WEIGH-TRONIX



LCD version >



WI-125 SST Indicator Service Manual

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Specifications

Dimensions: 8.25" x 6.25" x 4" (210mm x 159mm x 102mm) without mounting bracket

10" x 9" x 5.5" (254mm x 229mm x 140mm) with mounting bracket

Power: 115 volts AC @ 50 mA / 230 volts AC @ 25 mA, 50-60 Hz single phase

Optional - 12 VDC (LCD version only)

Display: 8 digits, 7-segment LCD or LED, 0.6 inch high with annunciators and backlighting (LCD only)

Display Averaging: 1 to 10 display periods

Display Rate: One, two or five times per second

Agencies: NIST Handbook 44, Class III, IIIL, 10,000 divisions. LCD & LED - Certificate of Conformance #92-167.A4

Consumer and Corporate Affairs, Canada. LCD & LED Approval #AM4868

UL (LED version)

CSA (LED version pending)

FCC Class A

Accuracy: Span: ±5.0 ppm/C Zero: ±.066 uV/C (-10 to 40°C)

Span: ±10 ppm/C Zero: ±0.13 uV/C (-30 to 60°C)

Linearity: ±0.005% of capacity, maximum

Repeatability: ±0.005% of capacity, maximum

Hysteresis: 0.005% of capacity, maximum

Weigh bar drive capacity: Up to eight 350 ohm weigh bars for LCD version. Up to twelve 350 ohm weigh bars for LED version.

Environment: -10 to 40°C (14 to 104°F) for HB-44 specs

10 to 90% relative humidity

Internal Resolution: 810,000 at 3 mV/V. 1 mV/V = 270,000 counts

A to D conversion rate: 30 times per second (60/second for LED version)

Analog Range: -0.14 to +3.5 mV/V

Capacity: 0.1 to 999999, programmable to any number between these limits.

Divisions: .0001 to 20000, programmable to any division size between these limits.

Push Button Zero Range: 0 to ±100% of capacity; programmable independent positive and negative limits; unit will not allow zeroing

beyond capacity.

Tare: The unit may be configured to have pushbutton tare and numeric tare. Tares may tare only positive gross

weights up to the capacity of the unit.

Motion Detection Window: Programmable from 0 to 999999 divisions, decimal entries are accepted.

Automatic Zero Tracking: Window: Programmable from 0 to 999999 divisions, decimal entries are accepted.

Net Mode

Tracking: May be enabled or disabled Rate: 0.1 division per second

Starting Delay: 2 seconds

Linearity Adjustment: Second order correction provides smooth curve fit through three points--zero, linearity, span.

VIBRATION COMPENSATION

Analog Low Pass Filter: Two section with .10 second time constant for low power analog and .06 second time constant for standard

analog.

Software Low Pass Filter: One section with .05 second time constant.

Introduction

This service manual will help you prepare your WI-125SST indicator for use. This manual covers the following:

- Introduction
- Operational Modes
- Sealing the Indicator
- Keyboard
- Configuration Mode

Operation Modes

The WI-125SST operates in three modes:

- operations mode
- test mode
- · configuration mode

Operations Mode

Operations mode contains all normal weighing operations. In this mode you can view or set the following parameters if the unit is so configured:

- · pushbutton tare
- · quick keypad tare entry
- one to ten tare registers (numbered 0-9)
- · identification number
- time
- date
- backlight

Any combination of these items can be secured behind a security code. Any items secured by the code number can be viewed but not changed. Operations mode is fully explained in the *User's Manual*.

Test Mode

Use this mode to perform tests on the WI-125SST. The test mode is covered in the *User's Manual*.

Configuration Mode

Use this mode to setup options and program the operation of the scale and indicator. Configuration is explained fully in the *Configuration Mode* section of this manual.

Sealing the Indicator

To seal or unseal an LED version indicator, push the button that is mounted inside the rear panel. The only way to observe the security setting of the switch is to access the configuration menu. It will then tell you "sealed" or "unsealed" before allowing you into the configuration menu.

