

Install only load cell mounting hardware and assemblies that have been specifically designed for use in tank, hopper or hanging scale applications. Often, the use of an inferior-grade product results in component failure, which risks equipment damage and personal injury. These simple suggestions are provided to help minimize your exposure to vessel scale installation hazards.

1. ESTIMATING GROSS LOAD

To select the correct load cell or load cell hardware for a given application, it is necessary to know the total weight on the scale—including the net weight of product, the tare weight of the vessel, and the weight of the platform, tank, or hopper, as appropriate.

2. SAFE LOAD

Do not exceed the safe load figures listed in Rice Lake Weighing Systems' catalog for any load cell hardware. Where shock loads are present, it may be necessary to derate these safe load figures, depending on the severity of the shock load.

3. LOAD DISTRIBUTION

In multiple load cell applications, the weight must be evenly distributed between all cells.

4. THREADED CONNECTIONS

Check that all threads of a threaded connection are in engagement. For example, an eye bolt screwed into an S-type load cell should protrude slightly on the opposite side.

5. JAM NUTS

All threaded connections must be locked with jam nuts against inadvertent disassembly. If a load is suspended from a single load cell, it is critical that the load cannot rotate, as this may loosen the jam nut.

6. WIRE ROPE ASSEMBLIES

With wire rope assemblies, do not twist the rope during assembly or disassembly. For example, do not remove a frozen nut from one end of a rope assembly by holding the opposite end.

7. ATTACHMENT POINTS OF A LOAD CELL HARDWARE ASSEMBLY

The attachment points of a load cell hardware assembly must be aligned properly, and the assembly should be essentially vertical.

8. SWAYING IN A SUSPENDED VESSEL SCALE

If there is excessive swaying in a suspended vessel scale, apply horizontal bracing to reduce the amplitude.

9. SAFETY BACKUP

If failure of one or more load cell hardware assemblies could cause injury or damage, a safety backup (safety chains, safety rods, etc.) must be used. The assemblies should be inspected routinely for damage, excessive wear or corrosion, and replaced if necessary.

10. HOPPER SCALES: GUARDING AGAINST CONTAMINATION

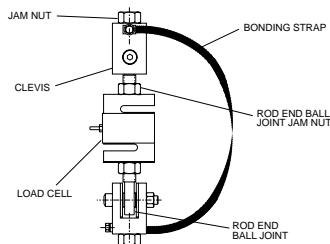
With hopper scales, guard against contamination of the product being weighed as a result of the failure of the load cell or hardware assembly. For example, do not locate a wire rope assembly over a hopper scale where broken strands of wire could fall into the weighing vessel, contaminating the product being weighed.

11. SELECTING STEEL ROD OR ANY OTHER WEIGHT-BEARING COMPONENTS

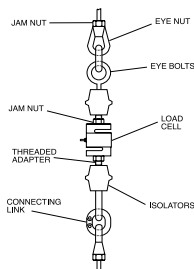
Select steel rod or any other weight-bearing components so that their minimum tensile strength is at least four times the total weight carried by that component. Note that threaded rod is generally made from a low tensile-strength mild steel which should be checked for tensile strength before use in any suspended vessel scale.

MOUNTING ASSEMBLY COMPONENT IDENTIFICATION

ITCM ISOLATED TENSION CELL MOUNTING ASSEMBLY



CONVENTIONAL TENSION MOUNTING ASSEMBLY



Our popular ITCM Isolated Tension Cell Mounting Assembly and other conventional suspended weighing system assemblies employ a variety of serviceable hardware components. Rice Lake Weighing Systems offers a comprehensive selection of these items for all of your suspended vessel service needs. These drawings are designed to enable you to quickly identify and differentiate components from both of these common designs. All corresponding replacement hardware is located on the following pages.

JAM NUTS

MILD STEEL/STAINLESS STEEL

- Coarse or fine thread
- Zinc-plated mild steel or stainless steel



THREAD SIZE	PART #	SUGGESTED LIST PRICE
MILD STEEL, FINE THREAD		
1/4-28 NF	14639	\$0.15
3/8-24 NF	14651	0.15
1/2-20 NF	14664	0.15
3/4-16 NF	14687	0.50
1-12 NF	14702	5.00
1-14 NF	14703	3.95
1 1/4-12 NF	14708	2.70
1 1/2-12 NF	14711	4.00
MILD STEEL, COARSE THREAD		
1/4-20 NC	14636	0.15
3/8-16 NC	14649	0.15
1/2-13 NC	14661	0.15
5/8-11 NC	14676	0.25
3/4-10 NC	14686	0.50
1-8 NC	14701	0.65
1-1/4-7 NC	14707	2.50
STAINLESS STEEL, FINE THREAD		
1/4-28 NF	14640	0.80
1/2-20 NF	14665	1.25
3/4-16 NF	14688	1.75
STAINLESS STEEL, COARSE THREAD		
3/8-16 NC	14653	0.20
1/2-13 NC	14662	1.25
5/8-11 NC	14680	0.80
3/4-10 NC	14690	1.50

Important: Read "Load Cell Mounting Hardware Safety Guidelines" at the beginning of this section.

EYE NUTS

- Drop-forged steel, tapped NC right-hand threads



PART #	THREAD SIZE	SAFE LOAD*	LIST PRICE
17772	1/4-20 NC	500lb (226.8kg)	\$10.50
17773	3/8-16 NC	1800lb (816.5kg)	11.50
17774	1/2-13 NC	3600lb (1632.9kg)	16.50
17775	5/8-11 NC	5800lb (2630.8kg)	22.50
17776	3/4-10 NC	10,600lb (4808.1kg)	32.50
17777	1-8 NC	18,800lb (8527.6kg)	65.00

COUPLING NUTS

- Heavy hex



PART #	THREAD SIZE	SAFE LOAD*	LIST PRICE
14638	1/4-20 NC	500lb (226.8kg)	\$2.00
14650	3/8-16 NC	1500lb (680.4kg)	2.50
14663	1/2-13 NC	3000lb (1360.8kg)	2.50
14681	5/8-11 NC	7500lb (3402.0kg)	4.00
14691	3/4-10 NC	10,000lb (4535.9kg)	5.00

CLEVIS MOUNT ASSEMBLIES

MILD STEEL

- Assembly used in the ITCM
- Adapts rod to rod-end ball joint
- Provides electrical isolation for load cell protection
- Elimination of unwanted side loads
- Optional stainless steel provides enhanced corrosion resistance



PART #	THREAD SIZE IN (MM)	SAFE LOAD*	SUGGESTED LIST PRICE
MILD STEEL WITH BOLT			
17792	3/8-16 NC	300lb (136.1kg)	\$65.00
17793	1/2-13 NC	300lb (136.1kg)	65.00
17783	1/2-13 NC	500lb (226.8kg)	65.00
17784	3/4-10 NC	4000lb (1814.4kg)	65.00
17785	1- 8 NC	10,000lb (4535.9kg)	65.00
17786	3/8-16 NC	500lb (226.8kg)	65.00
17787	1/2-13 NC	2000lb (907.2kg)	65.00
17788	5/8-11 NC	2500lb (1134.0kg)	65.00
17789	3/4-10 NC	5000lb (2268.0kg)	65.00

MILD STEEL WITH PIN

17790	1 1/4- 7 NC	15,000lb (6803.9kg)	250.00
17791	1 1/2- 6 NC	20,000lb (9071.9kg)	250.00

STAINLESS STEEL WITH PIN

33644	1/2-13 NC	300lb (136.1kg)	125.00
33643	1/2-13 NC	500lb (226.8kg)	125.00
33641	3/8-16 NC	500lb (226.8kg)	125.00
33658	3/8-16 NC	500lb (226.8kg)	125.00
33642	3/4-10 NC	4000lb (1814.4kg)	165.00
33640	1/2-13 NC	2000lb (907.2kg)	165.00
33639	5/8-11 NC	2500lb (1134.0kg)	165.00
33638	3/4-10 NC	5000lb (2268.0kg)	165.00

**Do not exceed the safe load.*

Important: Read "Load Cell Mounting Hardware Safety Guidelines" at the beginning of this section.

