

Junction Boxes / Simulators

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JUNCTION BOXES /
SIMULATORS

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JB4SS

TuffSeal® Signal Trim Junction Box



Approvals



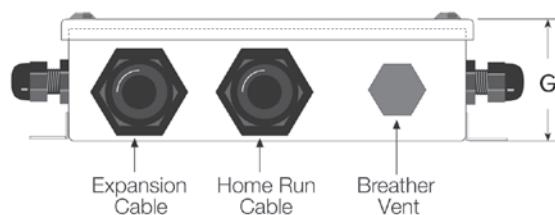
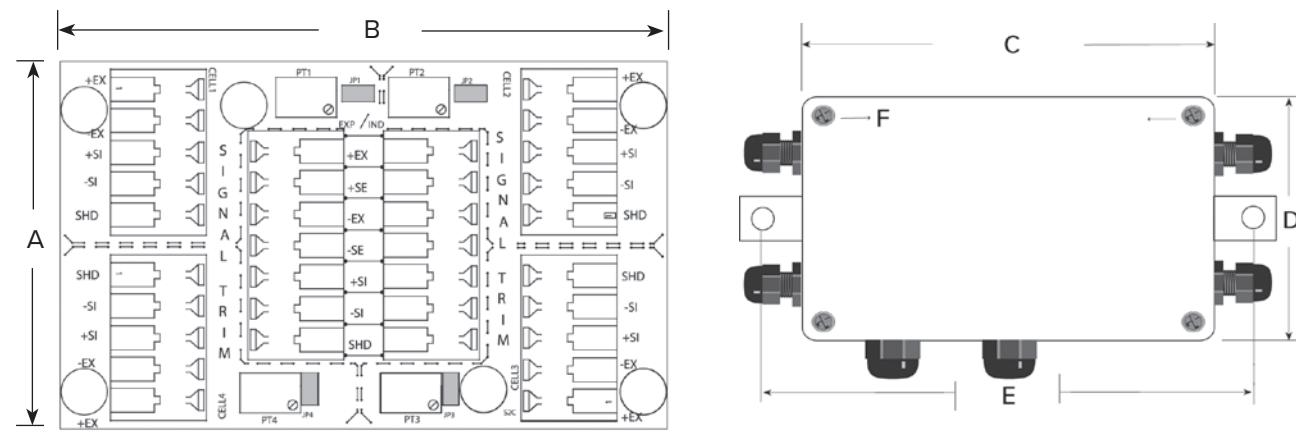
Part Number/Price

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 x 2.3 in, with conformal coating

Warranty:

One-year limited

Approvals:

cFMus



Approvals



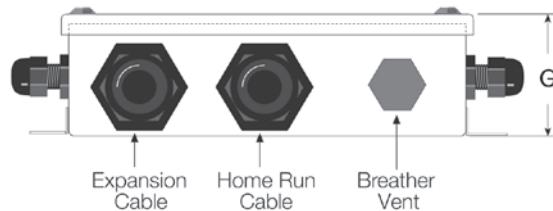
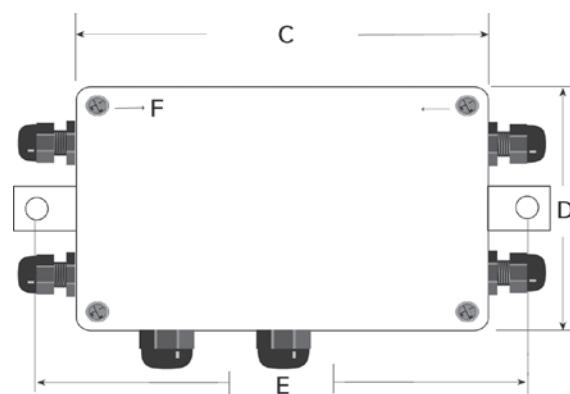
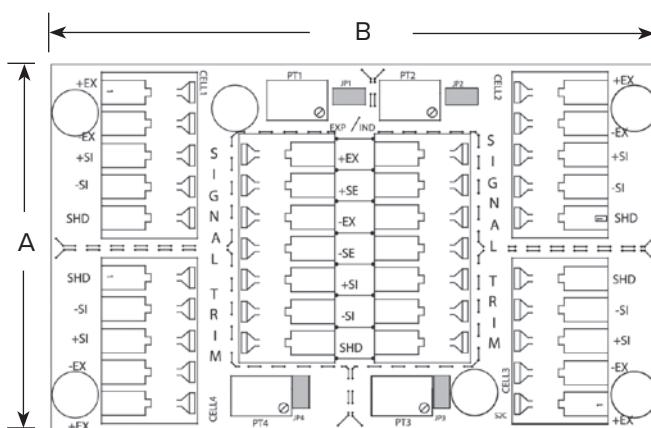
Part Number/Price

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
B	3.80 in
C	5.75 in
D	4.00 in