The WI-125SST can be sealed so no configuration items can be changed in the configuration menu. Seal an LCD version by placing switch S1-1, located inside the unit near the bottom corner of the PC board (see Figure 1), in the

OFF position. Unseal the unit by placing S1-1 in the ON position. For both LCD and LED versions of the indicator, while the indicator is powered, the state of the switch can be changed at any time except while in the configuration menu. If you change the state of the switch then, it WILL NOT take affect until you exit the configuration menu.



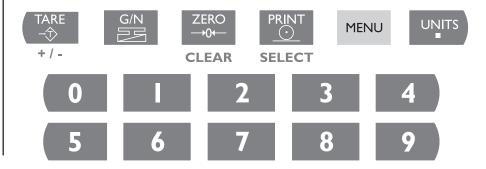
Figure 1

Keyboard

The keyboard consists of 16 keys. Five keys, or buttons, provide all the basic weighing functions:

- Tare
- G/N
- Zero
- Print
- Units

The other keys are used to access the menus for purposes of retrieving information, testing the indicator, and configuring. The keyboard is shown below:



Key Functions



Enters a pushbutton tare in gross/net operation. During data entry this key is used to toggle between positive and negative values. Used to enter a dash (—) in ID numbers.



Accesses the gross weighing mode from any other function and activates the net weighing mode if a tare is active.



CLEAR

Zeros the scale in gross or net weigh mode. This button also clears keyed in digits on the display before they are accepted.



Sends a print command and is used to select menu items.





Used to access menus and move among choices in a menu.



Changes the unit of measure during operations mode. Inserts a decimal point (.) when keying in values.

Error Messages

The following are displays you may see if problems occur or if invalid operations are attempted with your WI-125:

Display	Description
	Overrange weight.
	Underrange weight.
	Recovering from lock-up or out of range condition.
Loc' up	A-D converter is not functioning.
Flashing / *	Corrupted data in the reset menus. See the <i>Reset Menu</i> section later in this manual. (* = RESET, SETUP, or CAL)
Sealed	Displayed while a key is pressed when attempting to modify a sealed selection without edit privileges.
BuSy	Device on serial port is not ready to receive data.
SEcured	User menu item is protected from changes by security code number.

Configuration Mode

Entering the Configuration Mode

This section of the manual explains how to view and set up parameters in the configuration mode. Follow the configuration menu and instructions in Figure 2 to set up the WI-125SST indicator to suit your specific needs. Below are explanations for each section of the menu. The non-bold heading for each section is the pathway you follow on the configuration menu to get to the parameter or parameter options shown in bold text.

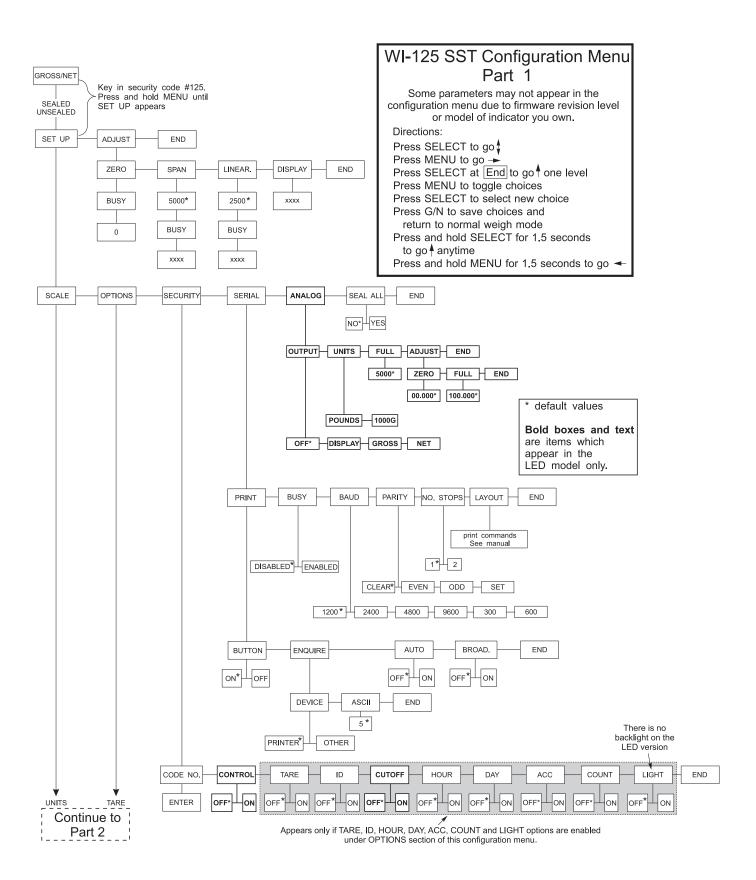
- While in Gross/Net Weighing Mode, enter the security code number 125
- With the number "125" displayed, press and hold the MENU key until SET UP is displayed. NOTE: DO NOT let go of the MENU key until SET UP is displayed or else TARE will be displayed. If this occurs, press the G/N key to return to Weighing Mode and begin again at Step 1.
- 3. You are now in the Configuration Menu and may calibrate your system. To move around within the Configuration Menu follow the instructions printed on the following two pages. Details regarding specific parameters are provided on the following pages.