LOAD CELL EYE BOLTS

- One jam nut included with each eye bolt



PART #	INSIDE BEARING DIAMETER IN (MM)	THREAD SIZE	SAFE LOAD*	SUGGESTED LIST PRICE
MILD STEEL				
17705	.75 (19.1)	1/4-28 NF	500lb (226.8kg)	\$7.00
17707	1.00 (25.4)	3/8-24 NF	1400lb (635.0kg)	7.00
17709	1.19 (30.2)	1/2-20 NF	2600lb (1179.3kg)	10.00
17711	1.37 (34.8)	5/8-18 NF	4000lb (1814.4kg)	13.00
17713	1.50 (38.1)	3/4-16 NF	6000lb (2721.6kg)	18.00
17715	1.81 (46.0)	1-12 NF	9000lb (4082.3kg)	31.00
17716	1.81 (46.0)	1-14 NS	9000lb (4082.3kg)	29.00
17718	2.19 (55.6)	1 1/4-12 NF	15,000lb (6803.9kg)	50.00
17704	.75 (19.1)	1/4-20 NC	500lb (226.8kg)	11.00
17706	1.00 (25.4)	3/8-16 NC	1400lb (635.0kg)	11.00
17708	1.19 (30.2)	1/2-13 NC	2600lb (1179.3kg)	10.00
17710	1.37 (34.8)	5/8-11 NC	4000lb (1814.4kg)	14.00
17712	1.50 (38.1)	3/4-10 NC	6000lb (2721.6kg)	19.00
17714	1.81 (46.0)	1-8 NC	9000lb (4082.3kg)	30.00
17717	2.19 (55.6)	1 1/4-7 NC	15,000lb (6803.9kg)	55.00
17719	1.50 (38.1)	3/4-10 NC	6000lb (2721.6kg)	18.00

*Do not exceed the safe load.

ROD END BALL JOINTS

- Used in the ITCM assembly
- One jam nut included with each rod end ball joint
- Standard or Teflon®-lined
- Optional stainless steel provides enhanced corrosion resistance for hostile environments



PART #	INSIDE BEARING DIAMETER IN (MM)	OVERALL WIDTH IN (MM)	THREAD SIZE	SAFE LOAD*	SUGGESTED LIST PRICE
MILD STEEL					
17746	.37 (9.4)	1.00 (25.4)	3/8-24 NF	975lb (453.6kg)	\$16.00
17734	.37 (9.4)	1.00 (25.4)	3/8-24 NF	1200lb (544.3kg)	12.50
17736	.50 (12.7)	1.31 (33.3)	1/2-20 NF	4000lb (1814.4kg)	40.00
17738	.75 (19.1)	1.75 (44.5)	3/4-16 NF	7000lb (3175.2kg)	58.00
17735	.50 (12.7)	1.31 (33.3)	1/2-20 NF	2000lb (907.2kg)	11.00
17737	.75 (19.1)	1.75 (44.5)	3/4-16 NF	3250lb (1474.2kg)	20.00
17739	.25 (6.4)	.75 (19.1)	1/4-28 NF	500lb (226.8kg)	12.00
17740	.50 (12.7)	1.31 (33.3)	1/2-20 NF	4000lb (1814.4kg)	40.00
17741	.62 (15.8)	1.75 (44.5)	3/4-16 NF	10,000lb (4535.9kg)	60.00
17742	1.00 (25.4)	2.75 (70.0)	1-12 NF	10,500lb (4762.7kg)	76.00
26007	1.00 (25.4)	2.75 (70.0)	1-14 UNS	15,000lb (6803.9kg)	225.00
17747	1.00 (25.4)	2.75 (70.0)	1-12 NF	19,000lb (8618.3kg)	250.00
17743	1.25 (31.8)	2.75 (70.0)	1 1/4-12 NF	20,000lb (9071.9kg)	195.00
17744	1.50 (38.1)	3.50 (88.9)	1 1/2-12 NF	24,000lb (10,886.2kg)	160.00
17745	2.00 (50.8)	5.00 (127.)	2-12 NF	55,000lb (24,947kg)	295.00
STAINLESS STEEL					
33506	.37 (9.4)	1.00 (25.4)	3/8-24 NF	1500lb (680.4kg)	85.00
33505	.25 (6.4)	.75 (19.1)	1/4-28 NF	500lb (226.8kg)	80.00
33507	.50 (12.7)	1.31 (33.3)	1/2-20 NF	3000lb (1360.8kg)	95.00
33508	.62 (15.8)	1.75 (44.5)	3/4-16 NF	7,000lb (3175.2kg)	195.00

*Do not exceed the safe load.

Teflon is a registered trademark of E.I. DuPont

Important: Read "Load Cell Mounting Hardware Safety Guidelines" at the beginning of this section.

BONDING STRAP

- Used in the ITCM assembly
- Tinned copper braid
- Crimped sleeve on ends with .25" (6.4mm) hole
- Available in 12" (304.8mm), 14" (355.6mm), 16" (406.4mm), 24" (609.6mm) or 32" (812.8mm) lengths



PART #	LENGTH INCHES (MM)	SUGGESTED LIST PRICE
17778	12 (304.8)	\$9.50
17779	14 (355.6)	10.50
17780	16 (406.4)	11.50
17781	24 (609.6)	12.00
17782	32 (812.8)	18.00

CONNECTING LINKS

- Drop-forged carbon steel, heat-treated, hot-dipped galvanized finish



PART #	OVERALL LENGTH IN (MM)	INSIDE LENGTH IN (MM)	SAFE LOAD*	SUGGESTED LIST PRICE
17794	1.50 (38.1)	.87 (22.1)	1325 lb (601.6 kg)	\$10.00
17795	2.06 (52.3)	1.12 (28.5)	2750 lb (1247.4 kg)	12.00
17796	2.65 (67.3)	1.46 (37.1)	4750 lb (2154.6 kg)	13.00
17797	3.31 (84.1)	1.81 (46.0)	7250 lb (3288.6 kg)	20.00
17798	3.87 (98.3)	2.12 (53.9)	10,250 lb (4649.3 kg)	35.00
17799	5.00 (127.0)	2.75 (69.9)	15,500 lb (7030.7 kg)	58.00

*Do not exceed the safe load.

LOAD CELL ISOLATORS

- Power surges such as those caused by welding or electrical shorts frequently damage load cells and indicators. To prevent such damage, these isolators electrically separate the mechanical assembly from its tension-type load cell.



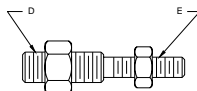
PART #	THREAD SIZE	HEIGHT INCHES	MAX. DIA (MILLIMETERS)	SAFE LOAD*	SUGGESTED LIST PRICE
17722	3/8-16 NC	2.50 (63.5)	2.50 (63.5)	600 lb (272.2 kg)	\$20.00
17724	1/2-13 NC	2.50 (63.5)	2.50 (63.5)	600 lb (272.2 kg)	28.00
17726	1/2-20 NF	2.50 (63.5)	2.50 (63.5)	600 lb (272.2 kg)	32.00
17725	1/2-13 NC	2.43 (61.7)	2.00 (50.8)	3000 lb (1360.8 kg)	45.00
17723	3/8-24 NF	2.50 (63.5)	2.50 (63.5)	600 lb (272.2 kg)	32.00
17728	1/2-13 NC x 1/2-20 NF	2.50 (63.5)	2.50 (63.5)	600 lb (272.2 kg)	32.00
17731	1/4-28 NF	1.00 (25.4)	1.25 (31.8)	150 lb (68.0 kg)	25.00
17732	1/4-20 NC	1.00 (25.4)	1.12 (28.4)	250 lb (113.4 kg)	25.00

*Do not exceed the safe load.

Important: Read "Load Cell Mounting Hardware Safety Guidelines" at the beginning of this section.

