

Junction Boxes / Simulators

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JB4SS

TuffSeal® Signal Trim Junction Box



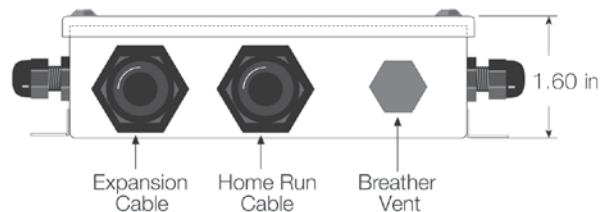
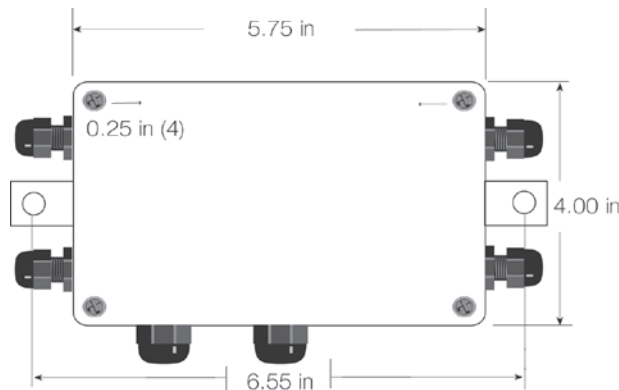
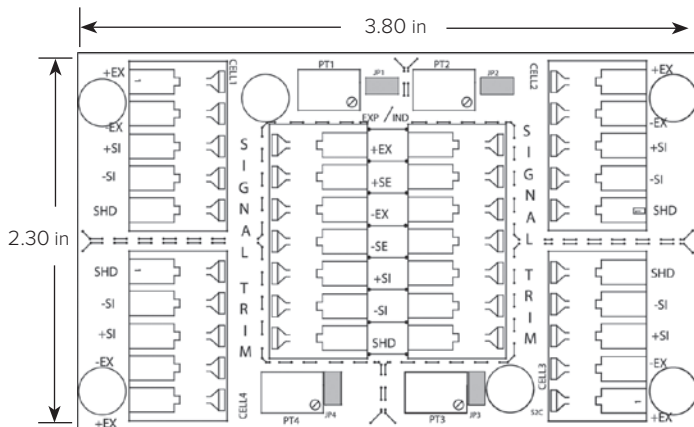
Approvals



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 strain relief
- (2) PG11 0.197 to 0.394 strain relief

P/N 107700:

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

Rating/Material:

NEMA Type 4X
Stainless steel

Connectors:

Spring clamp screwless, 12 to 28 AWG

Trimming:

Individual cell, signal trim

Temperature Range:

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



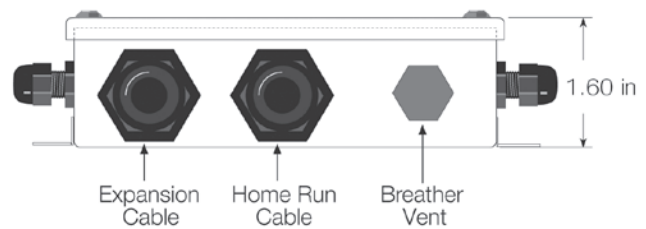
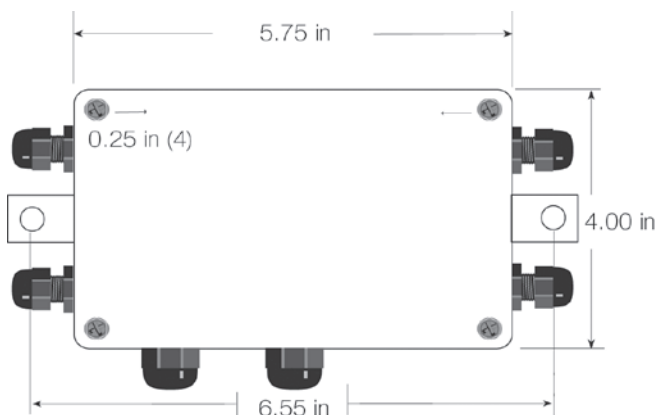
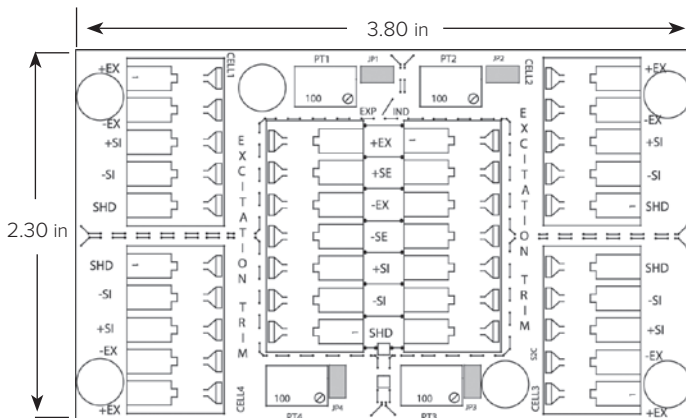
Approvals



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.



