

# Junction Boxes / Simulators

## TABLE OF CONTENTS

<b>Junction Boxes / Simulators .....</b>	<b>363</b>
<b>JB4SS .....</b>	<b>364</b>
<i>TuffSeal® Signal Trim Junction Box</i>	
<b>JB4ES.....</b>	<b>365</b>
<i>TuffSeal® Excitation Trim Junction Box</i>	
<b>JB4SP and JB4SPT .....</b>	<b>366</b>
<i>TuffSeal® Signal Trim Junction Box</i>	
<b>JB4EP and JB4EPT .....</b>	<b>367</b>
<i>TuffSeal® Excitation Trim Junction Box</i>	
<b>EL204 .....</b>	<b>368</b>
<i>Signal Trim Junction Box</i>	
<b>EL504 .....</b>	<b>369</b>
<i>Signal Trim Junction Box</i>	
<b>JB8SP .....</b>	<b>370</b>
<i>TuffSeal® Signal Trim Junction Box</i>	
<b>JB8SPT .....</b>	<b>371</b>
<i>TuffSeal® Signal Trim Junction Box</i>	
<b>EL304A.....</b>	<b>372</b>
<i>Signal Trim Junction Box</i>	
<b>JB1010T .....</b>	<b>373</b>
<i>Signal/Excitation Trim Junction Box</i>	
<b>JB1010ST .....</b>	<b>374</b>
<i>Signal Trim Junction Box</i>	
<b>Replacement Junction Boxes, Boards or Components.....</b>	<b>375</b>
<b>iQUBE2® .....</b>	<b>376</b>
<i>Digital Diagnostic Junction Box</i>	
<b>EL168 .....</b>	<b>379</b>
<i>i-Cell Junction Box</i>	
<b>TP75 DC.....</b>	<b>379</b>
<i>Transient Protection</i>	
<b>UJB3T6 DC.....</b>	<b>380</b>
<i>Transient Protection</i>	
<b>TP232.....</b>	<b>381</b>
<i>High Energy RS-232 Serial Protection</i>	
<b>Ranger 1 .....</b>	<b>381</b>
<i>Variable Range Simulator</i>	
<b>Ranger 3.....</b>	<b>382</b>
<i>Variable Range Simulator</i>	
<b>Transducer Simulator 4 .....</b>	<b>382</b>
<b>Ranger 5.....</b>	<b>383</b>
<i>Variable Range Simulator</i>	
<b>Ranger 7.....</b>	<b>383</b>
<i>Variable Range Simulator</i>	

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# JB4SS

TuffSeal® Signal Trim Junction Box



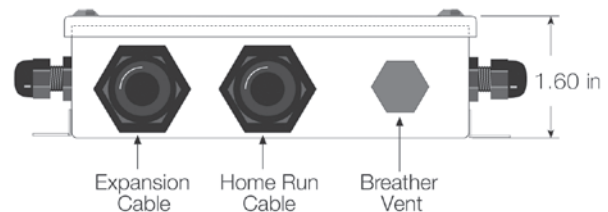
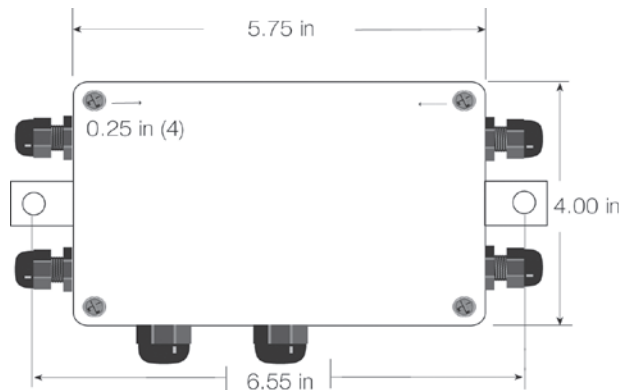
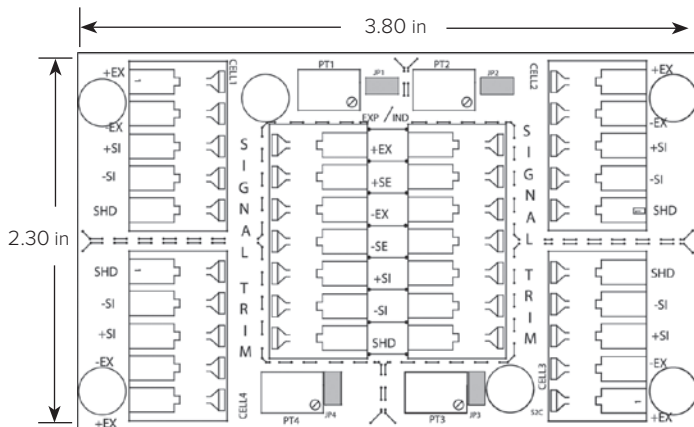
## Approvals



