

# 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	\$295.00
107700	JB4SS signal trim junction box with PG9 cord grips for load cells	\$310.00
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.

## Dimensions

JB4SS			
A	2.30 in	E	6.55 in
B	3.80 in	F	0.25 in (4)
C	5.75 in	G	1.60 in
D	4.00 in		

## Standard Features

- Stainless steel, NEMA Type 4X enclosure
- Jumpers to enable/disable a load cell
- PreVent™ breather vent
- Conformal coated circuit board
- Connect 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

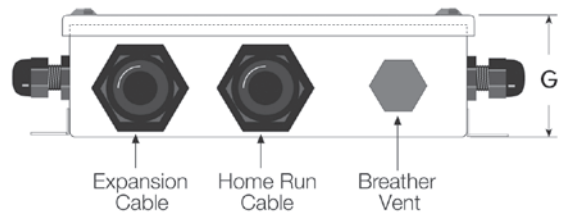
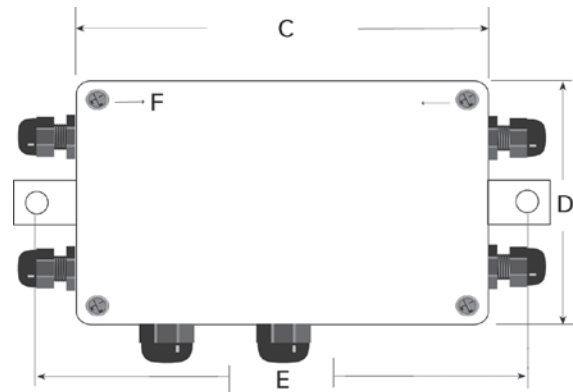
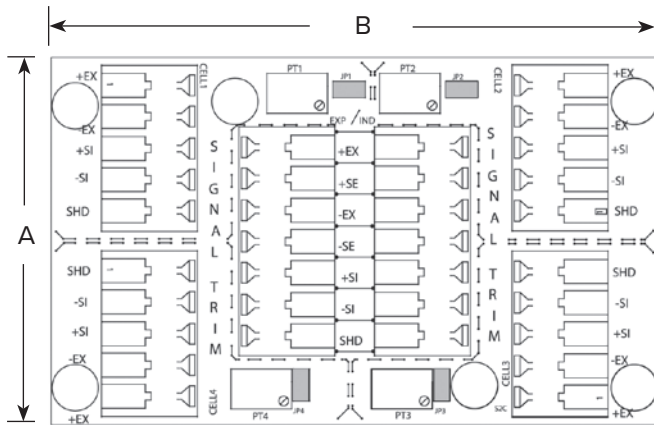
### Warranty:

- One-year limited

### Approvals:

- cFMus

JUNCTION BOXES / SIMULATORS





## Standard Features

- Jumpers to enable/disable a load cell
- PreVent™ breather vent
- Conformal-coated circuit board
- Connect two, three or four single load 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



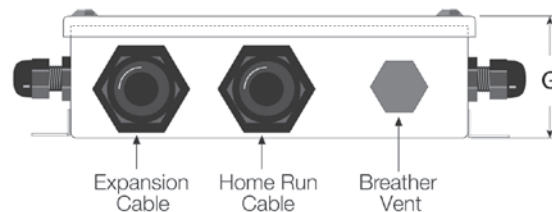
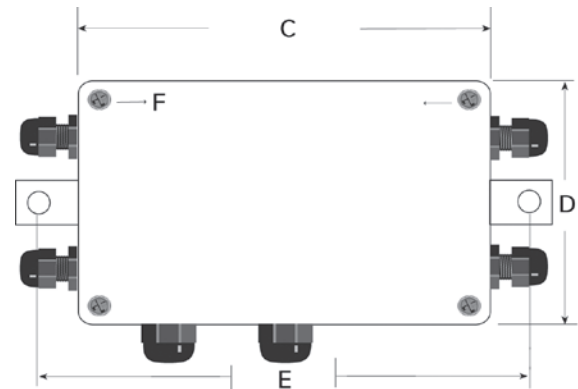
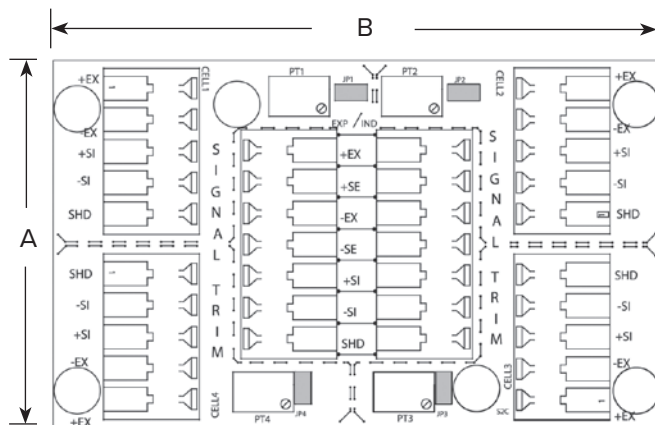
## Part Number/Price

Part #	Description	Price
91779	JB4ES excitation trim junction box	\$295.00
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.

## Dimensions

JB4ES			
A	2.30 in	E	6.55 in
B	3.80 in	F	0.25 in (4)
C	5.75 in	G	1.60 in
D	4.00 in		



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
- Connect two, three or four single load 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