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 strain relief
- (2) PG11 0.197 to 0.394 strain relief

Rating/Material:

- NEMA Type 4X
- Stainless steel

Temperature Range:

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

Connectors:

- Spring clamp screwless, 12 to 28 AWG

Trimming:

- Individual cell, excitation trim

Potentiometers:

- 100 ohm, 25-turn cermet

Circuit Board:

- 3.8 × 2.3 in, with conformal coating

Warranty:

- One-year limited

Approvals:

- cFMus

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 strain relief
- (2) PG11 0.197 to 0.394 strain relief

Rating/Material:

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

Temperature Range:

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

Connectors:

- Spring clamp screwless, 12 to 28 AWG

Trimming:

- Individual cell, signal trim

Potentiometers:

- 100,000 ohm, 25-turn cermet

Circuit Board:

- 3.8 × 2.3 in, with conformal coating

Warranty:

- One-year limited

Approvals:

- cFMus

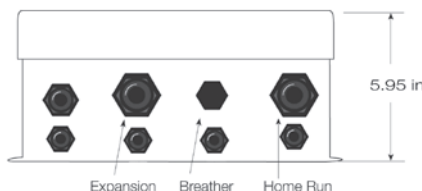
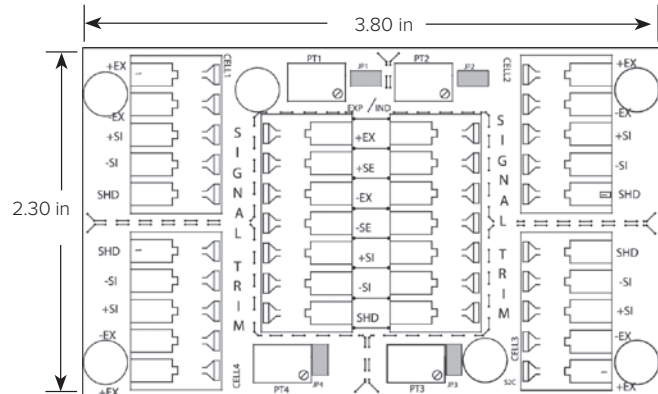
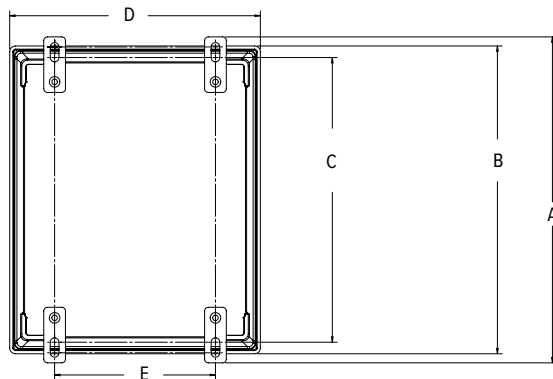
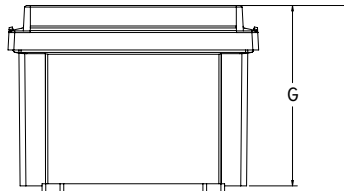
Part Number/Price

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

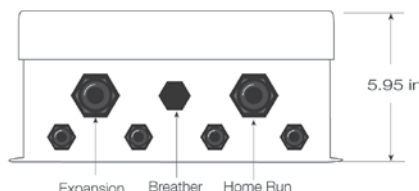
Note: Do not mix junction box models or use other brands of junction boxes with Rice Lake junction boxes. There is a risk of system instability.

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		



JB4SP



JB4SPT

JB4EP and JB4EPT

TuffSeal® Excitation Trim Junction Box



Photo of JB4EP

Approvals



PN 92763

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 strain relief
- (2) PG11 0.197 to 0.394 strain relief

Rating/Material:

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

Temperature Range:

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

Connectors:

Spring clamp screwless, 12 to 28 AWG

Trimming:

Individual cell, excitation trim

Potentiometers:

100 ohm, 25-turn cermet

Circuit Board:

3.8 × 2.3 in, with conformal coating

Warranty:

One-year limited

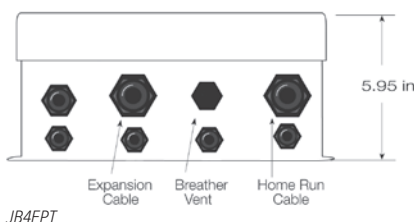
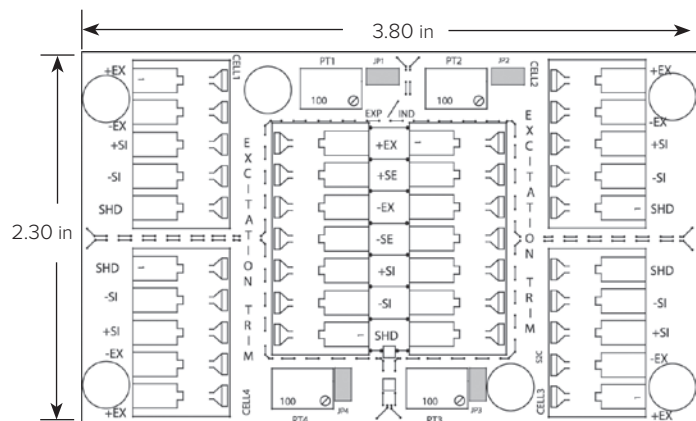
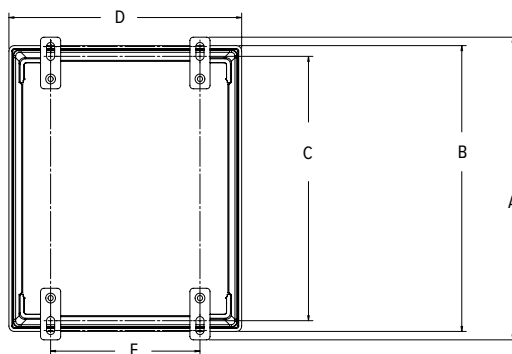
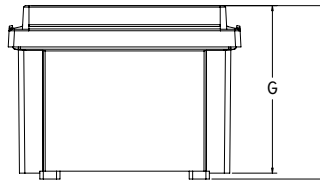
Part Number/Price

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.

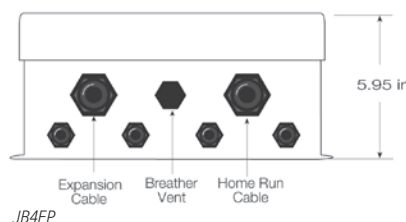
Dimensions

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		



JB4EPT

Load Cell
Cord Grips
on Bottom

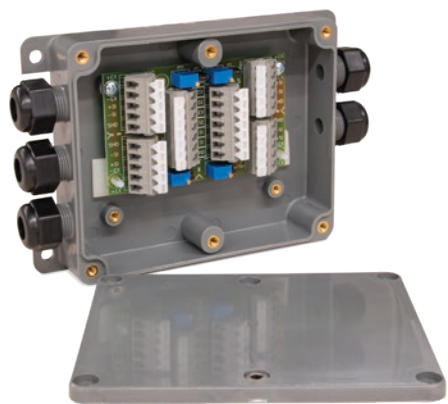


JB4EP

JUNCTION BOXES /
SIMULATORS

EL204

Signal Trim Junction Box



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.

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

Connectors:

Spring clamp screwless, 12 to 28 AWG

Enclosure:

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

Temperature Range:

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

Trimming:

Individual cell trim, signal trim

Potentiometers:

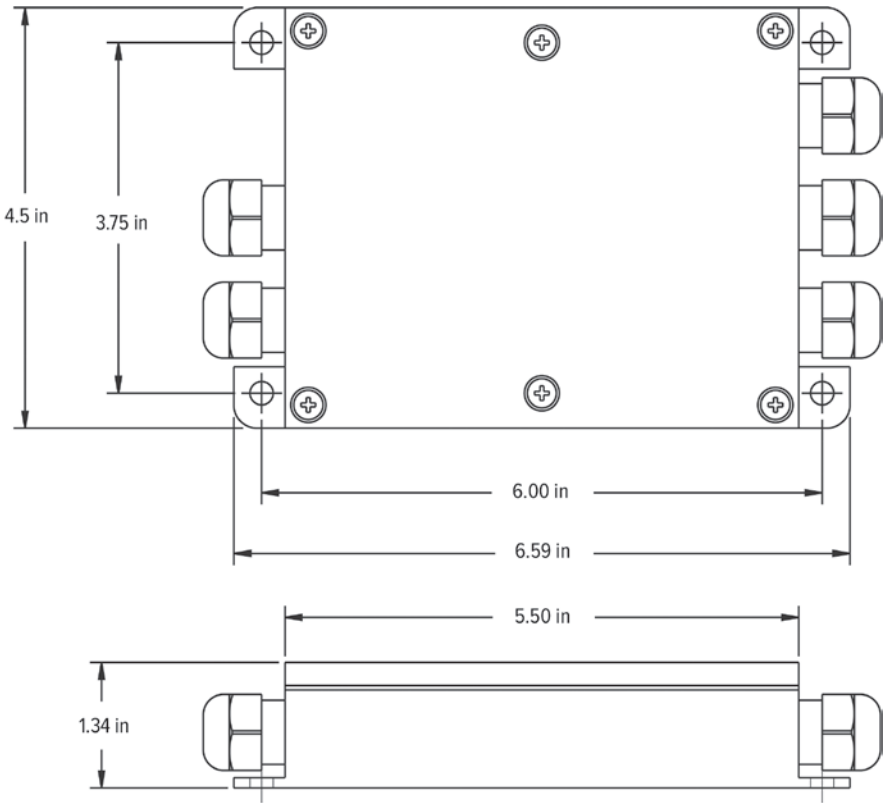
100,000 ohm, 25-turn cermet

Circuit Board:

3.8 × 2.3 in, with conformal coating

Warranty:

One-year limited





Part Number/Price

Part #	Description	Price
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

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 Range:

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

Rating/Material:

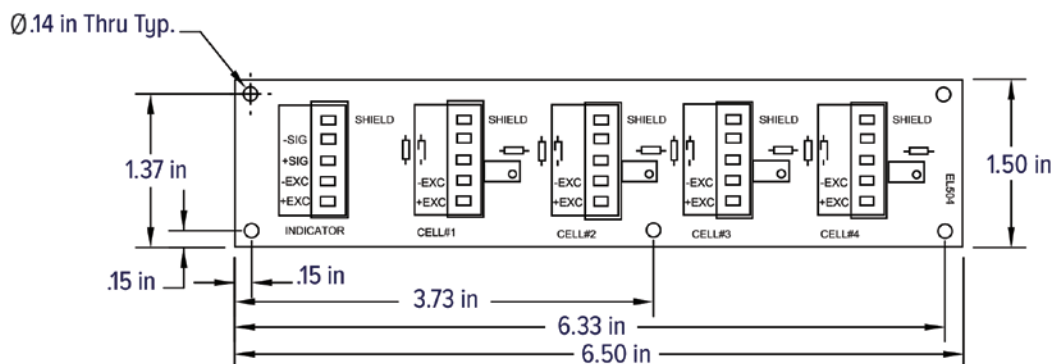
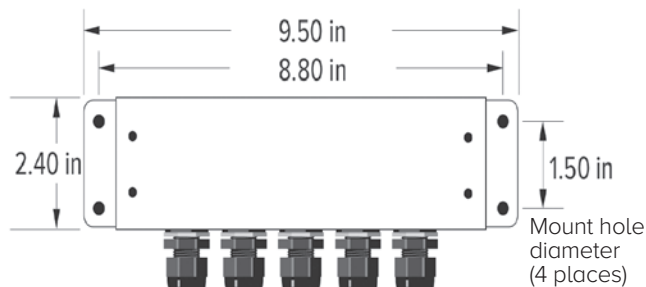
NEMA Type 4X, 40 PSI washdown
Stainless steel

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

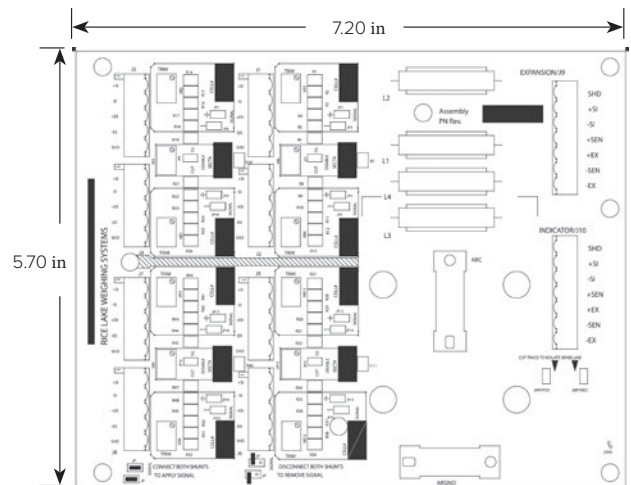
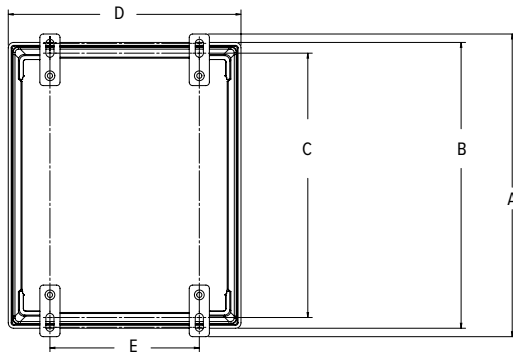
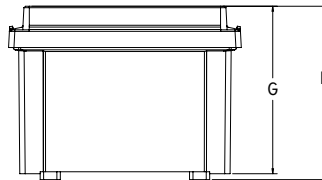
Note: Do not mix junction box models or use other brands of junction boxes with Rice Lake junction boxes. There is a risk of system instability.

Options/Accessories

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

Potentiometers:

100,000 ohm, 25 turn cermet

Temperature Range:

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

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

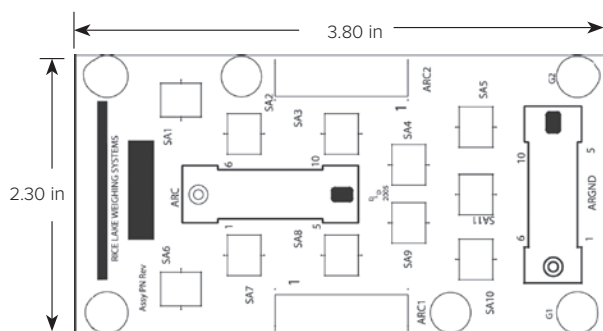
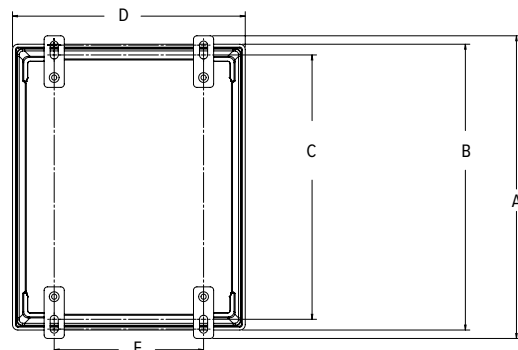
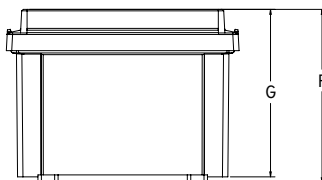
Note: Do not mix junction box models or use other brands of junction boxes with Rice Lake junction boxes. There is a risk of system instability.