## 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



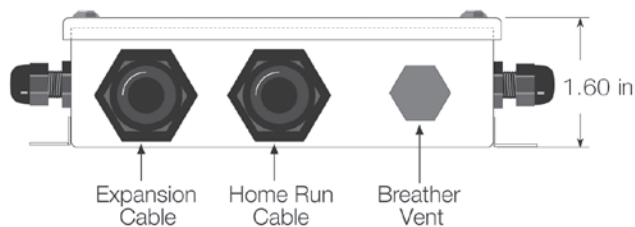
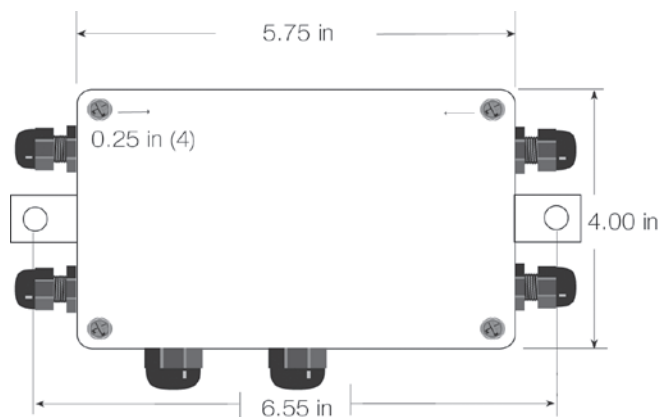
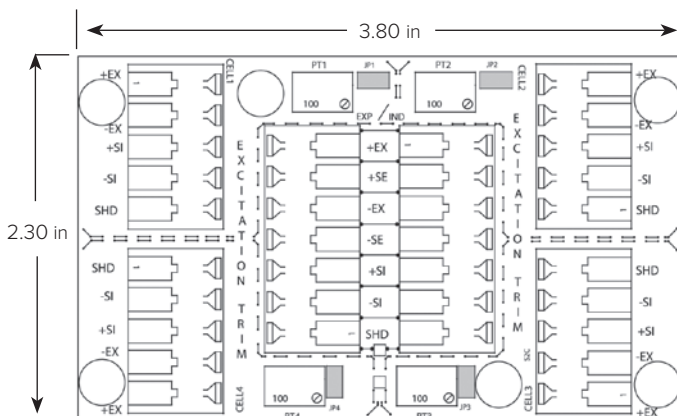
## Approvals



## 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 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

# JB4SP and JB4SPT

TuffSeal® Signal Trim Junction Box



## Approvals



PN 92762

Not FM approved



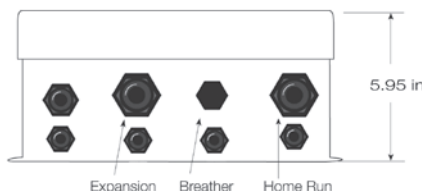
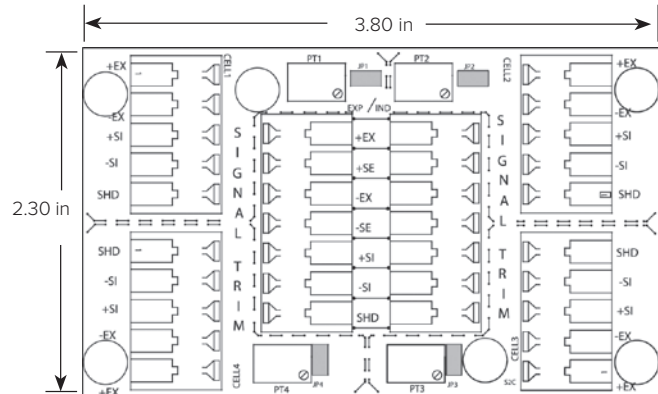
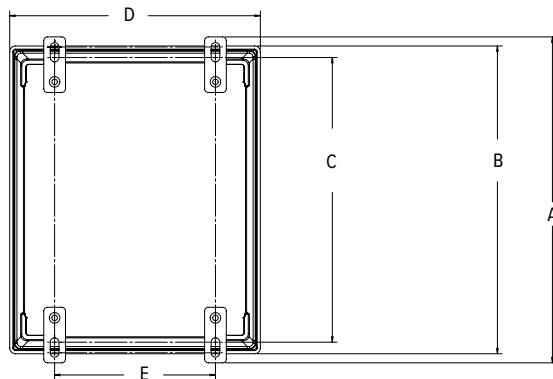
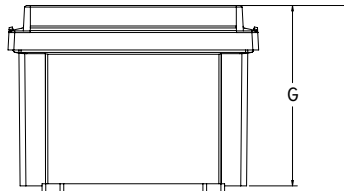
## Part Number/Price

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

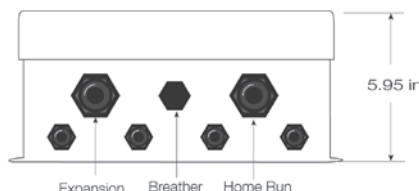
Note: Do not mix junction box models or use other brands of junction boxes with Rice Lake junction boxes. There is a risk of system instability.

## 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

## 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

# JB4EP and JB4EPT

TuffSeal® Excitation Trim Junction Box



Photo of JB4EP

## Approvals



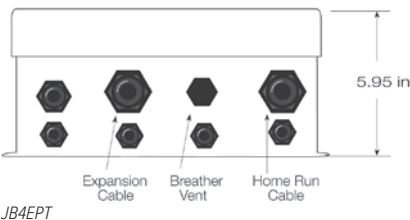
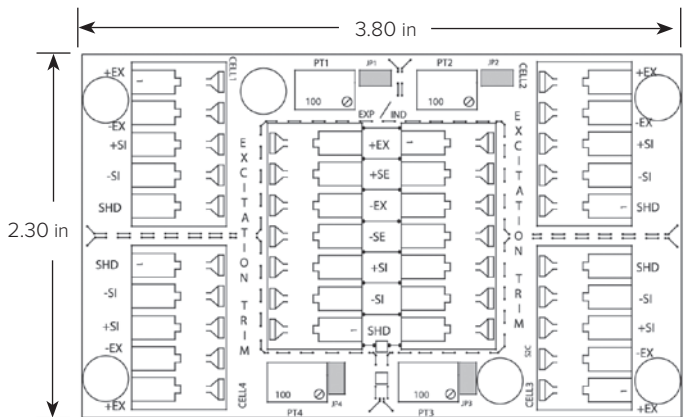
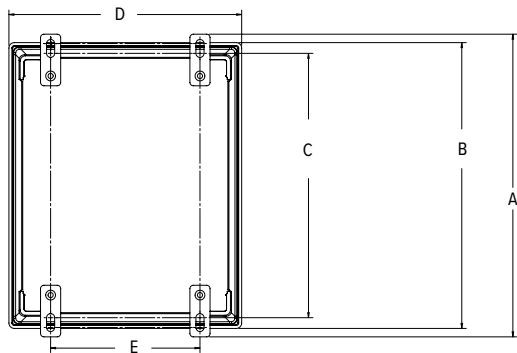
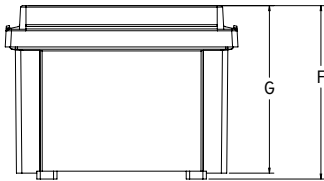
## Part Number/Price

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.