JUNCTION BOXES /
SIMULATORS

JB4SP and JB4SPT

TuffSeal® Signal Trim Junction Box



Approvals



PN 92762

Not FM approved

Part Number/Price

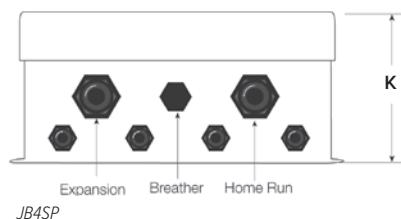
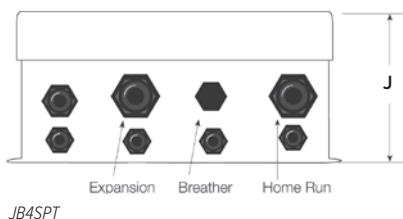
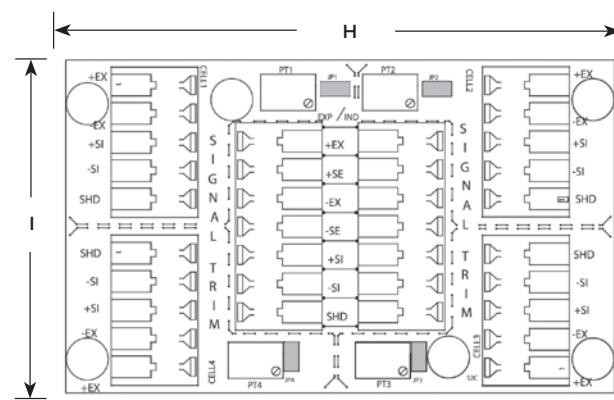
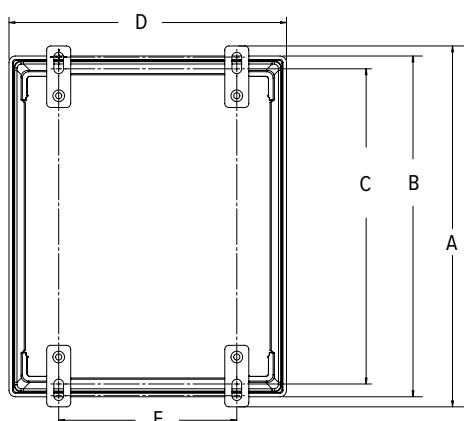
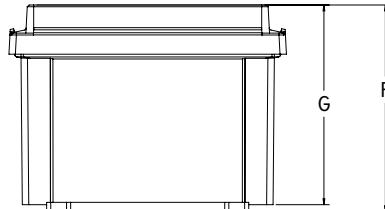
Part #	Description	Price
91780	JB4SP signal trim four-channel with expansion	\$310.00
92762	JB4SPT signal trim with transient protection (not FM approved)	\$495.00
88958	Board only	\$175.00
89894	Transient board	\$235.00
165272	Enclosure only (does not include cord grips and filter)	\$145.00

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

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		



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 x 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

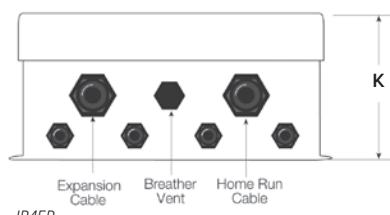
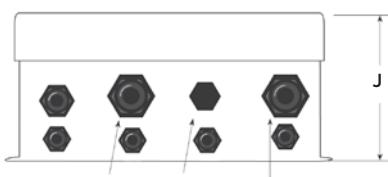
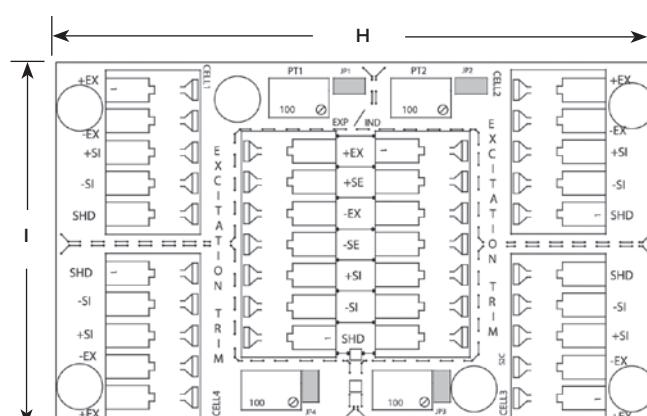
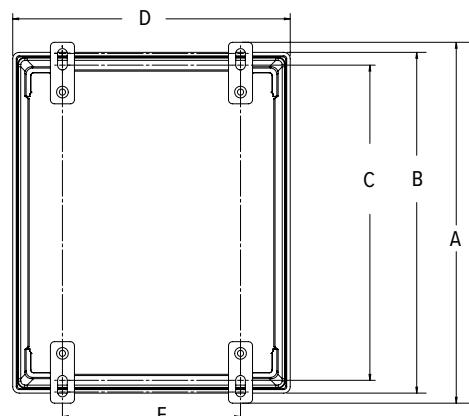
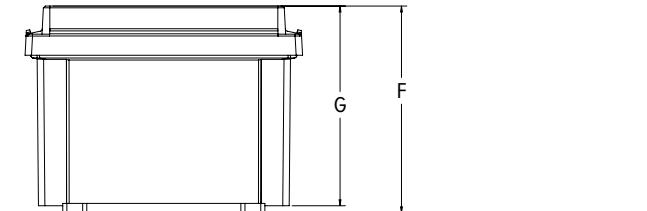
Part #	Description	Price
91781	JB4EP excitation trim junction box	\$310.00
92763	JB4EPT excitation trim junction box with transient protection	\$495.00
89446	Board only	\$170.00
89894	Transient board	\$235.00
165272	Enclosure only (does not include cord grips or filter)	\$145.00

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		



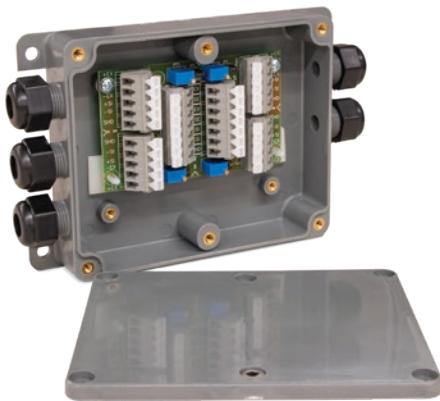
JB4EPT

Load Cell
Cord Grips
on Bottom

JUNCTION BOXES /
SIMULATORS

EL204

Signal Trim Junction Box



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		

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 x 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:

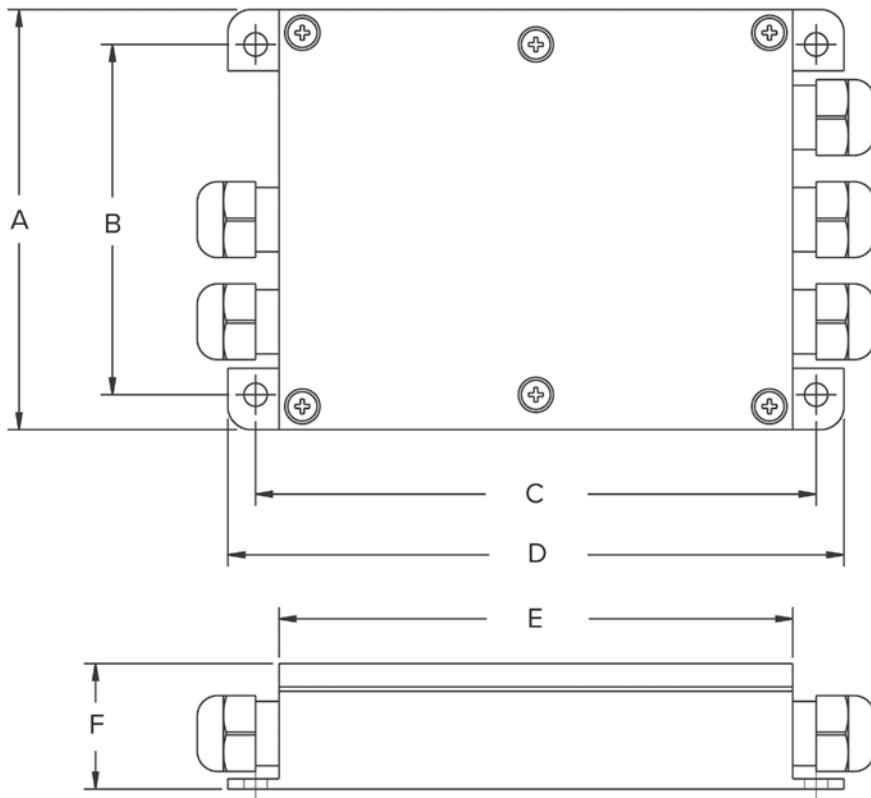
100,000 ohm, 25-turn cermet

Circuit Board:

3.8 x 2.3 in, with conformal coating

Warranty:

One-year limited





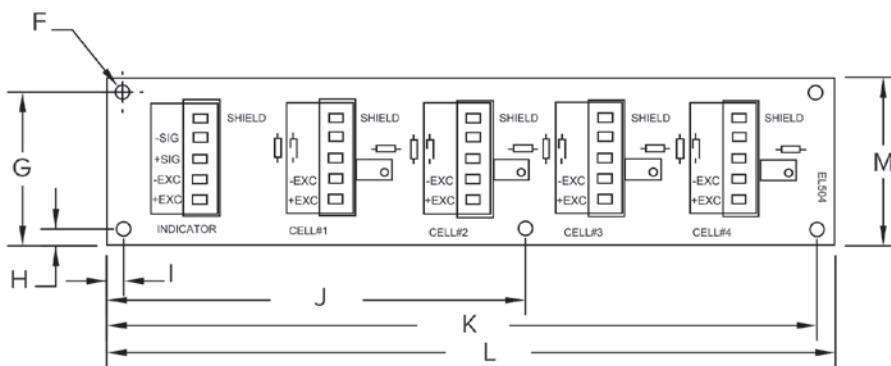
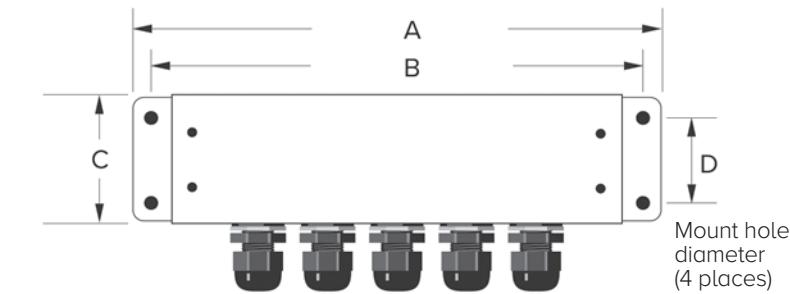
Part Number/Price

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	0.14 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		