Options/Accessories

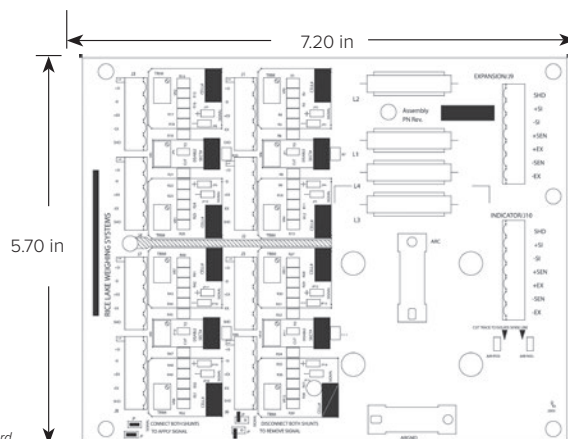
Part #	Description	Price
92734	Coupling, 1/2-inch NPT cord grip to 3/4-inch NPT conduit fitting	\$27.00
92735	Coupling, 3/8-inch NPT cord grip to 3/4-inch NPT conduit fitting	\$27.00

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

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

Potentiometers:

100,000 ohm, 25-turn cermet

Temperature Range:

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

Circuit Board:

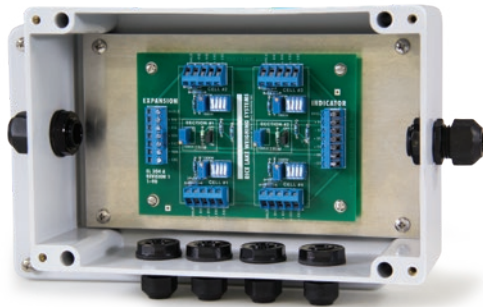
5.7 × 7.2 in with conformal coating

Warranty:

One-year limited

EL304A

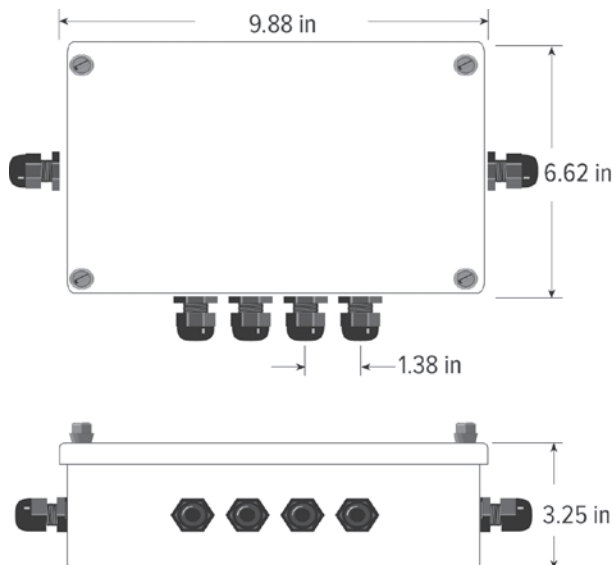
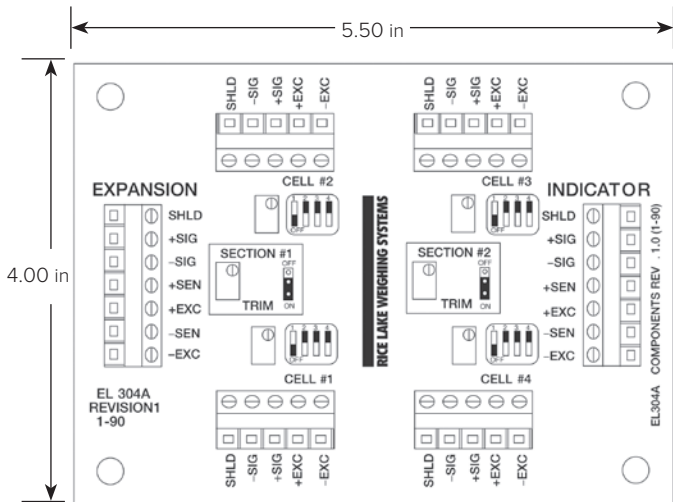
Signal Trim Junction Box



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

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

Rating/Material:

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

Warranty:

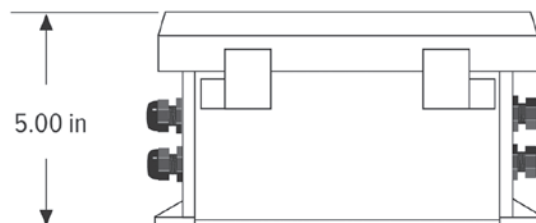
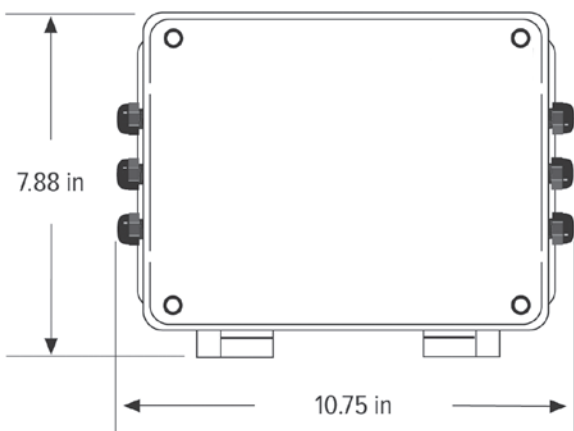
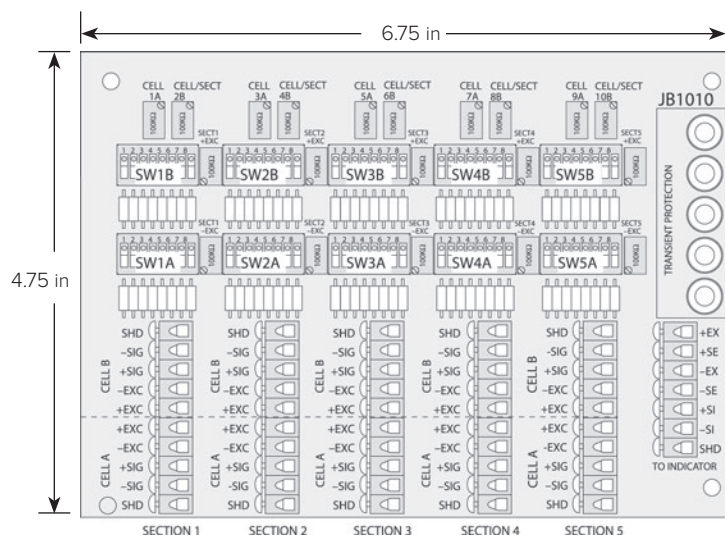
One-year limited



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.



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

Mounting Centers:

3.75 × 2.31 in (95.2 × 58.7 mm)

Cable Fittings:

Nylon waterproof strain-relief type

Temperature Range:

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

Cable Diameter:

0.079 to 0.314 in

Potentiometers:

100,000 ohm, 25-turns cermet

Trimming:

Individual cell and section signal and excitation trimming

Rating/Material:

NEMA Type 4X

Fiberglass Reinforced Polyester (FRP)

Terminal Block:

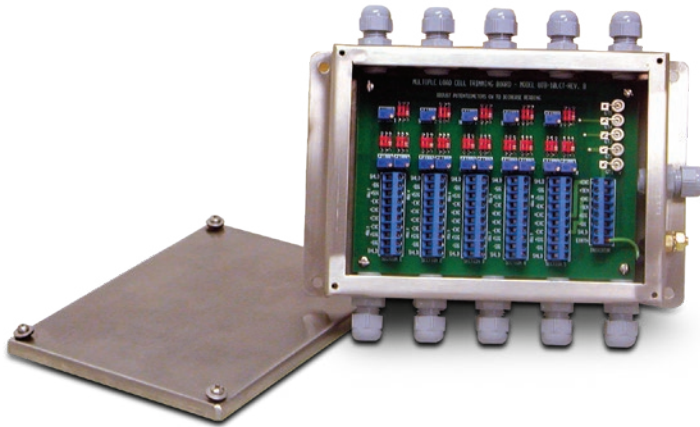
Rated 300V/15A; 7-position screw terminal can each accommodate up to #16 AWG

Warranty:

One-year limited

JB1010ST

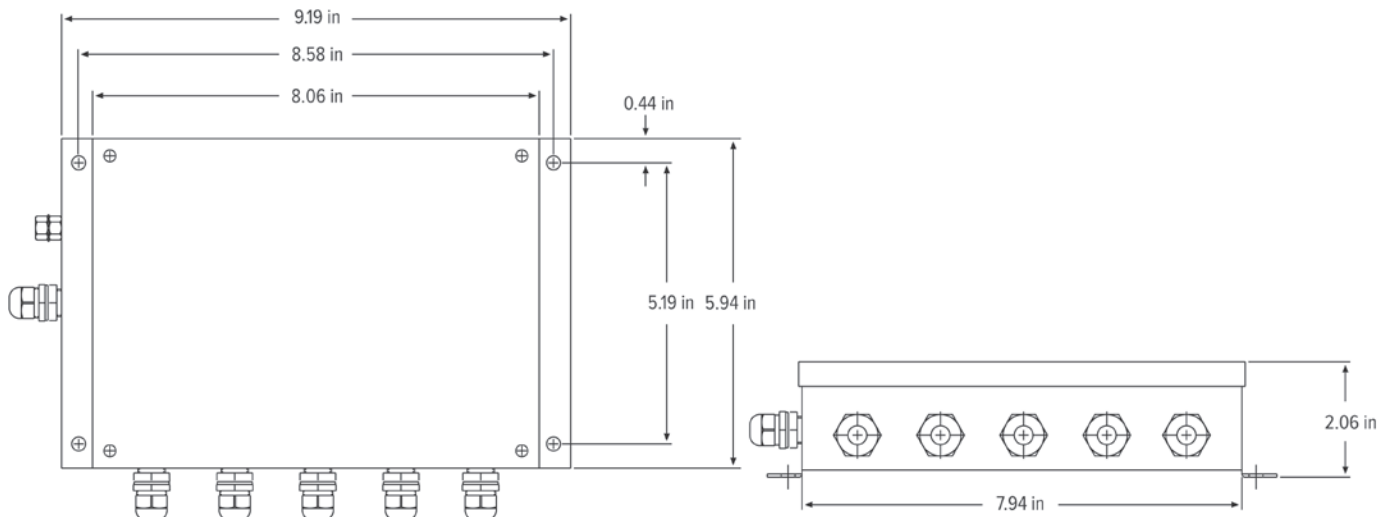
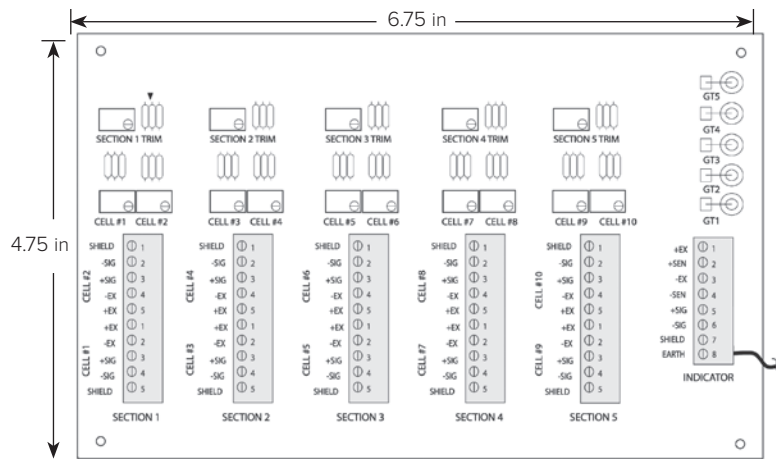
Signal Trim Junction Box



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.



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:

11 nylon cable strain reliefs for cable dimension range: 0.079 to 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, for section trimming

Rating/Material:

NEMA Type 4X
Stainless steel

Temperature Range:

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

Warranty:

One-year limited

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 \$700.00	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* \$700.00	Need (1) 77445 \$55.00 (1) 89889 \$395.00, & (1) 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

JUNCTION BOXES /
SIMULATORS



Approvals



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

Specifications

Voltage Input:

115/230 VAC power supply DC/DC converter for 9 to 36V
6 to 12 V DC 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 V DC, 57 mA maximum per channel

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:
-13 °F to 158 °F (-25 °C to 70 °C)

Rating/Material:

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

Warranty:

Two-year limited

Approvals:

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

Part Number/Price

Part #	Description	Est. Weight	Price
With AC Power Supply			
108425*	iQUBE ² , four-channel, 8 × 10 in junction box	9 lb	\$1,200.00
108426	iQUBE ² , four-channel, 10 × 12 in junction box	11 lb	\$1,400.00
108427	iQUBE ² , eight-channel, 10 × 12 in junction box	11 lb	\$2,300.00
108428*	iQUBE ² , four-channel, stainless steel 8 × 10 in junction box	13 lb	\$2,250.00
Without Power Supply			
108429*	iQUBE ² , four-channel, 8 × 10 in junction box	8 lb	\$1,100.00
108430	iQUBE ² , four-channel, 10 × 12 in junction box	10 lb	\$1,350.00
108431	iQUBE ² , eight-channel, 10 × 12 in junction box	10 lb	\$2,200.00
108432*	iQUBE ² , four-channel, stainless steel 8 × 10 in junction box	12 lb	\$2,250.00
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

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 iQUBE ² 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 polycarbonate enclosure	\$3,195.00
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	VIRTUi ² 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	\$2,500.00
77791	920i Universal, 230 VAC, without A/D	\$2,500.00
93243	920i Deep Universal, 115 VAC, without A/D	\$2,725.00
93244	920i Deep Universal, 230 VAC, without A/D	\$2,725.00
77792	920i Panel Mount, 115 VAC, without A/D	\$2,500.00
77793	920i Panel Mount, 230 VAC, without A/D	\$2,500.00
77794	920i Wall Mount, 115 VAC, without A/D	\$3,225.00
77795	920i Wall Mount, 230 VAC, without A/D	\$3,225.00
1280 Indicators for use with iQUBE²		
189623	1280 7 inch touch-only, AC power supply, no power cord, standard display, without A/D	\$2,880.00
188526	1280 7 inch touch-only, AC power supply, no power cord, high visibility display, without A/D	\$2,980.00
188395	1280 12 inch 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	\$3,550.00
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

