

## Monorail Installation Guide

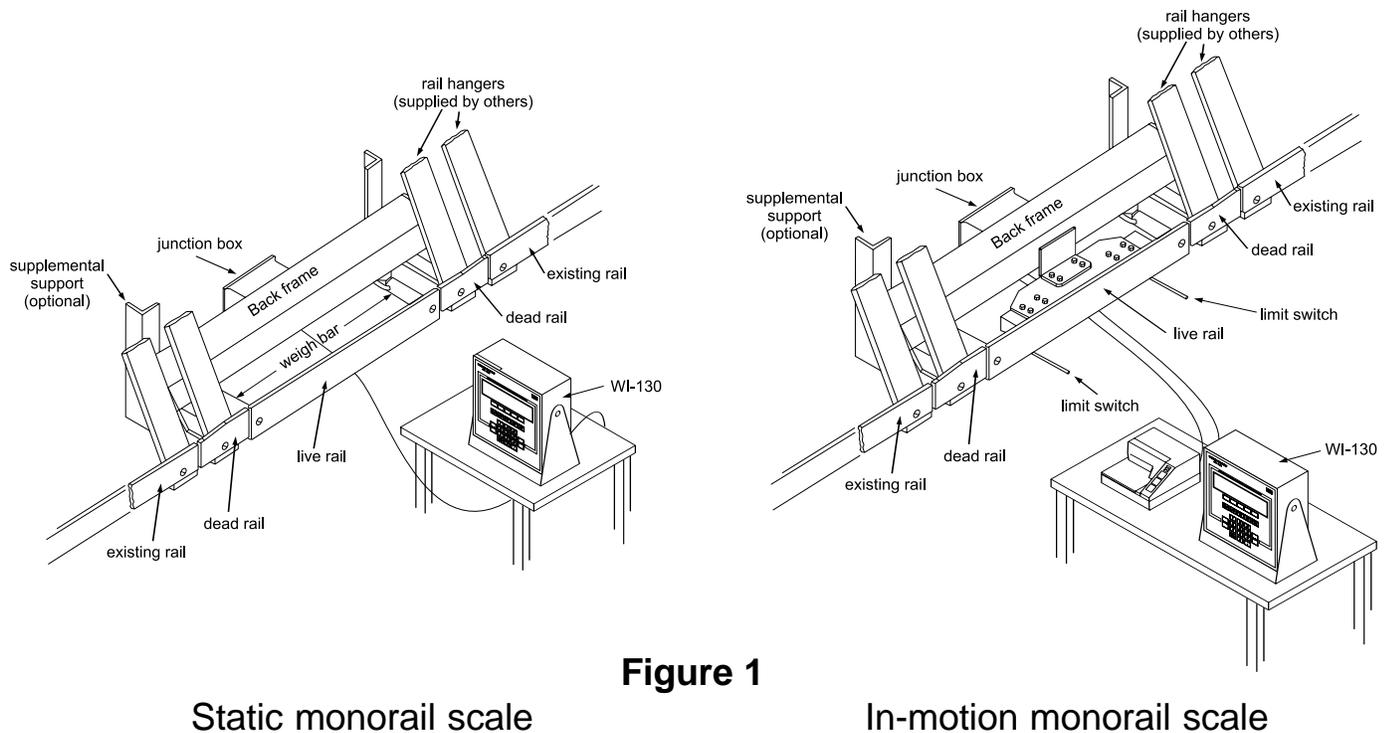
### Introduction

This guide is a step by step procedure for installing a Weigh-Tronix monorail scale. Before you attempt any of these procedures, we urge you to read through the entire guide so you can familiarize yourself with what needs to be done.