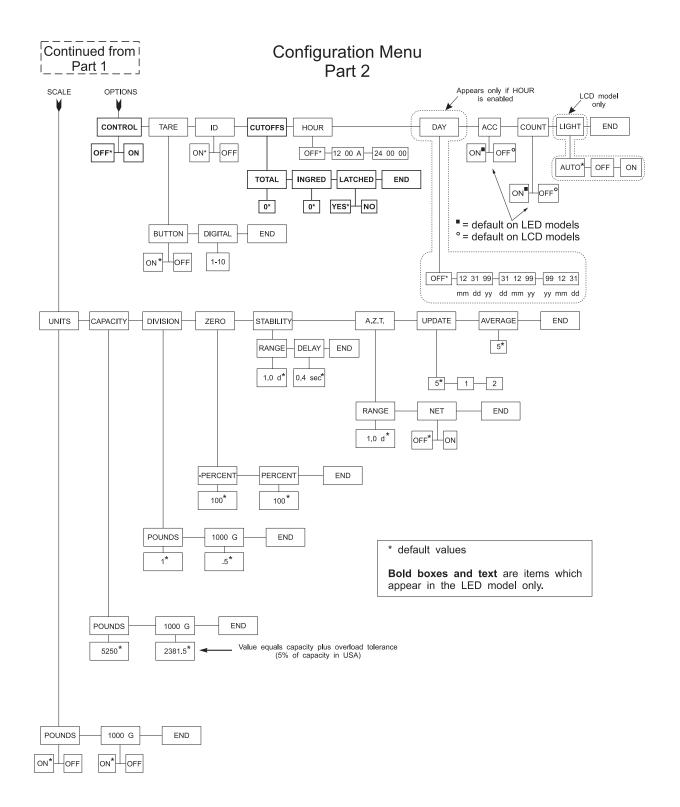
Sidestepping Security Code Entry to Configuration

On an LED version indicator, push the button that is mounted inside the rear panel.

In case you forget the security code or the security code is altered without your knowledge, access the configuration menu as follows: First, flip switch S1-1 OFF (or into the sealed position). Next, enter the default code number, 125. Get into the configuration menu as instructed in the key to Figure 2. When *CODE NO*. is displayed in the menu, flip switch S1-1 from OFF to the ON position. Understand that opening the indicator to access the switch unseals the indicator! Then enter a new code number—twice, as the display prompts. Now you have complete access to the configuration menu.

Figure 2 Configuration Menu





Setup, Scale, Units-Pounds, 1000g

Under each unit of measure you have the option of selecting *ON* or *OFF*. Choosing the *OFF* option under a unit of measure disables that unit of measure. If a unit is disabled, it will not appear in the configuration menu under *CAPACITY* or *DIVISION* nor will you be able to choose it during weighing procedures.

