WEIGH-TRONIX

WI-150 Ultra Low-Power Weight Indicator Installation Manual

All Weigh-Tronix products bearing the Factory Mutual seal are designed and manufactured according to the guidelines set forth by Factory Mutual Research. It is the responsibility of the owners to gain approval from their insurance companies for the suitability of the Weigh-Tronix equipment and installation for their particular environment and use of the product.

Weigh-Tronix warrants that the equipment delivered by it will be of the kind and quality described in the order or contract and will be free of defects in workmanship and material. Should any failure to conform to this warranty appear in two years, Weigh-Tronix shall, at its option, either repair or replace any defective part.

This warranty is in lieu of all warranties of merchantibility, fitness for particular purpose, or any other warranties, express or implied. Weigh-Tronix shall not be liable for special, indirect, incidental, or consequential damages. The remedies set forth above are exclusive, and the liability of Weigh-Tronix shall not exceed the price of the equipment or part.

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Table of Contents

Introduction 5

Factory Mutual Approval 5

Setting up the WI-150 5

Connecting the Load Cell 6

Connecting to a Power Source 7

- BP-150 Battery Pack/BC-150 Battery Charger 7
- PS-150 Power Source with Barrier 8
- PS-150XP Power Source 10

Fiber Optic Interfacing 12

- Preparing Bulk Fiber Optic Cables 12
- Installing Weigh-Tronix Fiber Optic Cable Assemblies 13
  - To remove the existing hub from the indicator enclosure . 13
  - To install a fiber optic cable assembly 14
- Fiber-Link Single Fiber Optic Converters 14
- SC-150 Serial Control Unit 19

Appendix - Dimensional Drawings 24

Pages are numbered consecutively beginning with the cover page.

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Introduction

This installation manual provides instructions for the installation of the Model WI-150 Ultra Low-Power indicator in Class I, Divisions I and II, Groups A, B, C, and D; Class II, Divisions I and II, Groups E, F, and G; and Class III, Divisions I and II hazardous locations.

Installation of the WI-150 and its components must be in compliance with the National Electrical Code and ISA-RP 12.6 Recommended Practice for Installation of Intrinsically Safe Systems for Hazardous (Classified) Locations. The technician should be thoroughly familiar with the requirements and techniques involved and must be prepared to follow all steps fully and completely.

This manual is divided into the following sections:

Introduction
Factory Mutual Approval
Setting Up the WI-150
Connecting the Load Cell
Connecting to a Power Source
- BP-150 Battery Pack/BC-150 Battery Charger
- PS-150 Power Source with Barrier
- PS-150XP Explosion Proof Power Source

Fiber Optic Interfacing
- Preparing Bulk Fiber Optic Cables
- Installing Weigh-Tronix Fiber Optic Cable Assemblies
- Fiber-Link Single Fiber Optic Converters
- SC-150 Serial and Control Unit

Factory Mutual Approval

Factory Mutual approval is based on information contained in a Control Document which specifically identifies the components for approved installation. Refer to the Control Document (part number 29538-0018) for listings of all Weigh-Tronix manufactured components which are Factory Mutual approved.

Setting up the WI-150

Depending on the hazardous location in which your WI-150 will be operating, certain safety precautions and installation procedures must be followed when setting up the indicator.

1. In Class I, Division 1 locations: The WI-150 may be installed, the housing may be opened, and the DIP switches inside the indicator may be set for configuration directly in the hazardous environment.

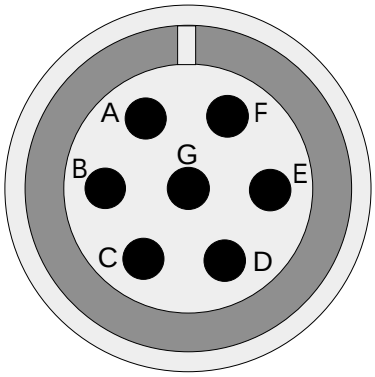
2. In Class II or III, Division 1 locations: The WI-150 must first be set up and configured in a nonhazardous or Class I, Division 1 location before

being installed in the hazardous environment. The indicator housing **may not** be opened within Class II or III, Division 1 hazardous environments!

Connecting the Load Cell

Connect the weighing platform cable to the 7 pin interface connector located on the bottom of the WI-150 indicator according to the following pin assignments:

Pin	Weigh-Tronix WeighBar Wire Color	Signal Name
B	Green	(+) Excitation
D	Black	(-) Excitation
F	Yellow	(+) Sense
E	Blue	(-) Sense
C	White	(+) Signal
A	Red	(-) Signal
G	White/Orange	Shield

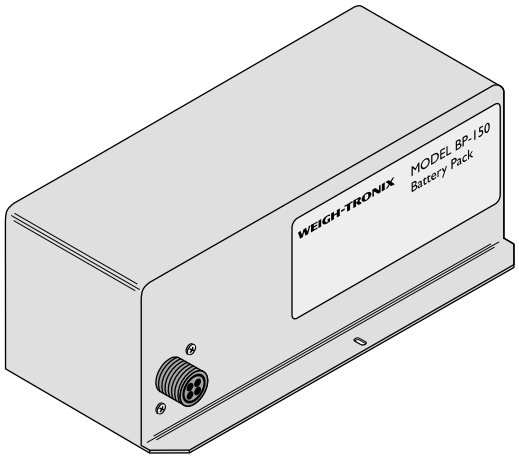


Only weight sensors and junction boxes listed in the Control Documents may be used for Factory Mutual approved installation.

Connecting to a Power Source

BP-150 Battery Pack/ BC-150 Battery Charger

The WI-150 indicator may be powered by an intrinsically safe, rechargeable battery pack, the BP-150. This battery pack, shown below, provides a nominal 8 volt output.



BP-150 Battery Pack

The battery life of the BP-150 depends on many factors. The life is a function of:

- the battery size
- the number of Weigh Bars
- the total time the scale is active versus asleep
- whether or not the WI-150 is connected to an SC-150.

(See Appendix A of the *User's Manual* for battery life charts.)

The WI-150 indicator has a low battery annunciator which is illuminated when the battery is getting low. The BP-150 should be removed from the indicator and recharged within 24 hours after the annunciator is illuminated.

To remove the BP-150 from the indicator, simply disconnect the power cable from the 4 pin connector at the bottom of the indicator or on the battery (PN 28980-0021). The BP-150 may be disconnected from the WI-150 in the hazardous area. However, the BP-150 **may not** be recharged in the hazardous area.

BC-150 Battery Charger

WARNING
DO NOT use the BC-150 in the hazardous area. The battery pack must be recharged in a safe area.