### Installation

Locate the point in the existing monorail system where the weighing unit is to be installed and route the interface cables to that location. Refer to Figure 1 and proceed as follows:

1. Remove a section of existing monorail equal to the total length of the weighing unit and support the ends with rail hangers.
2. Drill holes in the dead rails and mount the weighing unit in place using standard rail hangers.
3. Angle iron or similar bracing material can be attached to the back frame of the unit for additional support and to eliminate vibration.
4. Adjust the weighing unit so it is level both lengthwise and from front to back. A level can be placed on top of the back frame to check the levelness of the unit.
5. Connect the indicator interface cable to J1 on the junction box. On the in-motion model, see Figure 1, connect the control cable to the limit switch. Interface cables should be routed and secured so they will not be pinched, cut or snagged by monorail operations.



## Weigh Bar Replacement

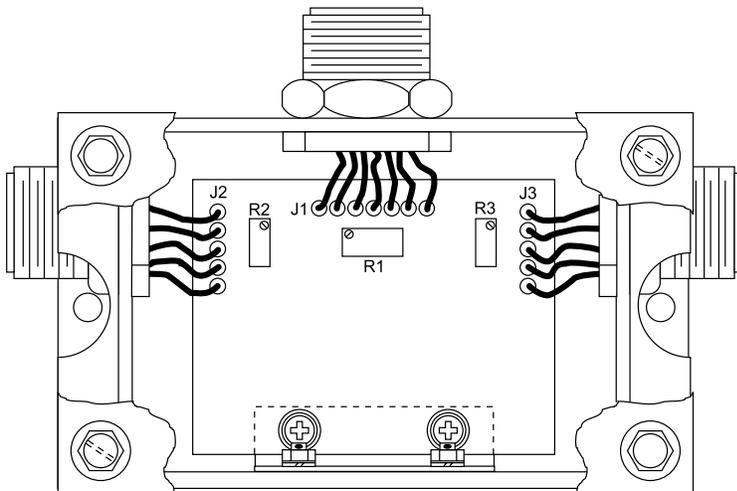
*Do not use the predrilled holes in the ends of the frame for mounting the unit; these holes are provided for removing the Weigh Bar roll pins.*

If it becomes necessary to replace a Weigh Bar, follow these steps:

1. Remove the two socket head screws that hold the live rail to the Weigh Bars and remove the live rail.
2. Disconnect the Weigh Bar cable from the junction box and remove the cable clamp from the frame.
3. Drive the roll pin out of the Weigh Bar mount with a 3/16 inch drift punch inserted through the hole in the end frame.
4. Remove the defective Weigh Bar.
5. Insert the replacement Weigh Bar in the frame mount, making sure the top of the Weigh Bar is up. The top is marked with a "T" on the Weigh Bar shaft near the roll pin hole.
6. Align the hole in the Weigh Bar with the hole in the frame and insert the roll pin.
7. Connect the Weigh Bar cable to the junction box and secure the cable clamp.
8. Mount the live rail to the Weigh Bars.

## Weight Sensor Balance Adjustment

This scale uses a junction box (J-box) where the outputs of two weight sensors of matching capacities are added together. The J-box then sends a single weight signal to the indicator. These multiple signals must be balanced for the scale to function properly. This is done at the factory, but these instructions are provided in case you ever need them. Because the balance adjustment of one weigh sensor affects the adjustment of the other weight sensor, always recheck both adjustments. Figure 2 illustrates the type of J-box in the conveyor scale. Potentiometer R2 affects one weight sensor and R3 affects the other. R1 is the zero adjust potentiometer for deadload offset.



**Figure 2**  
J-box

Balance the weight sensors by adjusting potentiometers in the j-box, as follows:

1. Remove the j-box cover to access the potentiometers.
2. Zero the indicator with an empty trolley on the monorail.
3. Place a minimum of 25% of capacity using calibrated test weight on the trolley and place the trolley directly over one of the weight sensors.
4. Record displayed weight value.
5. Completely remove test weight and verify the display returns to zero before reloading above the other weight sensor.
6. Repeat Steps 3 through 5 for the other weight sensor.
7. If displayed weight value for a weight sensor varies from the other by less than  $\pm 1$  division, proceed now to appropriate service manual with the calibration instructions for the indicator being used.
8. If displayed weight value for any weight sensor varies from the others by more than  $\pm 1$  division, adjust j-box potentiometers by turning them the number of  $360^\circ$  turns indicated by this formula:

$$\frac{\text{Certified Test Weight Value} - \text{Displayed Weight Value}}{\text{Certified Test Weight Value} \times 0.0028} = \text{Number of Turns}$$

If **Number of Turns** is positive value, turn potentiometer clockwise. If **Number of Turns** is a negative value, turn potentiometer counterclockwise.