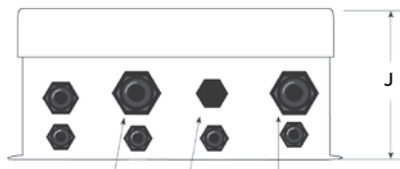
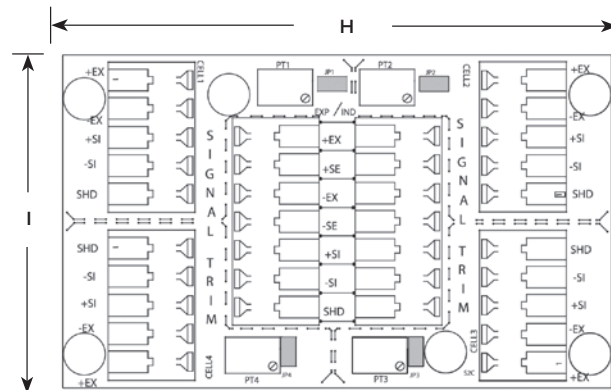
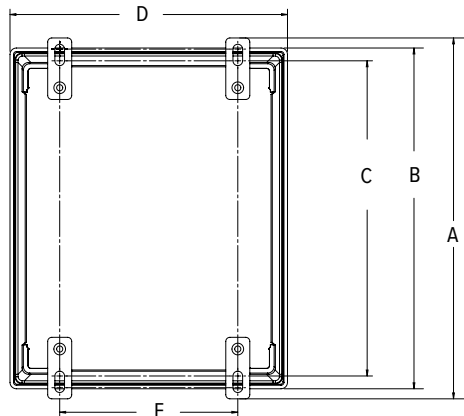
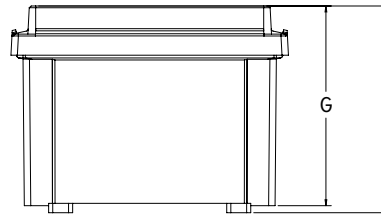
## Part Number/Price

Part #	Description	Price
91780	JB4SP signal trim four-channel with expansion	\$310.00
92762	JB4SPT signal trim with transient protection (not FM approved)	\$495.00
88958	Board only	\$175.00
88894	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

JB4SP and JB4SPT					
A	10.04 in	E	4.00 in	I	2.30 in
B	9.52 in	F	5.95 in	J	5.95 in
C	8.50 in	G	5.71 in	K	5.95 in
D	7.43 in	H	3.80 in		



JB4SP



JB4SPT

JUNCTION BOXES / SIMULATORS

# JB4EP and JB4EPT

TuffSeal® Excitation Trim Junction Box

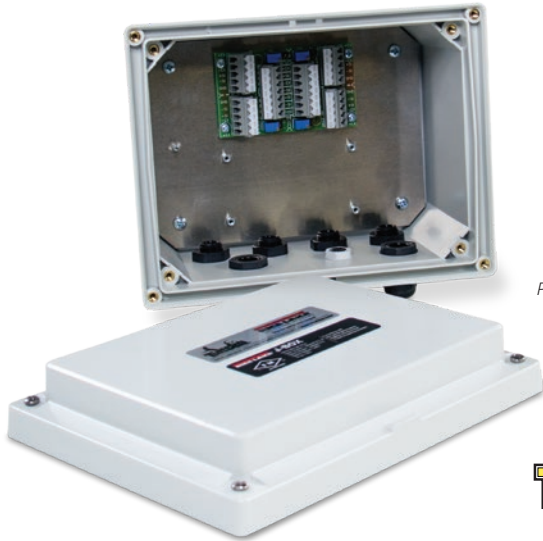


Photo of JB4EP

## Standard Features

- Jumpers to enable/disable a load cell
- PreVent™ breather vent
- Conformal -coated circuit board
- Connect two, three or four single load 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

## Approvals



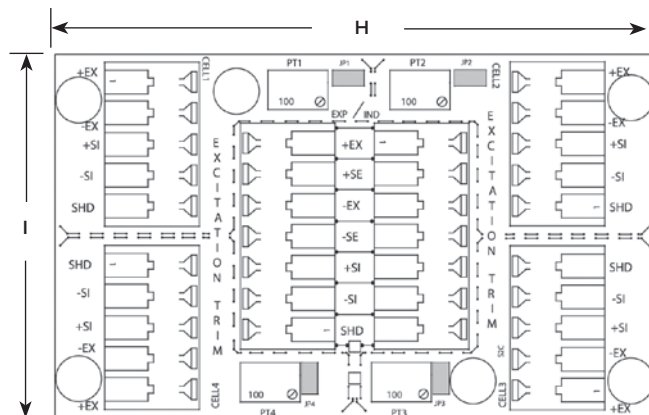
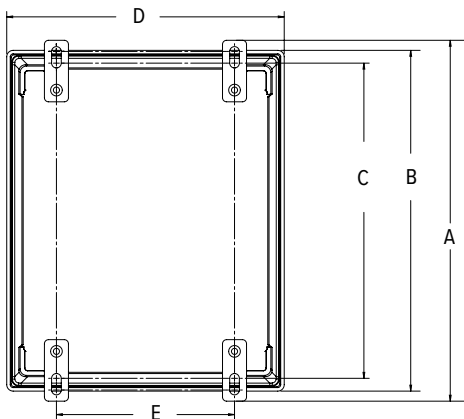
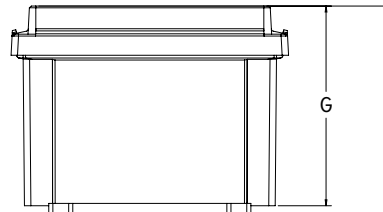
## Part Number/Price

Part #	Description	Price
91781	JB4EP excitation trim junction box	\$310.00
92763	JB4EPT excitation trim junction box with transient protection	\$495.00
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

JB4EP and JB4EPT					
A	10.04 in	E	4.00 in	I	2.30 in
B	9.52 in	F	5.95 in	J	5.95 in
C	8.50 in	G	5.71 in	K	5.95 in
D	7.43 in	H	3.80 in		



JB4EPT

Load Cell  
Cord Grips  
on Bottom

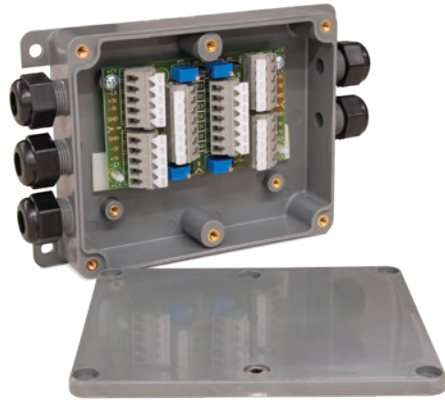


JB4EP

JUNCTION BOXES /  
SIMULATORS

# EL204

Signal Trim Junction Box



## Standard Features

- ABS enclosure with molded-in cable fittings
- Connect two, three or four single load 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

