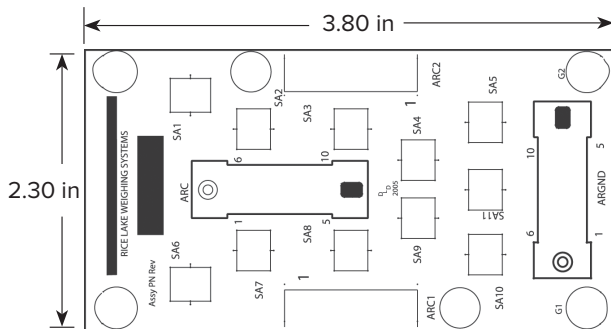
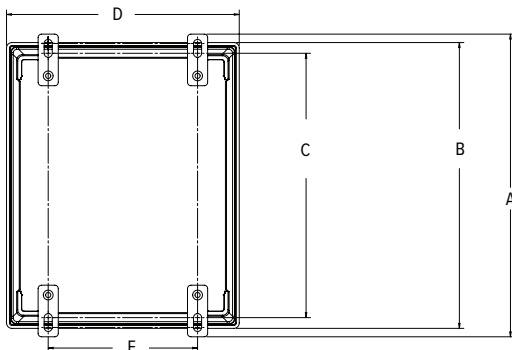
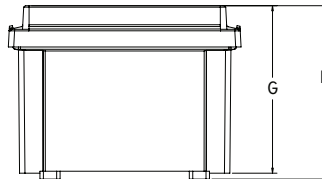
Note: Do not mix junction box models or use other brands of junction boxes with Rice Lake junction boxes. There is a risk of system instability.

Options/Accessories

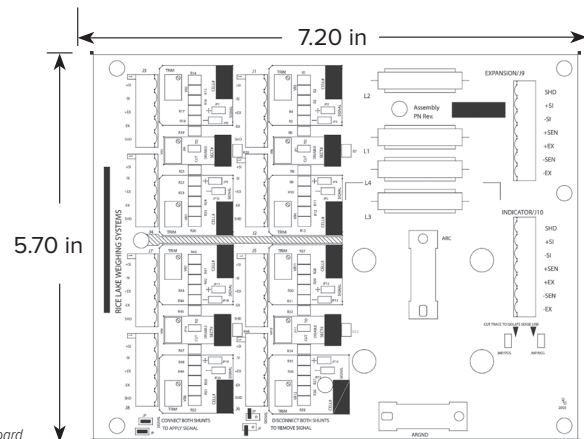
Part #	Description	Price
215178	Mounting tabs-new style (set of 4, includes screws), polycarbonate	\$15.00
92734	Coupling, 1/2-in NPT cord grip to 3/4-in NPT conduit fitting	\$27.00
92735	Coupling, 3/8-in NPT cord grip to 3/4-in NPT conduit fitting	\$27.00

Dimensions

Enclosure			
A	12.13 in	E	9.32 in
B	11.45 in	F	5.98 in
C	11.38 in	G	6.95 in
D	10.59 in		



Transient Board

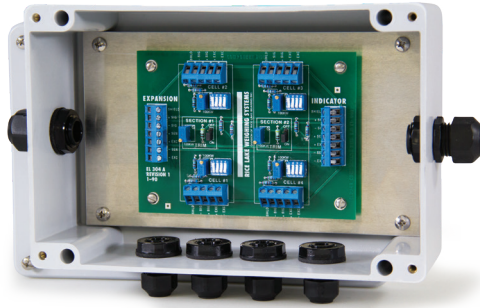


Load Cell Board

JUNCTION BOXES /
SIMULATORS

EL304A

Signal Trim Junction Box



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.