The BC-150 Battery Charger is used to recharge the BP-150. The BC-150 is designed to operate in a safe area and recharge the 8 volt battery pack by using a remote voltage sensing line.

To monitor the recharging of the battery pack, an annunciator on the BC-150 remains steadily lit as the battery is being charged. The annunciator then begins blinking as the battery nears its full charge, and finally, the annunciator turns off when the battery pack is fully charged and ready to be reconnected to the WI-150. With this charger the battery pack cannot be overcharged, yet at the same time the battery is quickly recharged and can be left "on charge" indefinitely.

The average recharge time for a 90% discharged battery is 14 hours.

PS-150 Power Source with Barrier

The WI-150 may be powered by a 115/230 VAC power supply with barrier. If your WI-150 indicator is powered by the PS-150 Power Source with Barrier, certain safety precautions must be observed in order to maintain FM approval. See Figure 1 below:

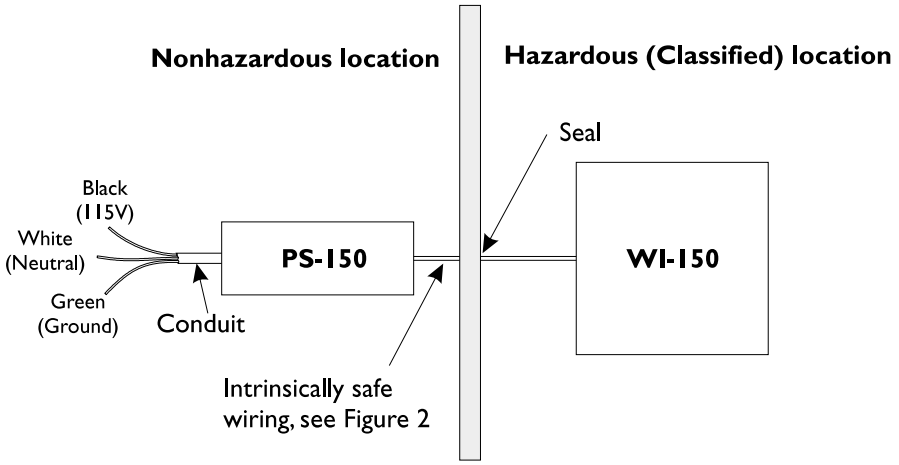


Figure 1
Power source with barrier

1. The PS-150 must be located in a nonhazardous location.
2. The wiring connecting the PS-150 to the indicator is intrinsically safe and is identified as such either by color coding the wire light blue or, if other wiring is also light blue, by properly identifying the cables with clearly visible signs or tags. The means of identification must be visible after installation. Refer to Section 4.1.7 of the ISA-RP 12.6 for further information.
3. The maximum cable length from the PS-150 to the indicator is 900 feet.
4. The intrinsically safe wiring must be passed through a sealed opening in the wall between the hazardous area and the nonhazardous area. Refer to Appendix A of ISA-RP 12.6.
5. The PS-150 must include an insulated intrinsic safety ground wire. Depending on which version of the PS-150 you have, see Figures 2 & 3 on the following page for proper hookup of the 115/230 volt AC current to the PS-150. Refer to Article 250 of the NEC for further information.