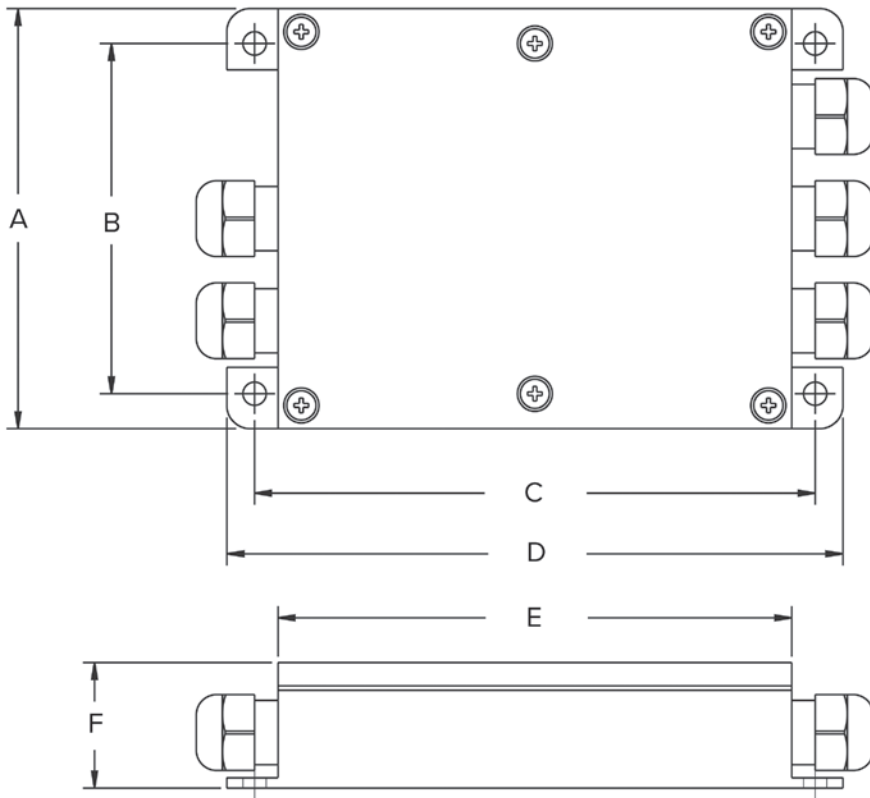
## Part Number/Price

Part #	Description	Price
73428	EL204 junction box	\$245.00
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.

## Dimensions

EL204			
A	4.50 in	D	6.59 in
B	3.75 in	E	5.50 in
C	6.00 in	F	1.34 in



JUNCTION BOXES / SIMULATORS



### Standard Features

- Strain relief cable fittings
- Removable connectors for easy wiring
- Connect two or four single load cells (even number of load 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

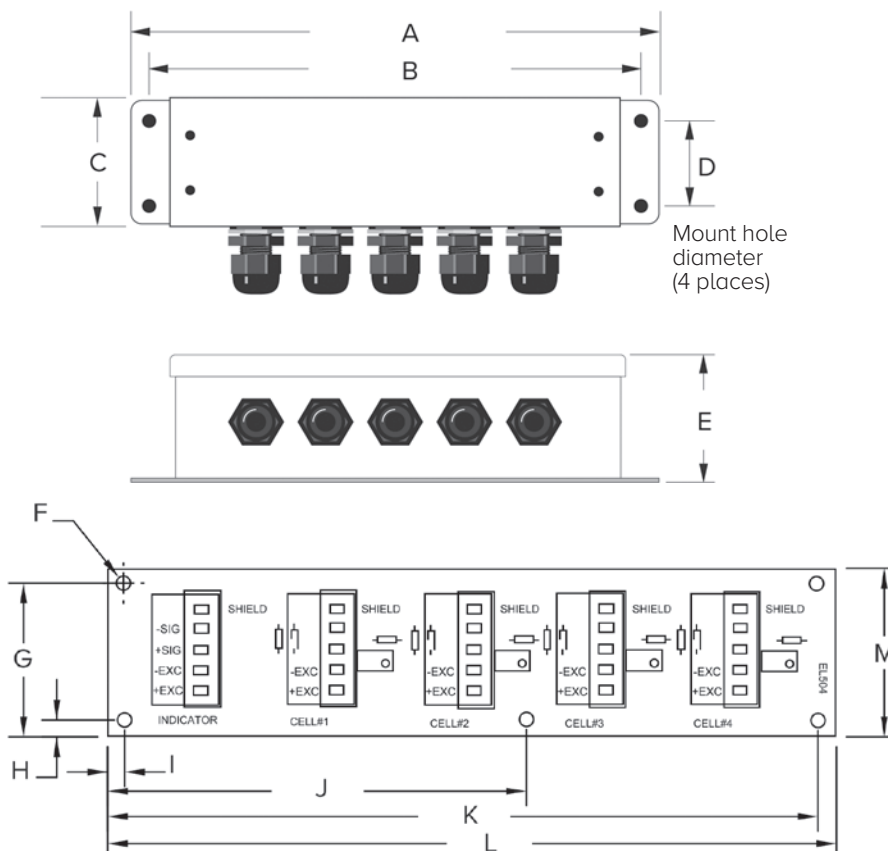
### Part Number/Price

Part #	Description	Price
21165	EL504 signal trim junction box	\$425.00
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.

### Dimensions

EL504					
A	9.50 in	F	Ø.14 in thru type	K	6.33 in
B	8.80 in	G	1.37 in	L	6.50 in
C	2.40 in	H	0.15 in	M	1.50 in
D	1.50 in	I	0.15 in		
E	2.30 in	J	3.73 in		



JUNCTION BOXES / SIMULATORS

# JB8SP

TuffSeal® Signal Trim Junction Box



## Approvals



## Part Number/Price

Part #	Description	Price
91782	JB8SP signal trim eight-channel with expansion	\$495.00
173807	JB8SP signal trim eight-channel with expansion, FM approved	\$525.00
89889	Board only	\$395.00
172415	Board only, FM approved	\$425.00
165273	Enclosure only (does not include cord grips and filter)	\$175.00