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

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

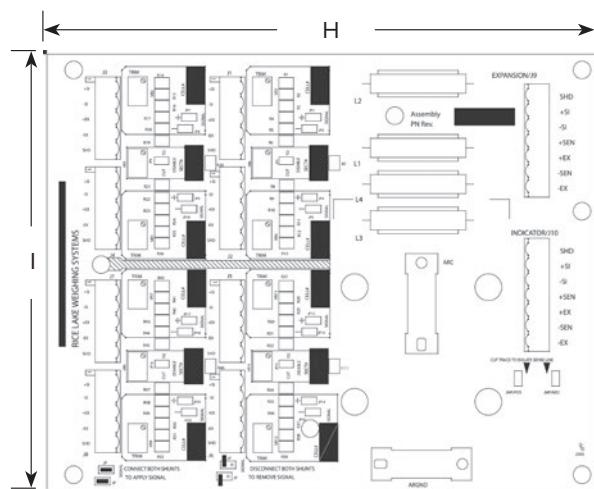
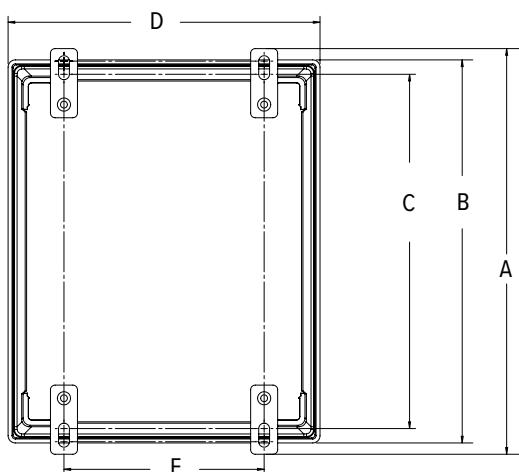
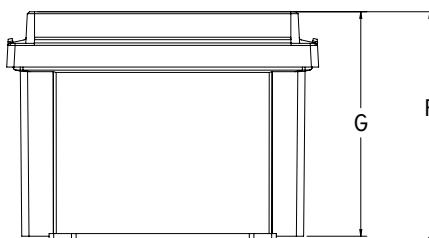
Note: Do not mix junction box models or use other brands of junction boxes with Rice Lake junction boxes. There is a risk of system instability.

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
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



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 x 7.2 in with conformal coating

Warranty:

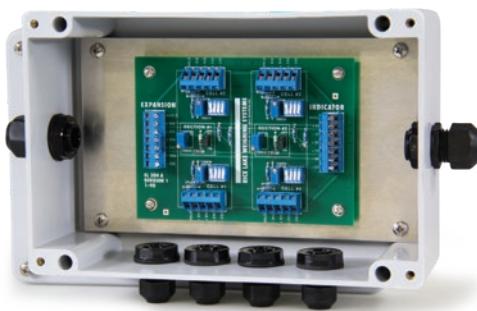
One-year limited

Approvals:

cFMus

EL304A

Signal Trim Junction Box



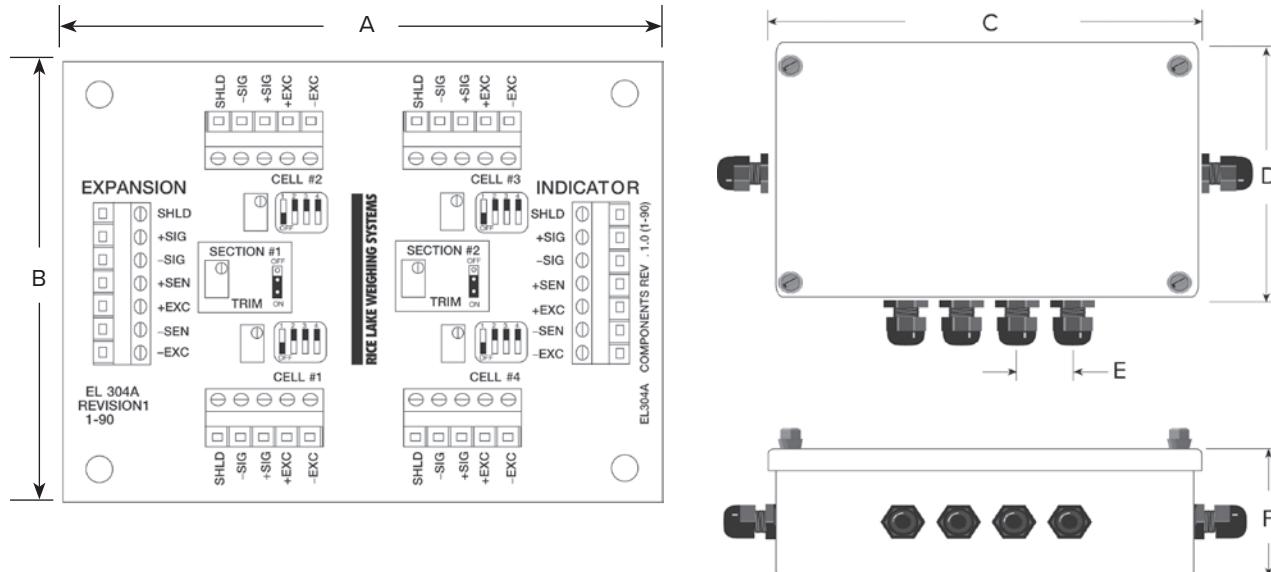
Part Number/Price

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



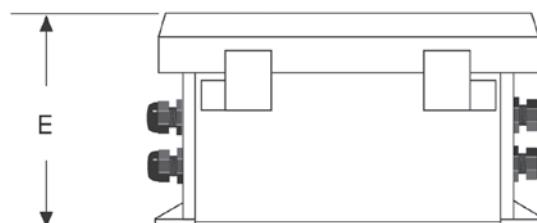
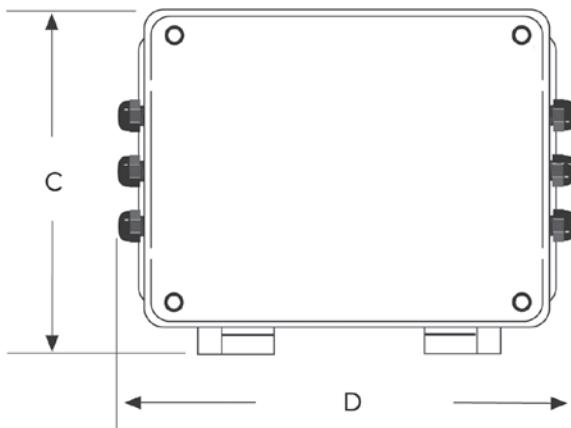
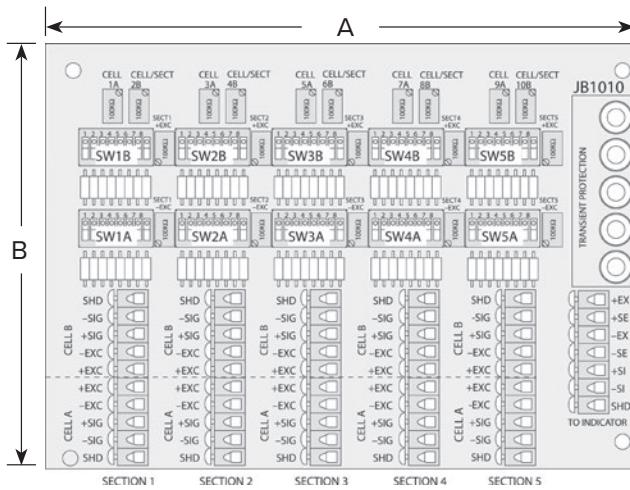
Part Number/Price

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



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:

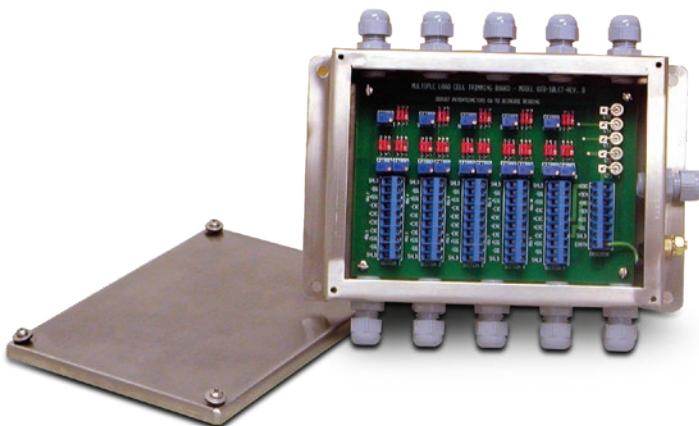
0.079 to 0.314 in

Warranty:

One-year limited

JB1010ST

Signal Trim Junction Box



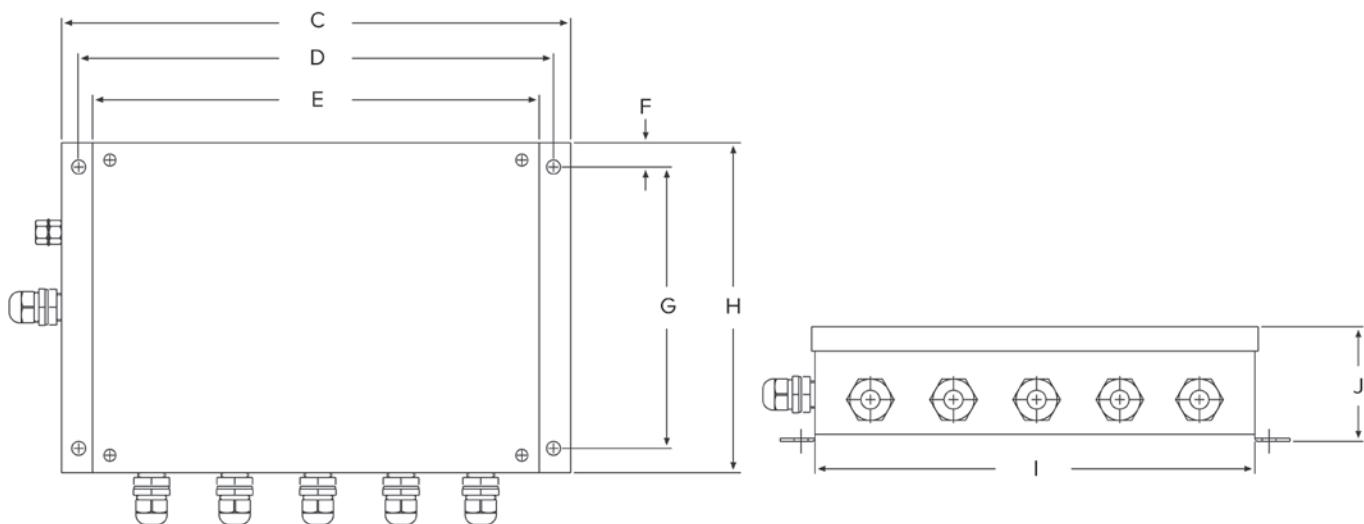
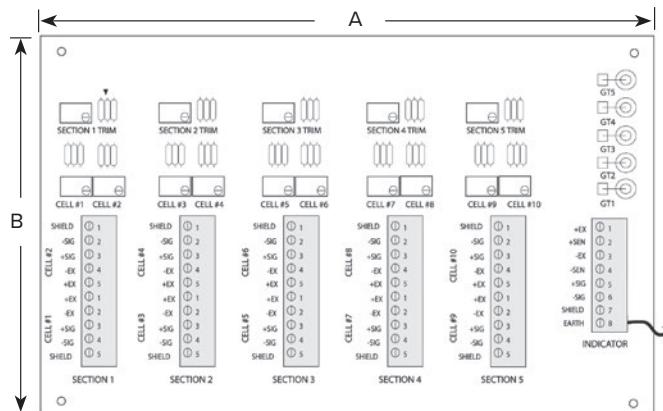
Part Number/Price

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.