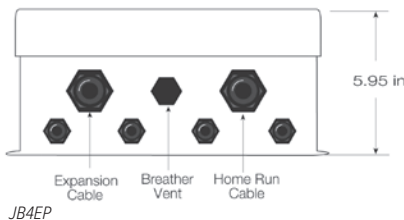
## Dimensions

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		



JB4EPT

Load Cell  
Cord Grips  
on Bottom



JB4EP

## 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

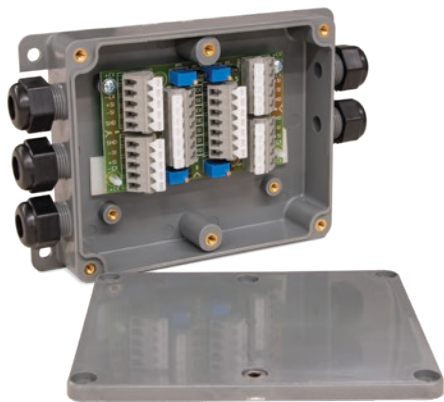
### Approvals:

cFMus

JUNCTION BOXES /  
SIMULATORS

# EL204

Signal Trim Junction Box



### 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.

### 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:

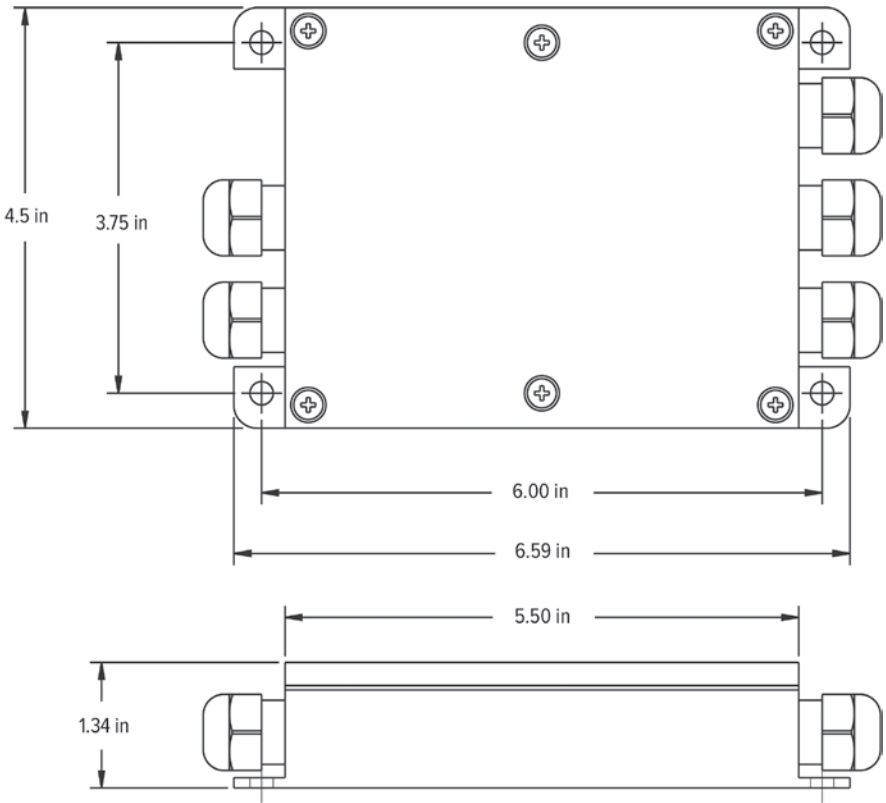
100,000 ohm, 25-turn cermet

#### Circuit Board:

3.8 × 2.3 in, with conformal coating

#### Warranty:

One-year limited

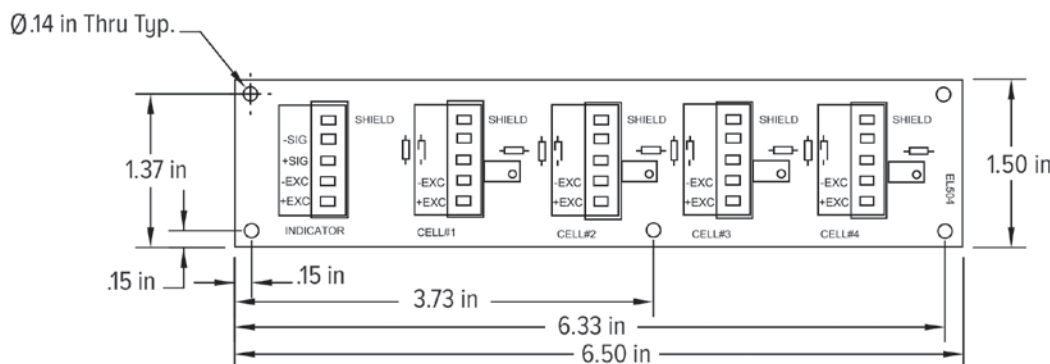
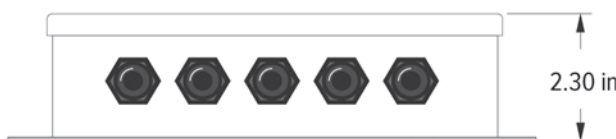
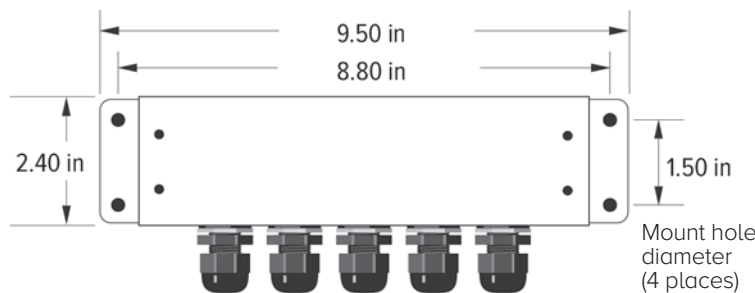