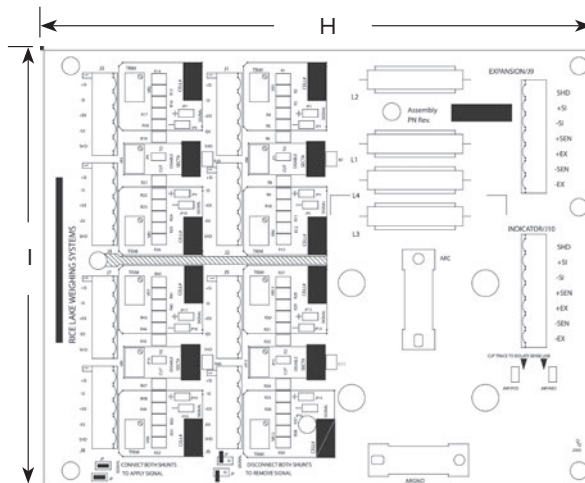
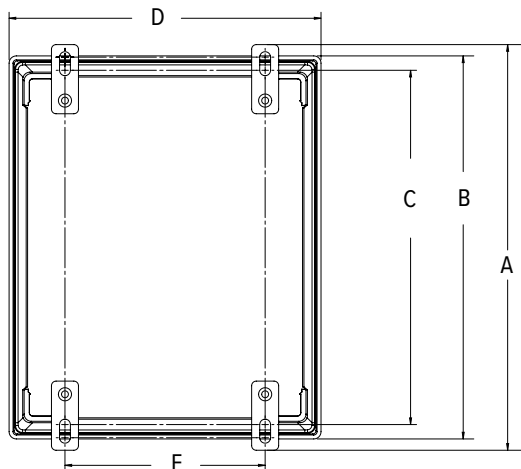
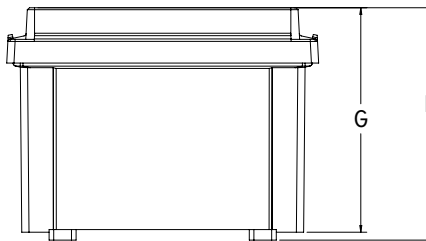
Note: Do not mix junction box models or use other brands of junction boxes with Rice Lake junction boxes. There is a risk of system instability.

## 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

JB8SP			
A	12.13 in	F	5.98 in
B	11.45 in	G	6.95 in
C	11.38 in	H	7.20 in
D	10.59 in	I	5.70 in
E	9.32 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
- Connect 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
- Connect 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)	\$175.00

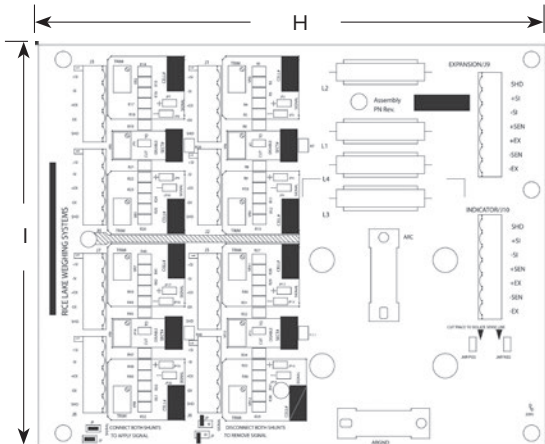
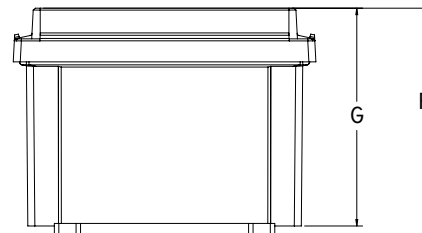
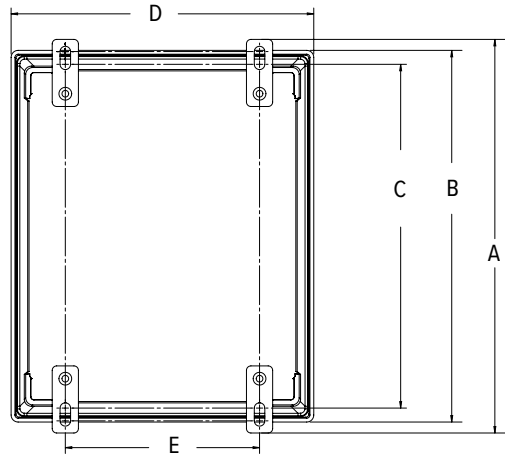
Note: Do not mix junction box models or use other brands of junction boxes with Rice Lake junction boxes. There is a risk of system instability.

## Options/Accessories

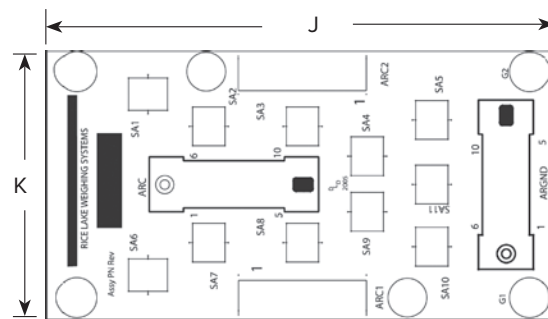
Part #	Description	Price
215178	Mounting tabs-new style (set of 4, includes screws), polycarbonate	\$15.00
92734	Coupling, 1/2-in NPT cord grip to 3/4-in NPT conduit fitting	\$27.00
92735	Coupling, 3/8-in NPT cord grip to 3/4-in NPT conduit fitting	\$27.00

## Dimensions

JB8SP	
A	12.13 in
B	11.45 in
C	11.38 in
D	10.59 in
E	9.32 in
F	5.98 in
G	6.95 in
H	7.20 in
I	5.70 in
J	3.80 in
K	2.30 in