Standard Features

- 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

Specifications

Cable Fittings:

- Four nylon cable strain reliefs, 0.079 to 0.236 in
- Two nylon cable strain reliefs, 0.236 to 0.354 in

Rating/Material:

- NEMA Type 4X, 40 psi washdown
- Fiberglass Reinforced Polyester (FRP)

Connectors:

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

Trimming:

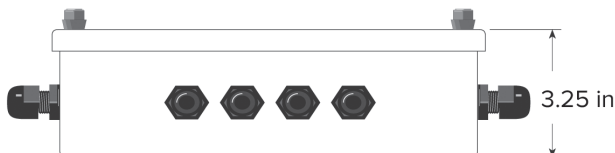
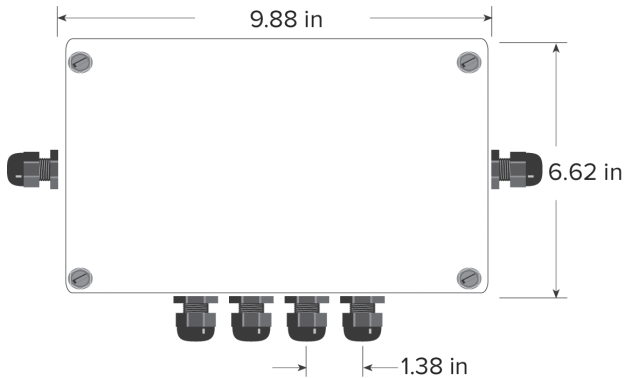
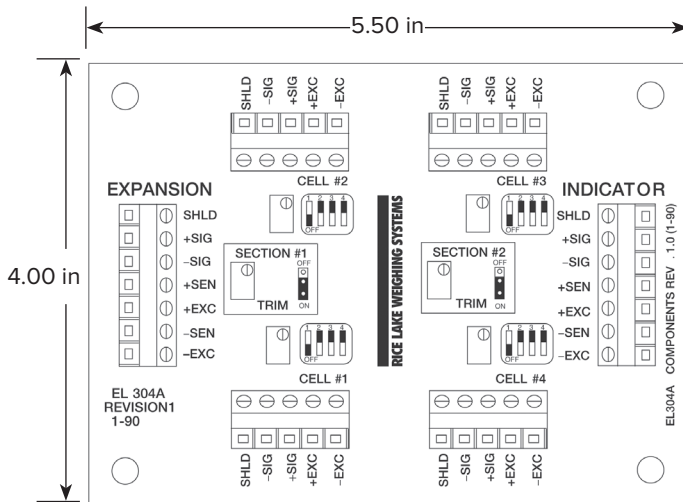
- Individual cell and section, signal trim

Potentiometers:

- 100,000 ohm, 25-turn cermet

Warranty:

- One-year limited



JUNCTION BOXES / SIMULATORS



Standard Features

- Transient protection
- 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

Specifications

Cable Fittings:

Nylon waterproof strain-relief type

Rating/Material:

NEMA Type 4X

Fiberglass Reinforced Polyester (FRP)

Terminal Block:

Rated 300V/15A;

7-position screw terminal can each accommodate up to #16 AWG

Trimming:

Individual cell, section signal and excitation trim

Temperature:

Operating:

0 °F to 122 °F (-18 °C to 50 °C)

Potentiometers:

100,000 ohm, 25-turns cermet

Mounting Centers:

3.75 × 2.31 in (95.2 × 58.7 mm)

Cable Diameter:

0.079 to 0.314 in

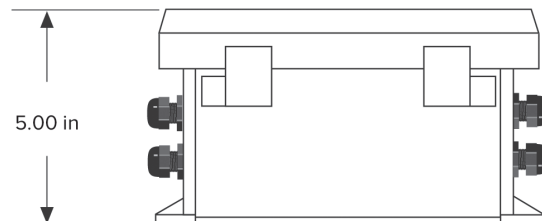
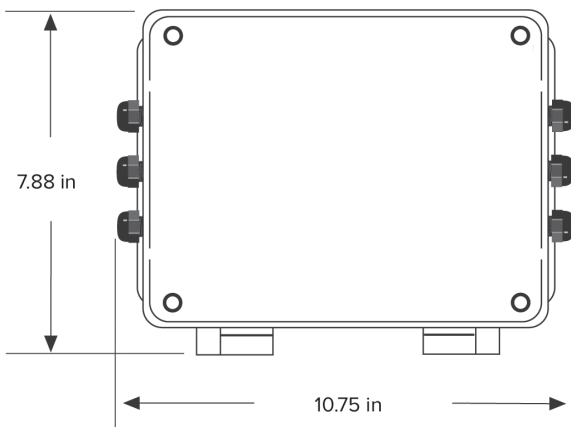
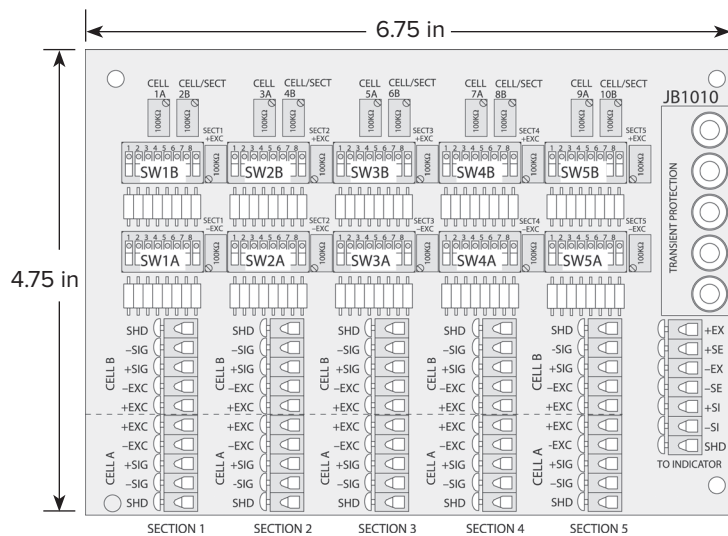
Warranty:

One-year limited

Part Number/Price

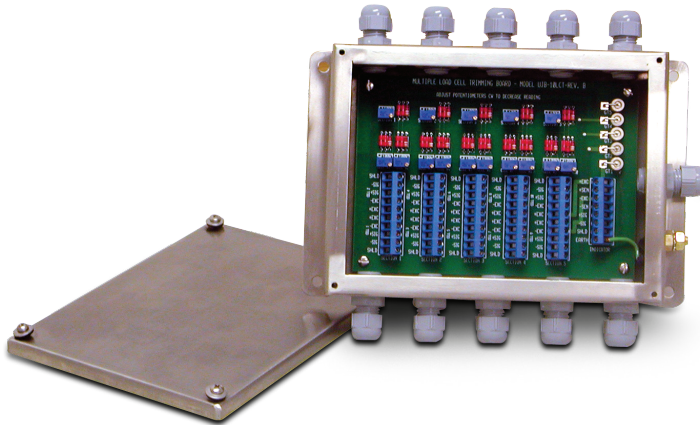
Part #	Description	Price
36231	JB1010 signal/excitation trim junction box	\$685.00
36351	Board only	\$475.00
165276	Enclosure only (includes cord grips)	\$275.00

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



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
- 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

Specifications

Cable Fittings:

Eleven nylon 0.079 to 0.314 in cable strain reliefs

Rating/Material:

NEMA Type 4X
Stainless steel

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

Temperature:

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

Potentiometers:

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

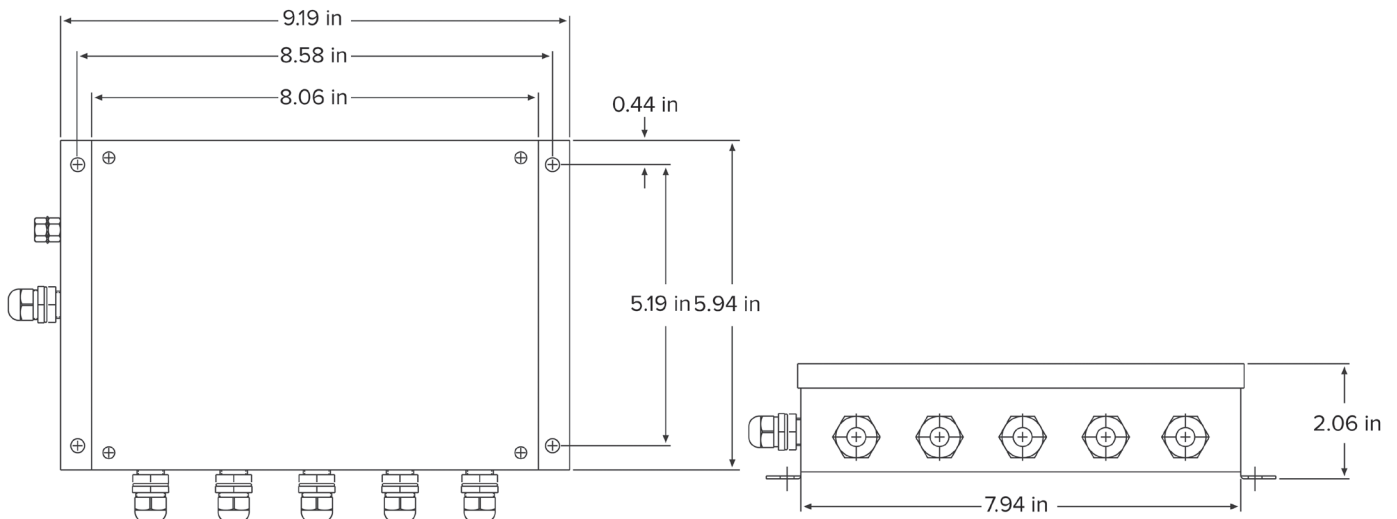
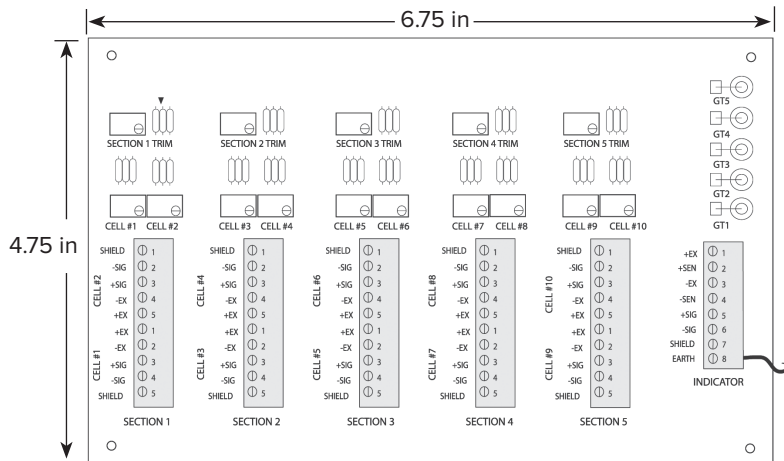
Warranty:

One-year limited

Part Number/Price

Part #	Description	Price
68813	JB1010ST 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. Any unused channels require modification.



JUNCTION BOXES / SIMULATORS

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 \$225.00	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 in NPT 15628 (cord grip) \$5.00 & 15630 (nut) \$3.00 =1/2 in NPT	88733 PreVent™ breather (vent) \$22.00 88734 (vent nut) \$1.05	16039 \$2.23
JB8SPT	91783 \$700.00	89889 (load cell) \$395.00 & 89894 (transient protection) \$235.00	15655 (cord grip) \$2.10 & 15656 (nut) \$1.05 =3/8 in NPT 15628 (cord grip) \$5.00 & 15630 (nut) \$3.00 =1/2 in 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 in NPT 15628 (cord grip) \$5.00 & 15630 (nut) \$3.00 =1/2 in NPT	N/A	N/A
JB818ST	91783 , JB8SPT* \$700.00	Need (1) 77445 \$68.00 (1) 89889 \$395.00, & (1) 89894 \$235.00	15655 (cord grip) \$2.10 & 15656 (nut) \$1.05 =3/8 in NPT 15628 (cord grip) \$5.00 & 15630 (nut) \$3.00 =1/2 in NPT	N/A	N/A