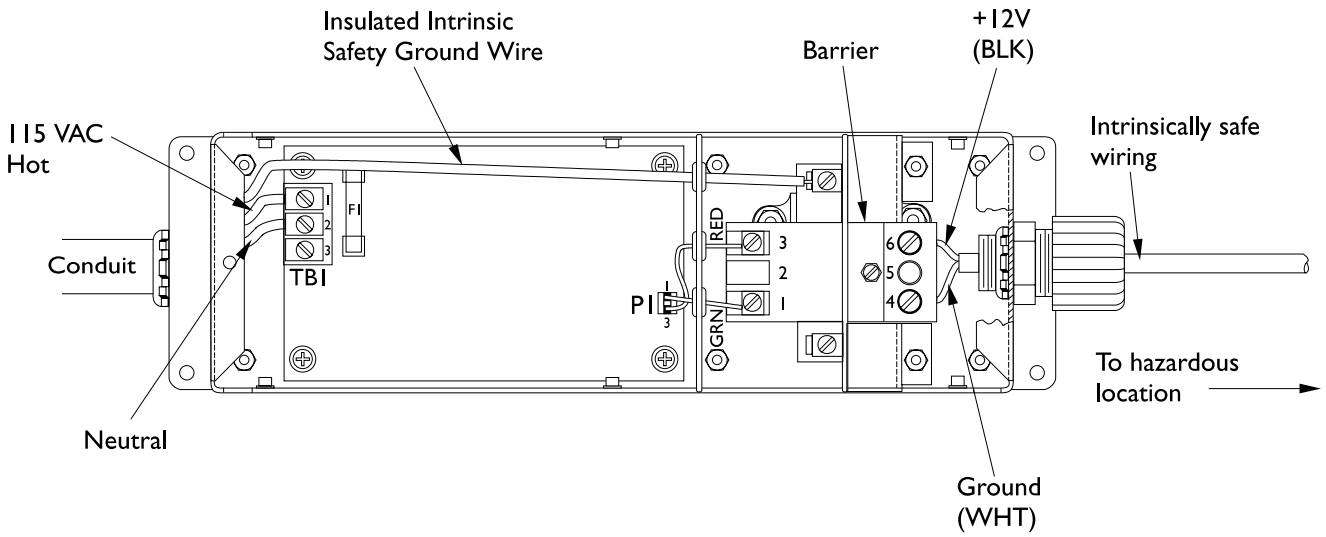


Figure 2
PS-150 with 12 - 350 ohm weight sensors supported

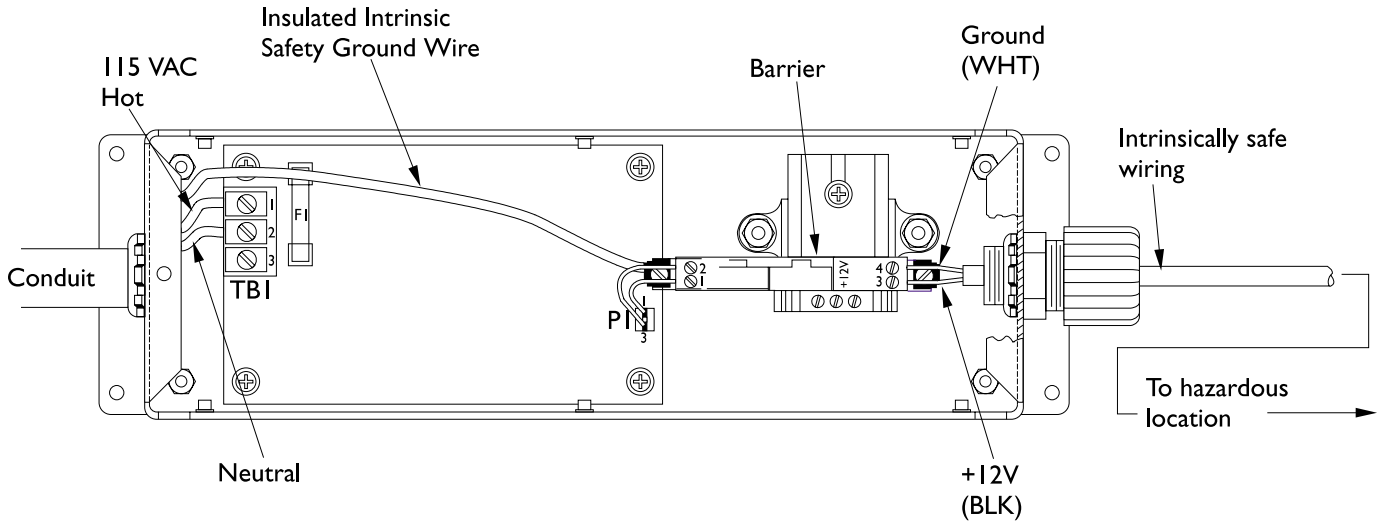


Figure 3
PS-150 with 8 - 350 ohm weight sensors supported
(This barrier has a replaceable fuse.)

PS-150XP Power Source

The PS-150XP power source is an intrinsically safe power source that can be placed in the following hazardous locations:

- Class I, II, III
- Division I
- Groups B, C, D, E, F, G

Figure 4 shows a block diagram of a sample installation.

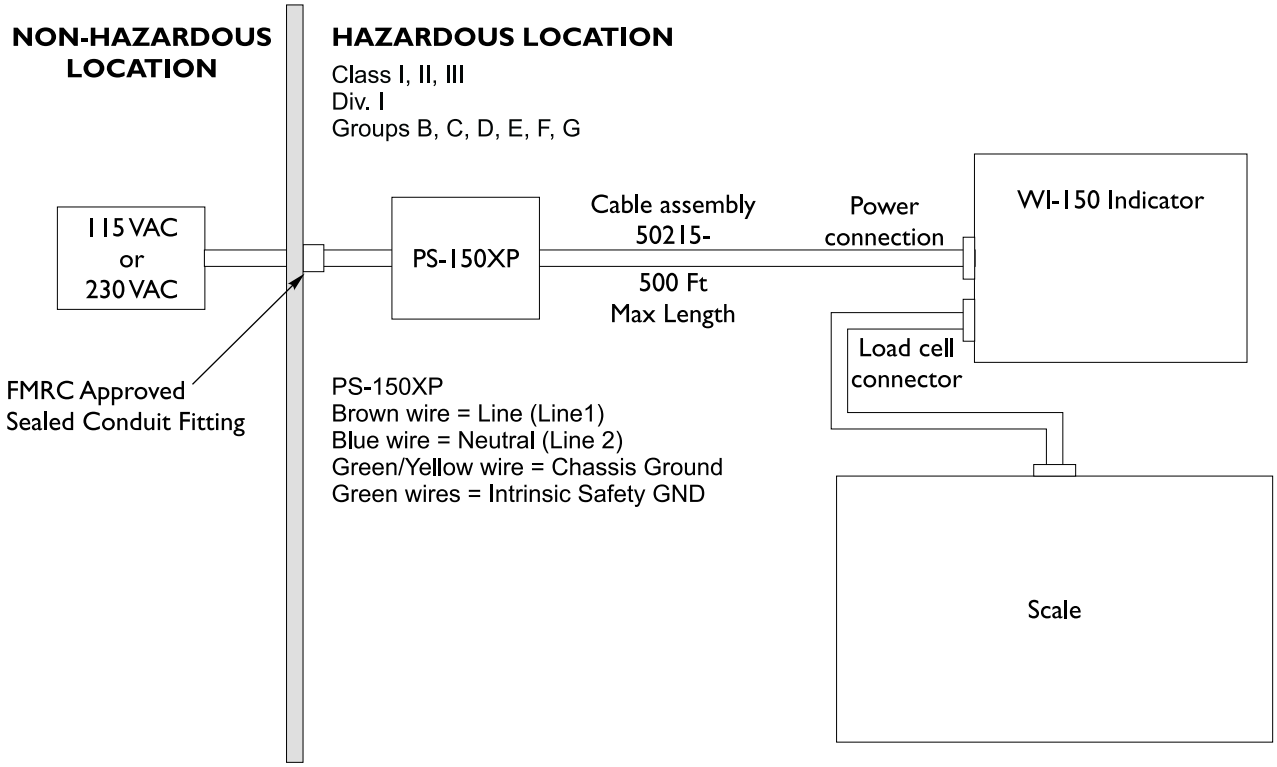


Figure 4
Installation example

Installation must be in accordance with the National Electrical Code and ANSI/ISA RP 12.6. Figure 4 is for reference only. See the *WI-150 Control Document* for a complete illustration.

Figure 5 shows two views of the PS-150XP.

The dark gray shading represents potting compound which covers all the electronics in the PS-150XP.