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

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

Replacement Junction Boxes, Boards or Components

Model	Complete J-Box Replacement	Replacement Board Only	Replacement Cord Grips	Replacement Pressure & Condensation Vent	Desiccant Pack
JB4SS	88956 \$295.00	88958 \$175.00	58983=PG7 , \$5.00 59001=PG11 \$3.70	88733 Prevent™ breather (vent) \$22.00 88734 (vent nut) \$1.05	92240 \$1.20
JB4ES	91779 \$295.00	89446 \$170.00	58983=PG7 , \$5.00 59001=PG11 \$3.70	88733 Prevent™ breather (vent) \$22.00 88734 (vent nut) \$1.05	92240 \$1.20
JB4SP JB4SPT	91780 \$310.00 92762 \$495.00	88958 (load cell) \$175.00 & 89894 (transient protection) \$235.00	58983=PG7 , \$5.00 59001=PG11 \$3.70	88733 Prevent™ breather (vent) \$22.00 88734 (vent nut) \$1.05	16039 \$2.30
JB4EP JB4EPT	91781 \$310.00 92763 \$495.00	89446 (load cell) \$170.00 & 89894 (transient protection) \$235.00	58983=PG7 , \$5.00 59001=PG11 \$3.70	88733 Prevent™ breather (vent) \$22.00 88734 (vent nut) \$1.05	16039 \$2.30
EL204	73428 \$245.00	88958 \$175.00	N/A	N/A	N/A
JB8SP	91782 \$495.00 173807 FM approved \$525.00	89889 \$395.00 172415 FM approved \$425.00	15655 (cord grip) \$2.10 & 15656 (nut) \$1.05 =3/8in NPT 15628 (cord grip) \$5.00 & 15630 (nut) \$3.00 =1/2in NPT	88733 Prevent™ breather (vent) \$22.00 88734 (vent nut) \$1.05	16039 \$2.30
JB8SPT	91783 \$700.00	89889 (load cell) \$395.00 & 89894 (transient protection) \$235.00	15655 (cord grip) \$2.10 & 15656 (nut) \$1.05 =3/8in NPT 15628 (cord grip) \$5.00 & 15630 (nut) \$3.00 =1/2in NPT	88733 Prevent™ breather (vent) \$22.00 88734 (vent nut) \$1.05	16039 \$2.30
EL304A	21169 \$350.00	21301 \$235.00	N/A	N/A	N/A
JB1010	36231 \$685.00	36351 \$475.00	N/A	N/A	N/A
JB1010ST	68813 \$615.00	68811 \$465.00	N/A	N/A	N/A
EL210	91781 , JB4EP* \$310.00	92472 \$155.00	58983=PG7 , \$5.00 59001=PG11 \$3.70	N/A	N/A
EL211A	91780 , JB4SP* \$310.00 (However the board does not have section trim capabilities)	92473 , \$160.00 However the board does not have section trim capabilities	58983=PG7 , \$5.00 59001=PG11 \$3.70	N/A	N/A
EL604-AL	88956 , JB4SS* \$295.00	88958 \$175.00	58983=PG7 , \$5.00 59001=PG11 \$3.70	N/A	N/A
EL604STA	88956 , JB4SS* \$295.00	88958 \$175.00	58983=PG7 , \$5.00 59001=PG11 \$3.70	N/A	N/A
EL604ETA	91779 , JB4ES* \$295.00	89446 \$170.00	58983=PG7 , \$5.00 59001=PG11 \$3.70	N/A	N/A
EL504	21165 \$425.00	21296 \$275.00	N/A	N/A	N/A
JB808S	91782 , JB8SP* \$495.00	92471 \$385.00	15655 (cord grip) \$2.10 & 15656 (nut) \$1.05 =3/8in NPT 15628 (cord grip) \$5.00 & 15630 (nut) \$3.00 =1/2in NPT	N/A	N/A
JB818ST	91783 , JB8SPT* \$700.00	Need (1) 77445 \$68.00 (1) 89889 \$395.00, & (1) 89894 \$235.00	15655 (cord grip) \$2.10 & 15656 (nut) \$1.05 =3/8in NPT 15628 (cord grip) \$5.00 & 15630 (nut) \$3.00 =1/2in NPT	N/A	N/A

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**JUNCTION BOXES /
SIMULATORS**

*See catalog pages for enclosure dimensions

iQUBE²®

Digital Diagnostic Junction Box



Approvals



Measurement
Canada
Approved



Standard Features

- iQUBE² board has four A/D channels
- Supports networking up to four boards, for 16 A/D channels; connection can be up to four separate platforms with a system total, or four separate scale systems
- Diagnostic routines for weighing errors and system health
- Cell tests for overloaded, underloaded, zero reference, drift, noise and unbalanced conditions
- Onboard status LEDs for communication and visual bi-color indication of cell health
- Cell emulator compensates for load cell failure until a repair can be made

- Cal-Match[®] algorithm automatically trims and calibrates the scale in one pass of test weights (stopping over each mount)
- Standard communications
- Option card slot for fiber optic, Ethernet TCP/IP, wireless TCP/IP, USB or RS-232/RS-485
- Communicates to 920i[®], 1280, VIRTU² using ASCII (EDP) serial commands

Applications

- Truck, railroad, 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 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

Part Number/Price

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

Options/Accessories

Part #	Description	Price
108433	Four-channel iQUBE ² 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