Setup, Scale, Units, Capacity-Pounds, 1000g

This menu section lets you set the scale capacity for those units of measure enabled under *UNITS*. This value equals the capacity plus the overload tolerance.

Setup, Scale, Units, Capacity, Division-Pounds, 1000g

This option lets you set the division size for the units of measure enabled under *UNITS*.

One feature not readily apparent is that the number of displayed leading zeros can be specified. For example; for 10 pound divisions, if you want 5 zeros displayed when no weight is on the scale, key in 00010 for a division size. The display will read 00000 when the scale is empty. If you want two zeros displayed when the scale is empty, key in a division size of 10.

Setup, Scale, Units, Capacity, Division, Zero--Percent, Percent

With this option you can set the plus and minus percent of capacity the indicator can zero. For example, if the capacity of the scale is 10000 lb and the zero range is $\pm 2\%$, key in 2 for both the positive and negative ranges. You may key in decimal values.

Setup, Scale, Units, Capacity, Division, Zero, Stability-Range, Delay

Range - This option lets you set the size of the motion detection window in divisions. You may enter decimal values less than one or up to 999999 which turns off the motion detection.

Delay - Use this to specify the number of seconds during which the weight must be within range (described above) before a no-motion condition is displayed. Default value is 0.4 seconds.

Setup, Scale, Units, Capacity, Division, Zero, Stability, A.Z.T.-Range, Net

Range - With this option you can set the \pm automatic zero tracking window in scale divisions. To turn off AZT, enter a range of 0.

Net - If an AZT range is set, *NET* will appear in the menu. This option lets you choose to enable AZT during net weighing operations (ON) or disable it (OFF). The gross weight must be zero for AZT to work in net mode.

Dashes across the top of the display indicate overload at 105% of capacity as a USA standard.

Setup, Scale, Units, Capacity, Division, Zero, Stability, A.Z.T., Update-5, 1, 2

> Choose the rate at which your display updates information, 1, 2, or 5 times per second. Five is the default value.

Setup, Scale, Units, Capacity, Division, Zero, Stability, A.Z.T., Update-**Average**

> This option allows you to choose the number of display update period(s) over which the data are internally averaged prior to being displayed. Any number between 1 and 10 may be entered. Five is the default value.

Setup, Scale, Options-Control (Only on LED model)

> Choosing ON allows you to "Start" the cutoff outputs from the front CONTROL will not appear in the SECURITY section of this menu or

panel. OFF disables this function. If cutoff control is disabled, in the Operations menu. Note that for CONTROL to appear in the Operations Menu, the number of outputs selected under CUTOFFS in the OPTIONS section of this menu must be a nonzero value.

WI-125 LED Input/Outputs

stop buttons.

Control should be OFF when using the RCU with start and

TB4-6 +Signal TB4-5 -Signal TB4-4 +Sense Weigh Bar input TB4-3 -Sense TB4-2 +Exc. TB4-1 -Exc. TB9-5 Rec A XMT A TR9-4 RS-485 output TB9-3 Rec B XMT B TB9-2 TB9-1 Ground DSR/CTS TB8-5 TB8-4 DTR TB8-3 Receive RS-232 output TB8-2 Transmit TB8-1 Ground TB13-1 Print TB13-2 Zero Remote button TB13-3 Tare input TB13-4 Ground TB15-1 Cutoff 0 TB15-2 Cutoff 1 TB15-3 Cutoff2 TB15-4 Cutoff 3 TB15-5 Cutoff 4 Cutoff output TB15-6 Cutoff 5 (option card) TB15-7 Cutoff 6 TB15-8 Cutoff 7 TB15-9 Catch Diodes TB15-10 Ground TB15-11 +12 V TB19-1 Voltage out TB19-2 Current out Analog output TB19-3 Current Rtn (option card) Voltage Rtn3 TB19-4

Setup, Scale, Options, Control, Tare-**Button**, Digital

> Choosing *ON* enables the pushbutton tare. Choosing *OFF* Button disables the pushbutton tare.