Load Cell Board

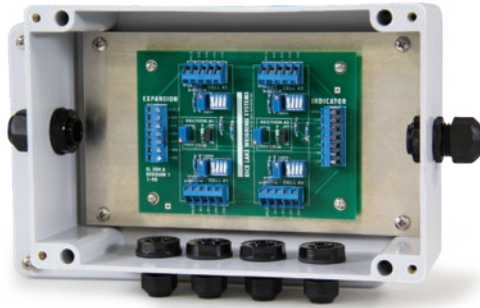


Transient Board

JUNCTION BOXES / SIMULATORS

# EL304A

Signal Trim Junction Box



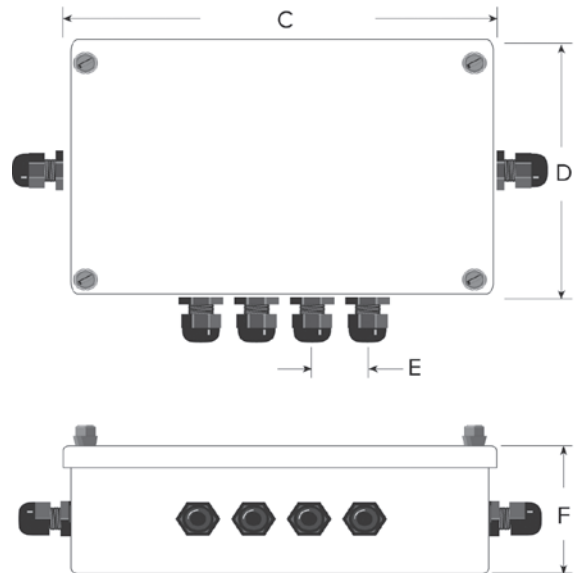
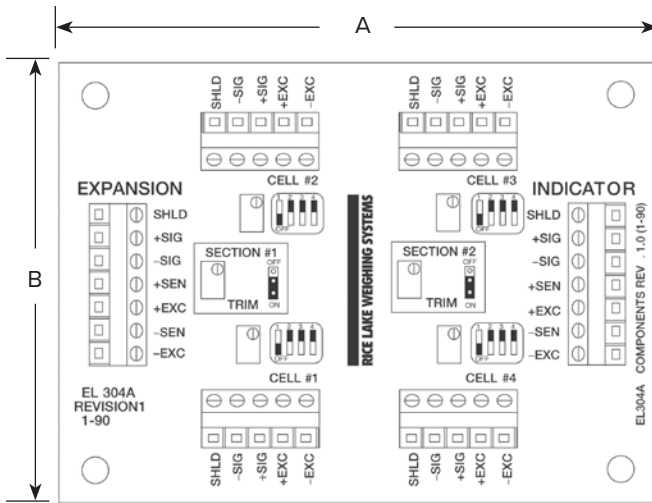
## Part Number/Price

Part #	Description	Price
21169	EL304A signal trim four-channel junction box	\$350.00
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.

## Dimensions

EL304A			
A	5.50 in	D	6.62 in
B	4.00 in	E	1.38 in
C	9.88 in	F	3.25 in



## Standard Features

- Strain relief cable fittings
- Individual cell signal disconnect switches
- Connect 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

# JB1010T

Signal/Excitation Trim Junction Box



## Standard Features

- Transient protection
- Signal or excitation trim
- Front panel mounting
- Strain relief cable fittings
- Connect up to 10 single load cells
- 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

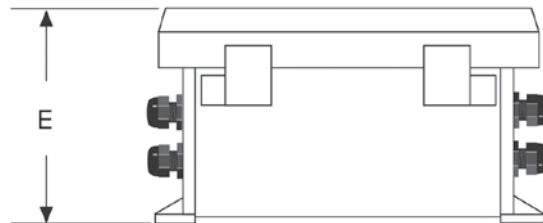
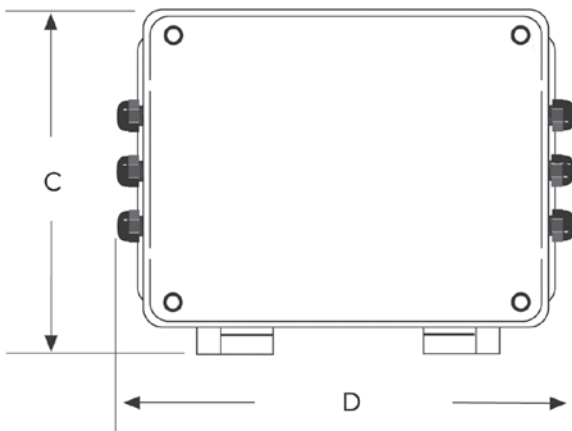
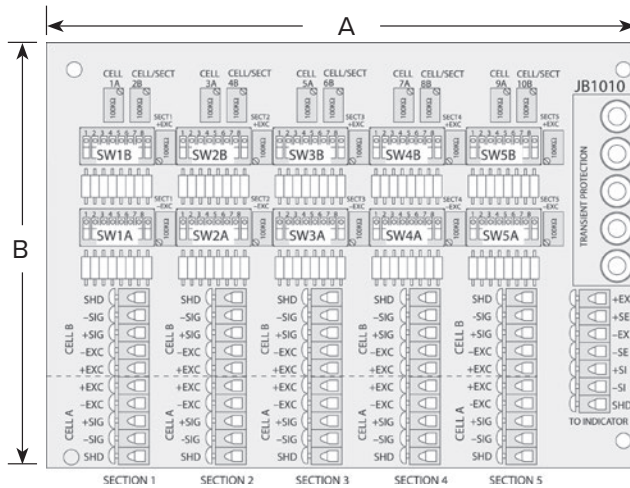
## Part Number/Price

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.

## Dimensions

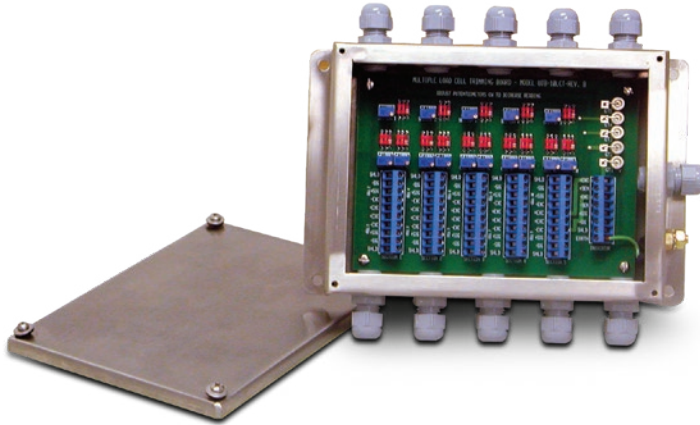
JB1010T	
A	6.75 in
B	4.75 in
C	7.88 in
D	10.75 in
E	5.00 in



JUNCTION BOXES /  
SIMULATORS

# 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
- Connect two, four, six, eight or 10 single load cells (even number of load cells only)
- 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

