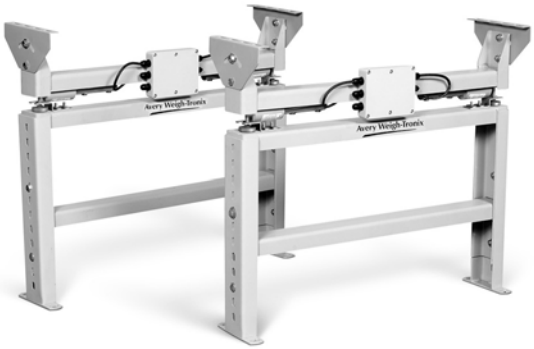
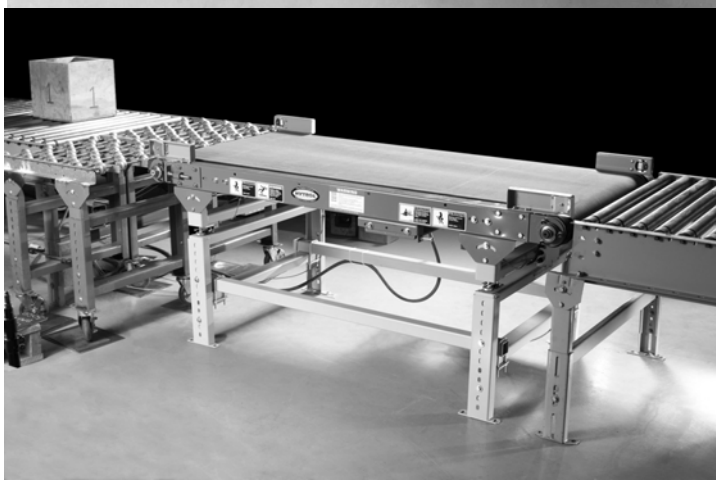
Avery Weigh-Tronix

Weigh Legs

Static and In-Motion Scales





Installation Instructions

NORTH AMERICA

29791-0010
Issue AD

Table of Contents

Manual revision history

Current Issue	Date Created	Details of Changes
AC	November 2014	Updated to Framemaker software. ZM305 information added.
AD	July 2018	Corrected PNs on page 7.

1 General information and warnings

1.1 About this manual

This manual is divided into chapters by the chapter number and the large text at the top of a page. Subsections are labeled as shown by the 1.1 and 1.1.1 headings. The names of the chapter and the next subsection level appear at the top of alternating pages of the manual to remind you of where you are in the manual. The manual name and page numbers appear at the bottom of the pages.

1.1.1 Text conventions

Key names are shown in **bold** and reflect the case of the key being described. This applies to hard keys and onscreen or soft keys.

Displayed messages appear in ***bold italic*** type and reflect the case of the displayed message.

1.1.2 Special messages

Examples of special messages you will see in this manual are defined below. The heading words have specific meanings to alert you to additional information or the relative level of hazard.

ELECTRICAL WARNING!
THIS IS AN ELECTRICAL WARNING SYMBOL.
ELECTRICAL WARNINGS MEAN THAT FAILURE TO FOLLOW SPECIFIC PRACTICES OR PROCEDURES MAY RESULT IN ELECTROCUTION, ARC BURNS, EXPLOSIONS OR OTHER HAZARDS THAT MAY CAUSE INJURY OR DEATH.

CAUTION!
This is a Caution symbol.
Cautions give information about procedures that, if not observed, could result in damage to equipment or corruption to and loss of data.

NOTE: This is a Note symbol. Notes give additional and important information, hints and tips that help you to use your product.

1.2 Routine maintenance

IMPORTANT: This equipment must be routinely checked for proper operation and calibration.
Application and usage will determine the frequency of calibration required for safe operation.

Always turn off the machine and isolate from the power supply before starting any routine maintenance to avoid the possibility of electric shock.

Make sure that it is placed securely on a flat and level surface.

1.3 Cleaning the machine

Table 1.1 Cleaning DOs and DON'Ts

DO	DO NOT
Wipe down the outside of standard products with a clean cloth, moistened with water and a small amount of mild detergent	Attempt to clean the inside of the machine
	Use harsh abrasives, solvents, scouring cleaners or alkaline cleaning solutions
Spray the cloth when using a proprietary cleaning fluid	Spray any liquid directly on to the display windows

1.4 Training

Do not attempt to operate or complete any procedure on a machine unless you have received the appropriate training or read the instruction books.

To avoid the risk of RSI (Repetitive Strain Injury), place the machine on a surface which is ergonomically satisfactory to the user. Take frequent breaks during prolonged usage.

2 Installation

2.1 Description

Weigh Legs turn any conveyor into a scale. Weigh Legs take the place of Hytrol Medium Duty Floor supports MS-6-30 or similar conveyor supports.

2.2 Installation

Installation of a set of Weigh Legs is similar to normal conveyor supports except for the following considerations.

1. The scale legs must be installed vertically.

   The legs can be anchored to a flat floor or shimmed and anchored to a non-flat floor. See Figure 2.1.

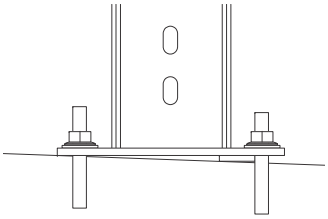


Figure 2.1 Shimming on non-level floor

   Stabilizer kits (5 foot 55416-0010 and ten foot 55416-0028) or cross bracing can be used on the sides between legs. See Figure 2.2.

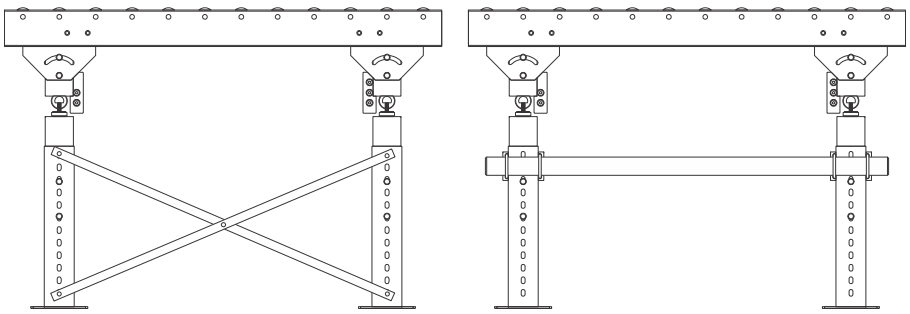


Figure 2.2 Bracing

2. The conveyor section supported by the Weigh Legs must be isolated from the adjoining conveyor sections. The adjoining sections must be supported by separate floor supports. A stable 1/8-inch minimum gap between adjoining conveyor sections and the scale section must be provided.

3. Remove the shipping hardware after the Weigh Legs are installed under the conveyor section.

   Adjust the Weigh Legs so the conveyor is level and the Weigh Legs are plumb. The conveyor height must be adjusted and fixed to the desired elevation.

   Shim the base plates, if required, and anchor the base plates to the floor. Bolt the conveyor support brackets securely to the conveyor and Weigh Legs.

   Remove the red alignment brackets by removing the long bolts clamping them between the lower scale leg and the upper scale leg and then carefully raise the conveyor straight up, if required, so that they can just be removed.