Select the number of tare registers you want by keying in Digital a number. You can choose 0 through 9 tare registers.

If pushbutton tare is disabled and 0 tare registers are selected, TARE will not appear in the User's menu or in the SECURITY section of this menu. (See the User's Manual)

Setup, Scale, Options, Control, Tare-ID

> Choosing ON enables the ID number. OFF disables the ID number. If ID is disabled, ID will not appear in User's menu or the SECURITY section of this menu. (See the *User's Manual*)

Setup, Scale, Options, Control, Tare, ID-**Cutoffs** (Only on LED model)

> Total— This option lets you choose the number of cutoffs you want by keying in a number. If you choose 0 (zero) cutoffs, CUTOFFS will not appear in the SECURITY section of this menu or in the Operations Menu. Also, in order for CONTROL to appear in the Operations Menu, a nonzero

> > number must be entered.

Ingred.— This option lets you choose the number of cutoffs you wish to be "ingredient cutoffs" by keying in a number. If you pick 0, INGRED. will not appear in the menu and the cutoffs you have will be "setpoint cutoffs." Cutoffs occur according to weight. The lightest cutoffs occur first,

If you forget your personal code number, see Sidestepping Security Code Entry section of this manual.

followed by the heavier ones. See Entering Cutoff Values Through the Front Panel in the User's Manual. Setting to INGRED allows entry of actual weight vs. having to make each ingredient add on to the last ingredient

Latched— Selecting "yes" means that once a cutoff output is turned off, it is to stay off until control is halted and then started again. Further, once all cutoffs are off, the control is automatically halted. Selecting "no" disables this behavior. LATCHED is offered only if CONTROL is enabled under OPTIONS and the total number of cutoffs is not zero. Default = yes.

Setup, Scale, Options, Control, Tare, ID, Cutoffs-Hour (requires optional circuitry)

With this option you can choose to have the clock disabled (OFF) or the mode of clock you want. You can choose the 12 hour clock display or the 24 hour clock display. If the clock is disabled, HOUR will not appear in the User's menu or in the SECURITY section of this menu. (See the User's Manual) DAY will not appear in the OPTIONS or SECURITY section of this menu.

Setup, Scale, Options, Control, Tare, ID, Cutoffs, Hour-Day (requires optional circuitry)

This option lets you choose to disable the calendar (OFF) or choose the mode of calendar display you want. You can choose to display the days (dd), months (mm), and year (yy) as mm dd yy, or dd mm yy, or yy mm dd. If DAY is disabled, DAY will not appear in the User's menu or in the SECURITY section of this menu. (See the User's Manual)

Setup, Scale, Options, Control, Tare, ID, Cutoffs, Hour, Day-Acc

Choose to turn the accumulator ON or OFF.

Setup, Scale, Options, Control, Tare, ID, Cutoffs, Hour, Day, Acc-Count

Choose to turn the Count ON or OFF. Count is the number of times you have added to the accumulator.

Setup, Scale, Options, Control, Tare, ID, Cutoffs, Hour, Day, Acc, Count-Light

For LCD version see note at left. Not applicable for LED version.

Setup, Scale, Options, Security-Code No.

This option lets you change the configuration access code number to a personalized security code number.

LCD version:

OFF- Backlight does not appear in Security or User manual. (See User's Manual)

ON- Backlight maybe enabled or disabled in User Menu. (See User's Manual)

Auto- Light in room is sensed driving the backlight brighter in dark rooms and turning off in bright rooms. Backlight may be enabled or disabled in User menu. (See User's Manual)

Setup, Scale, Options, Security, Code No.-Control, Tare, ID, Cutoffs, Hour, Acc, Count, Day, Light

Under each item you have the option of choosing OFF to leave the option unlocked or choosing ON to lock the option behind the security code. If ON is chosen you can view but not change that parameter value in the operations menu (unless the security code is entered). (Control, Cutoffs, Acc, Count are only on the LED model) (Light is only on the LCD model.)