9. Repeat Steps 3 through 8 until all weight sensors are equal, within  $\pm 1$  scale division and proceed to appropriate service manual with the calibration instructions for the indicator being used.

# Information for WI-130 User's

## Setpoints

Setpoint #1 is the start averaging input  
Setpoint #2 is the stop averaging input  
Setpoint #3 is the accept output (optional)  
Setpoint #4 is the reject output (optional)

## 8587A Photocell I/O Installation Configuration

Showvar displays the weight to the screen.  
WT is the variable that the average weight is stored in and used for display and accept/reject purposes.  
Setpoint 1 is the minimum acceptable value.  
Setpoint 2 is the maximum acceptable value.  
The F1 key is used to set the min and max values.

## Operation

When setpoint #1 (ie. entrance sensor) is triggered by the trolley, the WI-130 begins averaging and turns off both accept and reject outputs.  
When the trolley triggers setpoint #2 (ie. exit sensor) the WI-130 stops averaging, displays the average weight on the scale, and at that time the accept and reject output are turned on or off according to the values entered using the F1 key.

## SSCU-8 Remote Expanded I/O Configuration

This section is optional. It refers to using an Accept/Reject device control.  
Set SW1 1,2,& 3 to ON position.  
Install output OPTO 22 modules in J40, J41 on I/O expansion board.

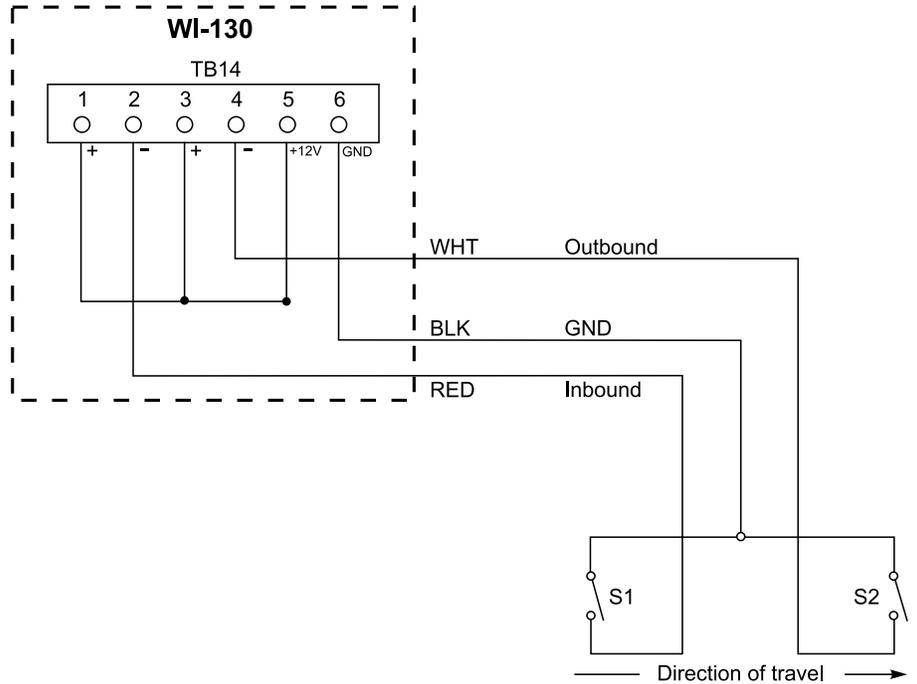
SIGNAL	I/O BRD	WI-130 MAIN BRD
SCL	TB35-1	TB5-1
SDA	TB35-2	TB5-2
IICINT	TB35-3	TB5-3
GND	TB35-4	TB5-4
+5V	TB35-5	TB5-5
RESET	TB35-6	TB5-6
SHIELD	TB35-7	TB5-7

## WI-130 Main Board I/O Configuration

Install input OPTO 22 modules in J22, J23 on WI-130 main board.