### Part Number/Price

Part #	Description	Price
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

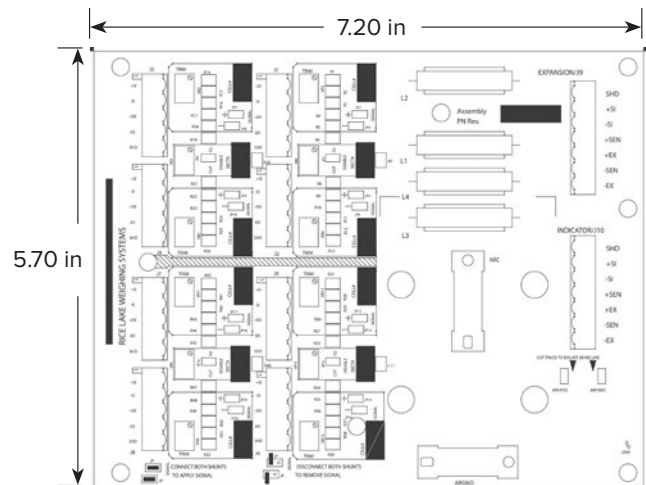
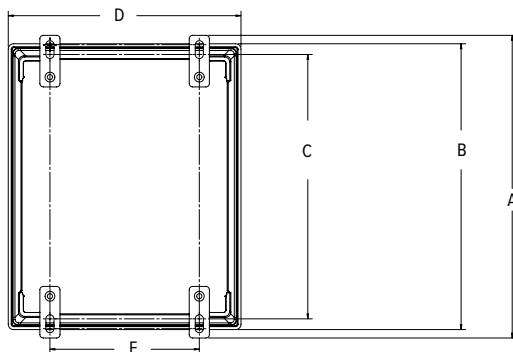
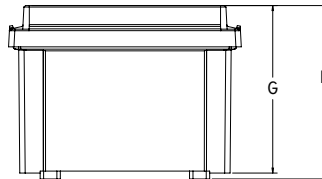
Note: Do not mix junction box models or use other brands of junction boxes with Rice Lake junction boxes. There is a risk of system instability.

## 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





## 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

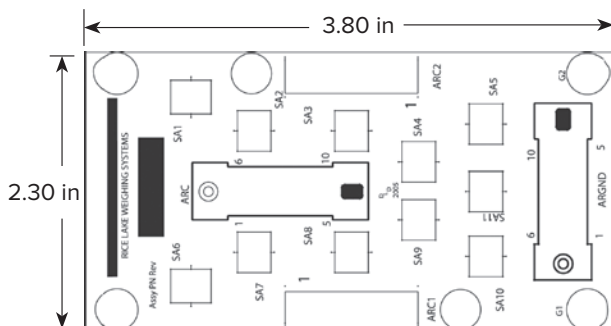
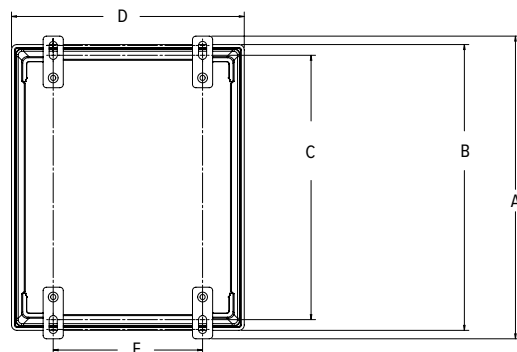
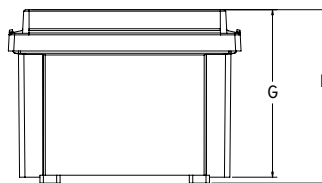
Note: Do not mix junction box models or use other brands of junction boxes with Rice Lake junction boxes. There is a risk of system instability.

## Options/Accessories

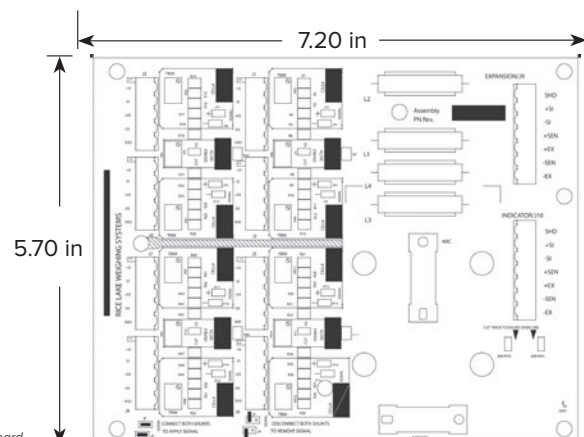
Part #	Description	Price
215178	Mounting tabs-new style (set of 4, includes screws), polycarbonate	\$15.00
92734	Coupling, 1/2-in NPT cord grip to 3/4-in NPT conduit fitting	\$27.00
92735	Coupling, 3/8-in NPT cord grip to 3/4-in NPT conduit fitting	\$27.00