THREADED ADAPTERS

- For coupling isolators with load cells and steelyard rods
- Supplied with jam nuts
- Now in stronger, more durable stainless steel



PART #	OVERALL LENGTH IN (MM)	THREAD SIZE (E) IN (MM)	THREAD SIZE (D) IN (MM)	SAFE LOAD*	SUGGESTED LIST PRICE
33561	2.00 (50.8)	1/4-28 NF	1/4-28 NF	300 lb (136.1 kg)	\$9.00
33562	2.00 (50.8)	1/4-20 NC	1/4-28 NF	300 lb (136.1 kg)	9.00
33563	2.06 (52.3)	3/8-24 NF	1/4-28 NF	300 lb (136.1 kg)	9.00
33564	2.00 (50.8)	3/8-16 NC	1/4-28 NF	300 lb (136.1 kg)	9.00
33565	2.25 (57.2)	3/8-16 NC	1/4-20 NC	300 lb (136.1 kg)	14.00
33567	2.25 (57.2)	1/2-13 NC	1/4-28 NF	300 lb (136.1 kg)	14.00
33568	2.00 (50.8)	3/8-24 NF	3/8-24 NF	500 lb (226.8 kg)	14.00
33569	2.00 (50.8)	3/8-24 NF	3/8-16 NC	500 lb (226.8 kg)	8.00
33570	2.25 (57.2)	1/2-13 NC	3/8-24 NF	500 lb (226.8 kg)	14.00
33571	2.75 (69.9)	5/8-11 NC	1/2-13 NC	3000 lb (1360.8 kg)	14.00
33572	2.00 (50.8)	1/2-20 NF	1/2-13 NC	3000 lb (1360.8 kg)	12.00
33573	2.06 (52.3)	1/2-20 NF	1/2-20 NF	3000 lb (1360.8 kg)	12.00
33574	2.75 (69.9)	5/8-11 NC	1/2-20 NF	3000 lb (1360.8 kg)	14.00
33575	3.00 (76.2)	3/4-10 NC	3/4-16 NF	7000 lb (3175.2 kg)	16.00

**Do not exceed the safe load.*

Important: Read "Load Cell Mounting Hardware Safety Guidelines" at the beginning of this section.

APPLICATIONS

- Suspended hoppers
- Mechanical scale conversions
- Replaces traditional eyebolt, isolator configurations

STANDARD FEATURES

- Provides greater safety than traditional suspension configurations
- Complete package for ease of installation
- Built-in electrical isolation without having to use isolators (not available on 20,000lb/9071.9kg version)
- Provides correct load cell loading even in difficult installations
- Dramatically reduces overall length
- Capacities from 100lb/45.4kg to 20,000lb/9071.9kg
- Clevis mounts with nylon insulating washers
- Teflon®-lined rod end ball joints (not available on 20,000lb/9071.9kg version)
- Completely isolates load cell from stray currents
- Bonding strap for electrical continuity



Mount only - does not include load cell

The ITCM, Isolated Tension Cell Mount, is a mounting assembly designed for tension mounting S-beam load cells in suspended hopper assemblies and mechanical scale conversions. The ITCM incorporates clevis and unique rod end ball joint assemblies to reduce the overall length to less than half of the traditional tension cell mounts, while providing correct load alignment. In addition, the load cell is completely electrically isolated from stray currents, a major cause of load cell failure. To complete the design, a bonding strap connects the two clevis assemblies to further guarantee safety to your load cells.

LOAD RATING	PART #	CLEVIS THREAD	ROD END THREAD	SAFE LOAD*	SUGGESTED LIST PRICE
MILD STEEL					
300 lb (136.1 kg)	17968	3/8-16	3/8-24	300 lb	\$165.00
300 lb (136.1 kg)	17969	1/2-13	3/8-24	300 lb	165.00
500 lb (226.8 kg)	17894	3/8-16	1/4-28	500 lb	165.00
500 lb (226.8 kg)	17895	1/2-13	1/4-28	500 lb	165.00
2000 lb (907.2 kg)	17896	1/2-13	1/2-20	2000 lb	195.00
2500 lb (1134.0 kg)	17897	5/8-11	1/2-20	2500 lb	195.00
4000 lb (1814.4 kg)	17898	3/4-10	1/2-20	4000 lb	195.00
5000 lb (2268.0 kg)	17899	3/4-10	3/4-16	5000 lb	255.00
10,000 lb (4535.9 kg)	17900	1-8	3/4-16	10,000 lb	255.00
15,000 lb (6803.9 kg)	17958	1 1/4-7	1-12	15,000 lb	995.00
15,000 lb (6803.9 kg)	63166	1 1/4-7	1-14	15,000 lb	945.00
**20,000 lb (9071.9 kg)	17959	1 1/2-6	1 1/4-12	20,000 lb	895.00
STAINLESS STEEL					
500 lb (226.8 kg)	33630	3/8-16	3/8-24	500 lb	395.00
300 lb (136.1 kg)	33631	1/2-13	3/8-24	300 lb	395.00
500 lb (226.8 kg)	33632	3/8-16	1/4-28	500 lb	395.00
500 lb (226.8 kg)	33633	1/2-13	1/4-28	500 lb	395.00
2000 lb (907.2 kg)	33634	1/2-13	1/2-20	2000 lb	495.00
2500 lb (1134.0 kg)	33635	5/8-11	1/2-20	2500 lb	495.00
3000 lb (1360.8 kg)	33636	3/4-10	1/2-20	3000 lb	495.00
5000 lb (2268.0 kg)	33637	3/4-10	3/4-16	5000 lb	695.00

Hardware kits do not include load cell.

**Do not exceed the safe load.*

***Not electrically isolated.*

Teflon is a registered trademark of E.I. DuPont.

Important: Read "Load Cell Mounting Hardware Safety Guidelines" at the beginning of this section.

- Replacement foot, adapts to most floor scales
- Use with single-ended beams to provide large, flat, adjustable introduction surface
- Special neoprene rubber sandwich base gives high accuracy, linearity and repeatability



PART #	THREAD SIZE	TOTAL HT. IN (MM)	DIAMETER IN (MM)	SUGGESTED LIST PRICE
18756	1/2-20 UNF (SST)	2.62 (66.5)	3.47 (88.1)	\$45.00
39021	3/4-16 UNF-28	3.25 (82.3)	4.00 (101.6)	86.00
METRIC				
42130	M12	2.62 (66.5)	3.47 (88.1)	45.00

BENCH SCALE FEET

RUBBER PAD

- 1/4-20 NC threads

STAINLESS STEEL

- 3/8-16 threads



Rubber Pad



Stainless Steel

PART #	DESCRIPTION	SUGGESTED LIST PRICE
RUBBER PAD		
35128	Bench scale foot, Rubber Pad	\$9.00 each
STAINLESS STEEL		
19141	Bench scale foot, Stainless Steel	3.50 each

LEVELING PADS

- Replacement feet, adapt to most floor scales
- Available in cadmium-plated steel or stainless steel
- Simple "swivel" design
- Use with single-ended shear beams or bending beams to provide a large, flat load introduction surface



PART #	THREAD SIZE	HEIGHT IN (MM)	DIAMETER IN (MM)	SUGGESTED LIST PRICE
MILD STEEL				
18817	1/2-13 NC	1.12 (28.4)	1.87 (47.5)	\$25.00
18820	3/4-10 NC	1.50 (38.1)	3.00 (76.2)	44.00
STAINLESS STEEL				
18818	1/2-13 NC	1.12 (28.4)	1.87 (47.5)	59.00
18833	3/4-10 NC	1.50 (38.1)	3.00 (76.2)	103.00

Used in conjunction with Leveling Pad Stems on page 99.

LEVELING MOUNT

- Designed for use with some floor scales or machinery platforms
Can be used as a replacement foot on the "SP" floor scale to limit vibrations transmitted to the scale through the floor
- Provides vibration isolation on most portable platforms



PART #	THREAD SIZE	HEIGHT IN (MM)	DIAMETER IN (MM)	SUGGESTED LIST PRICE
18819	1/2-13 NC	1.81 (46.0)	5.00 (127.0)	\$100.00

ROUGHDECK™ SCALE BASE MOUNTING PLATES

- Secures RoughDecks and other popular floor scales
- Prevents movement in horizontal plane
- Useful with Surefoot™ and other load cell foot assemblies
- Available in stainless steel and mild steel



PART #	CUTOUT DIA. IN (MM)	OVERALL HEIGHT IN (MM)	OVERALL LENGTH IN (MM)	SUGGESTED LIST PRICE
19075	3.62 (91.9)	4.50 (114.3)	6.00 (152.4)	\$15.00
19076	3.62 (91.9)	4.50 (114.3)	6.00 (152.4)	18.00

FLOOR SCALE MOUNTING PLATES

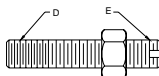
- Suitable for use with leveling pads
- Generic mounting plate for popular floor scales
- Fits most floor scale foot assemblies
- Available in stainless steel and mild steel
(mild steel parts are zinc plated/painted)



PART #	CUTOUT DIA. IN (MM)	OVERALL HEIGHT IN (MM)	OVERALL LENGTH IN (MM)	SUGGESTED LIST PRICE
MILD STEEL				
18737	2.00 (50.8)	4.00 (101.6)	4.00 (101.6)	\$8.00
18738	3.25 (82.6)	5.00 (127.0)	5.00 (127.0)	9.00
STAINLESS STEEL				
18751	2.00 (50.8)	4.00 (101.6)	4.00 (101.6)	16.00

LEVELING PAD STEMS

- For use with leveling pads
- One jam nut included



PART #	OVERALL LENGTH IN (MM)	THREAD SIZE (D) IN (MM)	THREAD SIZE (E) IN (MM)	SUGGESTED LIST PRICE
MILD STEEL				
17693	2.75 (69.9)	3/4-10 NC	3/4-16 NF	\$12.00
STAINLESS STEEL				
17689	2.00 (50.8)	1/2-13 NC	1/2-20 NF	12.00
17695	2.00 (50.8)	3/4-10 NC	3/4-16 NF	12.00

Used in conjunction with Leveling Pads on page 98.