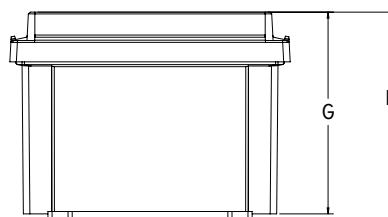
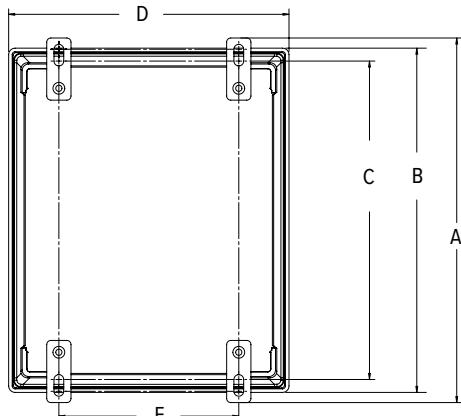
Part #	Description	Price
Communication Card		
108579	RS-232/RS-485 port	\$300.00
77142	Ethernet TCP/IP	\$545.00
206272	Wireless LAN 802.11 A/B	\$610.00
93245	USB port	\$225.00
77143	Fiber-optic board	\$231.00
77788	Fiber-optic board (installed in 920i)	\$235.00
Duplex Fiber (Max Run 350 ft)		
78026	Fiber-optic cable, 100 ft	\$185.00
78027	Fiber-optic cable, 200 ft	\$350.00
78910	Fiber-optic cable, custom length	\$1.85/ft
Home Run Cable		
116587	EL166 16 gauge, six conductor, shielded	\$2.65/ft
Software		
108436	VIRTUi ² activation part number	\$578.00
112262	Firmware update flash cable	\$69.00
920i® Indicators for use with iQUBE², requires version 4 software		
77790	920i Universal, 115 VAC, without A/D	\$3,195.00
77791	920i Universal, 230 VAC, without A/D	\$3,195.00
93243	920i Deep Universal, 115 VAC, without A/D	\$3,445.00
93244	920i Deep Universal, 230 VAC, without A/D	\$3,445.00
77792	920i Panel Mount, 115 VAC, without A/D	\$3,195.00
77793	920i Panel Mount, 230 VAC, without A/D	\$3,195.00
77794	920i Wall Mount, 115 VAC, without A/D	\$4,095.00
77795	920i Wall Mount, 230 VAC, without A/D	\$4,095.00
1280 Indicators for use with iQUBE²		
189623	1280 7 inch touch-only, AC power supply, no power cord, standard display, without A/D	\$3,180.00
188526	1280 7 inch touch-only, AC power supply, no power cord, high visibility display, without A/D	\$3,280.00
188395	1280 12 inch touch-only, AC power supply, no power cord, high visibility display, without A/D	\$4,345.00
181073	1280 Panel Mount, DC power supply, no power cord, standard display, without A/D	\$3,180.00
178473	1280 Panel Mount, AC power supply, no power cord, high visibility display, without A/D	\$3,280.00
205677	1280 Wall Mount, AC power supply, U.S. power cord, standard display, without A/D	\$3,780.00
171667	1280 Wall Mount, AC power supply, U.S. power cord, high visibility display, without A/D	\$3,880.00
174750	1280 Panel Mount, AC power supply, no power cord, standard display, without A/D	\$3,180.00
174207	1280 Universal, AC power supply, Europe power cord, standard display, without A/D	\$3,380.00
171582	1280 Universal, AC power supply, U.S. power cord, standard display, without A/D	\$3,380.00
188713	1280 Universal, DC power supply, no power cord, standard display, without A/D	\$3,380.00
171540	1280 Universal, DC power supply, no power cord, high visibility display, without A/D	\$3,480.00
172419	1280 Universal, AC power supply, U.S. power cord, high visibility display, without A/D	\$3,480.00

Dimensions

iQUBE²

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	10.51 to 11.30 in (267 to 287 mm)	G	6.71 in (170 mm)
D	9.32 in (236.84 mm)		

Polycarbonate Large

A	14.13 in (359 mm)	E	7.99 in (203 mm)
B	13.46 in (341 mm)	F	7.02 in (178 mm)
C	12.52 to 13.31 in (318 to 338 mm)	G	6.79 in (172 mm)
D	11.36 in (289 mm)		

iQUBE³

Digital Diagnostic Junction Box

NEW



Approvals



Standard Features

- Designed for weighing systems using the 1280 Enterprise™ Series indicator
- iQUBE³ CPU board: Four A/D channels, SD Slot, RS232/485, four DIOs, Ethernet TCP/IP (wired), USB-C
- iQUBE³ CPU board supports networking up to five iQUBE³ 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 system total
- 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 (stopping over each load cell)
- Two options available



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)
- 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)

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 x 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)

Part Number/Price

Part #	Description	Est. Weight	Price
With AC Power Supply			
227157*	iQUBE ³ , four-channel, polycarbonate small junction box	9 lb	\$1,465.00
227158	iQUBE ³ , four-channel, polycarbonate large junction box	11 lb	\$1,675.00
227159	iQUBE ³ , eight-channel, polycarbonate large junction box	11 lb	\$2,725.00
227160	iQUBE ³ , four-channel, stainless steel small junction box	13 lb	\$2,673.00
With DC Power Supply			
227165	iQUBE3, Four-channel, polycarbonate small junction box with transient protection	9 lb	\$1,615.00
227166	iQUBE3, Four-channel, polycarbonate large junction box with transient protection	11 lb	\$1,825.00
227167	iQUBE3, Eight-channel, polycarbonate large junction box with transient protection	11 lb	\$2,875.00
227168	iQUBE3, Four-channel, stainless steel small junction box with Transient protection	13 lb	\$3,150.00
Without Power Supply			
227161*	iQUBE ³ , four-channel, polycarbonate small junction box	8 lb	\$1,360.00
227162	iQUBE ³ , four-channel, polycarbonate large junction box	10 lb	\$1,570.00
227163	iQUBE ³ , eight-channel, polycarbonate large junction box	10 lb	\$2,620.00
227164	iQUBE ³ , four-channel, stainless steel small junction box	12 lb	\$2,568.00