## 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

## 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:

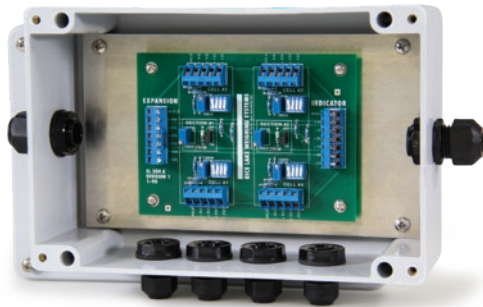
- 5.7 × 7.2 in with conformal coating

### Warranty:

- One-year limited

# EL304A

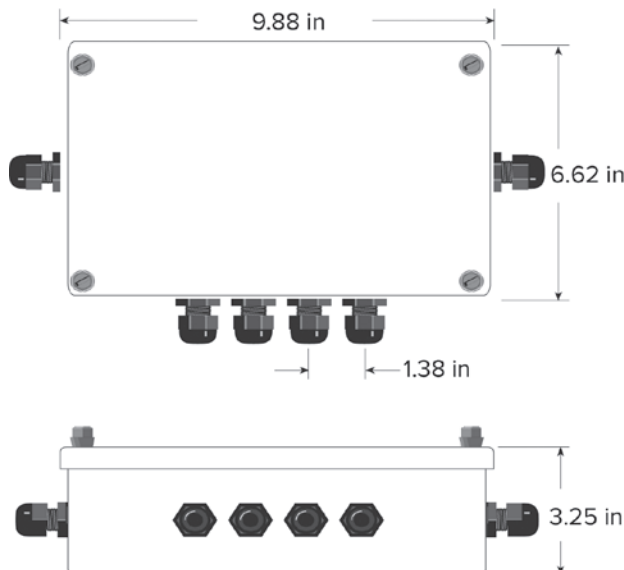
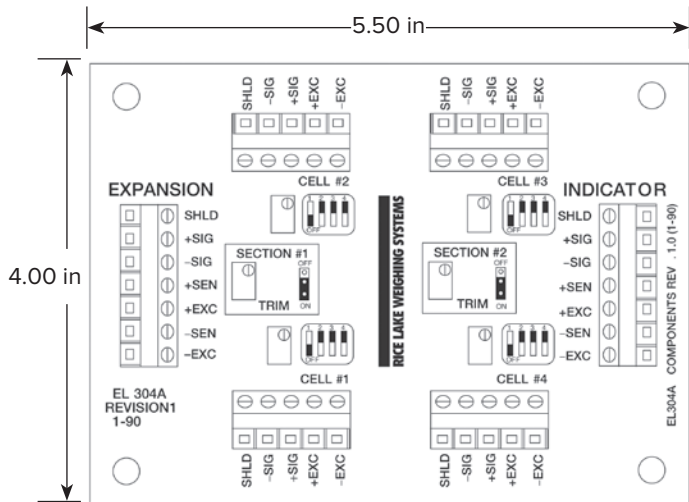
Signal Trim Junction Box



### 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:

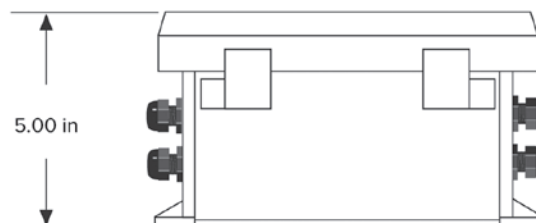
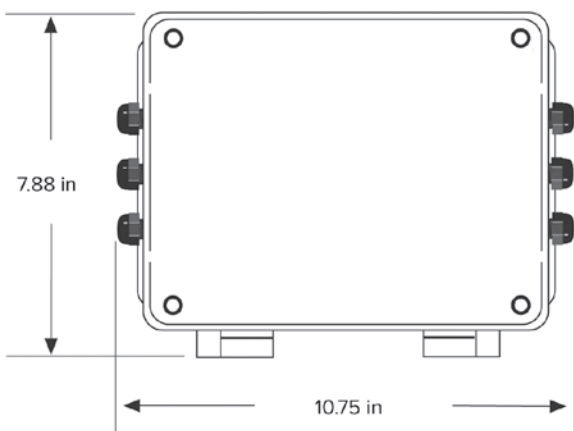
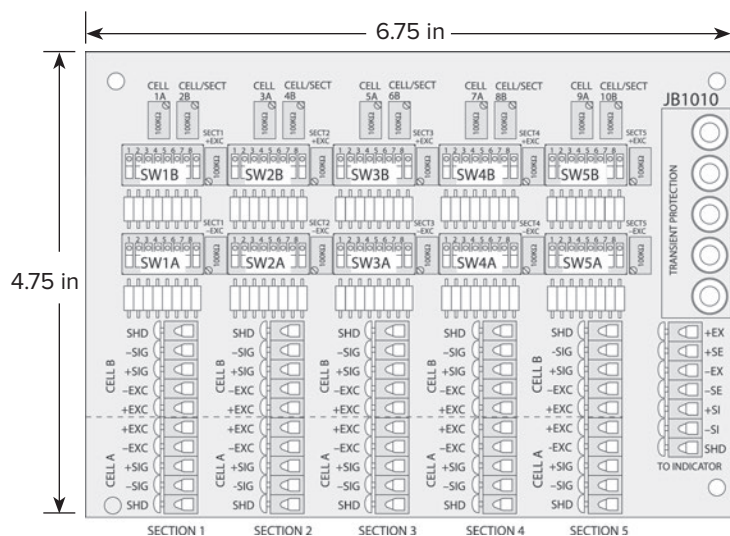
One-year limited