Warning: Do not use to suspend a load.

LOAD CELL SPACERS

- Use with most popular single-ended beams
- Provides flat mounting surface required for optimum load cell performance
- Zinc-plated mild steel or stainless steel



PART #	HOLE DIA. IN (MM)	OVERALL HEIGHT IN (MM)	OVERALL LENGTH IN (MM)	SUGGESTED LIST PRICE
MILD STEEL				
17754 .....	.53 (13.4)	1.25 (31.8)	2.25 (57.2)	\$16.00
17755 .....	.78 (19.8)	1.50 (38.1)	3.00 (76.2)	17.00
17756	1.03 (26.2)	2.00 (50.8)	4.00 (101.6)	18.00
18260 .....	.53 (13.4)	1.25 (31.8)	2.25 (57.2)	18.00
STAINLESS STEEL				
17757 .....	.78 (19.8)	1.50 (38.1)	3.00 (76.2)	24.00
18383 .....	.53 (13.4)	1.25 (31.8)	2.25 (57.2)	18.00
18411 .....	.53 (13.4)	1.25 (31.8)	2.25 (57.2)	16.00

LOAD BUTTON

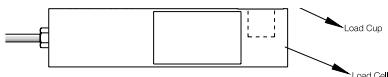
- Suitable for use with compression mounting assemblies, canisters, S-beams, and single-ended beams
- Hardened alloy steel



PART #	THREAD SIZE IN (MM)	OVERALL HEIGHT IN (MM)	OVERALL WIDTH IN (MM)	SUGGESTED LIST PRICE
17750	3/8-24 UNF .....	.60 (15.2) .....	.63 (16.0)	\$17.00
17751	1/2-20 UNF .....	.70 (17.8) .....	.63 (16.0)	17.00
17752	3/4-16 UNF .....	.90 (22.9)	1.25 (31.8)	19.00

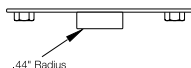
BALL AND CUP LOAD INTRODUCTION

- Design offers accurate point loading
- Self-centering effect built in
- Ease of manufacture for custom applications



LOAD RECEIVER

- Use with load cup and ball bearings to build a custom scale
- Ball and cup load introduction provides point loading for maximum accuracy
- Stainless steel construction
- Capacity: 250-4000 lb



PART #	DESCRIPTION	SUGGESTED LIST PRICE
18832	Load Receiver	\$40.00 each

BALL BEARINGS

- Use with load cup and load receiver to build a custom scale
- 52100 Chrome Alloy Steel



PART #	DIAMETER	SUGGESTED LIST PRICE
18815	5/8"	\$3.00
18816	7/8"	5.00

LOAD CUPS

- Ball and cup load introduction provides point loading for maximum accuracy
- For use with most popular single-ended beams



PART #	OVERALL HEIGHT IN (MM)	OVERALL WIDTH IN (MM)	THREAD SIZE	SUGGESTED LIST PRICE
31911	1.70 (43.2)	1.07 (27.2)	1/2-20 NF	\$35.00
33654	1.12 (28.4) .....	.78 (19.8)	1/2-20 NF	22.00
33653	1.50 (38.1)	1.12 (28.4)	3/4-16 NF	24.00
33652	2.00 (50.8)	1.75 (44.5)	1-12 NF	68.00
33651	2.85 (72.4)	1.75 (44.5)	1-12 NF	95.00
33650	2.85 (72.4)	1.75 (44.5)	1-14 NF	95.00
33647	2.75 (69.9) .....	.75 (19.1)	1/2-20 NF	26.00

WIRE ROPE ASSEMBLIES

- Wire rope assemblies provide better alignment and greatly increase load cell repeatability. In addition, they act as natural vibration dampeners.



PART #	ROPE DIA. IN (MM)	OVERALL LENGTH IN (MM)	SHANK DIA. IN (MM)	SAFE LOAD*	SUGGESTED LIST PRICE
17759 .....	.12 (3.0)	3.50 (88.9) .....	.44 (11.2) ...	400lb (181.4kg)	\$24.00
17761 .....	.19 (4.8)	3.50 (88.9) .....	.50 (12.7) ...	850lb (385.6kg)	22.00



PART #	LEFT HAND THREAD SIZE IN (MM)	RIGHT HAND THREAD SIZE IN (MM)	ROPE DIA. IN (MM)	OVERALL HEIGHT IN (MM)	SAFE LOAD*	SUGGESTED LIST PRICE
17760 ..	1/4-20 NC-2A ..	1/4-28 NF-2A ..	.12 (3.1) ...	4.00 (101.6) ..	400lb (181.4kg)	\$21.00
17762 ..	3/8-16 NC-2A ..	3/8-24 NF-2A ..	.18 (4.6) ...	5.00 (127.0) ..	850lb (385.6kg)	32.00
17766 ..	1/2-13 NC-2A ..	1/2-20 NF-2A ..	.25 (6.4) ...	6.50 (165.1) ..	1400lb (635.0kg)	32.00
17765 ..	1/2-13 NC-2A ..	1/2-20 NF-2A ..	.25 (6.4) ...	5.50 (139.7) ..	1400lb (635.0kg)	32.00
17764 ..	1/2-20 NF-2A ..	1/2-20 NF-2A ..	.25 (6.4) ...	4.00 (101.6) ..	1400lb (635.0kg)	36.00
17768 ..	3/8-24 NF-2A ..	3/8-24 NF-2A ..	.12 (3.1) ...	5.50 (139.7) ..	400lb (181.4kg)	45.00
17769**	1/4-28 NF-2A ..	1/4-28 NF-2A ..	.12 (3.1) ...	3.00 (76.2) ...	400lb (181.4kg)	30.00
17770**	1/2-20 NF-2A ..	1/2-20 NF-2A ..	.18 (4.6) ...	3.00 (76.2) ...	850lb (385.6kg)	30.00
17771**	1/2-20 NF-2A ..	1/2-20 NF-2A ..	.25 (6.4) ...	3.00 (76.2) ..	1400lb (635.0kg)	30.00

*Do not exceed the safe load.

**Used with Rice Lake Weighing Systems Flexure Bases.

Important: Read "Load Cell Mounting Hardware Safety Guidelines" at the beginning of this section

CARDINAL WIRE ROPE REPLACEMENT ASSEMBLIES

EL208

Cardinal wire rope assembly. Used on 7,500 lb (3402.0 kg) capacity FH model and 8,000 lb (3628.7 kg) capacity EP model.



PART #	THREAD LENGTH IN (MM)	THREAD SIZE IN (MM)	ROPE DIA. IN (MM)	OVERALL LENGTH IN (MM)	BALL DIA. IN (MM)	SUGGESTED LIST PRICE
17763	1.50 (38.1)	1/2-13 NC	.25 (6.4)	6.00 (152.4)	.81 (20.6)	\$39.00

EL209

Cardinal wire rope assembly. Used on 20,000 lb (9071.9 kg) capacity FH and EP models. May also be used on 15,000 lb (6803.9 kg) capacity FH and EP models.