   This hardware can be stored for future use during servicing or equipment moving, by bolting the brackets to the lower channel they were originally attached to with a spacer plate. See Figure 2.3.

   If there is no room to store the hardware as suggested, store it in a safe place.

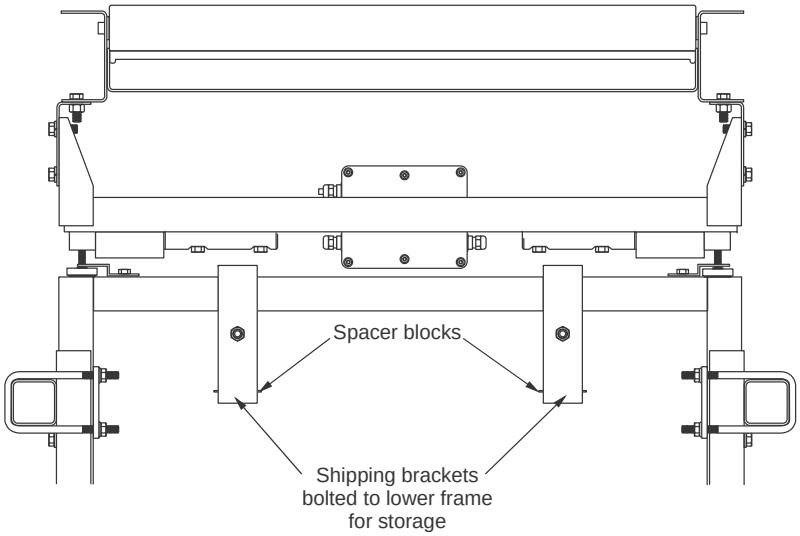


Figure 2.3 Shipping block storage

4. The J-box interconnect cable on one leg must be connected to the junction box on the other Weigh Leg. See Figure 2.4.

   Uncoil the cable on the scale leg that will not be connected to the scale indicator and attach it to the scale conveyor section using the cable ties and anchor pads.

   Be sure that the cable will not be damaged during conveyor function and will not touch anything not on the scale.

5. Connect the cable to the J-box that will provide output to the indicator and attach the excess coiled cabling, to the conveyor using the tie wraps and anchor pads.

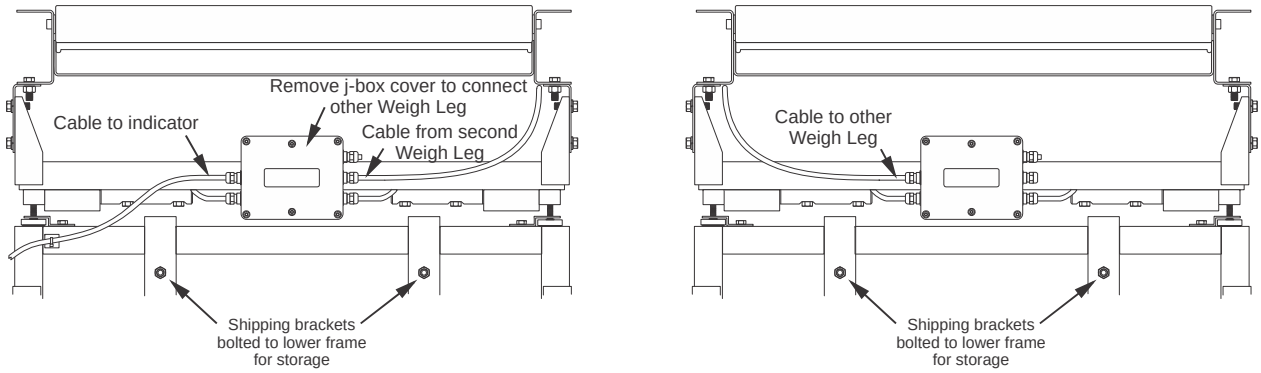


Figure 2.4 Cable routing

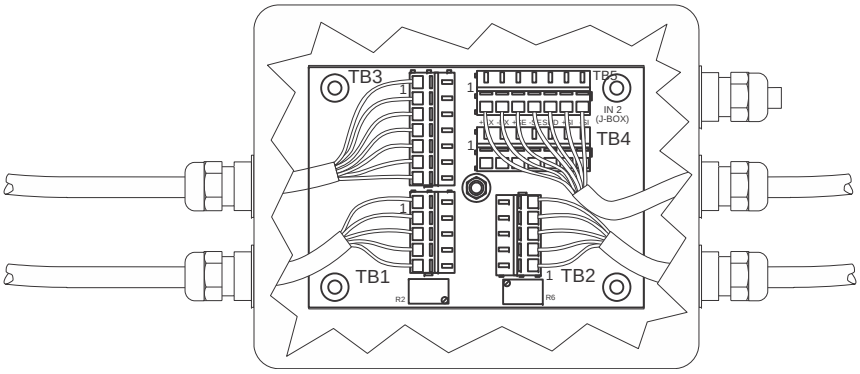


Figure 2.5 J-box

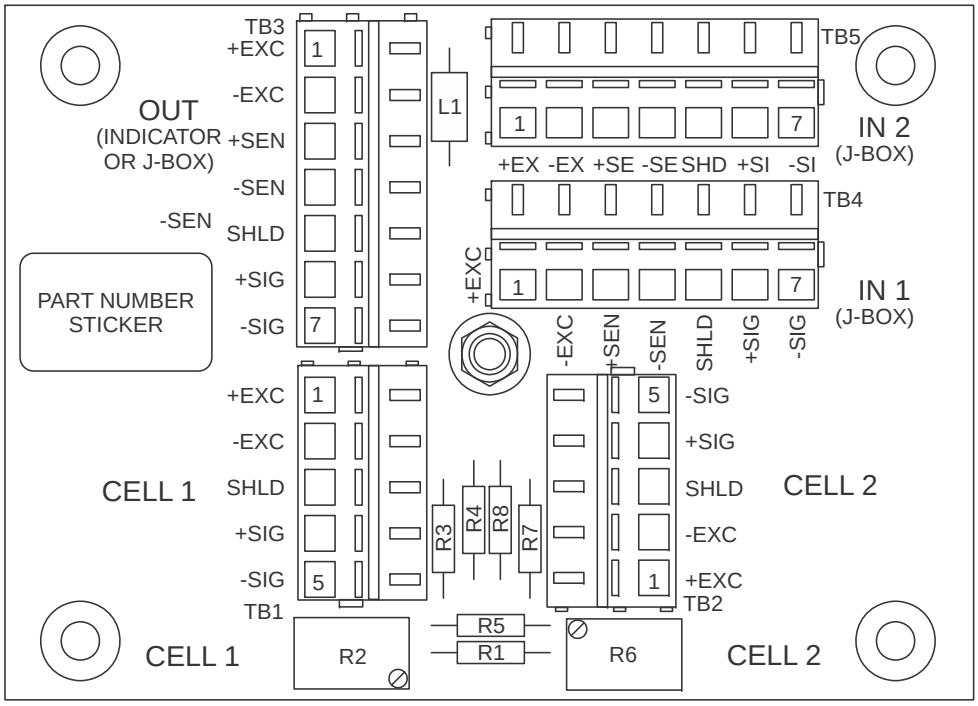
If a third Weigh Leg is required connect the wires similarly to TB4 (this terminal is not provided unless requested). J-box is shown in Figure 2.5.

