



# **Belt-Way Scales**

*In Motion Weighing Solutions*



# **Junction Box Installation Manual**



# INTRODUCTION

A junction box is required when the integrator (primary scale controller) must be mounted greater than 30 feet from the scale components.

We strongly recommend wireless communications to a remote display whenever possible to alleviate the long-term maintenance issues associated with junction boxes and long cable installations.

If it is not feasible to use wireless equipment, then our digital junction box will offer the best option to remotely monitor a single scale. The digital junction box converts sensitive analog signals (load cell, speed sensor, angle sensor) to a digital format.

All scale information can be transmitted over one 3-pair cable (6 wires). It is critical that you follow all Company and government SAFETY procedures when installing this component in the field. If after reading this manual you require any assistance with the installation, wiring, and setup of the junction box please contact our technical support department.

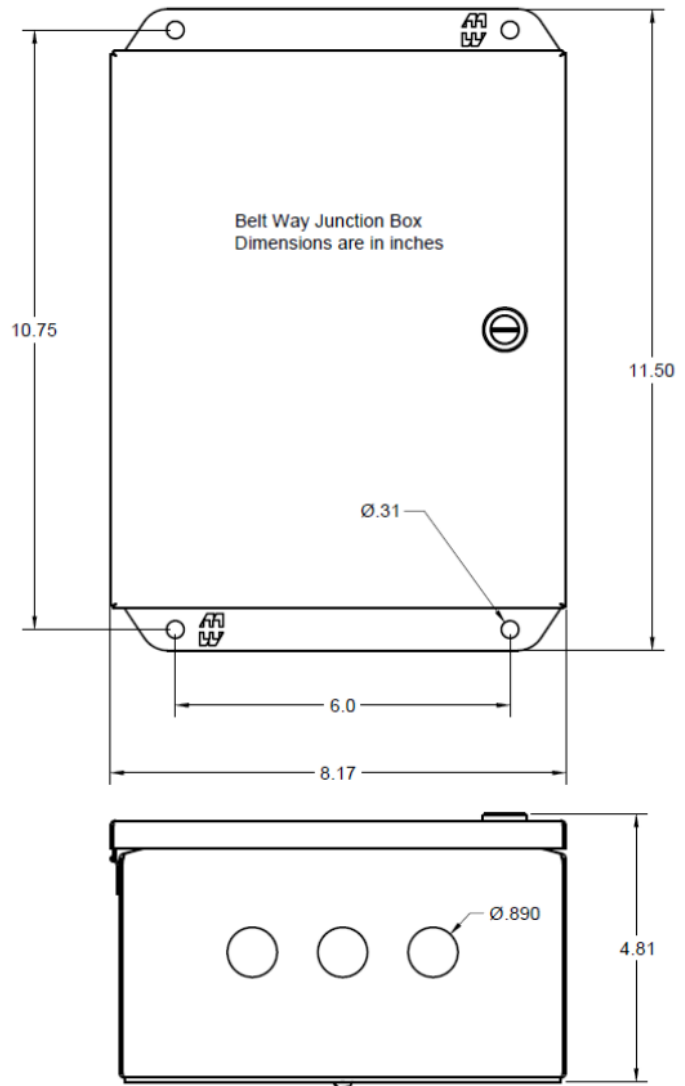


# WHAT IS IN THE BOX?

The following items are included:

- Junction Box (Qty 1)
- Mounting Screws (Qty 4)

Leave a minimum of 3 inches of clearance on the left side to allow the door to open.



# TOOLS NEEDED

The following tools are required:

- Phillips / Star Head Screw Driver
- Small Flat Head Screw Driver
- Wire Strippers
- Lock-Out Tag

# INSTALLATION PROCEDURE

Disconnect power to the integrator at the breaker or disconnect panel. Lock out the supply power while mounting the junction box and while working inside the integrator.

## STEP 1. Label and Mount Junction Box

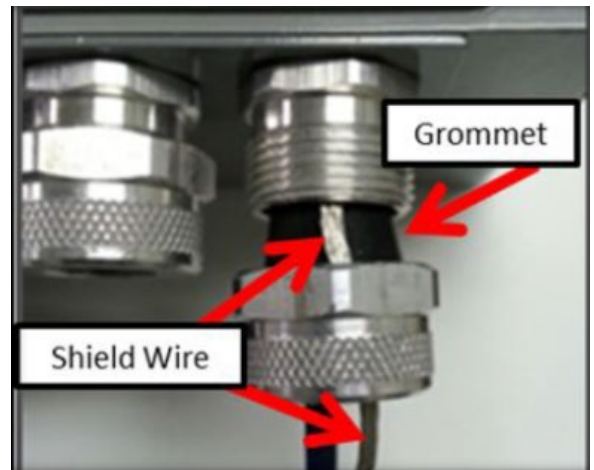
1. Label the junction box on the provided spaces to specify the type and capacity of the scale.
2. Mount the junction box in a secure location within 30 feet of the scale components.
3. Make sure the cables are long enough to easily reach the junction box location. Route the component cables so they are away from sources of high voltage. Be sure they are protected from falling material and the moving belt. The excess cable may be trimmed.