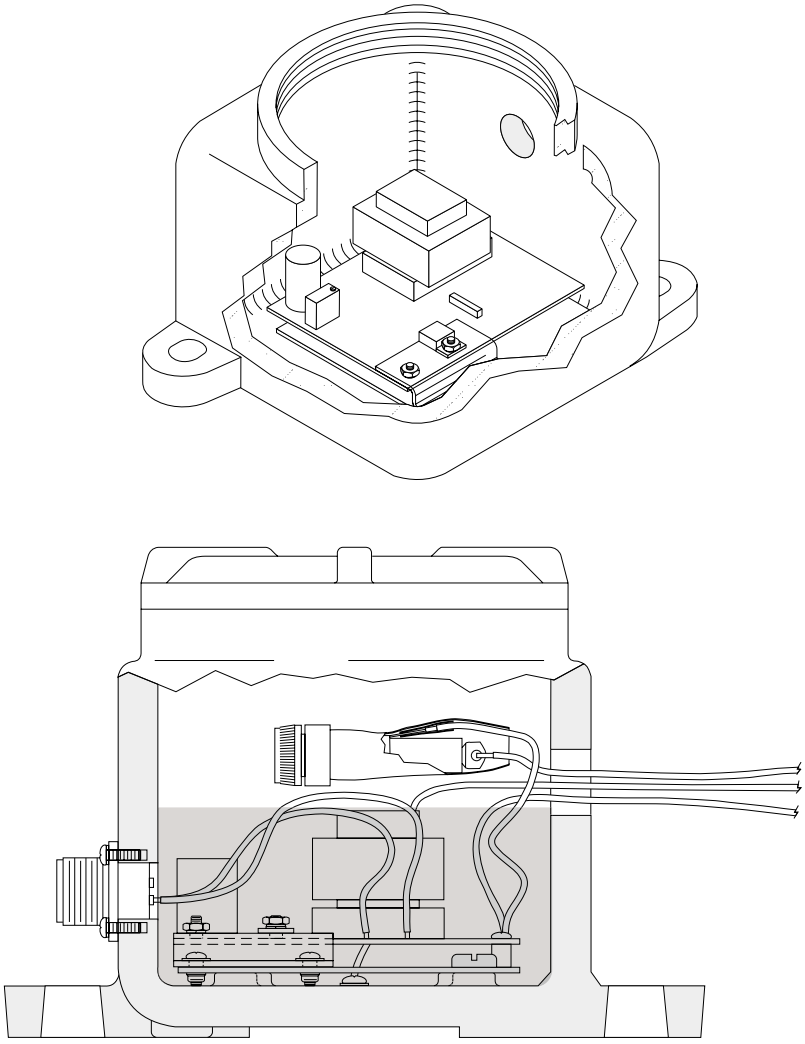


Figure 5
Views of the PS-150XP

Fiber Optic Interfacing

The WI-150 can interface with individual Fiber-Link fiber optic converters via 1 or 2 fiber optic cables which enter the indicator through openings located at the bottom of the unit. If fiber optic cables are not used, these openings are plugged.

Each prepared fiber optic cable has a blue connector on one end and a gray connector on the other. When the WI-150 is connected to a Fiber-Link or the SC-150, the colored connectors must be inserted into the corresponding colored jacks. That is, the blue connector on the fiber optic cable plugs into the blue jack on the WI-150, Fiber-Link or SC-150, and the gray connector on the fiber optic cable plugs into the black jack on the WI-150, Fiber-Link or SC-150.

Preassembled fiber optic cables with connectors are available for use with the SC-150 and Fiber-Link options. However, if you wish to prepare your own cables, certain guidelines must be adhered to. On the next page are instructions for preparing the fiber optic cables on your own.

Preparing Bulk Fiber Optic Cables

1. Cut two lengths of fiber optic cable. The maximum allowed length of cable reaching from the SC-150 to the indicator is 250 feet.
2. Strip the outer jacket to 3/16th of an inch and the inner jacket to 9 inches. See Figure 6 below. Do not use heat type strippers. Take care not to "nick" the inner jacket or plastic fiber.

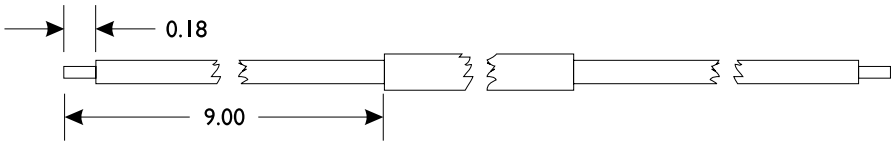


Figure 6
Fiber optic cable

3. Slide 1 piece of shrink tubing and strain relief onto cable before placing the connector and ring on the end of the cable.
4. Crimp metal ring on connectors using Amp Crimp Tool P/N 90364-2. See Figure 7.

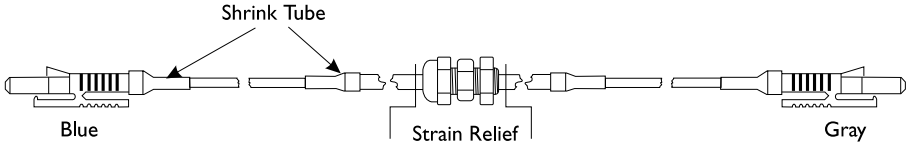


Figure 7
Attaching connectors

5. After both connectors have been crimped onto the cable, polish the protruding "plastic fiber" flush with connector using the special "polishing fixture" supplied with the Hewlett-Packard Polishing Kit P/N HFBR 4593, Weigh-Tronix Part Number 24024-5043. First use the 600 grit sandpaper until ends are flush with connector tip, using figure 8 pattern strokes. Wipe connector and fixture clean with cloth. (Note: The four dots on the bottom of the polishing fixture are wear indicators. Replace fixture when any one dot is no longer visible.)
6. Using dull side of pink 3 micron lapping film, continue polishing for 25 strokes.

Installing Weigh-Tronix Fiber Optic Cable Assemblies

Prepared fiber optic cables ordered from Weigh-Tronix come with a strain relief hub on the cable.

To install a fiber optic cable, the strain relief hub(s) already present on the bottom of the WI-150 enclosure must be removed and replaced by the strain relief hub on the fiber optic cable.

See Figure 8 for a description of the strain relief.

To remove the existing hub from the indicator enclosure

1. To access the strain relief hub at the bottom of the WI-150, carefully open the enclosure and gently lay the front panel face-down on the table in front of the indicator.
2. Loosen the locking nut from the top of the strain relief and remove the entire hub from the enclosure and discard. Keep the neoprene gasket.

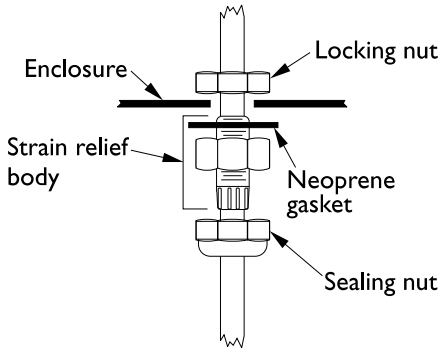


Figure 8
Strain relief body

To install a fiber optic cable assembly

1. Loosen the locking nut from the strain relief assembly and slip it off the cable. Be sure the neoprene gasket is in place on the strain relief assembly. See Figure 8.
2. With the WI-150 enclosure open, insert the correct end of the cable up through the opening in the bottom of the enclosure and fit the top part of the strain relief body into the opening. The neoprene gasket should be on the outside of the enclosure, between the enclosure and the strain relief assembly.
3. Slip the locking nut over the end of the cable just inserted up through the opening and fasten it securely to the body of the strain relief.
4. Connect the cable to the appropriate I/O port on the Fiber Optic board (P/N 28181-0036) located on the left side (when viewed from the front) of the component assembly and reassemble the enclosure. See Figure 9 for a description of the fiber optic ports.
5. Securely screw the sealing nut on the the bottom of the strain relief body. Your fiber optic cable is now installed and ready to be connected to the appropriate Fiber-Link for your application.