Setup, Scale, Options, Security, Serial, Print-**Button**

Choosing OFF disables the front panel **PRINT** button. Choosing ON enables the front panel **PRINT** button.

Setup, Scale, Options, Security, Serial, Print, Button-Enquire

This sub-menu allows you to choose a printer or other device which will send an enquire code to the indicator. You may select the ASCII code number you wish to recognize as the enquire code number. ASCII decimal 05 is the default value. If a device sends the enquire code number to the indicator, the indicator will recognize the value, then transmit weight data. If a computer sends the enquire code number, the Button, Auto and Broad. selections are overridden and will not function.

Setup, Scale, Options, Security, Serial, Print, Button, Enquire-Auto

With auto print enabled the indicator automatically transmits weight data when the scale weight stabilizes at greater than 1% of capacity. To print again, scale weight must fall below 1% of capacity and stabilize above 1% of capacity again. OFF disables the auto print feature. ON enables the auto print.

Setup, Scale, Options, Security, Serial, Print, Button, Enquire, Auto-Broad.

Broad. stands for broadcast. If you enable (ON) broadcast, weight data is transmitted at the display rate. Choosing OFF disables the broadcast. If broadcast is enabled, the Button, Enquire, and Auto selections are overridden and will not function.

Setup, Scale, Options, Security, Serial, Print, Busy-**Disabled, Enabled**

Disables or enables the hardware ready/busy (CTS/DTR) line. If your printer does not have a ready/busy (CTS/DTR) line, this parameter must be set to disabled. If your printer has a ready/busy (CTS/DTR) line, you can enable this parameter so the indicator will know if the printer is ready or busy (Clear To Send/Data Terminal Ready).

Setup, Scale, Options, Security, Serial, Print, Busy, Baud-1200, 2400, 4800, 9600, 300, 600

> This option lets you choose the baud rate for your printer or peripheral device.

Setup, Scale, Options, Security, Serial, Print, Busy, Baud, Parity-Clear, Even, Odd, Set

> This option lets you choose parity as even, odd, clear (logic 0 or space), or set (logic 1 or mark).

	Data Bits	Stop Bits	Parity
Set (Mark)	7	2	none
Clear (Space)	8	1	none
Mark	7	2	none
Space	8	1	none
Odd	7	1 or 2	odd
Even	7	1 or 2	even

Setup, Scale, Options, Security, Serial, Print, Busy, Baud, Parity, No. Stops-1, 2

With this option you can set the number of stop bits as 1 or 2.

Setup, Scale, Options, Security, Serial, Print, Busy, Baud, No. Stops-Layout

Use this print-layout option to customize the physical arrangement of your printed information. This section assumes you have the time/date optioncard and that the parameters are all enabled.

The next several pages deal with the layout of your printed output. The rest of the documentation on configuration follows this layout section.

You may print the following items:

Time

DELETE

- Date
- Gross weight
- Net weight

ID

- Tare weight
- Displayed weight
- Custom wording you choose
- Weight only, no labels
- Number of Accumulations
- Total accumulated weight (Bold items- see note at left.)

These are the commands you use to print these items:

Print Command	Item
HOUR	Time
DAY	Date
GROSS	Gross weight
NET	Net weight
ID	Prints ID if ID is enabled
TARE	Tare weight
DISPLAY	Displayed weight
ASCII	Custom digits (ASCII string)
BARE	Weight digits without G, T, N, or lb/kg.
COUNT	Number of accumulations performed
TOTAL	Total accummulated weight

Deletes a layout item

COUNT and TOTAL are only available as layout items in the LED version of the WI-125.

Layout (Printing)

Figure 3 shows a sample of the default printout generated when you press the **PRINT** key on a new indicator. Figure 4 shows a possible print configuration. The layout menu in Figure 5 shows the order of print commands for the items used in Figure 4.

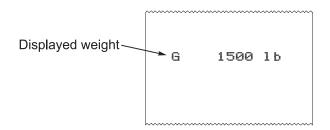


Figure 3
Default Printout As Configured on a New Indicator

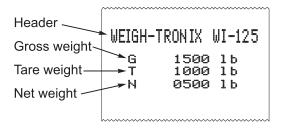


Figure 4Possible Print Configuration

Remember, press **SELECT** to move up or down a level in the menu structure, and press **MENU** to move left or right.