6. The scale indicator should be installed near a Weigh Leg (center Weigh Leg when 3 are used), so that the interface cable will reach it.

Uncoil the scale interface cable and attach it so it has horizontal and vertical cable length between the scale and a ridged ground support without rubbing on anything between the scale attachment point and the ground attachment point.

Hold down bracket and cable routing

7. Connect the cable from the J-box with the unattached cable from Weigh Leg 1 (center one for 3 supports) to the indicator. See chart below:



Weigh-Tronix Cable Color Codes	
Cable End 1	Cable End 2
See indicator service manual	1st Weigh Leg (j-box) TB#3 (center set of 3 Weigh Legs)
2nd Weigh Leg (j-box) TB#3	1st Weigh Leg (j-box) TB#5
3rd Weigh Leg (j-box) TB#3	1st Weigh Leg (j-box) TB#4

All cables use the following color codes:	
+EXC (plus excitation)	Green
- EXC (minus excitation)	Black
+SEN (plus sense)	Yellow
-SEN (minus sense)	Blue
Shield (ground)	Drain wire or shielding (white/orange)
+SIG (plus signal)	White
-SIG (minus signal)	Red

8. Plug the indicator power cord into a standard separate and isolated 120 VAC outlet.

9. Test the scale with at least 10% of scale capacity weight near each side of each Weigh Leg.

   Readings should be the same. If they are not the same, check to be sure there is not anything interfering with the scale function. Look for rubbing or stiff cabling to ground.

   If the readings are not the same, see Corner Balance Instructions.

10. Calibrate the scale according to the indicator service manual. Use a minimum of 10% of capacity.

2.3 Corner Balancing Instructions

This scale uses a junction box (J-box) where the outputs of multiple Weigh Bars of matching capacities are added together. The J-box then sends a single capacity 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.

Figure 6 illustrates the type of J-box in the Weigh Legs. Each potentiometer affects one weight sensor. Balance the weight sensors by adjusting potentiometers in the J-Box, as follows:

1. Remove J-Box cover to access potentiometers.

2. Zero the indicator.

3. Use a test weight that does not exceed the capacity of one weight sensor, usually 1/4 scale capacity, and obtain a displayed weight value for the test weight applied to each weight sensor in the scale system, like this:

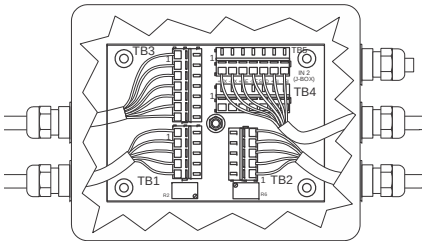


Figure 2.6 Weigh Bar J-box

3a. Place certified test weight directly above first weight sensor

3b. Record displayed weight value.

3c. Completely remove test weight and verify the display returns to zero before reloading above another weight sensor.

3d. Repeat Steps 3a through 3c for each weight sensor in scale system.

4. If displayed weight value for any weight sensor varies from the others by less than ±1 division, proceed now to appropriate manual with the calibration instructions for the indicator being used.

5. If displayed weight value for any weight sensor varies from the others by more than ±1 division, adjust J-Box potentiometers by turning them the number of 360° turns indicated by this formula:

$$\frac{\text{Certified Test Weight Value - Displayed Weight Value}}{\text{Certified Test Weight Value x .0028}} = \text{Number of Turns}$$

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

6. Repeat Steps 3a through 3c, checki ng all weight sensors with test weights, to make sure you have properly adjusted J-Box potentiometers.

   If displayed weight values for all weight sensors are equal, within ±1 scale division, proceed to appropriate manual with the calibration instructions for the indicator being used.

   If displayed weight value for any weight sensor varies from the others by more than ±1 scale division, then repeat Steps 3 through 5 until you achieve equal readings.

2.4 In-motion Scale Features

The scale component of Weigh Legs is suspended from four Weigh Bars. The Weigh Bar outputs feed into a junction box which in turn transmits weight data to the scale indicator by a 15 foot interface cable. The suspension of the assembly allows some movement, thus helping to absorb the adverse effects of knocks and jolts.

Because of the relatively high speed at which products travel across this scale, you should interface the unit with a printer or computer in order to collect data. Because of this, serial RS-232 output is required. Also, the motion detection capability should be disabled to ensure proper data transmission and printing.

The scale has two NEMA 4 photo electric eyes, one at each end of the scale. When the product to be weighed enters the scale, it breaks the beam of the first photocell which is then reconnected after the product passes by. From this time on, the indicator records a weight many times per second until the product breaks the beam of the second photo cell. Once the second beam is broken, the indicator averages the recorded weights and transmits this average to a printer or computer. This weight averaging technique results in much more accurate weighments. Weigh-Tronix scales are accurate to within ±.1% of scale capacity provided the entire item being weighed remains on the scale for at least one second.

2.5 Installation Recommendations for In-motion Systems

These recommendations will prevent problems which can affect weighing performance. They are not intended to replace or suggest that local or national electrical codes be ignored or deviated from.

2.5.1 Orientation

The conveyor belt must travel in the right direction for the conveyor scale to function properly. Be sure the belt moves towards the end where the electric motor is located. If not, the belt will be pushed rather than pulled which causes the belt to run less smoothly, noisier, and will reduce the weighing accuracy achievable by the conveyor scale system.

2.5.2 Height

The height of the conveyor should be adjusted such that the conveyor height is the same as the entrance conveyor and the exit conveyor. This should be done as accurately as possible to insure as smooth a transition as possible.

2.5.3 Motor Connections

The motor is part of the “live” part of the scale so the electrical connection to the motor can have a significant impact on the weighing performance. Avoid very short or very rigid connections.

A relatively long, horizontal run from the motor to the mechanical connection off of the live portion of the conveyor is recommended (such as from the motor to the side or end of the conveyor furthest from the motor connection.) If conduit is required it should be flexible or liquid tight flexible. Rigid conduit must not be used.

2.5.4 Photocell Programming

The photocells used on the conveyor scale have programming modules in them and the entrance photocell is programmed differently than the exit photocell. The entrance photocell is programmed to trigger only after the back edge of the item clears the entrance photocell. The exit photocell is programmed to trigger as soon as the front edge blocks it. See the section Photocell Programmable Modules for proper programming information. Typically, if they are not programmed properly the system will weigh properly when tested statically, but the weights will be light when weighing in motion. Photocell operation can be tested by blocking the entrance photocell and then clearing the photocell path. The indicator should not begin averaging (WI-127 will go to dashes) until after the photocell is cleared. The exit photocell should cause the indicator to display the averaged weight as soon as it is blocked.

2.5.5 Photocell synchronization

Whenever the indicator is first powered up or the entrance photocell has been triggered without the exit photocell being triggered, the system needs to be synchronized. This is done by momentarily blocking the exit photocell. If you don’t do this, the first item through will resynchronize the indicator, but that weight will not be averaged or transmitted.

