# SC-1000 Spill Containment Scale

## OPERATION INSTALLATION AND SERVICE MANUAL

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## SECTION 1.0 DESCRIPTION

The SC-1000 spill containment scale consists of a containment deck with an integrated scale system. The deck allows compliance with EPA and Fire code regulations relating to the storage of chemicals while weighing product at the same time.

## SECTION 2.0 PREPARATION FOR USE

### 2.1 RECEIVING INSPECTION

1. Upon receiving the scale, carefully inspect the condition of the shipping. Report any damage to the shipper and to Eagle Microsystems immediately upon receipt.

2. Remove the scale from packaging and inspect for damage. Report any damage to the shipper and to Eagle Microsystems immediately upon receipt.

3. The scale is shipped with the four (4) leveling feet installed.

### 2.2 SHIPMENT

Should re-shipment of your scale become necessary.

1. Use the original shipping carton or a strong, well built skid. The skid must be larger than the outer dimensions of the scale to protect it in shipping.

2. Make sure the hook-up cable is protected and secured in the packaging or on the skid. Be sure to protect the edges of the scale deck when banding. The scale should be shipped with the feet up to protect the load cells. If on a skid the shipper should be advised not to stack any other packaging on top of the scale skid.

3. Use strong banding to secure scale in shipment.

### 2.3 SITE SELECTION

1. Line power devices causing large inductive currents should not run off the same circuit as the scale. Fluctuations in line voltage caused by such devices may result in display instability.

2. The hook-up cable to the read-out should not run close to other unshielded cables. Display instability may result.

3. For best accuracy, a flat, level, and rigid surface is recommended to support the scale and its load.

4. The area should be accessible for periodic cleaning.

### 2.4 INSTALLING

1. Clean the site area of dirt and debris.

2. Place the scale on the floor and follow directions below for adjustment of the leveling feet.

3. Double check that the feet of the load cells are placed on the PVC stilts inside the containment deck.

2.5 LEVELING

1. For best scale performance scale should be level within 1/2 degree.

2.6 WIRING

Figure 1 shows the wiring connections necessary to attach the platform to the read-out instrument. The color code and function are as noted.

| COLOR | FUNCTION |
|---|---|
| BLACK | – EXCITATION |
| WHITE | – SIGNAL |
| RED | + EXCITATION |
| GREEN | + SIGNAL |

Fig. 1

## SECTION 3.0 TROUBLE SHOOTING

The following is a list of potential problems and likely cures.

1. Inaccurate but repeatable weight readings:

   a. Adjust span on read-out (see instrument manual – (EI-1000S or EI-2000S)

2. Blank or drifting display:

   a. Consult the instrument manual.

   b. Look for loose connection in hook-up cable at the instrument. See Section 4.0

   c. Check underside of scale deck for evidenced of broken seals on the summing junction or load cells.

   c. Test for bad load cell (see section 4.2)

## SECTION 4.0 SERVICING

*4.1 Checking the summing junction connections.*

*1. Locate the Summing J Box under the scale and remove the lid.*

*2. View and compare all connections to Figure 2.*

*3. Check all connections by lightly pulling on each lead. Tighten terminal connections as needed.*

*4. If problem persists, press lightly on the circuit board itself and check meter response. Replace board if required.*

***Note:*** *Make sure when replacing the cover that the box is dry and the cover is tight.*

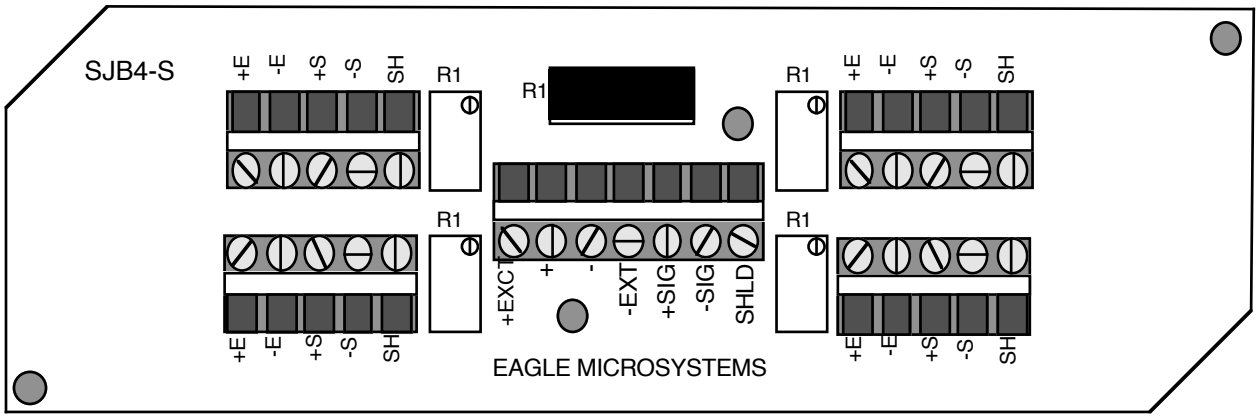



*Figure 2*

2. *Load Cell zero shift test:*

   *a. Remove all the weight from the load cell and measure the output as shown in Figure 4.*