PART #	THREAD LENGTH IN (MM)	OVERALL LENGTH IN (MM)	THREAD SIZE IN (MM)	END STOP LENGTH IN (MM)	SHANK DIA. IN (MM)	SUGGESTED LIST PRICE
17767	2.00 (50.8)	6.31 (160.3)	3/4-10 UNC-2A	1.25 (31.8)	.60 (15.2)	\$50.00

CUSTOM WIRE ROPES

- Custom wire ropes are available for your specific applications. Please refer to the Master Catalog Price Pages for ordering instructions

SPHERICAL WASHER SETS



PART #	BOLT SIZE IN (MM)	OUTSIDE DIA. IN (MM)	TOTAL THICKNESS IN (MM)	TOP INSIDE DIA. IN (MM)	SUGGESTED LIST PRICE
MILD STEEL					
15196	.25 (6.4)	.62 (15.8)	.20 (5.1)	.28 (7.1)	\$4.50
15197	.38 (9.7)	.88 (22.4)	.25 (6.4)	.41 (10.4)	6.00
15198	.50 (12.7)	1.12 (28.5)	.31 (7.9)	.53 (13.5)	8.00
15199	.62 (15.8)	1.38 (35.1)	.31 (7.9)	.66 (16.8)	9.00
15200	.75 (19.1)	1.62 (41.1)	.38 (9.7)	.78 (19.8)	13.00
15201	1.00 (25.4)	2.00 (50.8)	.50 (12.7)	1.06 (26.9)	23.00
15202	1.25 (31.8)	2.62 (66.6)	.50 (12.7)	1.31 (33.3)	32.00
15203	1.50 (38.1)	2.88 (73.2)	.53 (13.5)	1.56 (39.6)	59.00
15204	1.75 (44.5)	3.25 (82.6)	.69 (17.5)	1.81 (46.0)	82.00
15205	2.00 (50.8)	3.88 (98.6)	.81 (20.6)	2.06 (52.3)	90.00
STAINLESS STEEL					
33218	.50 (12.7)	1.12 (28.5)	.31 (7.9)	.53 (13.5)	11.50
33220	.75 (19.1)	1.62 (41.1)	.38 (9.7)	.78 (19.8)	21.00

Important: Read "Load Cell Mounting Hardware Safety Guidelines" at the beginning of this section.

WELDLESS END LINKS

- Self colored or hot-dip galvanized
- Forged carbon steel—quenched and tempered



PART #	INSIDE LENGTH IN (MM)	OVERALL WIDTH IN (MM)	SAFE LOAD*	SUGGESTED LIST PRICE
F312L	3.25 (82.6)	2.32 (58.9)	9300lb (4218.4kg)	\$14.25
17810	5.13 (130.3)	3.75 (95.3)	12,000lb (5443.1kg)	60.00
21911	5.75 (146.1)	4.25 (108.0)	15,200lb (6894.6kg)	85.00
65430	7.00 (177.8)	5.00 (127.0)	26,400lb (11,974.9kg)	105.00
21912	7.75 (196.9)	5.50 (139.7)	30,000lb (13,607.8kg)	255.00

**Do not exceed the safe load.*

COMPLETE CUSTOM CABLE SERVICES

Special cable requirements?

Custom-built cable designed specifically for your application.

Choose from the following design elements, and Rice Lake Weighing Systems will build a cable to your specifications.



- Quick turnaround
- Competitively priced
- 5000 ft minimum purchase
- Call a Rice Lake Weighing Systems sales representative to begin the design process!

JACKET MATERIAL:

- PVC
- Polyurethane
- Double-jacketed

CONDUCTORS:

- Unlimited number
- Twisted pairs
- Color code
- Gauge

SHIELDING:

- Braided
- Foil

JACKET COLORS:

- Black, brown, green, orange, red, blue, yellow, gray, natural

INK COLORS:

- Black, white, silver, orange
- Custom logos

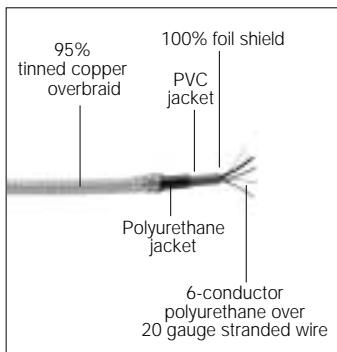
APPROVALS:

- UL listed
- CSA

Important: Read "Load Cell Mounting Hardware Safety Guidelines" at the beginning of this section.

EL147RP RODENT PROTECTION CABLE

- Tinned copper overbraid provides superior rodent and abrasion deterrent
- Enhanced EMI/RFI protection
- 6-conductor industry-standard color code
- Ideal for truck and railroad track scales
- Diameter: 0.33" (8.38mm)



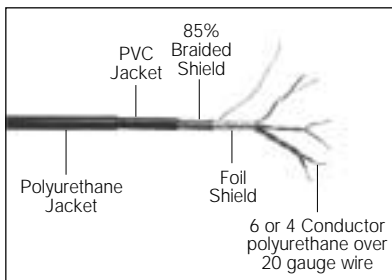
PART #	DESCRIPTION	SUGGESTED LIST PRICE
31475	Custom Length Hostile Environment Cable	\$3.00/ft
53205	50' (15.3) Hostile Environment Cable	\$140.00
53204	100' (30.5) Hostile Environment Cable	\$275.00
53206	250' (76.2) Hostile Environment Cable	\$700.00
53207	500' (152.4) Hostile Environment Cable	\$1,400.00
53208	1000' (304.8) Hostile Environment Cable	\$2,700.00

HOSTILE ENVIRONMENT LOAD CELL CABLE

EL146HE—4-WIRE LOAD CELL CABLE

EL147HE—6-WIRE LOAD CELL CABLE

- Designed for use in hostile environments
- Polyurethane jacketing provides superior chemical and abrasion resistance
- RFI and EMI protected with foil overbraid shield
- Unmatched durability, yet extremely flexible
- All conductors are industry-standard color coded
- Diameter—EL146HE: 0.28" (7.1mm); EL147HE: 0.32" (8.1mm)
- The 6-wire cable is best suited for longer runs where remote sense lines can be used
- Use the 4-wire cable for repairing or extending existing cable

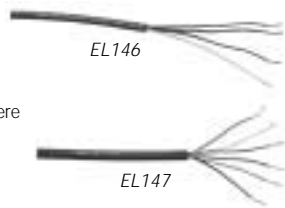


PART #	DESCRIPTION - CONTINUOUS FEET (METERS)/ROLL	SUGGESTED LIST PRICE
15510	100 (30.5) 4-Conductor Hostile Environment Cable	\$132.00
15511	250 (76.2) 4-Conductor Hostile Environment Cable	315.00
15512	500 (152.4) 4-Conductor Hostile Environment Cable	620.00
15513	1000 (304.8) 4-Conductor Hostile Environment Cable	1,150.00
15494	Custom Length 4-Conductor Hostile Environment Cable	1.35/ft
15520	100 (30.5) 6-Conductor Hostile Environment Cable	170.00
15521	250 (76.2) 6-Conductor Hostile Environment Cable	412.00
15522	500 (152.4) 6-Conductor Hostile Environment Cable	800.00
15523	1000 (304.8) 6-Conductor Hostile Environment Cable	1,580.00
15496	Custom Length 6-Conductor Hostile Environment Cable	1.80/ft

EL146—4-WIRE LOAD CELL CABLE

EL147—6-WIRE LOAD CELL CABLE

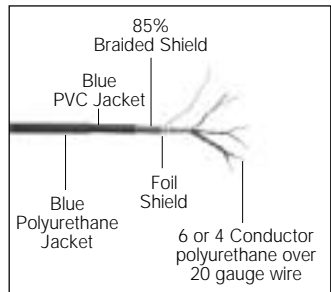
- 20 AWG tinned copper wire stranded for flexibility
- Braided shielding is encased in red PVC
- All conductors are industry-standard color coded
- Diameter—EL146: 0.25" (6.4mm); EL147: 0.29" (7.4mm)
- The 6-wire cable is best suited for longer runs where remote sense lines can be used
- Use the 4-wire cable for repairing or extending existing cable