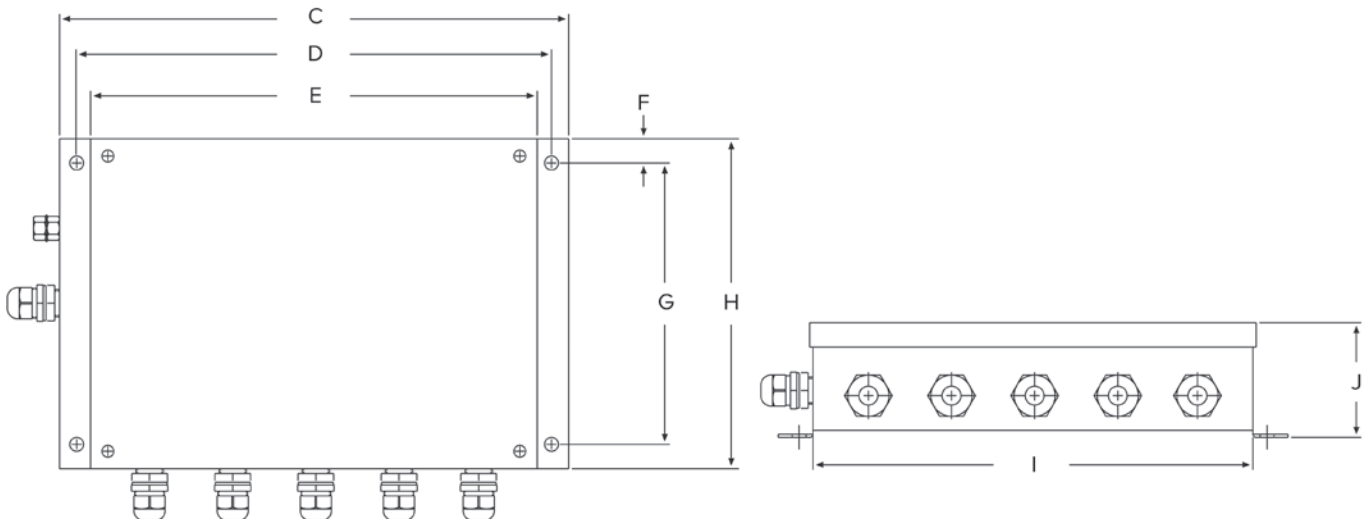
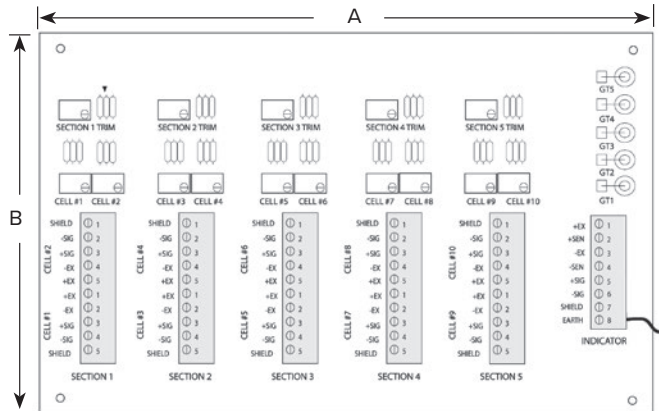
## Part Number/Price

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.

## Dimensions

JB1010ST	
A	6.75 in
B	4.75 in
C	9.19 in
D	8.58 in
E	8.06 in
F	0.44 in
G	5.19 in
H	5.94 in
I	7.94 in
J	2.06 in



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	<b>88956</b> \$295.00	<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> \$295.00	<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> \$310.00 <b>92762</b> \$495.00	<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> \$310.00 <b>92763</b> \$495.00	<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> \$245.00	<b>88958</b> \$175.00	N/A	N/A	N/A
JB8SP	<b>91782</b> \$495.00 <b>173807</b> FM approved \$525.00	<b>89889</b> \$395.00 <b>172415</b> FM approved \$425.00	<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> \$350.00	<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* \$310.00	<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* \$310.00 (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* \$295.00	<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* \$295.00	<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* \$295.00	<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> \$425.00	<b>21296</b> \$275.00	N/A	N/A	N/A
JB808S	<b>91782</b> , JB8SP* \$495.00	<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



### 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 V DC, 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  
CE Marked  
cULus E151461

### 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, railroad, tank and hopper scales
- Multi-channel scales

### Part Number/Price

Part #	Description	Est. Weight	Price
<b>With AC Power Supply</b>			
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
<b>Without Power Supply</b>			
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
<b>Conduit Adapters</b>			
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

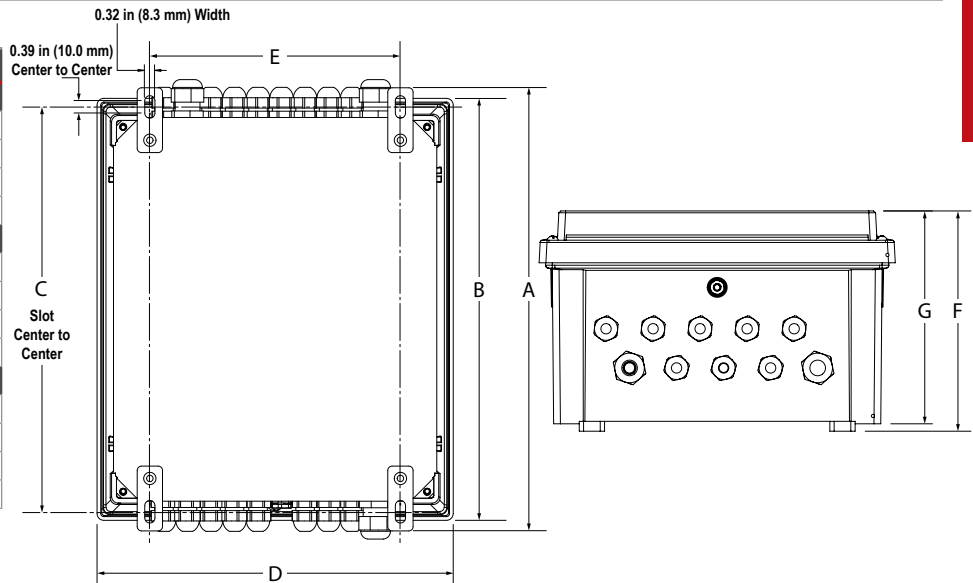
Part #	Description	Price
108433	Four-channel iQUBE <sup>2</sup> board with cables and connectors	\$1,050.00
97475	DC/DC power supply, 9 to 36 VDC (requires factory installation)	\$255.00
108434	Remote power supply 115/230 VAC and transient board with enclosure	\$473.00
109396	Transient board	\$95.00
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