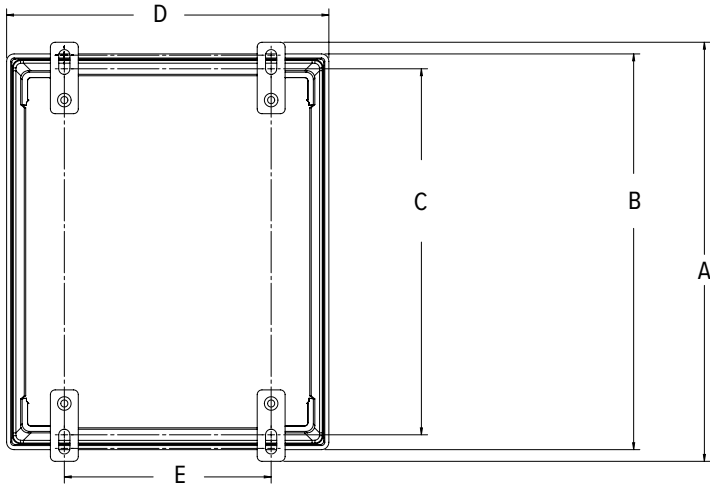
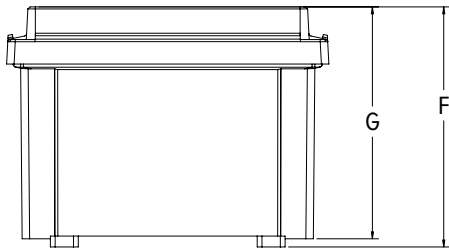


Sample Configurations*

*Not an actual system—illustrates connectivity

Dimensions

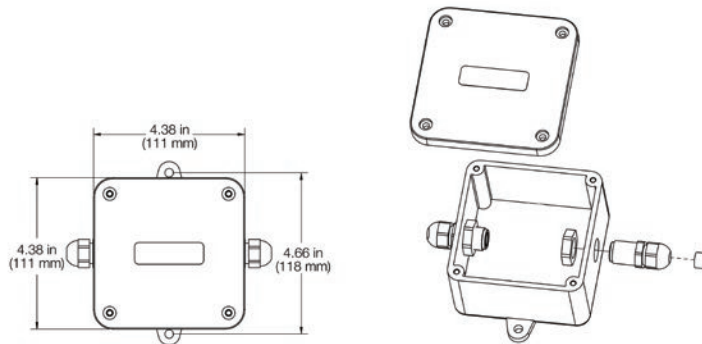
iQUBE ²			
Stainless Steel 8 × 10 in			
A	11.50 in (292 mm)	E	6.00 in (152 mm)
B	10.30 in (262 mm)	F	4.30 in (109 mm)
C	10.90 in (277 mm)	G	4.20 in (107 mm)
D	8.30 in (211 mm)		
POLY 8 × 10 in			
A	10.10 in (257 mm)	E	4.00 in (102 mm)
B	9.50 in (241 mm)	F	6.00 in (152 mm)
C	8.50 to 9.30 in (216 to 236 mm)	G	5.70 in (145 mm)
D	7.40 in (188 mm)		
POLY 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 Range:

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

Temperature:

Operating Range
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:

Two 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

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:

Two 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 Range:

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:

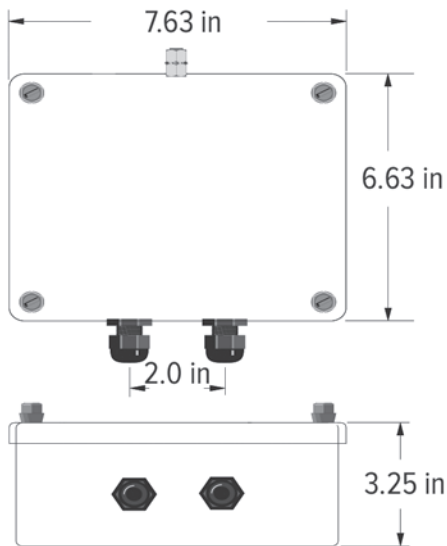
One-year limited

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



TP232

High Energy RS-232 Serial Protection



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

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 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 × 10⁻⁹ seconds

Connectors:

Five-position terminal blocks

Dimensions:

(L × W × H)
Approximately 4.5 × 3.3 × 1.8 in

Approvals:

CE marked

Warranty:

One-year limited

Ranger 1

Variable Range Simulator



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

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

Specifications

Variable Range:

0 to 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:

(L × W × H)
4.5 × 3.5 × 1.25 in
(114 × 89 × 32 mm)

Warranty:

One-year limited

JUNCTION BOXES /
SIMULATORS

Ranger 3

Variable Range Simulator



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

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 testing, troubleshooting and calibrating digital weight indicators
- Binding posts are color coded to ISA S37.8 standard

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

Transducer Simulator 4



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

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:
Six-way binding posts, suitable for loose wires or banana jacks

Warranty:
One-year limited

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 indicators
- Binding posts are color coded to ISA S37.8 standard

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