2.6 Photocell Programmable Modules

The photocells contain programmable modules. Remove the back cover of the photocell case. The programming switches on the modules need to be positioned correctly for the photocells to function properly. See Figure 7 for programming switch positions. R1 and R2, as seen in Figure 7, are one-turn potentiometers. Turn them as labeled for proper function. (CCW means fully counterclockwise, 50% means turned halfway between the fully CCW and fully CW positions and 25% means turn fully CCW then back 25%.)

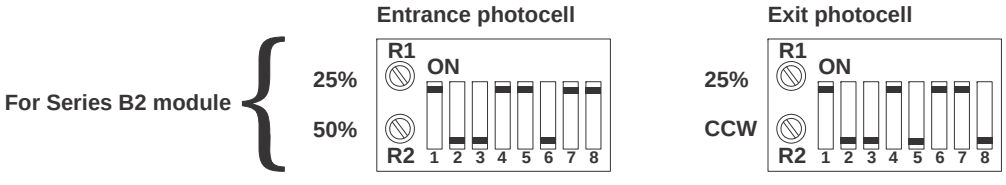


Figure 2.7 Photocell Module Programming

2.7 In-motion weighing

1. Install the optical sensors on the entrance and exit ends of the conveyor scale and attach the signal cable to the scale indicator. See the Appendices for indicator wiring information.
2. Attach the optical sensor labeled “ENTRANCE” and its reflector so that it will detect objects as they are loaded from the feed conveyor.
3. Attach the optical sensor labeled “EXIT” and its reflector so that it will detect objects as they leave the conveyor scale.
4. Align the sensor and the reflector directly across from each other near the conveyor scale ends.
5. Attach the sensor cable to the conveyor using the cable ties and anchors so they will not be damaged or interfere with the scale function. Coil excess cable and attach it to the conveyor.
6. Use the adhesive backed attachment devices and cable ties to attach the cables to the scale and the signal cable to the lower support.
7. Adjust the alignment of the reflectors and optical sensors so the red LED on each sensors is lit when there is nothing between them.
8. The scale is now ready to capture data.

2.8 Checking In-motion Scale Function

The conveyor scale should be checked for weighing accuracy after it is installed. Follow these procedures to check the weighing accuracy. DO NOT RUN THIS TEST WITH THE BELT RUNNING.

1. Power up the indicator and press ZERO …

   0s displayed on indicator.

2. Place a test weight not greater than 25% of scale capacity on a corner of the conveyor belt …

   Weight is displayed on the indicator. Check this for accuracy.

3. Repeat step two for all four corners …

   There are three possibilities:

   A. The four weight readings are identical and correct.
   B. The four weight readings are identical and incorrect.
   C. The four weight readings do not agree.

If A occurs, the scale is ready for use.

If B occurs, recalibrate the indicator following the instructions in the indicator service manual.

If C occurs, proceed to Corner Balancing Instructions, then repeat this test.

2.9 Operating the In-motion Conveyor Scale

1. Power up the conveyor scale …

   Make sure all portions of the system are working properly, especially the two sensors.

2. Power up the indicator and press ZERO …

   0s displayed on indicator.

3. Start the conveyors leading to and from the scale …

   Material should move toward the scale.

4. Material passes entry photocell …

   Dashes are displayed while weighing is in process.

5. Material breaks beam of exit photocell …

   Weight is displayed and transmitted to a peripheral device.

2.10 Optional Photo Sensor Kit (PN 55394-0016) for In-Motion Scale Common Replacement Parts List

Optional Photo Sensor Kit (PN 55394-0016) includes all mounting hardware, one entrance photo-eye kit (PN 55345-0016) and one exit photo-eye kit (PN 55345-0024). These photo-eye kits are pre-wired replacement parts listed below are not.

The following is a list of common service replacement parts:

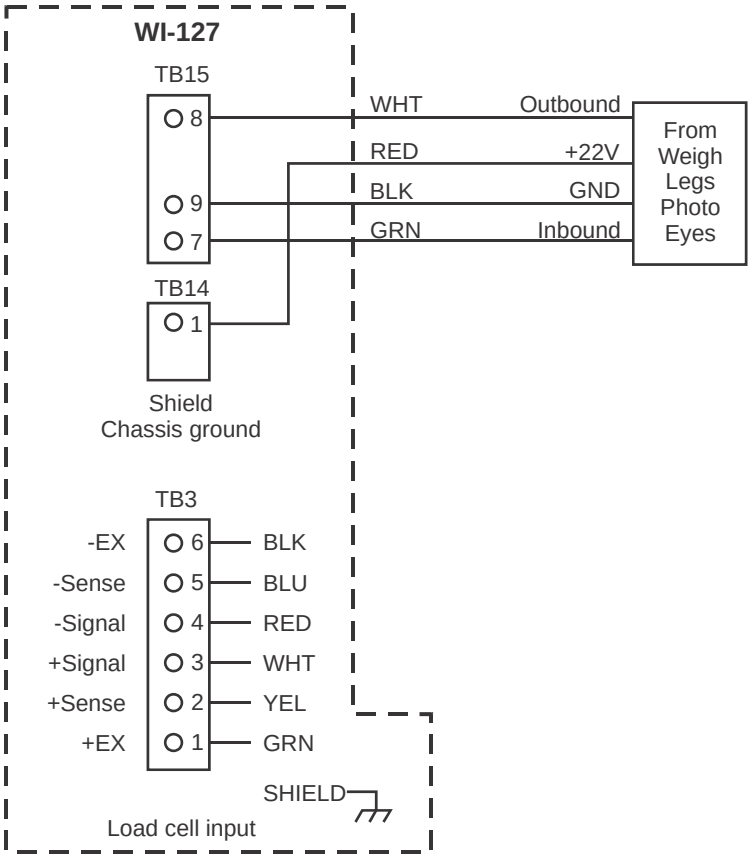
J-box assembly	55306-0013
J-box (board only)	55279-0016
Interface cable for J-boxes/Indicator (15' – 6 conductor w/shield)	55344-0017
250/500 LB Capacity Systems 250 LB Weigh Bar 3.25' cable	53905-1011
1000 LB Capacity Systems 500 LB Weigh Bar 3.25' cable	53906-1010
SST Foot for Weigh Bar	45991-0048
Cable for Indicator to Photo-eyes	55347-0014
Photo-eye Reflector	22406-0020
Photo-eye (requires 1 of each module)	22406-0012
Photo-eye one shot module	22406-0038
Photo-eye transistor output module	22406-0046

One of each bold item is required to complete the photo eye assembly.

3 WI-127 Information

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

Photocell J-box	Wire Color	WI-127	Function
TB1-2	White	TB15-8	Set input (exit trigger)
TB1-3	Red	TB14-1	+22 VDC Power
TB1-4	Black	TB15-9	Logic Gnd
TB1-5	Green	TB15-7	Reset input (entrance trigger) Chassis Shield
	Shield		



4 WI-130 and WPI-135 Information

4.1 Operation

Your application may differ from the example given here.

When setpoint #1 (ie. entrance photocell) is triggered by the trailing edge of the container, the WI-130/WPI-135 begins averaging and turns off both accept and reject outputs.

When the leading edge of the container triggers setpoint #2 (ie. exit photocell) the WI-130/WPI-135 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.