Make sure when you are connecting the SC-150, use both Serial/Receive and Serial/ Transmit fiber optic connections.

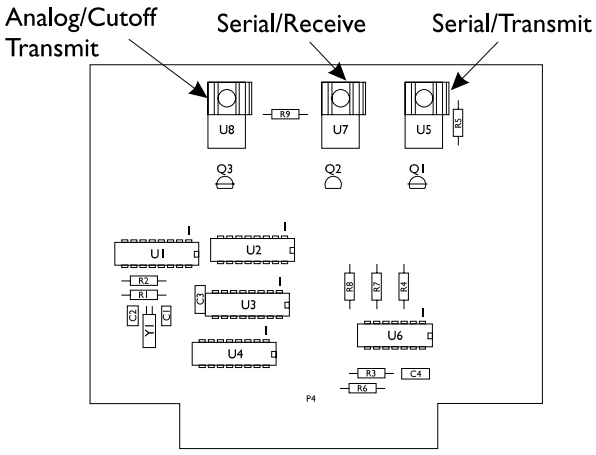


Figure 9
Fiber optic ports

Fiber-Link Single Fiber Optic Converters

A Fiber-Link, which is located in a safe area, is a single-function fiber optic converter. Power to this circuitry may be supplied from some peripheral instruments or from a wall-mount transformer. Five Fiber-Link converters are available: RS-232, RS-422/485, Current Loop, Cutoff, and Analog. Up to three Fiber-Links may be used in an installation: One RS-232 or RS-422/485 or Current Loop, plus a Cutoff and/or an Analog.

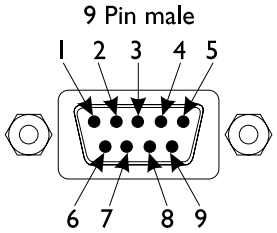
Data is provided to each Fiber-Link via fiber optic cable(s). Each fiber optic cable has a blue connector on one end and a gray connector on the other. Each of these colored connectors must be plugged into its corresponding colored jack. That is, the blue connector must be plugged into the blue jack, and the gray connector must be plugged into the black jack.

The following pin assignments are for peripheral interface connections with each particular Fiber-Link card.

Fiber Optics to RS-232 Converter

Negative voltages will be necessary if using the hardware handshake or bidirectional communication. Consult Weigh-Tronix engineering department.

Connector Pin Assignment (9 pin male connector)	
P1-1	+5V input to Fiber-Link
P1-2	Receive data to Fiber-Link
P1-3	Transmit data from Fiber-Link
P1-4	DTR (Pulled up to approx. +5V)
P1-5	Signal ground
P1-6	DSR (Input to Fiber-Link)
P1-7	RTS (Pulled up to approx. +5V)
P1-8	CTS (Input to Fiber-Link)
P1-9	Not used
Shell	Chassis ground



The 9VAC wall-mount transformer (P/N 45035-0012) is not necessary when connected to Weigh-Tronix WP-233, WP-234, WP-250, and WP-255 printers.

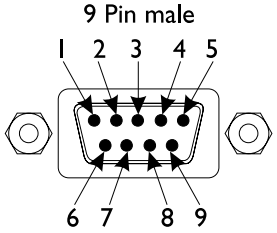
If the hardware handshake is not required, provide +6 to +15VDC to P1-6 **and**
-6 to -15 VDC to P1-2 and/or P1-8. If neither XON/XOFF protocol nor print/data request from a printer or computer is required, then only one fiber optic cable is necessary to provide data to RS-232 Fiber-Link. Otherwise, two fiber optic cables are required.

Fiber Optics to RS-422/485 Converter

Baud Rate Jumpers on Fiber Link Module	
300	P4-1 to 2
600	P5-1 to 2
1200	P6-1 to 2
2400	P7-1 to 2
4800	P8-1 to 2
9600	P9-1 to 2

A two character delay is required between polling of different indicators from a PC.

Connector Pin Assignment (9 pin male connector)	
P1-1	+5V input to Fiber-Link
P1-2	Receive B
P1-3	Transmit B
P1-4	Not used
P1-5	Signal ground
P1-6	Not used
P1-7	Transmit A
P1-8	Receive A
P1-9	Not used
Shell	Chassis ground

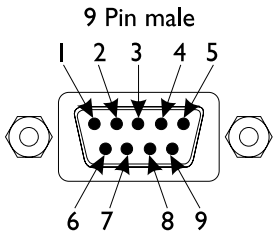


The 9VAC wall-mount transformer (P/N 45035-0012) is not necessary if the device connected to the Fiber-Link provides +5VDC to P1-1 with P1-5 (ground) connected to the minus side of the 5 volt power supply.

If neither XON/XOFF protocol nor print/data request from a printer or computer is required, then only one fiber optic cable is necessary to provide data to the RS-422/485 Fiber-Link. Otherwise, two fiber optic cables are required.

Fiber Optics to Current Loop Converter

Connector Pin Assignment (9 pin male connector)	
P1-1	+12V input to Fiber Link
P1-2	TTY Receive (-)
P1-3	TTY Transmit (-)
P1-4	Not used
P1-5	Signal ground
P1-6	Not used
P1-7	TTY Transmit (+)
P1-8	TTY Receive (+)
P1-9	Not used
Shell	Chassis ground



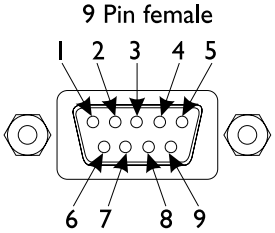
The 9VAC wall-mount transformer (P/N 45035-0012) is not necessary if the device connected to the Fiber-Link provides +12VDC to P1-1 with P1-5 (ground) connected to the minus side of the 12 volt power supply.

If neither XON/XOFF protocol nor print/data request from a printer or computer is required, then only one fiber optic cable is necessary to provide data to the Current Loop Fiber-Link. Otherwise, two fiber optic cables are required.

For a three-wire system, jumper E1 to E2 and use P1-3, P1-7 and P1-8. P1-3 and P1-7 go to receiver, and P1-7 and P1-8 go to transmitter.

Fiber Optics to Analog Output Converter

Connector Pin Assignment (9 socket female connector)	
P18-1	Current return (-)
P18-2	Not used
P18-3	Not used
P18-4	Voltage out (+)
P18-5	Voltage return (-)
P18-6	Current out (+)
P18-7	Not used
P18-8	Not used
P18-9	Chassis ground
Shell	Chassis ground



Refer to the Service Manual for selecting output levels and calibration procedures.