Options/Accessories

Part #	Description	Price
<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)	\$235.00
<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<sup>®</sup> 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, 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

Dimensions

iQUBE <sup>2</sup>			
Stainless Steel			
A	13.50 in (343 mm)	E	8.00 in (203 mm)
B	12.28 in (312 mm)	F	6.29 in (160 mm)
C	12.75 in (324 mm)	G	6.20 in (157 mm)
D	10.28 in (261 mm)		
Polycarbonate Small			
A	12.13 in (308 mm)	E	5.98 in (152 mm)
B	11.45 in (291 mm)	F	6.95 in (176 mm)
C	10.90 in (268 mm)	G	6.71 in (170 mm)
D	9.32 in (237 mm)		
Polycarbonate Large			
A	14.13 in (360 mm)	E	7.99 in (203 mm)
B	13.46 in (342 mm)	F	7.02 in (178 mm)
C	12.91 in (328 mm)	G	6.79 in (172 mm)
D	11.36 in (289 mm)		



JUNCTION BOXES / SIMULATORS

# iQUBE<sup>3</sup>

Digital Diagnostic Junction Box



## Approvals



## Standard Features

- Designed for weighing systems using the 1280 Enterprise™ Series indicator
- iQUBE<sup>3</sup> CPU board: Four A/D channels, SD Slot, RS232/485, four DI/Os, Ethernet TCP/IP (wired), USB-C
- iQUBE<sup>3</sup> CPU board supports networking up to five iQUBE<sup>3</sup> four-channel boards (four A/D channels each), for a total of 24 A/D channels; connection can be up to four separate scales and a Total Scale
- Diagnostic routines for weighing errors and system health
- Additional diagnostics for overloaded, underloaded, zero reference, drift, noise and unbalanced conditions
- Onboard status LEDs for communication and visual bi-color indication of load cell health
- Load cell emulator compensates for a failed load cell
- Cal-Match® algorithm automatically trims and calibrates the scale in one pass of test weights
- Two option slots available

## Part Number/Price

Part #	Description	Est. Weight	Price
<b>With AC Power Supply</b>			
227157*	iQUBE <sup>3</sup> , four-channel, polycarbonate small junction box	9 lb	\$1,465.00
227158	iQUBE <sup>3</sup> , four-channel, polycarbonate large junction box	11 lb	\$1,675.00
227159	iQUBE <sup>3</sup> , eight-channel, polycarbonate large junction box	11 lb	\$2,725.00
227160	iQUBE <sup>3</sup> , four-channel, stainless steel small junction box	13 lb	\$2,673.00
<b>Without Power Supply</b>			
227161*	iQUBE <sup>3</sup> , four-channel, polycarbonate small junction box	8 lb	\$1,360.00
227162	iQUBE <sup>3</sup> , four-channel, polycarbonate large junction box	10 lb	\$1,570.00
227163	iQUBE <sup>3</sup> , eight-channel, polycarbonate large junction box	10 lb	\$2,620.00
227164	iQUBE <sup>3</sup> , four-channel, stainless steel small junction box	12 lb	\$2,568.00
<b>With DC Power Supply</b>			
227165	iQUBE <sup>3</sup> , four-channel, polycarbonate small junction box with transient protection	9 lb	\$1,615.00
227166	iQUBE <sup>3</sup> , four-channel, polycarbonate large junction box with transient protection	11 lb	\$1,825.00
227167	iQUBE <sup>3</sup> , eight-channel, polycarbonate large junction box with transient protection	11 lb	\$2,875.00
227168	iQUBE <sup>3</sup> , four-channel, stainless steel small junction box with transient protection	13 lb	\$3,150.00

\*Small iQUBE<sup>3</sup> required for truck scale junction box pocket.

## Options

- Fiber optic
- Analog output: 16-bit resolution, 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA
- Relay or Serial (two RS-232 or RS-422/485)
- Wireless Ethernet TCP/IP
- Bridge resistance board

## Applications

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

## Specifications

### Voltage Input:

AC voltage: 100 to 240 VAC; 50/60 Hz  
DC voltage: 9 to 36 VDC

### Analog Signal Input Range:

-51 to +51 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)  
12.5 Hz (default)

### Digital I/O:

Four per card, for push-button operation, setpoint control or cell status  
24 mA per DIO at 5 V

### Communication Ports:

RS-232/RS-422/485  
USB-C  
Ethernet TCP/IP, wired standard  
Ethernet TCP/IP, optional wireless

### Load Cell Inputs:

Connect up to 24 load cells (four, per board)

### Load Cell Excitation:

3.3 VDC, 38 mA maximum per channel  
Up to 24 × 350 ohm load cells

### Rating/Material:

Polycarbonate (NEMA Type 4X) enclosure  
Stainless steel (NEMA Type 4X) enclosure with hinged cover

### Temperature:

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

### Warranty:

Two-year limited

### Approvals:

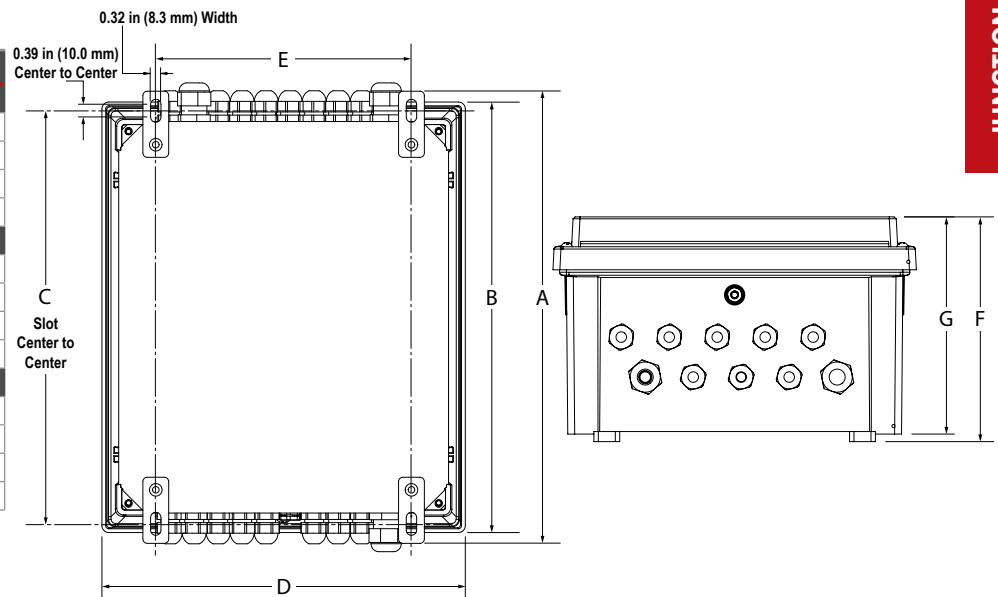
NTEP 25-041  
Measurement Canada (pending)  
cULus (pending)  
CE Marked (pending)