## STEP 2. Connect Component Cables to Junction Box Sensor Board



**The shield wires on all components must be connected as shown below. Failure to do so will make the scale extremely susceptible to electrical interference.**

1. Installing the shield wire as shown will ground it to the box and reduce interference from electrical noise. You may need to strip the wiring back to keep the shield wire out of the integrator.
2. The complete cable needs to be fed through the grommet hole.
3. The shield then needs to be wrapped backward over the grommet and fed through the cord grip nut.
4. Insert the cable through the hole in the integrator enclosure so that the cord grip presses the shield against the housing as the nut is tightened.

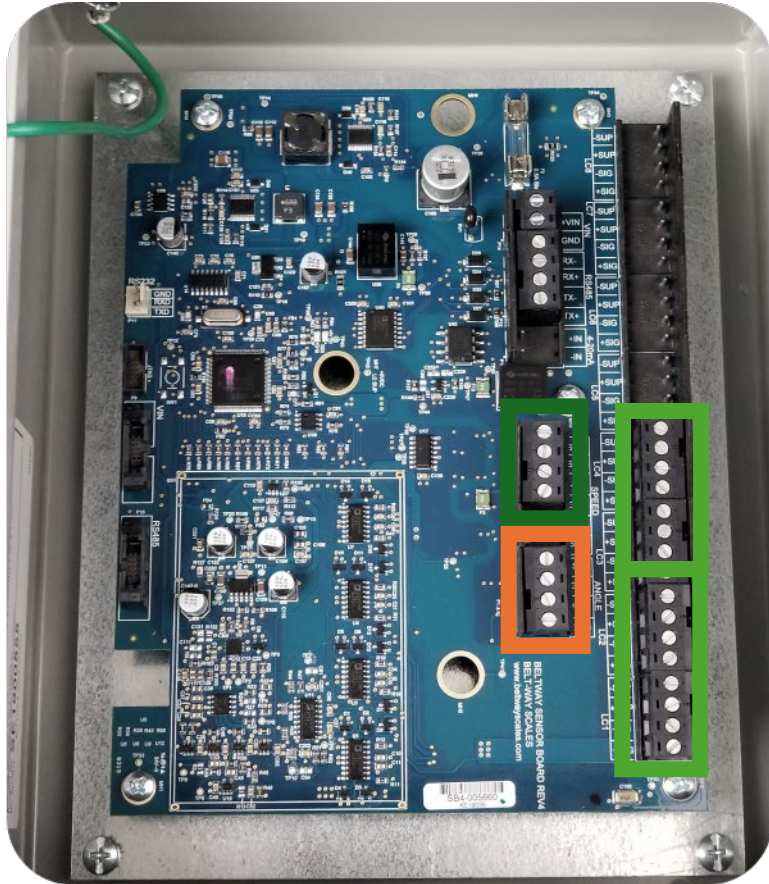


# INSTALLATION PROCEDURE, CONT.

## STEP 3. Scale Component Wiring Inside Junction Box

### JUNCTION BOX

### WIRING



#### SPEED SENSOR

<b>SIGB</b>	Not used
<b>SIGA</b>	Green
<b>+5V</b>	Red
<b>GND</b>	Black & White

#### ALL LOAD CELLS

<b>-SUP</b>	Black
<b>+SUP</b>	Red
<b>-SIG</b>	White
<b>+SIG</b>	Green