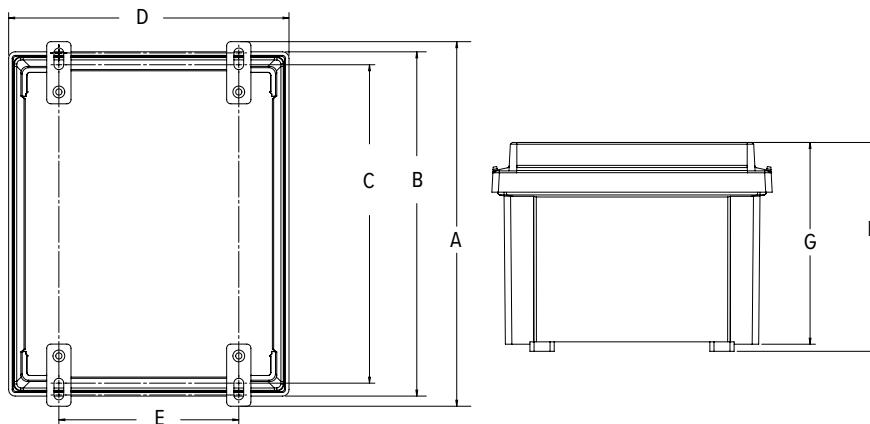
*Small iQUBE³ required for truck scale junction box pocket.

Options/Accessories

Part #	Description	Price
231373	iQUBE ³ CPU Board, Four-channel with cables and connectors	\$1,200.00
227169	iQUBE ³ 4-Channel Board, Four-channel with cables and connection	\$950.00
227171	Power Supply, 115/230VAC Input, 24VDC Output, FRP Enclosure, iQUBE ³ Remote Power	\$473.00
230935	Bridge Resistance Card Assembly, 4-channel	\$750.00
227171	Remote power supply 115/230 VAC and transient board with enclosure	\$473.00
232018	Transient board with mount (only used with multiple enclosures)	\$116.00
231993	iQUBE ³ Enclosure, Small, Polycarbonate, Includes Kickstand Bracket	\$525.00
231994	iQUBE ³ Enclosure, Large, Polycarbonate, Includes Kickstand Bracket	\$750.00
231995	iQUBE ³ 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
Conduit Adapter		
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
Communication Card		
212668	212668 is Fiber optic card, kit	\$250.00
231366	Wireless LAN 802.11 A/B (factory install required)	\$250.00
Duplex Fiber (Max Run 500 ft)		
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
1280 Indicators for use with iQUBE³		
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

iQUBE³	
Stainless Steel	
A	13.50 in (343 mm)
B	12.28 in (312 mm)
C	12.75 in (324 mm)
D	10.28 in (261 mm)
Polycarbonate Small	
A	12.13 in (308 mm)
B	11.45 in (291 mm)
C	10.51 to 11.30 in (267 to 287 mm)
D	9.32 in (236.84 mm)
Polycarbonate Large	
A	14.13 in (359 mm)
B	13.46 in (341 mm)
C	12.52 to 13.31 in (318 to 338 mm)
D	11.36 in (289 mm)



EL168

1-Cell Junction Splice Box

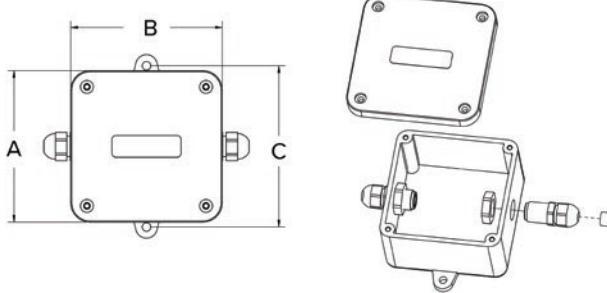


Part Number/Price

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)



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

TP75 DC

Transient Protection

JUNCTION BOXES /
SIMULATORS



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

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

Part Number/Price

Part #	Description	Price
33185	TP75 DC transient protection	\$340.00

Options/Accessories

Part #	Description	Price
31164	Circuit board only	\$265.00



Part Number/Price

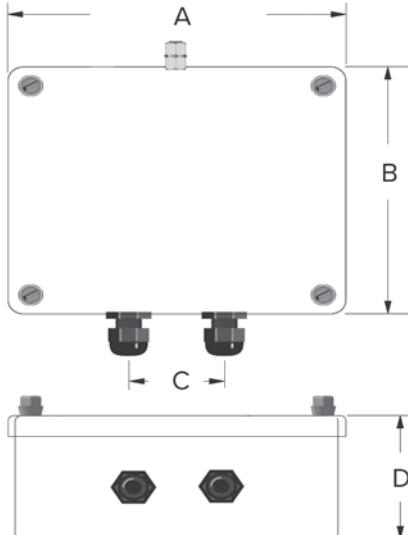
Part #	Description	Price
21134	UJB3T6	\$495.00

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



Standard Features

- Protects load cells from voltage transients
- Compatible with signals down to 1 µV 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 µH 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 x 4.75 in with anti-fungal coating

Dimensions:

(L x W x H)
7.63 x 6.63 x 3.25 in

Warranty:

One-year limited

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

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

- 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^{-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 Listed

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 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

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



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

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

Transducer Simulator 4



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

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

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SIMULATORS