### 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

#### 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:

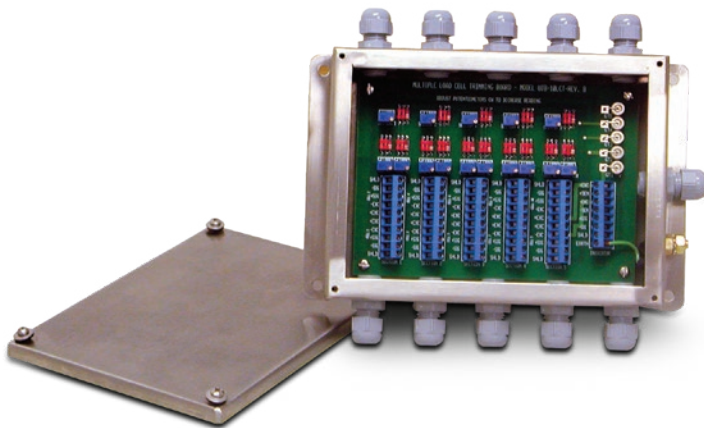
0.079 to 0.314 in

#### Warranty:

One-year limited

# JB1010ST

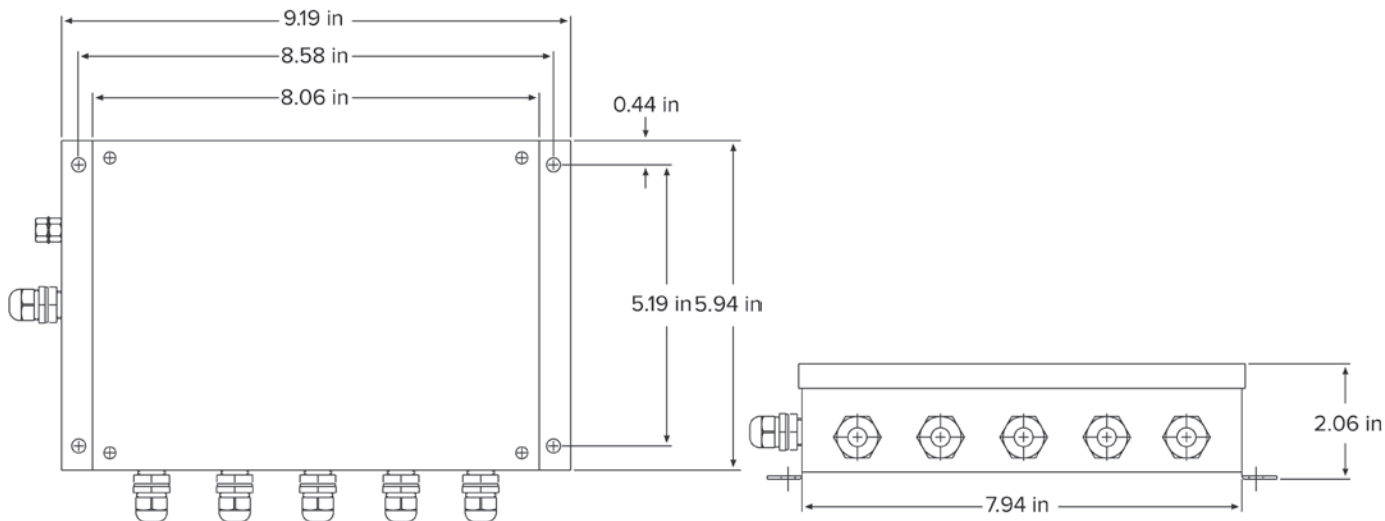
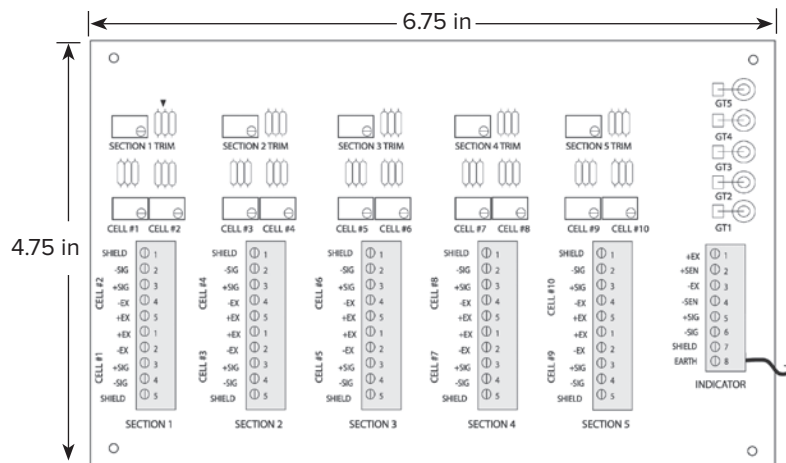
Signal Trim Junction Box