PART #	DESCRIPTION - CONTINUOUS FEET (METERS)/ROLL				SUGGESTED LIST PRICE
15505	100	(30.5)	4-Conductor Cable		\$75.00
15506	250	(76.2)	4-Conductor Cable		180.00
15507	500	(152.4)	4-Conductor Cable		350.00
15508	1000 ...	(304.8)	4-Conductor Cable		660.00
15493	Custom Length		4-Conductor Cable		0.80/ft
15515	100	(30.5)	6-Conductor Cable		148.00
15516	250	(76.2)	6-Conductor Cable		360.00
15517	500	(152.4)	6-Conductor Cable		690.00
15518	1000 ...	(304.8)	6-Conductor Cable		1,340.00
15495	Custom Length		6-Conductor Cable		1.50/ft

EL147IS HAZARDOUS ENVIRONMENT BLUE JACKET

- Designed for intrinsically safe applications (must be wired according to Factory Mutual System-approved diagram)
- Polyurethane over PVC double jacketing provides superior chemical and abrasion resistance
- Both foil and braided wire shields for added RFI and EMI protection
- 6 conductors are industry-standard color coded
- Diameter— 0.32" (8.1mm)
- Suited for longer runs where remote sense lines can be used



PART #	DESCRIPTION	SUGGESTED LIST PRICE
32817	EL147IS	\$2.50/ft

EL144 COMMUNICATIONS CABLE

- 2-conductor with bare ground
- RFI/EMI protected with foil shield
- Perfect for RS-232, 2-wire RS-485, and 20 mA current loop communications
- Diameter: 0.19" (4.8mm)



PART #	DESCRIPTION	SUGGESTED LIST PRICE
32803	EL144	\$0.50/ft

BCD CABLE

- Sheathed in gray PVC
- Mylar aluminum foil shield with stranded tinned copper drain wire
- 24 AWG, 30-conductor, stranded tinned copper conductor with PVC insulation
- Diameter: 0.375" (9.5mm)



PART #	DESCRIPTION	SUGGESTED LIST PRICE
15497	BCD	\$9.00/ft

SURVIVOR® EL620HE HIGH TEMPERATURE CABLE

- Multiconductor overall foil and braid shield
- Suitable for high temperatures up to 392°F (200°C)
- Insulation thickness - 0.010" (0.25mm)
- Jacket thickness - 0.017" (0.43mm)
- 18 gauge, tinned copper conductors
- Teflon® jacket, resistant to chemical corrosion and high temperature
- Beldfoil aluminum-polyester shield with 85% tinned copper braid shield
- 150V NEC 725 Class 2 classified for use in an airplenum non-conduit



PART #	DESCRIPTION	SUGGESTED LIST PRICE
15605	EL620HE	\$5.00/ft
<i>Teflon is a registered trademark of E.I. DuPont.</i>		

SURVIVOR® CABLE ARMOR

- Flexible all metal protective armor
- Ideal for protecting load cell cable from mechanical abrasion or rodents
- Available in stainless steel and galvanized steel
- 0.5" (12.7mm) internal diameter, 2.0" (50.8mm) minimum bend radius
- Optional end fitting with 1/2" male pipe thread



PART #	DESCRIPTION	SUGGESTED LIST PRICE
17808	Galvanized Steel	\$1.95/ft
17806	Stainless Steel	3.95/ft
17807	Optional End Fitting	1.00 each

LOAD CELL CONDUIT ADAPTERS

- Used to adapt conduit to load cells
- 303 stainless steel

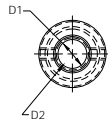


PART #	D1 IN (MM)	D2 IN (MM)	OVERALL LENGTH IN (MM)	SUGGESTED LIST PRICE
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CLAMP-ON

17680*	.44 (11.2)	1.00 (25.4)	1.69 (42.9)	\$35.00
17681	.38 (9.7)	.44 (11.2)	1.25 (31.8)	25.00

*Discontinued: limited to quantities on hand



PART #	THREAD SIZE	THREAD SIZE	SUGGESTED LIST PRICE
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THREAD-ON

31533	3/8-24 UNF	—	\$15.00
31534	—	1/4-18 NPT	15.00
31535	5/8-18 UNF	1/2-14 NPT	30.00

Note: 31533 and 31534 are used together to form male-to-male adapter.



CORD GRIP ASSEMBLIES

- Assemblies include cord grip, locknut, "O"-ring seal, gray and black reducer glands
- Fittings are made of weather- and corrosion-resistant nylon



PART #	THREAD	PANLE HOLE DIA. IN (MM)	SUGGESTED LIST PRICE
15669	PCN9	.625 (15.9)	\$3.00
15670	3/8 NPT	.687 (17.4)	3.00
15671	1/2 NPT	.844 (21.4)	3.00

EL214 CABLE SPLICING KIT

- Designed for a complete, professional transducer cable splice
- Prevents moisture from entering the load cell through the cable connector
- Each kit contains a high-impact plastic splicing box, liquid-tight cable fittings, circuit card, Teflon® sleeving, premeasured potting compound and complete instructions



SPECIFICATIONS:

Dimensions: 3.00" W x 1.00" H x 1.50" D
(76.2mm W x 25.4mm H x 38.1mm D)

Mounting Centers: 2.50" (63.5mm)

Number of Connections: 7

Cable Diameter: 0.187"-0.312" (4.7mm-7.9mm)

Cure Time For Potting: Epoxy-Polyamide resin cures in 2 hours at 73°F (23°C)

PART #	DESCRIPTION	SUGGESTED LIST PRICE
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15485 EL214 \$70.00
Teflon is a registered trademark of E.I. DuPont.

EL214T CABLE SPLICING KIT

- Designed to accommodate larger cables than the EL214; all other dimensions and performance features are the same



SPECIFICATIONS:

Dimensions: 3.00" W x 1.00" H x 1.50" D
(76.2mm W x 25.4mm H x 38.1mm D)

Mounting Centers: 2.50" (63.5mm)

Number of Connections: 7

Cable Diameter: 0.270"-0.480" (6.9mm-12.2mm)

Cure Time For Potting: Epoxy-Polyamide resin cures in 2 hours at 73°F (23°C)

PART #	DESCRIPTION	SUGGESTED LIST PRICE
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15486 EL214T \$80.00

EL215 CABLE SPLICING KIT

- Designed for use in weather-exposed or direct-burial locations
- Each kit contains plastic splicing tube, circuit board, insulating resin and instructions

SPECIFICATIONS:

Dimensions: 1.375" dia x 6.0" long
(34.9mm dia x 152.4mm)

Number of Connections: 7

Cable Diameter: up to .75" (19.1mm)

Cure Time For Potting: 2 hours at 70°F (21°C)



PART #	DESCRIPTION	SUGGESTED LIST PRICE
15612	EL215	\$50.00

FLINTEC LOAD CELL CABLE REPLACEMENT KITS

- Each kit includes cable for four Flintec SB4 or UB1 load cells as listed



PART #	DESCRIPTION	CABLE LENGTH EA. FEET (M)	SUGGESTED LIST PRICE
18412	For SB4, 225-5200lb (102.1-2358.7kg)	10 (3.1)	\$295.00
18413	For SB4, 11,250-22,500 lb (5103-10206kg)	15' (4.5)	325.00
18414	For UB1	20 (6.1)	365.00

LOAD CELL AND INDICATOR CONNECTORS

- For quick, secure cable connectors, use these 5-pin, 6-pin and 7-pin MS-type connectors with shellplugs and receptacles. Finished in olive drab, these are the same type of connectors used on many digital weight indicators. Dust caps are also available for each connector.