Setpoints		
	Internal	External
Start Averaging Input	Setpoint #1	Setpoint #9
Stop Averaging Input	Setpoint #2	Setpoint #10
Accept Device	N/A	Setpoint # 13
Reject Device	N/A	Setpoint # 14
Over Device	N/A	Setpoint # 15
Under Device	N/A	Setpoint # 16

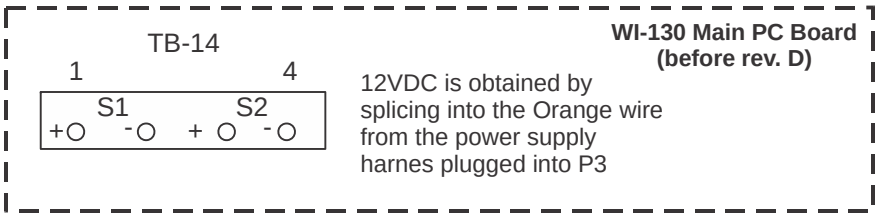
4.2 WI-130 Internal I/O Configuration

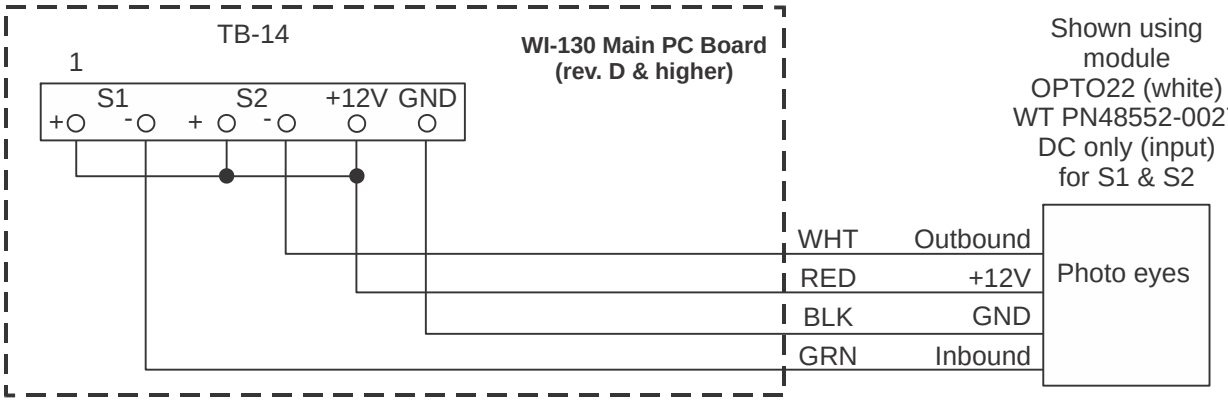
Install input OPTO 22 modules in J22, J23 on WI-130 main board.

See also INT_INMO.CFG and INT_INMO.DOC in the WT/130 folder on the hard drive of your computer.

This example is based upon the WI-130 application file INT_INMO.CFG. Your wiring may be different.

Refer to the document INT_INMO.DOC for more information. This file is in your WT/130 folder on the hardrive of your computer.





Photocell Signal Connections	WI-130 MAIN BOARD	
	Before Rev. D	Rev. D and higher
Entrance cell "+"(RED) to S1+	TB14-1	TB14-1
Exit cell "+" (RED) to S2+	TB14-3	TB14-3
(NOTE: Tie S1+ and S2+ to +12VDC supply)	+12VDC supply Orange wire from power supply P3 harness	TB14-5 +12VDC supply
Entrance cell "-" (BLK) Exit cell "-" (BLK)	TB5-6 GND	TB14-6 GND
Entrance cell "SINK" to S1- (GRN)	TB14-2	TB14-2
Entrance cell "SINK" to S2- (WHT)	TB14-4	TB14-4

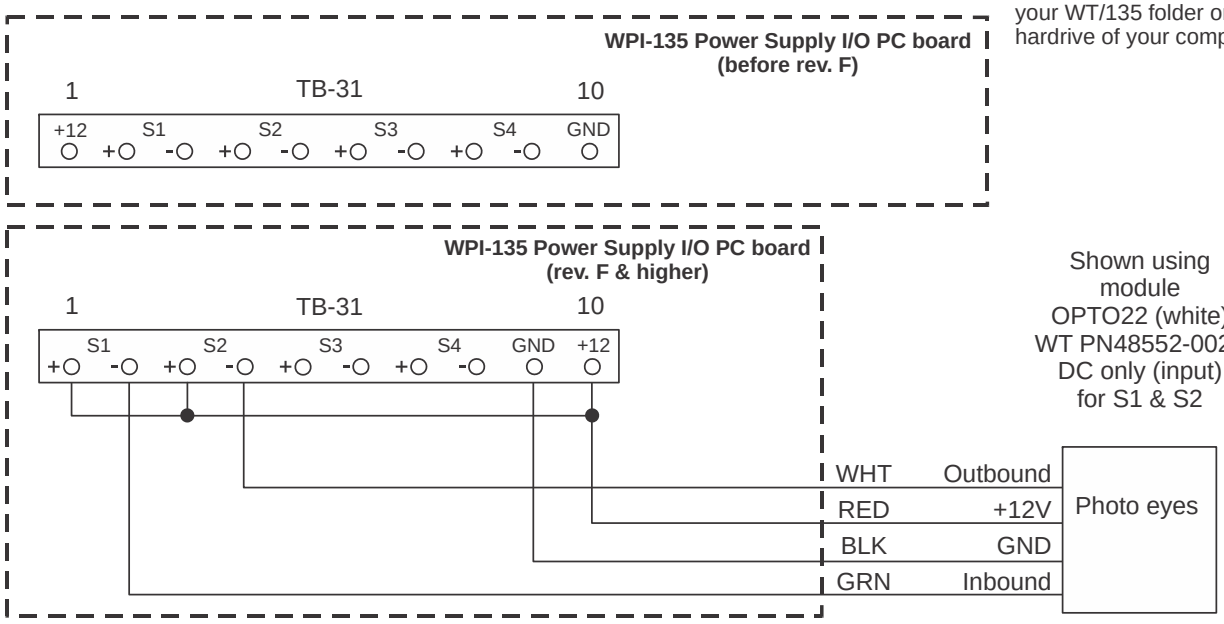
4.3 WPI-135 Internal I/O Configuration

Install OPTO 22 modules in J32 and 33 on WPI-135 Power Supply I/O Board.

See also INT_INMO.135 and INT_INMO.DOC in the WT/135 folder on the hard drive of your computer.

This example is based upon the WPI-135 application file INT_INMO.135.
Your wiring may be different.

Refer to the document INT_INMO.DOC for more information. This file is in your WT/135 folder on the hardrive of your computer.



Photocell Signal Connections	WPI-135 Power Supply Card	
	Before Rev. F	Rev. F and higher
Entrance cell "+"(RED) to S1+	TB31-2	TB31-1
Exit cell "+" (RED) to S2+	TB31-4	TB31-3
Power to OPTO-22s	TB31-1 TB31-2 TB31-4	TB31-1 TB31-3 TB31-10
Entrance cell "-" (BLK) Exit cell "-" (BLK)	TB31-10 GND	TB31-9 GND
Entrance cell "SINK" to S1- (GRN)	TB31-3	TB31-2
Entrance cell "SINK" to S2- (WHT)	TB31-6	TB31-4

4.4 WI-130 SSCU-8 Remote Expanded I/O Configuration

Set SW1 1,2,& 3 to ON position.