*See catalog pages for enclosure dimensions

JUNCTION BOXES /
SIMULATORS



Approvals



Measurement
Canada
Approved



Specifications

Voltage Input:

115/230 VAC power supply
DC/DC converter for 9 to 36 V
6 to 12 VDC to CPU

Analog Signal Input Range:

-78 to +78 mV

Analog Signal Sensitivity:

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

A/D Sampling Rate:

2.5 to 500 Hz (selectable)

Digital I/O:

Four per card, for push-button operation,
setpoint control or cell status

Communication Ports:

RS-232/RS-422

Load Cell Inputs:

Four channels per board
up to four networked boards

Load Cell Excitation:

5 VDC, 57 mA maximum per channel

Rating/Material:

Polycarbonate (NEMA Type 4X) enclosure with
overlapping solid cover, stainless steel screws
Stainless steel (NEMA Type 4X) enclosure
with hinged cover

Temperature:

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

Warranty:

Two-year limited

Approvals:

NTEP 03-032A1
Measurement Canada AM-5561
cULus E151461
CE Marked

Standard Features

- iQUBE² board has four A/D channels
- 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 communications
- Option card slot for fiber optic, Ethernet TCP/IP, wireless TCP/IP, USB or RS-232/RS-485
- Communicates to 920i[®], 1280, VIRTUj²[®] using ASCII (EDP) serial commands

Applications

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

Part Number/Price

Part #	Description	Est. Weight	Price
With AC Power Supply			
108425*	iQUBE ² , four-channel, polycarbonate 8 × 10 in junction box	9 lb	\$1,300.00
108426	iQUBE ² , four-channel, polycarbonate 10 × 12 in junction box	11 lb	\$1,500.00
108427	iQUBE ² , eight-channel, polycarbonate 10 × 12 in junction box	11 lb	\$2,500.00
108428*	iQUBE ² , four-channel, stainless steel 8 × 10 in junction box	13 lb	\$2,450.00
Without Power Supply			
108429*	iQUBE ² , four-channel, polycarbonate 8 × 10 in junction box	8 lb	\$1,200.00
108430	iQUBE ² , four-channel, polycarbonate 10 × 12 in junction box	10 lb	\$1,400.00
108431	iQUBE ² , eight-channel, polycarbonate 10 × 12 in junction box	10 lb	\$2,400.00
108432*	iQUBE ² , four-channel, stainless steel 8 × 10 in junction box	12 lb	\$2,350.00
Conduit Adapters			
92734	Conduit adapter 3/8 in NTP to 3/4 in NPT		\$27.00
92735	Conduit adapter 1/2 in NTP to 3/4 in NPT		\$27.00