PART #	DESCRIPTION	SUGGESTED LIST PRICE
15753	5-pin, external thread	\$23.00
15722	5-socket, internal thread	24.00
15723	5-pin, internal thread	23.00
15757	5-socket, external thread	29.00
15754	5-pin chassis mount, external thread	16.00
15758	5-socket chassis mount, external thread	16.00
15730	Dust cap for ext. thread 5-position connector	6.00
15731	Dust cap for int. thread 5-position connector	11.00
15759	6-pin, external thread	24.00
60124	6-socket, internal thread connector, fits Toledo load cells	18.00
15727	6-pin, internal thread	23.00
15724	6-socket, external thread	27.00
15726	6-pin chassis mount, external thread	15.00
15760	6-socket chassis mount, external thread	15.00
15730	Dust cap for ext. thread 6-position connector	6.00
15731	Dust cap for int. thread 6-position connector	11.00
15761	7-pin, external thread	25.00
15756	7-socket, internal thread	27.00
15729	7-pin, internal thread	27.00
15728	7-socket, external thread	27.00
15755	7-pin chassis mount, external thread	16.00
15762	7-socket chassis mount, external thread	19.00
15732	Dust cap for ext. thread 7-position connector	12.00
15733	Dust cap for int. thread 7-position connector	16.00



SIMULATOR 1

STANDARD FEATURES

- The ultra-stable bridge used in Simulator I was originally developed for testing long-term stability of new indicators
- Precision resistors, wound from the same coil of wire, are carefully matched so they will absolutely track each other
- Compact waterproof packaging makes the simulator rugged enough to carry in your tool box
- Binding posts are color-coded to ISA S37.8 standard



SPECIFICATIONS

Fixed Ranges:	1.0 mV/V, 2 mV/V
Impedance:	350 ohms \pm .1%
Nonlinearity:	Less than .05%
Temperature Coefficient:	5 ppm/°C maximum
Dimensions:	4.00" W x 2.00" H x 1.50" D (101.6mm W x 50.8mm H x 38.1mm D)

PART #	DESCRIPTION	SUGGESTED LIST PRICE
21113	EL222	\$130.00
21116	EL223 Optional Cable Assembly	55.00

SIMULATOR 2 WITH VARIABLE RANGES

STANDARD FEATURES

- Designed for checking setpoint operation, display blanking or other functions
- The coarse or fine variable range may be used in conjunction with any of the three fixed ranges, or it can be turned off
- A fine zero potentiometer is provided to allow zeroing without disturbing the zero adjustments of the indicator being tested



SPECIFICATIONS

Fixed Ranges:	1.0 mV/V, 2 mV/V
Variable Ranges:	0 to \pm 1 mV/V, 0 to \pm .4 mV/V
Impedance:	350 ohms \pm .1%
Nonlinearity:	Less than .05%
Temperature Coefficient:	5 ppm/°C maximum
Dimensions:	6.25" W x 3.75" H x 2.00" D (158.8mm W x 95.3mm H x 50.8mm D)

PART #	DESCRIPTION	SUGGESTED LIST PRICE
21114	EL258	\$325.00
21116	EL223 Optional Cable Assembly	55.00

STANDARD FEATURES

- Designed for use in testing, troubleshooting and calibrating digital weight indicators and systems
- Perfect for "bench testing" setpoint systems
- Economical and easy to operate
- Vernier range - 106% of selected step
- 3' (0.9m) test cable assembly included



SPECIFICATIONS

Variable Range:	0 - 3mV/V in six 0.5mV/V steps
Impedance:	350 ohms \pm 0.05%
Nonlinearity:	Less than .05%
Temperature Coefficient:	\pm 5 ppm/ $^{\circ}$ C
Dimensions:	6.25" W x 3.75" H x 2.00" D (158.8mm W x 95.2mm H x 50.8mm D)

PART #	DESCRIPTION	SUGGESTED LIST PRICE
21115	Transducer Simulator 3	\$475.00

TRANSDUCER SIMULATOR 4

STANDARD FEATURES

- Designed for high accuracy
- Sealed lid with neoprene "O"-ring.
If secured properly, the Transducer Simulator 4 is completely waterproof
- Dustproof and crush tested to 500 lb
- Four operational modes including vernier adjustment, calibrated adjustment, 0.25 mV offset and 0.50 mV offset
- Ideal for setpoint or batching simulation



SPECIFICATIONS

Maximum Voltage:	15 volts
Bridge Type:	175 ohm star
Linearity:	Less than \pm .02% full scale
Temperature Coefficient:	Absolute 5 ppm/ $^{\circ}$ C; Tracking less than 0.5 ppm/ $^{\circ}$ C
Variable Ranges:	Choose any fixed setting \pm 0.25 mV or 0.50 mV through a 10-turn wire-wound potentiometer with locking clutch
Load Factors:	Simulates 1, 2, 3, 4 or 8 350-ohm load cells or 2, 4, 6, 8 or 16 700-ohm load cells
Calibrated Offset:	+0.25 mV/V for use with digitally calibrated meters requiring positive dead load for calibration
Connectors:	Six-way binding posts, suitable for loose wires or banana jacks

PART #	DESCRIPTION	SUGGESTED LIST PRICE
22513	Transducer Simulator 4	\$645.00

T-GRIP MOLDING

- Designed for use in truck scale applications to prevent spill-over into the pit
- Impact-, tear-, and weather-resistant EPDM rubber
- Barbed web to hold molding in place
- Available by the foot or in 10.0' (3.1m), 11.0' (3.4m), 70.0' (21.34m), 80.0' (24.4m) and 100.0' (30.5m) lengths.
Maximum continuous length is 100.0' (30.5m)
- Web thickness .22" (5.6mm)



PART #	HEIGHT IN (MM)	HORIZONTAL WIDTH IN (MM)	VERTICAL WIDTH IN (MM)	LENGTH IN (MM)	SUGGESTED LIST PRICE
18799	2.56 (65.0)	5.75 (146.1) .....	.22 (5.6)	Sold by the foot	\$5.50/ft
18800	2.56 (65.0)	5.75 (146.1) .....	.22 (5.6)	10' (3.05m)	55.00
18801	2.56 (65.0)	5.75 (146.1) .....	.22 (5.6)	11' (3.35m)	60.50
18802	2.56 (65.0)	5.75 (146.1) .....	.22 (5.6)	70' (21.34m)	375.00
33219	2.56 (65.0)	5.75 (146.1) .....	.22 (5.6)	80' (24.4m)	400.00
33222	2.56 (65.0)	5.75 (146.1) .....	.22 (5.6)	100' (30.5m)	510.00

T-STRIP MOLDING

- Designed for use in truck scale applications to prevent spill-over into the pit
- Impact-, tear-, and weather-resistant SBR rubber
- Available by the foot or in 10.0' (3.1m), 11.0' (3.4m), 70.0' (21.34m), 80.0' (24.4m) and 100.0' (30.5m) lengths.
Maximum continuous length is 100.0' (30.5m)
- Web thickness .19" (4.8mm)



PART #	HEIGHT IN (MM)	HORIZONTAL WIDTH IN (MM)	VERTICAL WIDTH IN (MM)	LENGTH IN (MM)	SUGGESTED LIST PRICE
18736	2.00 (50.8)	4.50 (114.3) .....	.25 (6.4)	Sold by the foot	\$5.00/ft
18776	2.00 (50.8)	4.50 (114.3) .....	.25 (6.4)	10' (3.05m)	50.00
18797	2.00 (50.8)	4.50 (114.3) .....	.25 (6.4)	11' (3.35m)	55.00
18798	2.00 (50.8)	4.50 (114.3) .....	.25 (6.4)	70' (21.34m)	340.00
33223	2.00 (50.8)	4.50 (114.3) .....	.25 (6.4)	80' (24.4m)	380.00
33224	2.00 (50.8)	4.50 (114.3) .....	.25 (6.4)	100' (30.5m)	460.00

CARDINAL SCALES

- Carbon triplicate with 2.0" (50.8mm) tear-off flap
- Size: 1.875" x 5.5" (47.6mm x 139.7mm)
- Order quantity: 500 per package

FAIRBANKS SCALES

- Carbon triplicate with 2.0" (50.8mm) tear-off flap
- Size: 1.875" x 4.75" (47.6mm x 120.7mm)
- Order quantity: 500 per package

HOWE SCALES

- Carbon triplicate with 2.0" (50.8mm) tear-off flap
- Size: 1.75" x 5.5" (44.5mm x 139.7mm)
- Order quantity: 500 per package

TOLEDO SCALES

- Carbon duplicate with 2.0" (50.8mm) tear-off flap
- Size: 1.75" x 5.5" (44.5mm x 139.7mm)
- Order quantity: 500 per package

THURMAN SCALES

- Carbon triplicate with 2.0" (50.8mm) tear-off flap
- Size: 1.75" x 5.5" (44.5mm x 139.7mm)
- Order quantity: 500 per package

PART #	DESCRIPTION	SUGGESTED LIST PRICE
20263	Cardinal Scales	\$55.00
20260	Fairbanks Scales	49.00
20261	Howe Scales	49.00
20262	Toledo Scales	49.00
20264	Thurman Scales	65.00

ELECTRONIC SCALE TICKETS

HECON PRINTERS

- Carbon triplicate interleaved
- Size: 5.0" x 7.875" (127.0mm x 200.0mm)
- Order quantity: 500 per package