Install output OPTO 22 modules in J40, J41 on I/O expansion board.

See also EXT_INMO.CFG and EXT_INMO.DOC in the WT/130 folder on the hard drive of your computer.

4.5 WI-135 SSCU-8 Remote Expanded I/O Configuration

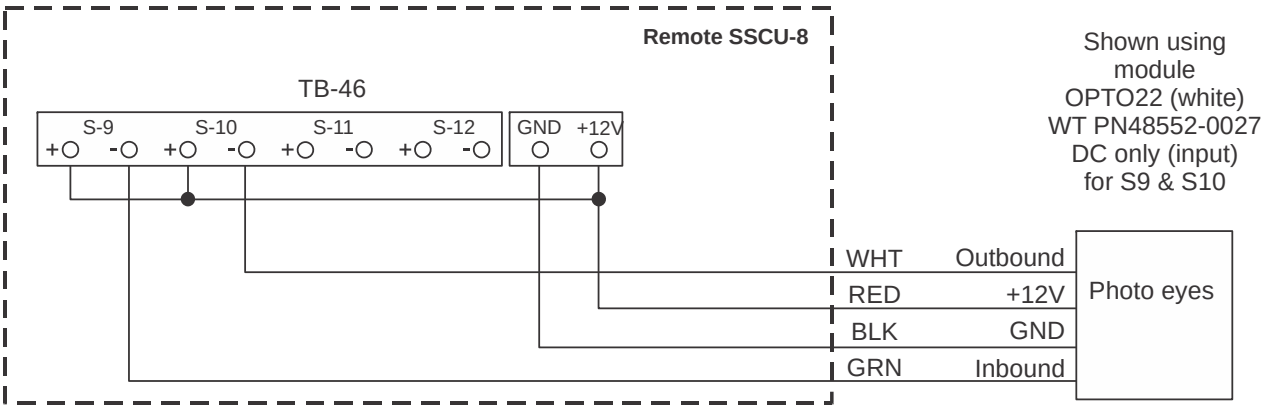
Set SW1-1,2,& 3 to ON position.

Install OPTO 22 modules on I/O expansion board.

See also EXT_INMO.135 and EXT_INMO.DOC in the WT/135 folder on the hard drive of your computer.

External wiring for product detection switches or photo eyes

This example is based upon either application file: EXT_INMO.CFG or EXT_INMO.135.
Your wiring may be different.



Refer to the document EXT_INMO.DOC for more information.
The .CFG file is in your WT/130 folder on the hardrive of your computer.

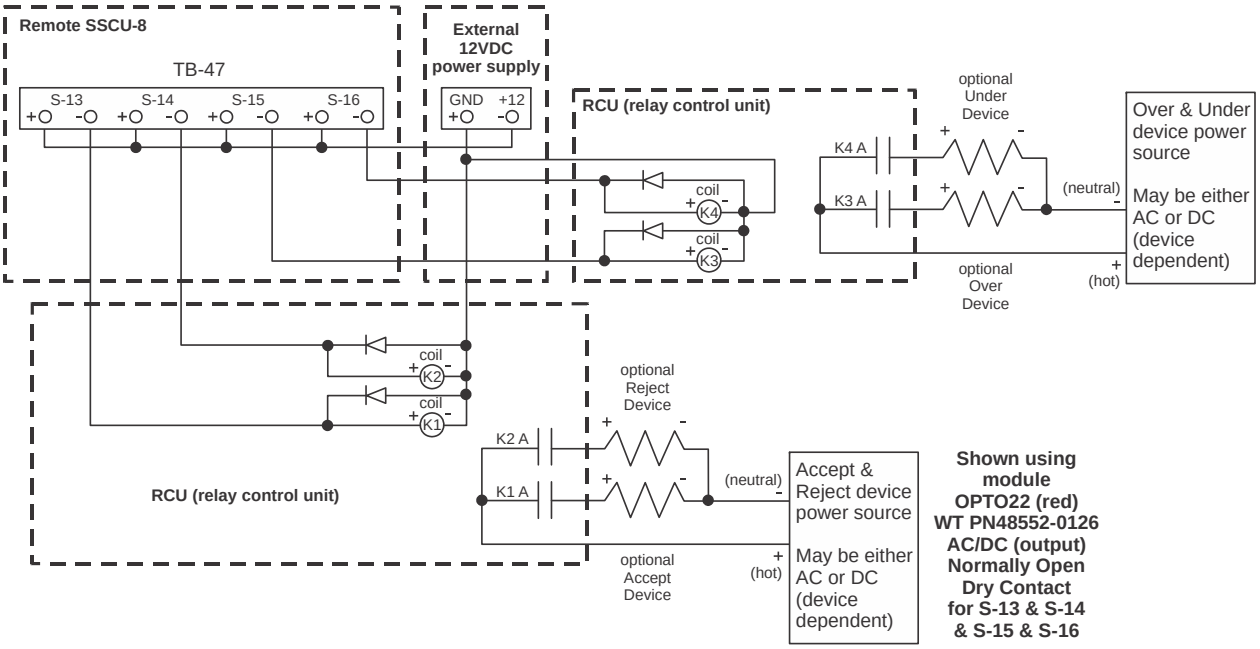
The .135 file is in your WT/135 folder on the hardrive of your computer.

External wiring for product detection switches or photo eyes

This example is based upon either application file: EXT_INMO.CFG or EXT_INMO.135.
Your wiring may be different.

Refer to the document EXT_INMO.DOC for more information.
The .CFG file is in your WT/130 folder on the hardrive of your computer.

The .135 file is in your WT/135 folder on the hardrive of your computer.



4.6 Remote SSCU-8 Connections for the WI-130 and WPI-135

Photocell Signal Connections	
Entrance cell "+" to S9+ (RED)	TB46-1
Exit cell "+" to S10+ (RED)	TB46-3
NOTE: Tie S9+ and S10+ to +12VDC supply	Externally provided +12VDC supply
Entrance cell "-"" (BLK) Exit cell "-" (BLK)"	GND
Entrance cell "SINK" to S9- (GRN)"	TB46-2
Exit cell "SINK" to S10- (WHT)"	TB46-4

Optional Wiring for Accept/Reject Devices	
Accept Device (+) side 12VDC relay coil to S-13	TB47-2
Reject Device (+) side 12VDC relay coil to S-14	TB47-4
Accept/Reject Devices (-) side of both 12VDC relay coils	GND
Externally provided +12VDC supply	TB47-1 TB47-3

Optional Wiring for Under/Over Devices	
Over Device (+) side 12VDC relay coil to S-15	TB47-6
Under Device (+) side 12VDC relay coil to S-16	TB47-8
Over/Under Devices (-) side of both 12VDC relay coils	GND
Externally provided +12VDC supply	TB47-5 TB47-7

4.7 WI-130 and WPI-135 To I/O Expansion Board Cable Connections

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

5 Model 1310 Information

5.1 Setpoints

One setpoint is for the start averaging input

One setpoint is for the stop averaging input

One setpoint is for the accept output

One setpoint is for the reject output

In the INMO5.310 program the setpoints are as follows:
Setpoint #1 - Accept output
Setpoint #2 - Reject output
Sepoint #3 - Start Ave. input
Setpoint #4 - Stop Ave. input

5.2 8587A Photocell I/0 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.