#### ANGLE SENSOR

<b>SIG</b>	Green
<b>GND</b>	White
<b>+5V</b>	Red
<b>GND</b>	Black

SINGLE IDLER SCALE: LC1 & LC2

DUAL IDLER SCALE: LC1, LC2, LC3, & LC4

## INSTALLATION PROCEDURE, CONT.

### STEP 4. 3-Pair Cable: Junction Box to Integrator Control Box

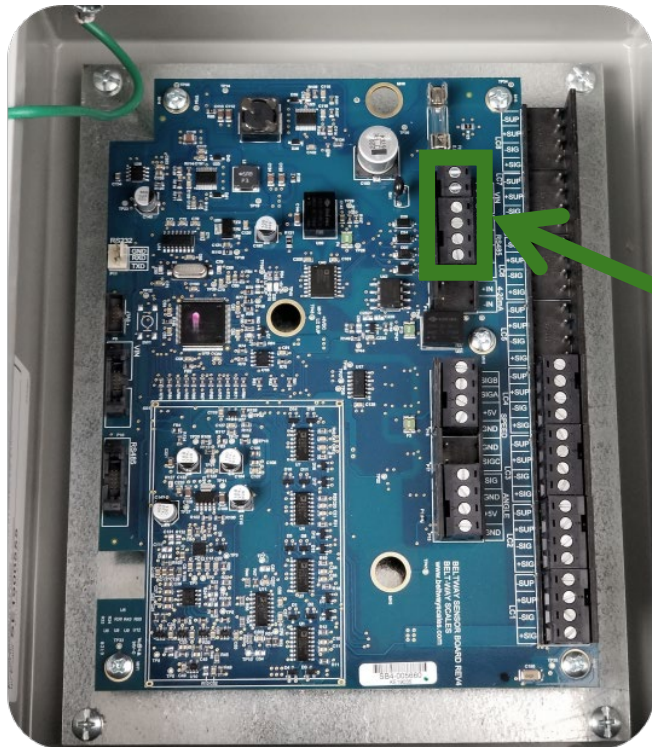


Disconnect the small ribbon cables labeled **SENSOR POWER** and **SEN RS485 INTERFACE**.

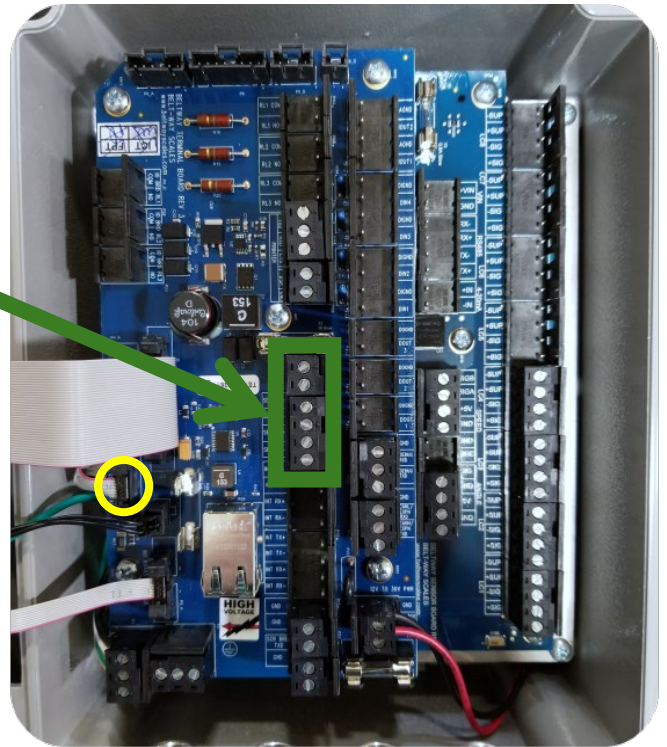


**IMPORTANT!** Do not route the cable near sources of high voltage! Ground the shield wire on both ends of the communication cable! See page 3 for grounding instructions on step 2!

**JUNCTION BOX**



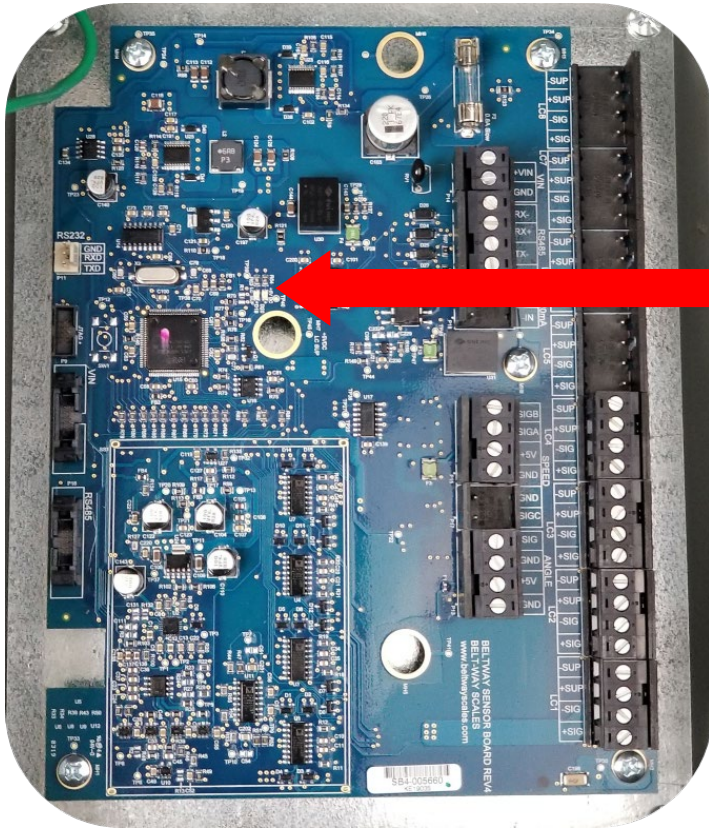
**INTEGRATOR CONTROL BOX**







## CONNECT INTEGRATOR POWER JUNCTION BOX



**Make sure the green LEDs on the Junction Box Sensor Board are illuminated to show it is powered.**

Return to the integrator and proceed with the calibration as described in the belt scale manual.

Contact Belt-Way technical support with further questions.

## **Belt-Way Scales**

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