Figure 5
Layout Menu for Figure 4

Customizing the Layout Menu

The default layout menu can be changed to suit your needs. Any of the items can be deleted, added, or rearranged to accomplish this customization.

The **SELECT** key opens up the next level of the menu under **LAYOUT**.

This information may be one of two types of items:

- an ASCII string or (user defined)
- a layout submenu (factory defined)

ASCII Strings

ASCII strings are stored under the ASCII layout print commands, such as Nos. 1, 3, 5, 7, etc. (see Figure 4). An ASCII string is a sequence of ASCII code numbers. Each code number is preceded on the indicator display by a sequence number. See Figure 5. You view these sequence numbers and ASCII code numbers by repeatedly pressing **MENU**. These ASCII strings contain the codes for your custom wording.

Figure 6 shows the ASCII string under the 1 ASCII layout print command shown in Figure 5 . Table 1 shows the relationship between this sequence of codes and the output of the printer. You can change the ASCII string or delete it entirely to suit your needs. To delete an ASCII layout print command from the layout menu you first need to delete the entire sequence of ASCII code numbers which are stored in that ASCII layout print command.

As you enter ASCII code numbers, the display may read *FULL* when you try to enter a code number. This means the memory allocated to the print layout is full. You must rearrange or delete some of the items you want printed for your customized printout.

Find complete instructions for these procedures in the section *Examples* and *Step by Step Instructions*.

ASCII is an acronym for American Standard Code for Information Interchange. ASCII codes are just numbers a computer can translate into letters, numbers and instructions. See Table 2.

Layout Submenu

Under each non-ASCII layout print command (*GROSS, TARE*, etc.) is a layout submenu. The layout submenu contains all seven layout print commands and a *DELETE* command. From this submenu you select what you want printed and in what order. The same submenu is available in every case, but the currently selected item is always offered first. See Figure 7.

To delete a layout print command: With the layout print command you wish to delete on the display, press **CLEAR**.

Find complete instructions for these procedures in the section *Examples* and *Step by Step Instructions*.

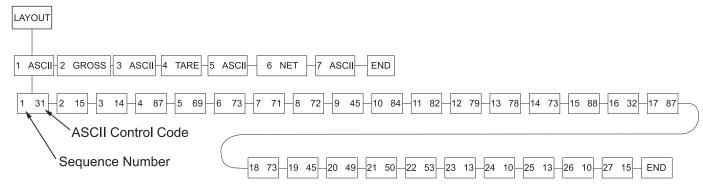


Figure 6
ASCII Control Code under the Print Command, 1 ASCII

In Figure 6, the **MENU** key advances you through the ASCII control-character displays. The **SELECT** key returns you to the *1 ASCII* display. (See Table 1 below.)

#15- Makes double wide characters until a carriage return #32- Space #14- Makes double high characters until a #87- W #38- I #45 #49- 1 #50- 2 #71- G #53- 5 #72- H #13- Carriage return (CR) #45 #10- Line feed (LF) #84- T #13- Carriage return (CR)	
#14- Makes double high characters until a carriage return #73- I #87- W #45 #49- 1 #50- 2 #71- G #53- 5 #72- H #13- Carriage return (CR) #84- T #13- Carriage return (CR)	
carriage return #73- I #87- W #45 #69- E #49- 1 #73- I #50- 2 #71- G #53- 5 #72- H #13- Carriage return (CR) #45 #10- Line feed (LF) #84- T #13- Carriage return (CR)	
#87- W #69- E #73- I #71- G #72- H #45 #45- 2 #71- G #53- 5 #72- H #45 #10- Line feed (LF) #84- T #13- Carriage return (CR)	
#69- E #49- 1 #50- 2 #53- 5 #53- H #45 #10- Line feed (LF) #84- T #13- Carriage return (CR)	
#73- I #50- 2 #71- G #53- 5 #72- H #13- Carriage return (CR) #45 #10- Line feed (LF) #84- T #13- Carriage return (CR)	
#71- G #53- 5 #72- H #13- Carriage return (CR) #45 #10- Line feed (LF) #84- T #13- Carriage return (CR)	
#72- H #13- Carriage return (CR) #45 #10- Line feed (LF) #84- T #13- Carriage return (CR)	
#45 #10- Line feed (LF) #84- T #13- Carriage return (CR)	
#84- T #13- Carriage return (CR)	
W00 D	
#82- R #10- Line feed (LF)	
#79- O #15- Sets next line's characters to dou	le wide
#78- N	