### Options/Accessories

Part #	Description	Price
231373	iQUBE <sup>3</sup> CPU board, four-channel with cables and connectors	\$1,200.00
227169	iQUBE <sup>3</sup> , four-channel board, four-channel with cables and connection	\$950.00
231372	Enclosure, iQUBE <sup>3</sup> , four-channel, polycarbonate small junction box (no CPU)	\$1,260.00
227171	Power supply, 115/230 VAC input, 24VDC output, FRP enclosure, iQUBE <sup>3</sup> remote power	\$473.00
230935	Bridge resistance card assembly, four-channel	\$750.00
232018	Transient board with mount (only used with multiple enclosures)	\$116.00
231993	iQUBE <sup>3</sup> enclosure, small, polycarbonate, includes kickstand bracket	\$525.00
231994	iQUBE <sup>3</sup> enclosure, large, polycarbonate, includes kickstand bracket	\$750.00
231995	iQUBE <sup>3</sup> enclosure, stainless steel	\$1,750.00
215178	Enclosure mounting tabs-new style (set of 4, includes screws), polycarbonate	\$15.00
195084	Analog card, kit	\$360.00
211709	Relay card, kit	\$360.00
<b>Conduit Adapter</b>		
92734	Conduit adapter 1/2 in NPT to 3/4 in NPT	\$27.00
92735	Conduit adapter 3/8 in NPT to 3/4 in NPT	\$27.00
<b>Communication Card</b>		
211710	Serial Output, dual serial card for iQUBE <sup>3</sup> install kit	\$360.00
230919	iQUBE <sup>3</sup> fiber optic kit	\$290.00
231366	Wireless LAN 802.11 A/B (factory install required)	\$250.00
<b>Duplex Fiber (Max Run 500 ft)</b>		
78026	Fiber-optic cable, 100 ft (includes polishing kit)	\$185.00
78027	Fiber-optic cable, 200 ft (includes polishing kit)	\$350.00
78910	Fiber-optic cable, duplex 1.00 mm core 2.2 mm, custom length	\$1.85/ft
<b>1280 Indicators for use with iQUBE<sup>3</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, 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

### Dimensions

iQUBE <sup>3</sup>			
Stainless Steel			
A	13.50 in (343 mm)	E	8.00 in (203 mm)
B	12.28 in (312 mm)	F	6.29 in (160 mm)
C	12.75 in (324 mm)	G	6.20 in (157 mm)
D	10.28 in (261 mm)		
Polycarbonate Small			
A	12.13 in (308 mm)	E	5.98 in (152 mm)
B	11.45 in (291 mm)	F	6.95 in (176 mm)
C	10.90 in (268 mm)	G	6.71 in (170 mm)
D	9.32 in (237 mm)		
Polycarbonate Large			
A	14.13 in (360 mm)	E	7.99 in (203 mm)
B	13.46 in (342 mm)	F	7.02 in (178 mm)
C	12.91 in (328 mm)	G	6.79 in (172 mm)
D	11.36 in (289 mm)		



JUNCTION BOXES / SIMULATORS

# EL168

1-Cell Junction Splice Box



## Standard Features

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

## Applications

- 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:

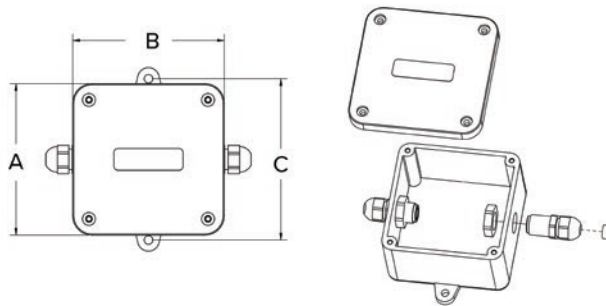
One-year limited

## Part Number/Price

Part #	Description	Price
21161	EL168 one-cell junction box	\$85.00

## Dimensions

EL168	
A	4.38 in (111 mm)
B	4.38 in (111 mm)
C	4.66 in (118 mm)



# TP75 DC

Transient Protection



## 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

## 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

- Truck, railroad, tank, bin and hopper 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



## 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
- Environments where serial communication lines and load cells must be protected

## 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 × 4.75 in with anti-fungal coating

### Dimensions:

(L × W × H)  
7.63 × 6.63 × 3.25 in

### Warranty:

One-year limited

## Part Number/Price

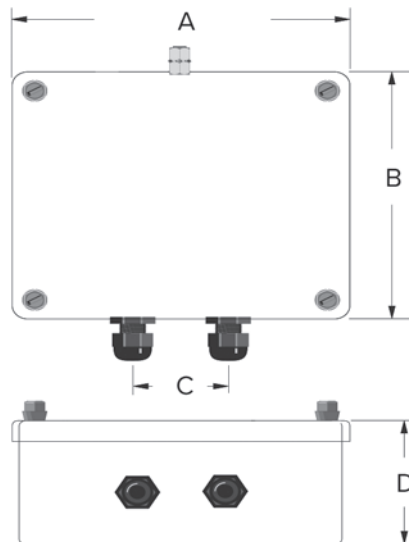
Part #	Description	Price
21134	UJB3T6	\$495.00

## Options/Accessories

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

## Dimensions

UJB3T6 DC	
A	7.63 in
B	6.63 in
C	2.0 in
D	3.25 in



# TP232

## RS-232 Serial Surge Protection



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 and PLCs

### 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
- Clamping Time:**  
< 5 × 10<sup>-7</sup> 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 Listed

# 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



## 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 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	\$70.00

# 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	\$695.00

## Options/Accessories

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

JUNCTION BOXES /  
SIMULATORS

# 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	\$1,050.00

## Options/Accessories

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

# 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	\$850.00

## Options/Accessories

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