## 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:

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

# Replacement Junction Boxes, Boards or Components

Model	Complete J-Box Replacement	Replacement Board Only	Replacement Cord Grips	Replacement Pressure & Condensation Vent	Desiccant Pack
JB4SS	<b>88956</b> \$275.00	<b>88958</b> \$175.00	<b>58983</b> =PG7, \$5.00 <b>59001</b> =PG11 \$3.70	<b>88733</b> PreVent™ breather (vent) \$22.00 <b>88734</b> (vent nut) \$1.05	<b>92240</b> \$1.20
JB4ES	<b>91779</b> \$275.00	<b>89446</b> \$170.00	<b>58983</b> =PG7, \$5.00 <b>59001</b> =PG11 \$3.70	<b>88733</b> PreVent™ breather (vent) \$22.00 <b>88734</b> (vent nut) \$1.05	<b>92240</b> \$1.20
JB4SP JB4SPT	<b>91780</b> \$285.00 <b>92762</b> \$475.00	<b>88958</b> (load cell) \$175.00 & <b>89894</b> (transient protection) \$235.00	<b>58983</b> =PG7, \$5.00 <b>59001</b> =PG11 \$3.70	<b>88733</b> PreVent™ breather (vent) \$22.00 <b>88734</b> (vent nut) \$1.05	<b>16039</b> \$2.30
JB4EP JB4EPT	<b>91781</b> \$285.00 <b>92763</b> \$475.00	<b>89446</b> (load cell) \$170.00 & <b>89894</b> (transient protection) \$235.00	<b>58983</b> =PG7, \$5.00 <b>59001</b> =PG11 \$3.70	<b>88733</b> PreVent™ breather (vent) \$22.00 <b>88734</b> (vent nut) \$1.05	<b>16039</b> \$2.30
EL204	<b>73428</b> \$225.00	<b>88958</b> \$175.00	N/A	N/A	N/A
JB8SP	<b>91782</b> \$465.00 <b>173807</b> FM approved \$495.00	<b>89889</b> \$395.00 <b>172415</b> FM approved \$415.00	<b>15655</b> (cord grip) \$2.10 & <b>15656</b> (nut) \$1.05 =3/8 in NPT <b>15628</b> (cord grip) \$5.00 & <b>15630</b> (nut) \$3.00 =1/2 in NPT	<b>88733</b> PreVent™ breather (vent) \$22.00 <b>88734</b> (vent nut) \$1.05	<b>16039</b> \$2.30
JB8SPT	<b>91783</b> \$700.00	<b>89889</b> (load cell) \$395.00 & <b>89894</b> (transient protection) \$235.00	<b>15655</b> (cord grip) \$2.10 & <b>15656</b> (nut) \$1.05 =3/8 in NPT <b>15628</b> (cord grip) \$5.00 & <b>15630</b> (nut) \$3.00 =1/2 in NPT	<b>88733</b> PreVent™ breather (vent) \$22.00 <b>88734</b> (vent nut) \$1.05	<b>16039</b> \$2.30
EL304A	<b>21169</b> \$325.00	<b>21301</b> \$235.00	N/A	N/A	N/A
JB1010	<b>36231</b> \$685.00	<b>36351</b> \$475.00	N/A	N/A	N/A
JB1010ST	<b>68813</b> \$615.00	<b>68811</b> \$465.00	N/A	N/A	N/A
EL210	<b>91781</b> , JB4EP* \$285.00	<b>92472</b> \$155.00	<b>58983</b> =PG7, \$5.00 <b>59001</b> =PG11 \$3.70	N/A	N/A
EL211A	<b>91780</b> , JB4SP* \$285.00 (However the board does not have section trim capabilities)	<b>92473</b> , \$160.00 (However the board does not have section trim capabilities)	<b>58983</b> =PG7, \$5.00 <b>59001</b> =PG11 \$3.70	N/A	N/A
EL604-AL	<b>88956</b> , JB4SS* \$275.00	<b>88958</b> \$175.00	<b>58983</b> =PG7, \$5.00 <b>59001</b> =PG11 \$3.70	N/A	N/A
EL604STA	<b>88956</b> , JB4SS* \$275.00	<b>88958</b> \$175.00	<b>58983</b> =PG7, \$5.00 <b>59001</b> =PG11 \$3.70	N/A	N/A
EL604ETA	<b>91779</b> , JB4ES* \$275.00	<b>89446</b> \$170.00	<b>58983</b> =PG7, \$5.00 <b>59001</b> =PG11 \$3.70	N/A	N/A
EL504	<b>21165</b> \$395.00	<b>21296</b> \$275.00	N/A	N/A	N/A
JB808S	<b>91782</b> , JB8SP* \$465.00	<b>92471</b> \$385.00	<b>15655</b> (cord grip) \$2.10 & <b>15656</b> (nut) \$1.05 =3/8 in NPT <b>15628</b> (cord grip) \$5.00 & <b>15630</b> (nut) \$3.00 =1/2 in NPT	N/A	N/A
JB818ST	<b>91783</b> , JB8SPT* \$700.00	Need (1) <b>77445</b> \$68.00 (1) <b>89889</b> \$395.00, & (1) <b>89894</b> \$235.00	<b>15655</b> (cord grip) \$2.10 & <b>15656</b> (nut) \$1.05 =3/8 in NPT <b>15628</b> (cord grip) \$5.00 & <b>15630</b> (nut) \$3.00 =1/2 in NPT	N/A	N/A

\*See catalog pages for enclosure dimensions

JUNCTION BOXES /  
SIMULATORS





Approvals



Measurement  
Canada  
Approved



Standard Features

- iQUBE<sup>2</sup> 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<sup>®</sup> 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<sup>®</sup>, 1280, VIRTUj<sup>2</sup><sup>®</sup> 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 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

Part Number/Price

Part #	Description	Est. Weight	Price
With AC Power Supply			
108425*	iQUBE <sup>2</sup> , four-channel, polycarbonate small junction box	9 lb	\$1,365.00
108426	iQUBE <sup>2</sup> , four-channel, polycarbonate large junction box	11 lb	\$1,575.00
108427	iQUBE <sup>2</sup> , eight-channel, polycarbonate large junction box	11 lb	\$2,625.00
108428*	iQUBE <sup>2</sup> , four-channel, stainless steel small junction box	13 lb	\$2,573.00
Without Power Supply			
108429*	iQUBE <sup>2</sup> , four-channel, polycarbonate small junction box	8 lb	\$1,260.00
108430	iQUBE <sup>2</sup> , four-channel, polycarbonate large junction box	10 lb	\$1,470.00
108431	iQUBE <sup>2</sup> , eight-channel, polycarbonate large junction box	10 lb	\$2,520.00
108432*	iQUBE <sup>2</sup> , four-channel, stainless steel small junction box	12 lb	\$2,468.00
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 x 10 in required for truck scale junction box pocket