One setpoint is used for the minimum acceptable value.

One setpoint is used for the maximum acceptable value.

The F1 key is used to set the min and max values.

5.3 Operation

When setpoint (ie. entrance photocell) is triggered by the trailing edge of the container, the Model 1310 begins averaging and turns off both accept and reject outputs.

When the leading edge of the container triggers setpoint (ie. exit photocell) the Model 1310 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.

5.4 Model 1310 Power Supply Board I/O Configuration

Install input OPTO 22 modules on Model 1310 power supply board.

5.5 SSCU-8 Remote Expanded I/O Configuration

Set SW1 1,2,& 3 to ON position.

Install output OPTO 22 modules on I/O expansion board.

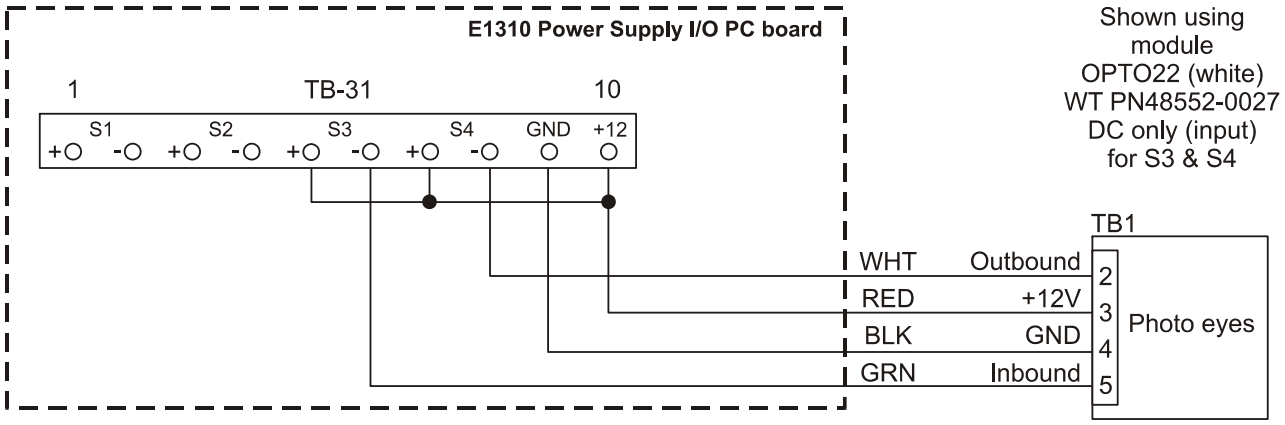
5.6 Model 1310 To I/O Expansion Board Cable Connections

Signal	I/O Board	1310 Power Supply Bd.
SCL	TB35-1	TB30-1
SDA	TB35-2	TB30-2
IICINT	TB35-3	TB30-3
GND	TB35-4	TB30-4
+5V	TB35-5	TB30-5
RESET	TB35-6	TB30-6
SHIELD	TB35-7	TB30-7

5.7 E1310 Photocell / Internal I/O Connections

Install the OPTO 22 modules in J34 and 35 on the E1310 Power Supply I/O Board.

This example is based upon the E1310 application file INMO5.310.
Your wiring may be different.



Wiring when using the ZM OPTO

See wiring tables on the next page.

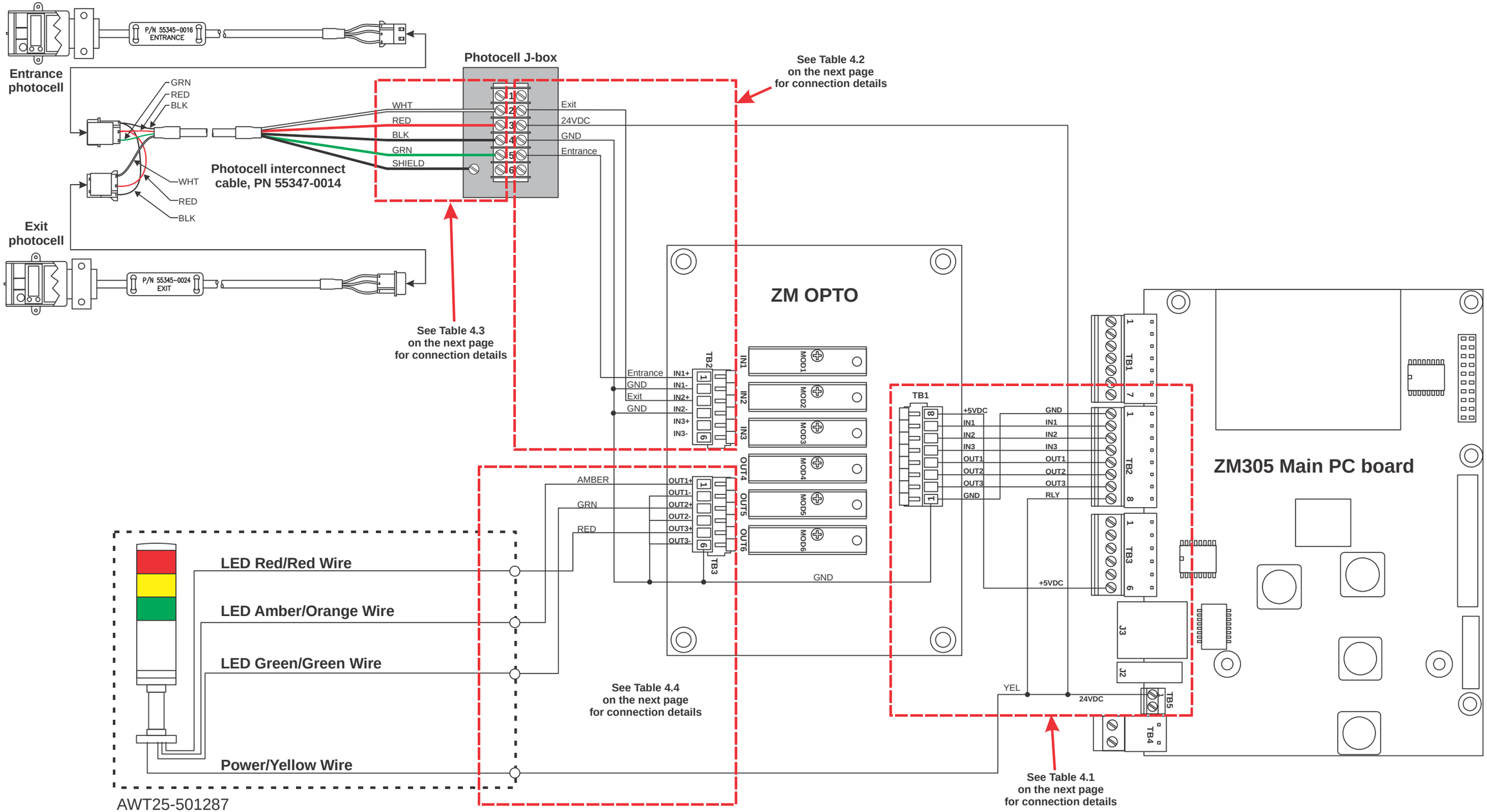


Table 4.1 ZM305 to ZM OPTO connections

Origin: ZM305 Main PCB	Destination: ZM OPTO Board
Termination	Termination / Function
TB2-1	TB1-1 / GND
TB2-2	TB1-7 / IN1
TB2-3	TB1-6 / IN2
TB2-4	TB1-5 / IN3
TB2-5	TB1-4 / OUT1
TB2-6	TB1-3 / OUT2
TB2-7	TB1-2 / OUT3
TB3-6	TB1-8 / +5VDC
TB2-8 on ZM305 Main PCB	TB5-1 on ZM305 Main PCB