Switch Settings						
	S1			Voltage or Current Load		
	1	2	3	Output	Return	Load Resistance
0 to +5 V	1	0	0	J18-4	J18-5	1670 Ohm Min.
0 to +10 V	0	0	0	J18-4	J18-5	3300 Ohm Min.
1 to 5 mA	0	0	0	J18-6	J18-1	3000 Ohm Max.
4 to 20 mA	0	1	0	J18-6	J18-1	800 Ohm Max.
10 to 50 mA	0	1	1	J18-6	J18-1	300 Ohm Max.

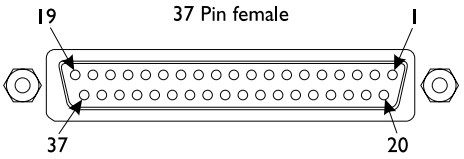
The 9VAC wall-mount transformer (P/N 45035-0012) is not necessary if the user supplies an isolated 9 to 10VAC power supply from P3-1 to P3-2 or an isolated +24VDC supply to P3-4 with P3-3 connected to the minus side of the 24 volt supply.

Only one fiber optic cable is necessary to operate the Analog Output Fiber-Link. If both the Analog Output Fiber-Link and Cutoff Output Fiber-Link are used, the fiber optic cable connects to the Cutoff Output Fiber-Link and a two wire cable brings data to the Analog Output Fiber-Link via P1.

Jumper P4-1 to P4-2 for fiber optic cable input and jumper P4-2 to P4-3 for two wire cable input to P1.

Fiber Optics to Cutoff Output Converter

Connector Pin Assignment (37 socket female connector)	
J21-24	+24VDC input to Fiber-Link
J21-33	+ Relay voltage (Catch diodes)
J21-15	Cutoff 0
J21-13	Cutoff 1
J21-31	Cutoff 2
J21-11	Cutoff 3
J21-29	Cutoff 4
J21-9	Cutoff 5
J21-27	Cutoff 6
J21-7	Cutoff 7
J21-37	Logic ground
J21-36	Chassis ground
Shell	Chassis ground



This information applies to units produced before January 1997.

The Cutoff Output Fiber-Link does supply up to 167 mA of current for relay coils with the 18VAC 300 mA wall mount transformer, P/N 45035-0038. The Fiber-Link can also operate from the DC relay voltage if an external power supply is used to power the relay coils (see below).

The 18VAC wall-mount transformer is not necessary if the user supplies +12 to +28VDC to J21-24 with J21-37 connected to the minus side of the 12-28 volt supply.

For units produced after January 1997, use the 9 VAC wall mount transformer (PN 45035-0012). To know if you have a unit produced after the cutoff date, remove the screw and cover of the Fiber Link. Check the Rev level of the PC board PN 45836-0013. If it is Rev. D it was produced after Jan. 1997. If it is Rev. C. it was produced before that date.

Only one fiber optic cable is necessary to operate the Cutoff Output Fiber-Link.

If both the Analog Output Fiber-Link and Cutoff Output Fiber-Link are used, the fiber optic cable connects to the Cutoff Output Fiber-Link and a copper wire cable supplies data to the Analog Output Fiber-Link.

Connectors:

U1 Fiber Optic receiving port

P1 Provides the output signal from the Cutoff Fiber-Link to the Analog Fiber-Link via a 2-wire cable when both Fiber-Link options are required in an installation.

If the number of relays to be operated will exceed the 167 mA of current, an external DC-power source will be needed. See Connector J21 for more information.

P2 Allows the use of a wall-mount transformer as the power source for the Cutoff Fiber-Link. The wall-mount transformer (P/N 45035-0012) provides 9 VAC when connected to 120 VAC power source. The Cutoff Fiber-Link changes the 9 VAC into 24 VDC which is capable of supplying up to 167 mA of current for the operation of relay coils. The 24 VDC is also regulated to +5 VDC to power the Fiber-Link.

P3 Not used

P4 Pins 1 and 2 are shorted together to allow the Fiber-Link to receive data from U1.

J21 Provides relay coil connections via J21. When an external power source is required, connect the minus (-) side of the DC-power source to J21, pin 37 and the +12 VDC to +28 VDC power source to J21, pins 24 and 33.

SC-150 Serial Control Unit

The SC-150 is a companion to the WI-150. A fiber optic interface card which is factory installed in the WI-150 communicates via fiber optic cables with the SC-150 which is located in a safe area and operates on 115/230 volts AC current. This allows for intrinsically safe operation when serial data output to interface printers, programmable controllers, and computers is required or when parallel I/O or analog outputs are required.

Five different output cards may be used in the SC-150. They are the: (1) RS-232/RS-485/20mA Current Loop/Cutoff Card, (2) Dual RS-232/RS-485 Card, (3) Cutoff/Parallel I/O Card, (4) Parallel BCD Output Card, and (5) Analog Output Card. These cards may be installed in any combination and in any slot location in the SC-150, with a maximum of two Serial Output Ports being used at any one time.

Refer to Figure 8 below for illustrations of the various cards installed in the SC-150. The cards represented in Figure 10 are installed in the SC-150 in no particular order. Your SC-150 may include any combination of cards, installed in any variety of slot locations.