## Options/Accessories

Part #	Description	Price
108433	Four-channel iQUBE <sup>2</sup> board with cables and connectors	\$1,050.00
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	\$473.00
109396	Transient board	\$95.00
110949	Transient board with mount	\$116.00
161954	Hotspot in polycarbonate enclosure	\$3,195.00
215178	Mounting tabs-new style (set of 4, includes screws), polycarbonate	\$15.00
<b>Communication Card</b>		
108579	RS-232/RS-485 port	\$300.00
77142	Ethernet TCP/IP	\$545.00
206272	Wireless LAN 802.11 A/B	\$610.00
93245	USB port	\$225.00
77143	Fiber-optic board	\$231.00
77788	Fiber-optic board (installed in 920i)	\$231.00
<b>Duplex Fiber (Max Run 350 ft)</b>		
78026	Fiber-optic cable, 100 ft	\$185.00
78027	Fiber-optic cable, 200 ft	\$350.00
78910	Fiber-optic cable, custom length	\$1.85/ft
<b>Home Run Cable</b>		
116587	EL166 16 gauge, six conductor, shielded	\$2.65/ft
<b>Software</b>		
108436	VIRTUI <sup>2</sup> activation part number	\$578.00
112262	Firmware update flash cable	\$69.00
<b>920i® Indicators for use with iQUBE<sup>2</sup>, requires version 4 software</b>		
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
<b>1280 Indicators for use with iQUBE<sup>2</sup></b>		
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, AC 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

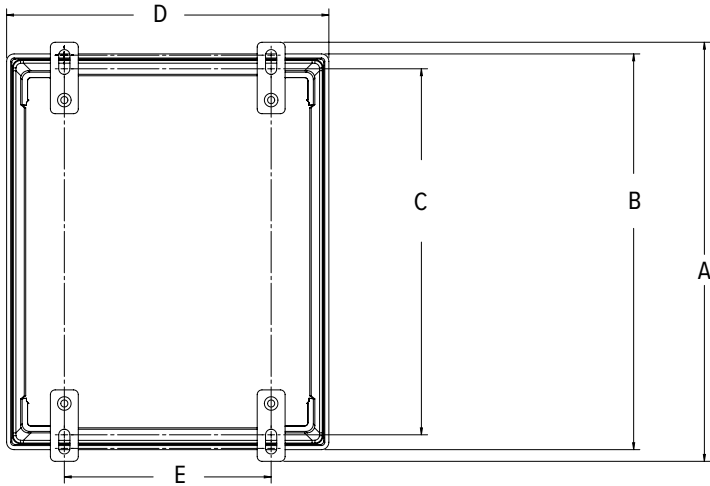
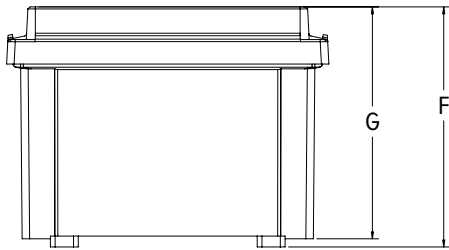


## Sample Configurations

Not an actual system—illustrates connectivity

Dimensions

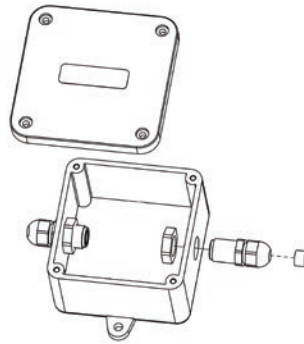
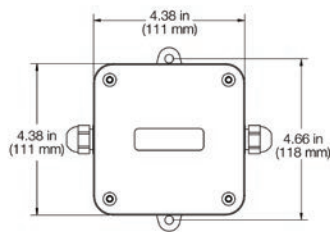
iQUBE <sup>2</sup>			
Stainless Steel			
A	11.50 in (292 mm)	E	6.00 in (152 mm)
B	10.30 in (262 mm)	F	4.30 in (109 mm)
C	10.90 in (277 mm)	G	4.20 in (107 mm)
D	8.30 in (211 mm)		
Polycarbonate Small			
A	10.10 in (257 mm)	E	4.00 in (102 mm)
B	9.50 in (241 mm)	F	6.00 in (152 mm)
C	8.50 to 9.30 in (216 to 236 mm)	G	5.70 in (145 mm)
D	7.40 in (188 mm)		
Polycarbonate Large			
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	\$85.00



## 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	\$340.00

## Options/Accessories

Part #	Description	Price
31164	Circuit board only	\$265.00

## 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  $\mu$ 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  $\mu$ 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:

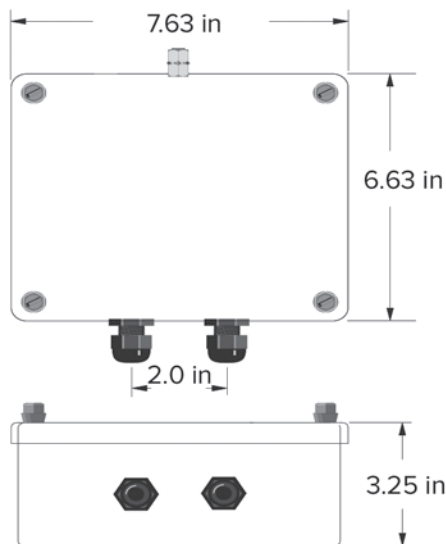
One-year limited

## 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



Approvals



### Part Number/Price

Part #	Description	Price
69201	TP232	\$190.00

### 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 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 × W × H)  
Approximately 4.5 × 3.3 × 1.8 in

**Warranty:**  
One-year limited

**Approvals:**  
CE

# 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	\$70.00

### 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

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

**Warranty:**  
One-year limited

# 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	\$70.00

## 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 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

# 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	\$70.00

## 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:

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 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	\$695.00

## Options/Accessories

Part #	Description	Price
21116	Cable (4 ft) with banana plugs	\$70.00

# 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	\$70.00

## This image shows a full page of blank graph paper. The grid consists of thin, light gray horizontal and vertical lines that intersect to form small squares across the entire surface. There are no margins, text, or other markings on the paper.