Table 4.2 ZM OPTO to Weigh Leg junction box connections

Origin: ZM OPTO	Destination: Photocell J-box
Termination / Label	Termination / Function
	6 / not used
TB2-1 / IN1+	5 / Entrance photocell
TB2-2 / IN1- and TB2-4 IN2-	4 / GND
TB2-3 / IN2+	2 / Exit photocell
TB5-1 on ZM indicator	3 / 24VDC
	1 / not used

Table 4.3 Weigh Leg junction box to photocell cable connections

Origin: Photocell J-box	Destination: Photocell cable
Termination / Function	Color
1 / Not used	--
2 / Exit photocell	WHT
3 / 24VDC	RED
4 / GND	BLK
5 / Entrance photocell	GRN
6 / Not used	--
Grounding screw	SHIELD

Table 4.4 ZM OPTO and ZM305 main PCB connections to light stack

Origin		Destination: Light stack	
Item	Termination	Item	Wire color
ZM-Opto	TB3-1	Amber LED	AMBER (Under)
ZM-Opto	TB3-2	Green LED	GREEN (Accept)
ZM-Opto	TB3-3	Red LED	RED (Over)
ZM305 main PCB	TB2-8	Power	YEL

Wiring without the ZM OPTO

See wiring tables on the next page.

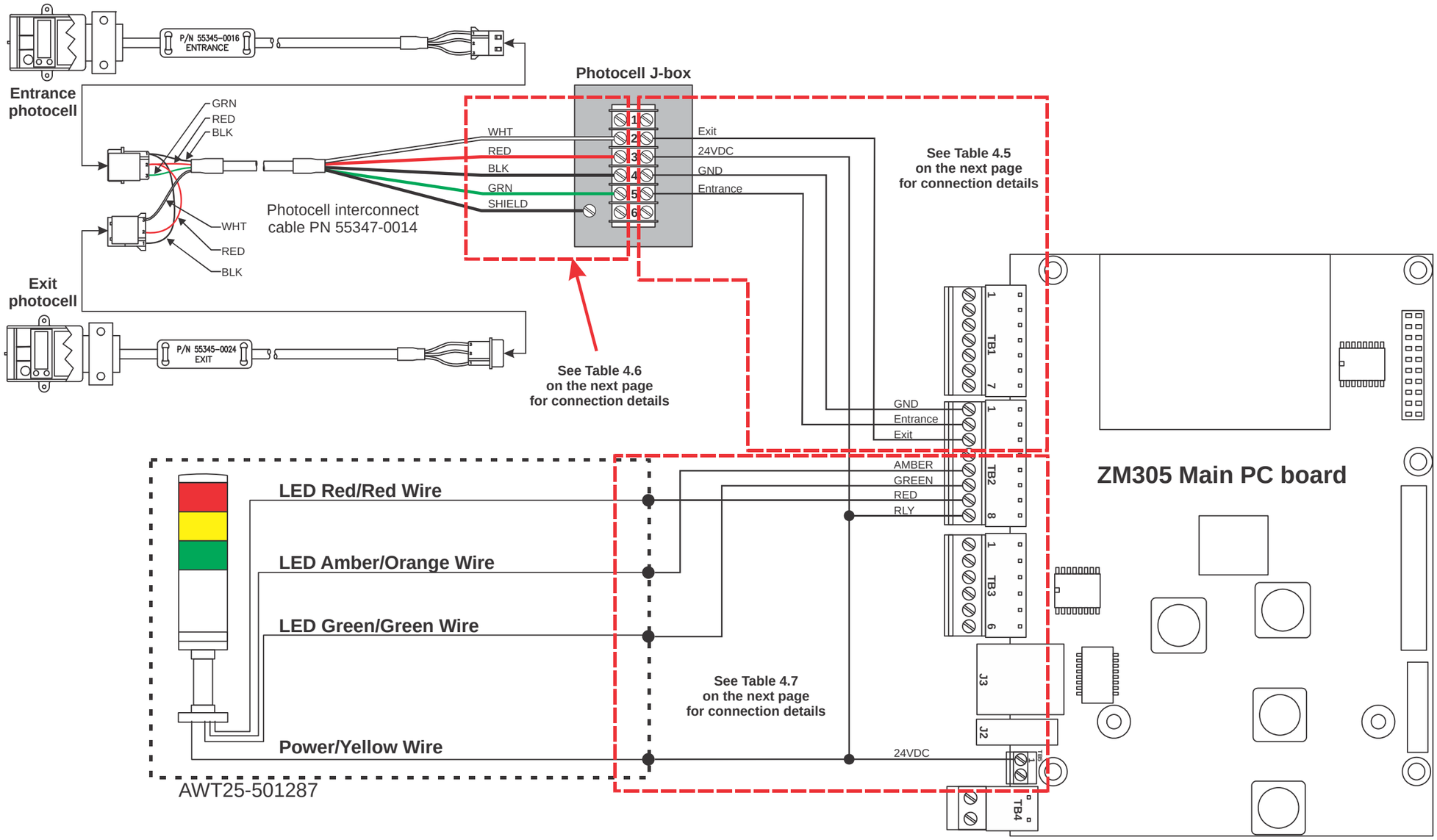


Table 4.5 ZM305 to photocell j-box connections

Origin: ZM305 Main PCB	Destination: Photocell J-box
Termination	Termination / Function
TB2-1	4 / GND
TB2-2	5 / Entrance photocell
TB2-3	2 / Exit photocell
TB2-8 / TB5-1	3 / 24VDC

Table 4.6 Weigh Leg junction box to photocell cable connections

Origin: Photocell J-box	Destination: Photocell cable
Termination / Function	Color
1 / Not used	--
2 / Exit photocell	WHT
3 / 24VDC	RED
4 / GND	BLK
5 / Entrance photocell	GRN
6 / Not used	--
Grounding screw	SHIELD

Table 4.7 ZM305 main PCB connections to light stack

Origin: ZM305	Destination: Light stack	
Termination	Item	Wire color
TB2-5	Amber LED	AMBER (Under)
TB2-6	Green LED	GREEN (Accept)
TB2-7	Red LED	RED (Over)
TB2-8 / TB5-1	24VDC	YEL

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