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

Options/Accessories

Part #	Description	Price
108433	Four-channel iQUBE ² board with cables and connectors	\$1,000.00
97475	DC/DC power supply, 9 to 36 VDC (requires factory installation)	\$255.00
108434	Remote power supply 115/230 VAC and transient board with enclosure	\$450.00
109396	Transient board	\$90.00
110949	Transient board with mount	\$110.00
161954	Hotspot in polycarbonate enclosure	\$3,195.00
215178	Mounting tabs-new style (set of 4, includes screws), polycarbonate	\$15.00
Communication Card		
108579	RS-232/RS-485 port	\$285.00
77142	Ethernet TCP/IP	\$545.00
206272	Wireless LAN 802.11 A/B	\$610.00
93245	USB port	\$225.00
77143	Fiber-optic board	\$220.00
77788	Fiber-optic board (installed in 920i)	\$220.00
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	VIRTUI ² activation part number	\$550.00
112262	Firmware update flash cable	\$65.00
920i[®] Indicators for use with iQUBE², requires version 4 software		
77790	920i Universal, 115 VAC, without A/D	\$3,195.00
77791	920i Universal, 230 VAC, without A/D	\$3,195.00
93243	920i Deep Universal, 115 VAC, without A/D	\$3,445.00
93244	920i Deep Universal, 230 VAC, without A/D	\$3,445.00
77792	920i Panel Mount, 115 VAC, without A/D	\$3,195.00
77793	920i Panel Mount, 230 VAC, without A/D	\$3,195.00
77794	920i Wall Mount, 115 VAC, without A/D	\$4,095.00
77795	920i Wall Mount, 230 VAC, without A/D	\$4,095.00
1280 Indicators for use with iQUBE²		
189623	1280 7 inch touch-only, AC power supply, no power cord, standard display, without A/D	\$3,180.00
188526	1280 7 inch touch-only, AC power supply, no power cord, high visibility display, without A/D	\$3,280.00
188395	1280 12 inch touch-only, AC power supply, no power cord, high visibility display, without A/D	\$4,345.00
181073	1280 Panel Mount, DC power supply, no power cord, standard display, without A/D	\$3,180.00
178473	1280 Panel Mount, AC power supply, no power cord, high visibility display, without A/D	\$3,280.00
205677	1280 Wall Mount, AC power supply, U.S. power cord, standard display, without A/D	\$3,780.00
171667	1280 Wall Mount, AC power supply, U.S. power cord, high visibility display, without A/D	\$3,880.00
174750	1280 Panel Mount, AC power supply, no power cord, standard display, without A/D	\$3,180.00
174207	1280 Universal, AC power supply, Europe power cord, standard display, without A/D	\$3,380.00
171582	1280 Universal, AC power supply, U.S. power cord, standard display, without A/D	\$3,380.00
188713	1280 Universal, DC power supply, no power cord, standard display, without A/D	\$3,380.00
171540	1280 Universal, DC power supply, no power cord, high visibility display, without A/D	\$3,480.00
172419	1280 Universal, AC power supply, U.S. power cord, high visibility display, without A/D	\$3,480.00

JUNCTION BOXES / SIMULATORS



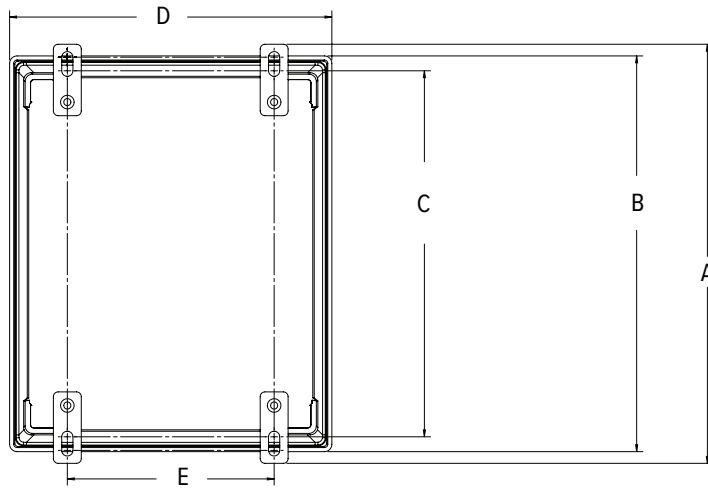
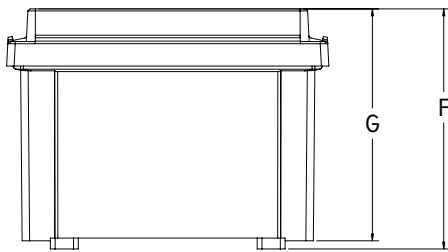
Fiber Optic Transceiver
RS-232/RS-422/RS-485
Ethernet TCP/IP
Wireless Ethernet