## Entrance and Exit Sensor Connections

*On earlier revision main boards you may use +5vdc from a serial connector instead of +12vdc.*

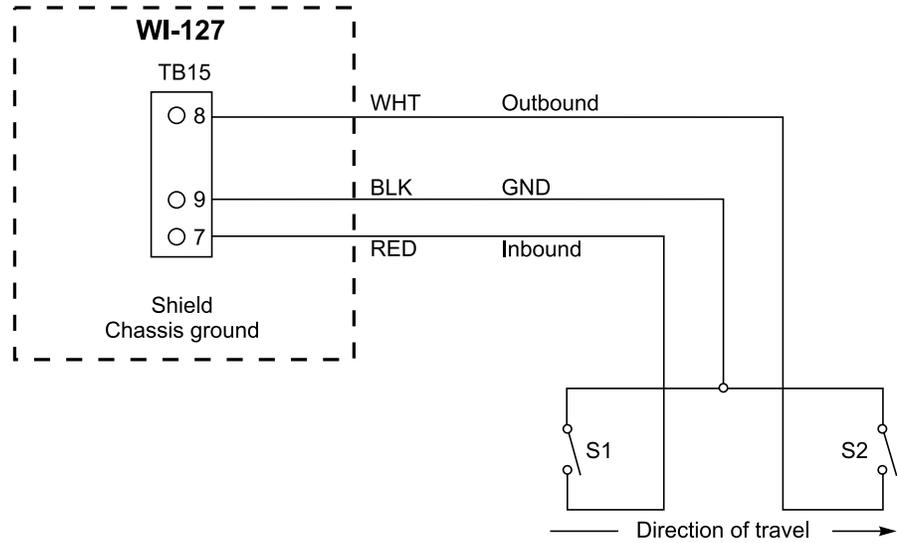


# Information for WI-127 User's

## WI-127 In-Motion wiring

The wiring information to connect a WI-127 indicator to a conveyor scale is shown below as is a sketch of the connection.

Wire Color	WI-127	Function
White	TB15-8	Set input (exit trigger)
Black	TB15-9	Logic Gnd
Red	TB15-7	Reset input (entrance trigger)
Shield		Chassis Shield

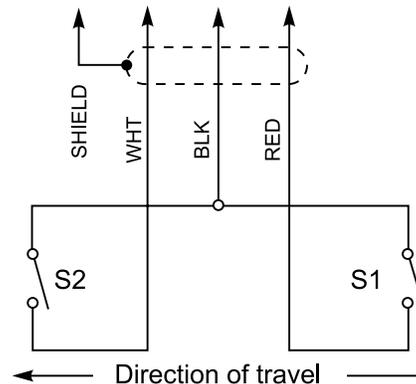


# Information for WI-110 and WI-120 User's

## In-Motion Print Switch Connections

Connection of the external print switch will disable any print request from the printer but the **DATA SEND** key on the weight indicator will remain active. The WI-110 must meet the following criteria for installation of an external serial print switch:

1. It must be equipped with software version V5.5 S8.0 or later.
2. It must be equipped with A-5 serial interface PC card, PN19496-0027, Revision E or later. R18 must be removed, the PC foil should be cut between U3 pin 10 and J3 pin 6. A jumper should be installed between J3 pin 6 and U7 pin 3.
3. In watertight enclosures, connect the print switches to TB201 on the A-15 Serial Interconnect PC card (PN19544-0011) as shown in Figure 3.
4. In desktop enclosures, adapter cable PN20336-0011, Revision A) should be used to provide connection points for the print switch. The interconnect cable wires connect to the same color wires on the adapter cable pigtail.



**Figure 3**

To connect an external print switch to a WI-110 indicator that is not equipped with software version V5.5 S8.0 or later, contact the Weigh-Tronix Service Department.

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