   *b. Connect a DC power supply of 10 or 15 volts to the Red (+) and Black (-) excitation load cell leads.*

   *c. The measured output between the Green (+) and White (-) signal leads should be less than 5 millivolts.*

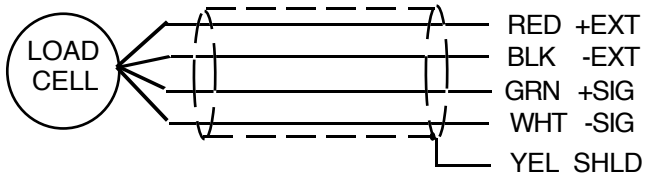
   *d. An output signal greater than 5 millivolts indicates a zero shift caused by mechanical overload.*

   *e. If the output signal is between 5 and 15 millivolts, the load cells zero has shifted but will probably still continue to work.*

   *f. If the output signal is greater than 15 millivolts, the load cell should be replaced with a known good one.*

LOAD CELL WIRING

FIGURE 4




LOAD CELL VOLTAGE CHECK (WITH 15V EXCITATION)

| | |
|---|---|
| BLACK TO WHITE: | +7.5V (EXCITATION / 2) |
| BLACK TO GREEN: | +7.5V (EXCITATION / 2) |
| BLACK TO RED: | +15V |

LOAD CELL OUTPUT

| | |
|---|---|
| GREEN TO WHITE: | LESS THEN +/- 5 MILLIVOLTS (NO DEAD LOAD)<br>LESS THEN 25 MILLIVOLTS (EXACT OUTPUT<br>VOLTAGE DEPENDS ON DEAD LOAD WEIGHT) |

***NOTE:*** *If the load cell's zero has shifted due to a mechanical overload, the reason for the overload should be determined before a new load cell is installed.*

*4.3 REPLACING THE LOAD CELL*

*Call the factory to advise that the load cell is defective. Report model and serial numbers for both load cell and scale.*

1. *Remove all weight from scale.*

2. *Stand the scale on its side. Use caution; make sure that the hook-up cable is not being damaged.*

3. *Remove the screws from Summing Box lid. Disconnect the wires of defective load cell being replaced. Gently pull cable out of the frame.*

4. *Use 3/4 wrench to remove 2 hext head cap screws which secure load cell to frame.*

5. *Install new load cell using 35 ft. lbs. torque to screws and fish wires back to the Summing Box.*

6. *Insert leads into terminal as before and tighten. Put lid on Summing Box and tighten.*

7. *With a screw driver, adjust the leveling foot until scale is stable on all four feet.*

## SECTION 5.0 SPECIFICATIONS

| | |
|---|---|
| PHYSICAL SIZE: | Footprint: 30 3/8"(l) X 26"(w) X 6" (h)<br>Deployed Bladder: 66" X 50" |
| WEIGHT: | 13 ½" X 13 ½": 14 lbs<br>18" X 18": 36 lbs<br>24" X 24": 45 lbs |
| CONSTRUCTION: | Deck: Polyethylene<br>Scale: Steel |
| FINISH: | None |
| CAPACITY: | 1000 lbs cap. |
| SAFE OVERLOAD: | 120% of Rated Capacity. |
| NOMINAL OUTPUT: | 1.5 mV/V at full scale |
| OPERATING ACCURACY: | 0.1% of Capacity. |
| REPEATABILITY: | 0.02% of Capacity. |
| LOAD CELLS: | 4 stainless steel strain gage planar beam-type, 350 Ω or<br>4 hermetically-seales strain gage, planar beam-type, 350 Ω |
| HOOK-UP CABLE: | 15' of 4-conductor color coded shielded cable. PVC jacket. |

## SECTION 6.0 SPARE PARTS LIST

| PART DESCRIPTION | CAPACITY/MODEL |
|---|---|
| Load Cell, p/n 500783 | 200 kg F.S./SC-1000 |
| S.S. 1/2-20 x ½" rubber foot, p/n 600054 | Standard |
| As Req'd 4-Conductor Cable, p/n 500060 | 15' Standard |
| Summing Junction box p/n 120110 | Standard |