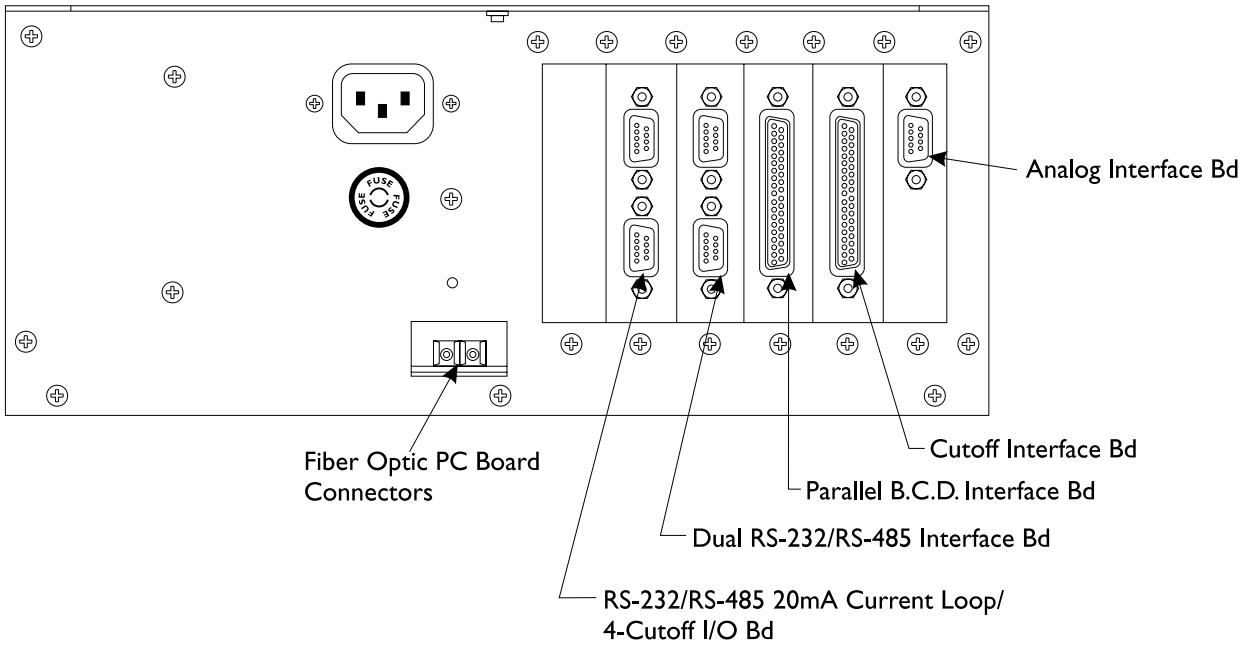


Figure 10
SC-150 ouput cards

Data is provided to each Fiber-Link via fiber optic cable(s). Each fiber optic cable has a blue connector on one end and a gray connector on the other. Each of these colored connectors must be plugged into its corresponding colored jack. That is, the blue connector must be plugged into the blue jack, and the gray connector must be plugged into the black jack.

Following are the peripheral interface pinout assignments and switch settings for the five cards.

RS-232/RS-485/20mA Current Loop/Cutoff Card

Serial Connector Pin Assignment (9 pin male connector)				
Pin #	**RS-232**	**RS-485**	**20 mA Current Loop**	**Description**
P19-1	--	--	--	
P19-2	Receive	Receive B	TTY Rec (-)	Input to SC
P19-3	Transmit	Transmit B	TTY Xmt (-)	Output from SC
P19-4	DTR*	--	--	*Pulled to +10V
P19-5	Signal Gnd	Signal Gnd	Signal Gnd	
P19-6	--	--	--	
P19-7	RTS*	Transmit A	TTY Xmt (+)	*Output from SC
P19-8	CTS*	Receive A	TTY Rec (+)	*Input to SC
P19-9	--	--	--	
Shell	Chassis Gnd	Chassis Gnd	Chassis Gnd	

Cutoff Connector Pin Assignment (9 socket female connector)	
J20-1	Cutoff 0
J20-2	Cutoff 1
J20-3	Cutoff 2
J20-4	Cutoff 3
J20-5	Logic Ground
J20-6	+ Relay Voltage
J20-7	Input 1/Set
J20-8	Input 2/Reset
J20-9	+ 5 V
Shell	Chassis Ground

Switch Settings																		
	S1				**S2**						**S3**							
	1	2	3	4	1	2	3	4	5	6	1	2	3	4	5	6		
RS232	1	0	0	1	1	0	0	1	0	0	1	0	0	1	0	0	1 = on	
RS485	0	1	0	0	0	1	0	0	1	0	0	1	0	0	1	0	0 = off	
Current Loop	0	0	1	0	0	0	1	0	0	1	0	0	1	0	0	1		

Dual RS-232/RS-485 Card

Serial Port A Connector Pin Assignment (9 pin male connector)			
Pin #	**RS-232**	**RS-485**	**Description**
P23-1	--	--	
P23-2	Receive	Receive B	Input to SC
P23-3	Transmit	Transmit B	Output from SC
P23-4	DTR*	--	*Pulled to +10V
P23-5	Signal Gnd	Signal Gnd	
P23-6	Input 1	Input 1	Logic level input to SC
P23-7	RTS*	Transmit A	*Output from SC
P23-8	CTS*	Receive A	*Input from SC
P23-9	--	--	
Shell	Chassis Gnd	Chassis Gnd	

Serial Port B Connector Pin Assignment (9 pin male connector)			
Pin #	**RS-232**	**RS-485**	**Description**
P24-1	--	--	
P24-2	Receive	Receive B	Input to SC
P24-3	Transmit	Transmit B	Output from SC
P24-4	DTR*	--	*Pulled to +10V
P24-5	Signal Gnd	Signal Gnd	
P24-6	Input 2	Input 2	Logic level input to SC
P24-7	RTS*	Transmit A	*Output from SC
P24-8	CTS*	Receive A	*Input to SC
P24-9	--	--	
Shell	Chassis Gnd	Chassis Gnd	

Switch Settings*										
	S1 & S3			**S2 & S4**						
	1	2	3	1	2	3	4	5	6	7	8
RS-232	1	0	1	1	0	1	0	1	0	1	0
RS-485	0	1	0	0	1	0	1	0	1	0	1

1 = on
0 = off

* S1 and S2 are for Port A, and
S3 and S4 are for Port B.

Cutoff/Parallel I/O Card

Connector Pin Assignment (37 socket female connector)			
J21-1	Net (F) Output	J21-20	Alright (F) Output
J21-2	Spare	J21-21	Stable (F) Output
J21-3	Gross (F) Ouput	J21-22	Center of Zero (F) Ouput
J21-4	Spare	J21-23	Spare Output
J21-5	Cutoff 8	J21-24	Not Used
J21-6	Spare	J21-25	Cutoff 9
J21-7	Cutoff 7	J21-26	Spare Input
J21-8	Spare	J21-27	Cutoff 6
J21-9	Cutoff 5	J21-28	Zero (F)
J21-10	Spare	J21-29	Cutoff 4
J21-11	Cutoff 3	J21-30	Print (F)
J21-12	Spare	J21-31	Cutoff 2
J21-13	Cutoff 1	J21-32	Spare Input
J21-14	Spare	J21-33	+ Relay Voltage
J21-15	Cutoff 0	J21-34	Spare Input
J21-16	Spare Input 1	J21-35	Auto Tare (F)
J21-17	Gross (F)	J21-36	Chassis Ground
J21-18	Spare Input 2	J21-37	Logic Ground
J21-19	Net (F)	Shell	Chassis Ground