Sample Configurations

Not an actual system—illustrates connectivity

Dimensions

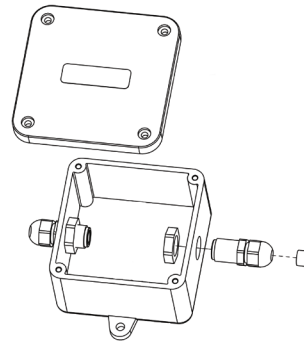
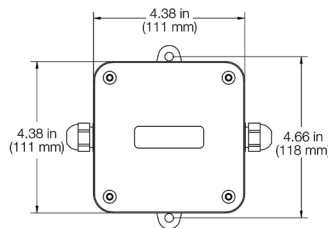
iQUBE ²			
Stainless Steel 8 × 10 in			
A	11.50 in (292 mm)	E	6.00 in (152 mm)
B	10.30 in (262 mm)	F	4.30 in (109 mm)
C	10.90 in (277 mm)	G	4.20 in (107 mm)
D	8.30 in (211 mm)		
Polycarbonate 8 × 10 in			
A	10.10 in (257 mm)	E	4.00 in (102 mm)
B	9.50 in (241 mm)	F	6.00 in (152 mm)
C	8.50 to 9.30 in (216 to 236 mm)	G	5.70 in (145 mm)
D	7.40 in (188 mm)		
Polycarbonate 10 × 12 in			
A	12.10 in (307 mm)	E	6.00 in (152 mm)
B	11.50 in (292.1 mm)	F	7.00 in (178 mm)
C	10.50 to 11.30 in (267 to 287 mm)	G	6.70 in (170 mm)
D	9.30 in (236 mm)		





Part Number/Price

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



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

Specifications

Dimensions:

(L × W × H)
4.0 × 4.0 × 2.5 in

Temperature:

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

Cable Fittings:

Nylon waterproof strain-relief type

Cable Diameter:

0.079 to 0.314 in (2 to 8 mm)

Terminal Block:

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

Warranty:

One-year limited

TP75 DC

Transient Protection



Standard Features

- Protects load cells and indicators from voltage transients
- 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

- 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

Specifications

Protection Type:

Six-wire type with separate shield

Maximum Excitation Voltage:

22.8 VDC

Response Time:

Five nanoseconds

Peak Surge Currents:

100 amps

Grounding:

10 AWG wire or larger (not provided)

Cable Fitting:

(2) Nylon strain relief for 0.187 to 0.312 in diameter cable

Enclosure:

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

Temperature:

Operating:
-4 °F to 149 °F (-20 °C to 65 °C)

Dimensions:

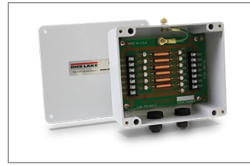
(L × W × H)
3.16 × 2.20 × 1.18 in

Warranty:

One-year limited

UJB3T6 DC

Transient Protection



Standard Features

- Protects load cells from voltage transients
- Compatible with signals down to 1 μ V per grad
- 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

Applications

- Installations exposed to significant transients
- Protects serial communication lines
- Protects load cells

Specifications

Protection Type:

Six-wire 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, 5,000 amps

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:

(2) Nylon strain relief for 0.079 to 0.236 in diameter cable

Enclosure:

NEMA Type 4X, maximum 40 psi washdown
Fiberglass Reinforced Polyester (FRP)

Temperature:

Operating:
4 °F to 104 °F (-10 °C to 40 °C)

Circuit Board:

6.75 \times 4.75 in with anti-fungal coating

Dimensions:

(L \times W \times H)
7.63 \times 6.63 \times 3.25 in

Warranty:

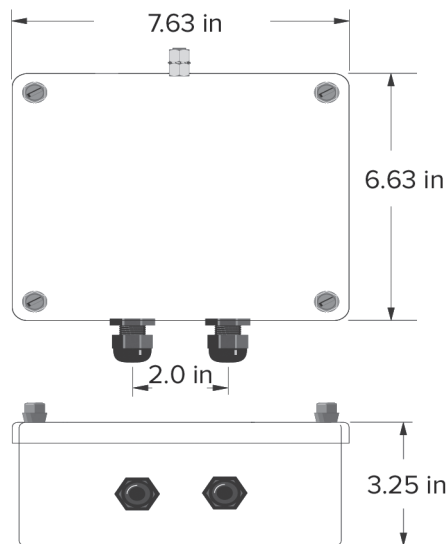
One-year limited

Part Number/Price

Part #	Description	Price
21134	UJB3T6	\$495.00

Options/Accessories

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



JUNCTION BOXES /
SIMULATORS

TP232

High Energy RS-232 Serial Protection



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
- Also works with RS-485, RS-422 and 20 mA

Applications

- Indicators
- Remote displays
- Printers
- Computers
- PLC

Specifications

- Clamping Voltage (Stage One):**
72 VDC minimum, 108 VDC maximum
- Series Resistance (Stage Two):**
2.7 ohm
- Clamping Voltage (Stage Three):**
14.3 V minimum, 15.7 V maximum
- Clamping Time:**
Less than 5 < 10-9 seconds
- Temperature:**
Operating:
0 °F to 122 °F (-18 °C to 50 °C)
- Connectors:**
Five-position terminal blocks
- Dimensions:**
(L x W x H)
Approximately 4.5 x 3.3 x 1.8 in
- Warranty:**
One-year limited
- Approvals:**
CE

Approvals



Part Number/Price

Part #	Description	Price
69201	TP232	\$187.00

Options/Accessories

Part #	Description	Price
17778	12 in ground strap	\$22.00
17781	24 in ground strap	\$22.00
69516	Additional installation manual	\$6.00

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

Specifications

- Variable Range:**
0 to 3 mV/V
- Impedance:**
700 ohm nominal
- Temperature:**
Operating:
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:**
(L x W x H)
4.5 x 3.5 x 1.25 in
(114 x 89 x 32 mm)
- Warranty:**
One-year limited

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

JUNCTION BOXES /
SIMULATORS

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 0.5 mV/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 troubleshooting and testing of systems

Specifications

Range:
-0.5 mV/V to 4.5 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 × W × H)
4.5 × 3.5 × 1.25 in

Warranty:
One-year limited

Part Number/Price

Part #	Description	Price
68030	Ranger 3 simulator	\$425.00

Options/Accessories

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

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

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:
+0.25 mV/V for use with digitally calibrated meters requiring positive dead load for calibration

Connectors:
Binding posts, suitable for loose wires or banana jacks

Warranty:
One-year limited

Part Number/Price

Part #	Description	Price
22513	Transducer simulator 4	\$835.00

Options/Accessories

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

Ranger 5

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 0.5 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 indicator

Specifications

- Fixed Steps:**
-0.5 mV/V to 4.5 mV/V
- 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 × W × H)
4.5 × 3.5 × 1.25 in
- Warranty:**
One-year limited

Part Number/Price

Part #	Description	Price
68031	Ranger 5 simulator	\$510.00

Options/Accessories

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

Ranger 7

Variable Range Simulator



Standard Features

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

Specifications

- Vernier:**
Two ranges; one is equal to the sum of the 0.05 mV/V switch and the 0 to 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 ohm
X1: 350 ohm (one standard load cell)
X4: 87.5 ohm (four load cell platform)
- Linearity:**
± 0.01% + 1µV
- 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 to 3 mV/V in 0.01 mV/V steps
- LED Annunciators:**
EXC +
EXC -
Offset ON
0.5 mV/V
0.1 mV/V
- Warranty:**
One-year limited

Part Number/Price

Part #	Description	Price
157323	Ranger 7 high resolution calibration simulator	\$995.00

Options/Accessories

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

JUNCTION BOXES / SIMULATORS