SP2000, RL250 & EL500

- Carbon triplicate interleaved perforated and glued on one end
- Size: 5.5" x 9.0" (139.7mm x 228.6mm)
- Order quantity: 500 per package

PART #	DESCRIPTION	SUGGESTED LIST PRICE
20266	Hecon Printers, EL522 & EL516	\$69.00
20265	SP2000, RL250 & EL500	75.00

SCALE VEILS

- Tough, flexible transparent vinyl, constructed with heavy-duty stitching
- Loose fit allows for operation of switches or controls through the scale veil
- Available for most types of scale equipment

SCALE VEILS AVAILABLE FOR THE FOLLOWING WEIGHING EQUIPMENT:

	PART #	SUGGESTED LIST PRICE
RICE LAKE		
IQ700	21213	\$55.00
SP2000/SP2200	21210	48.00
IQ6000/IQ6200/IQ6500	32468	50.00
WEIGHTRONIX		
WI 110/120	21194	55.00
DATAMAX		
Prodigy and Prodigy Plus	21227	95.00
Prodigy Max	34870	95.00
Ovation	34605	50.00
EPSON		
TM290/295	29582	45.00
TM-300	31277	45.00
TM-U200	35666	45.00
OKIDATA		
Okidata 184 Turbo Printer	21208	55.00
Okidata 320	21226	55.00
IDS		
IDS150/150A	21220	55.00
IDS152	21221	55.00
ISHIDA		
MT-SW	41765	11.00

Custom veils and specials available; consult factory.

*Protect your electronic scales, weight indicators and printers with a scale veil.
Reduce costly repairs and down time due to moisture penetrating through
instrument enclosures during cleanup or operation.*

INTERFACE CABLES FOR IDS150A, IDS152 & IDS160



PART #	DESCRIPTION	SUGGESTED LIST PRICE
15566	Blunt End 20 mA/RS-232 Serial Interface Cable	\$49.00
	<i>Blunt end cables interface to: IQ plus 310A, IQ plus 800/810, IQ plus 355, IQ plus 590, IQ plus 390, IQ plus 710 UMC555, UMC444, UMC600, IQ700HB, UMC1000, UMC1000PLUS, UMC1004, 1000HE and 1233HE.</i>	
15567	25-Pin 20 mA Serial Interface Cable	49.00
15568	25-Pin RS-232 Serial Interface Cable	49.00
	<i>25-Pin connectors interface to: UMC1000, UMC1000PLUS, IQ5000 and UMC2000 with simplex RS-232 or six pack multiple serial expansion board.</i>	
15565	Custom 20 mA/RS-232 Serial Interface Cable	95.00
	<i>Custom cables are designed to interface with your specific equipment. Please specify equipment model number and connector type. Standard cable length is 5' (1.5m).</i>	

INTERFACE CABLES FOR SP2000/SP2200



PART #	DESCRIPTION	SUGGESTED LIST PRICE
15547	Blunt End 20 mA/RS-232 Serial Interface Cable <i>Blunt end cables interface to: IQ plus 310A, IQ plus 800/810, UMC555, UMC444, UMC600, IQ700HB, UMC1000, UMC1000PLUS, UMC1004, 1000HE and 1233HE.</i>	\$49.00
15548	25-Pin 20 mA Serial Interface Cable	49.00
15568	25-Pin RS-232 Serial Interface Cable <i>25-Pin connectors interface to: UMC1000, UMC1000PLUS, IQ5000, and UMC2000 with simplex RS-232 or six pack multiple serial expansion board.</i>	49.00
15565	Custom 20 mA/RS-232 Serial Interface Cable <i>Custom cables are designed to interface with your specific equipment. Please specify equipment model number and connector type. Standard cable length is 5' (1.5m).</i>	95.00

INTERFACE CABLES FOR ALLEGRO™, PRODIGY™ & PRODIGY™ PLUS



PART #	DESCRIPTION	SUGGESTED LIST PRICE
15552	Custom RS-232 Interface Cable <i>Custom cables are designed to interface with your specific equipment. Please specify equipment model number and connector type. Standard cable length is 5' (1.5m).</i>	\$95.00

DESICCANTS

PACKETS

- Bagged desiccants to protect your enclosed electronic components from moisture and humidity
- Useful in junction boxes, indicators, and all scale electronics

MINI PAX — compact size protection, 7g
Dimensions: 2.75" x .75" (69.9mm x 19.1mm)

NATRA SORB — low-cost bulk protection, 20g
Dimensions: 2.5" x 2.5" (63mm x 63mm)



PART #	DESCRIPTION	SUGGESTED LIST PRICE
16038	Mini Pax	\$1.00
16039	Natra Sorb	1.80

GELS

- Turns water into a non-conductive gel on contact.
 - Ideal for filling enclosures
 - Provides a water-repellant coating for load cells
- WATERGUARD GEL** — 600g tube



PART #	DESCRIPTION	SUGGESTED LIST PRICE
32819	Waterguard Gel	\$40.00

INDUSTRIAL CORROSION INHIBITOR

OUR BEST INDICATOR PROTECTION

- Special chemical combination provides superior protection
- Protects 5 cubic feet/1.4 cubic meters of enclosure volume for approximately 1 year
- Dimensions: 2.5" dia. x 1.5" H
(63.5mm dia. x 38.1mm H)



PART #	DESCRIPTION	SUGGESTED LIST PRICE
16037	Corrosion Inhibitor	\$23.00

CRIMPER

- 5.0" (127.0mm) seal press with two .5" (12.7mm) engraving dies
- Chrome finish
- Compound leverage
- Quick delivery on custom dies



LEAD SEALS

- .25" (6.4mm) heavy duty seal with galvanized steel wire. Length - 16.0" (406.4mm)
- Complies with U.L. requirements of 14 lb (6.4kg) maximum break strength



PART #	DESCRIPTION	SUGGESTED LIST PRICE
21111	Crimper	\$110.00
15318	Crimper Die Blank	40.00
15317	100 Seals/pkg	30.00

STATIC CONTROL TABLE MAT AND FLOOR MAT

An absolute must for every workbench, this kit includes a 3-layer 2' x 4' table mat, 4' x 6' floor mat, ground cord, and adjustable wrist strap. Designed specifically for energized circuit work, the static control table and floor mat provide superior protection against ESD.



PART #	DESCRIPTION	SUGGESTED LIST PRICE
34265	Static Control Table Mat & Floor Mat	\$580.00

DISSIPATIVE WORK SURFACE

This dissipative work surface drains electrostatic charges rapidly enough to prevent damage to sensitive components, but not so quickly that a potentially destructive or damaging arc forms. The 2' x 3' rigid, non-glare surface resists abrasion stains, solder damage and common solvents. Includes two fasteners and one grounding system.



PART #	DESCRIPTION	SUGGESTED LIST PRICE
34264	Dissipative Work Surface	\$395.00

STATIC CONTROL WRIST STRAP

The single most important personal accessory for protecting ESD-sensitive components and circuits, this wrist strap protects against charges from the body. The wrist strap consists of a comfortable elastic cuff or band and a detachable conductive cord for grounding the wrist band.



PART #	DESCRIPTION	SUGGESTED LIST PRICE
34263	Static Control Wrist Strap	\$39.00

STATIC SHIELDING BAGS

This static shield bag offers total ESD protection, whether you're transporting ESD-susceptible products across the room or across the country. The outer layer of the bag consists of an abrasion-resistant polyester, while the antistatic polyethylene inner layer retards triboelectric static charging from inside the bag.



PART #	DESCRIPTION	SUGGESTED LIST PRICE
16150	Static Shielding Bags, 8" x 10"	\$1.00 each
16151	Static Shielding Bags, 12" x 18"	\$3.00 each

STATIC-SAFE SERVICE KIT

- Eliminates static for safe board replacement
- Connects a field service technician and the static-safe work surface to the same ground point
- Harmlessly drains static charges from the body and from any conductive objects placed on the mat
- Folds into a compact unit for transport and storage



PART #	DESCRIPTION	SUGGESTED LIST PRICE
32818	Static-Safe Service Kit	\$153.00

PORTABLE MEGOMETER

- Load cell insulation tester
- Easy to use, accurate and reliable
- Designed for strain gauge transducer testing



PART #	DESCRIPTION	SUGGESTED LIST PRICE
36253	Portable Megometer	\$395.00