Parallel BCD Output Card

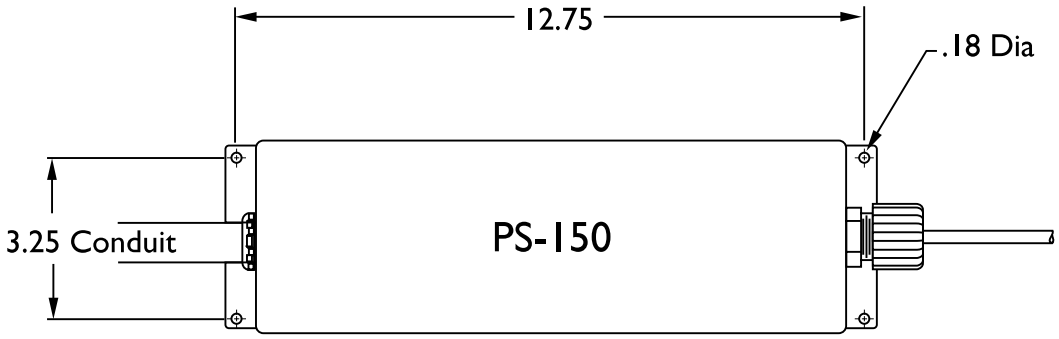
Connector Pin Assignment (37 pin male connector)			
P22-1	1	P22-20	Spare Input
P22-2	2	P22-21	10000
P22-3	4	P22-22	20000
P22-4	8	P22-23	40000
P22-5	Output Enable (F)	P22-24	80000
P22-6	10	P22-25	LB
P22-7	20	P22-26	100000
P22-8	40	P22-27	KG
P22-9	80	P22-28	- Sign
P22-10	Stable (F)	P22-29	Remote Print Out (F) or Data Sync Out (F)
P22-11	100		
P22-12	200	P22-30	Printer Inhibit (F)
P22-13	400	P22-31	Gross
P22-14	800	P22-32	Data Change Inhibit (F)
P22-15	Valid Data (F)	P22-33	BCD Print Input (F)
P22-16	1000	P22-34	+ Sign
P22-17	2000	P22-35	Net
P22-18	4000	P22-36	Chassis Ground
P22-19	8000	P22-37	Logic Ground
		Shell	Chassis Ground

Analog Output Card

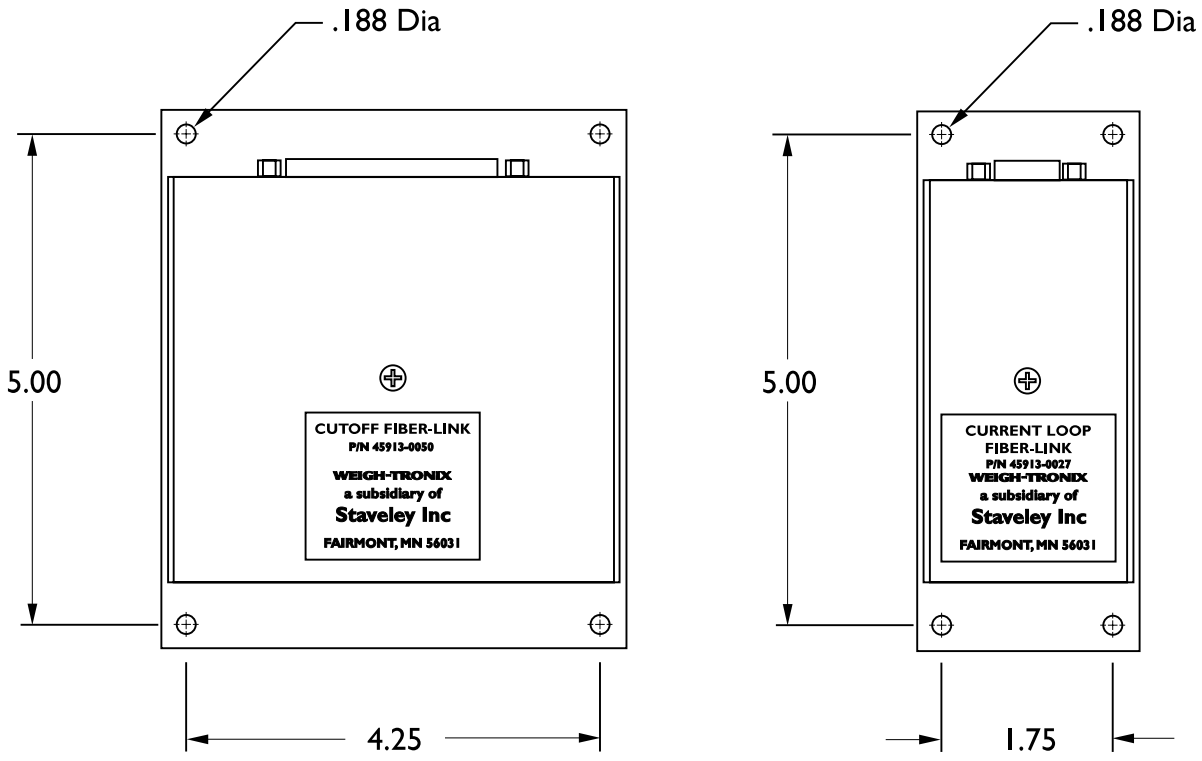
Connector Pin Assignment (9 socket female connector)	
J18-1	Current Return (-)
J18-2	Not used
J18-3	Not used
J18-4	Voltage out (+)
J18-5	Voltage return (-)
J18-6	Current out (+)
J18-7	Not used
J18-8	Not used
J18-9	Chassis Ground
Shell	Chassis Ground

Switch Settings							
	S1			Voltage or Current Load			
	1	2	3	Output	Return	Load Resistance	
0 to +5 V	1	0	0	J18-4	J18-5	1670 Ohm Min.	
0 to +10 V	0	0	0	J18-4	J18-5	3300 Ohm Min.	1 = on
1 to 5 mA	0	0	0	J18-6	J18-1	3900 Ohm Max.	0 = off
4 to 20 mA	0	1	0	J18-6	J18-1	970 Ohm Max.	
10 to 50 mA	0	1	1	J18-6	J18-1	390 Ohm Max.	

Appendix - Dimensional Drawings



PS-150 Mounting hole dimensions



Fiber-Link option dimensions

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UNITED STATES

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CANADA

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le present appareil numerique n'emet pas de bruits radioelectriques depassant les limites applicables aux appareils numeriques de la Class A prescrites dans le Reglement sur le brouillage radioelectrique que edicte par le ministere des Communications du Canada.

Weigh-Tronix
1000 Armstrong Dr.
Fairmont, MN 56031 USA
Telephone: 507-238-4461
Facsimile: 507-238-4195
e-mail: industrial@weigh-tronix.com
www.wtxweb.com

Weigh-Tronix Canada, ULC
217 Brunswick Blvd.
Pointe Claire, QC H9R 4R7 Canada
Telephone: 514-695-0380
Facsimile: 514-695-6820

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