Table 1
ASCII Control Characters under the Print Command, 1 ASCII

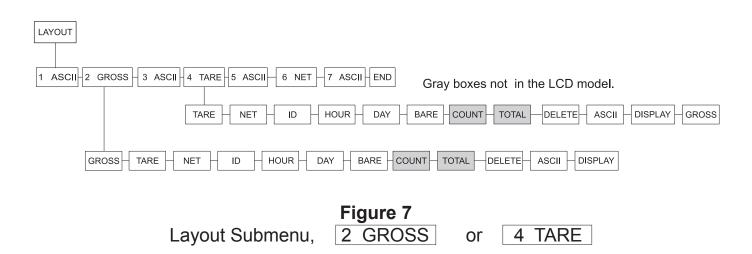


Figure 7 represents alternate choices of preformatted data.

Examples and Step by Step Instructions

Example A:

If you want to change the second print command in Figure 5 from 2 GROSS to 2 HOUR: with 2 GROSS displayed, press **SELECT**. Now scroll to the *HOUR* print command in the submenu and press **SELECT** to select it. The print command 2 GROSS is now changed to 2 HOUR.

Example B:

If you want to delete the second print command (2 GROSS) in Figure 5: with 2 GROSS displayed, press CLEAR. This deletes the 2 GROSS print command from the layout and 3 ASCII becomes 2 ASCII, 4 becomes 3, etc.

Below is a list of procedures to customize your layout. The steps for each procedure are explained below the list. Use the appropriate procedure or procedures to customize your layout to your liking. These step by step instructions relate to the layout shown in Figure 5.

- Deleting one ASCII code number from an ASCII string
- Deleting all the ASCII code numbers in an ASCII string
- Deleting an ASCII print command after the ASCII code numbers are deleted
- Deleting a non-ASCII layout print command from the layout menu
- Inserting a non-ASCII print command in the layout menu
- Adding ASCII code numbers to an ASCII string

Deleting one ASCII code number from an ASCII string

For example, to delete the hyphen in WEIGH-TRONIX you need to delete the ASCII control code number for the hyphen. In Table 1 you can see that this is #45. In Figure 6, the 9th ASCII control code is code #45.

With 9 45 displayed, press CLEAR then +/- . . .

CLEAR deletes the value and deletes that step in the string. When you delete #9, #10 becomes #9, etc.

Deleting all the ASCII code numbers in an ASCII string

For example, to delete the entire line of text at the top of the printout shown in Figure 4 you need to delete all the ASCII control code numbers under the 1 ASCII display shown in Figure 6.

With the first ASCII control code number of the string displayed (1 31), press CLEAR and +/repeatedly until END is displayed. When END is displayed press SELECT

1 ASCII is displayed. All the control characters under it are now gone.

Deleting an ASCII layout print command after the **ASCII** code numbers are cleared

With 1 ASCII displayed, press CLEAR

The item is removed from the layout menu and all the following items move up one number value on the menu. What was item 2 becomes item 1, etc.

Deleting a non-ASCII layout print command from the layout menu

For example, to delete 2 GROSS from the menu, display 2 GROSS, then press CLEAR . .

The item is removed from the layout menu and all the following items move up one number value on the menu. What was item 2 becomes item 1, etc.

Inserting a non-ASCII print command in the layout menu

Inserting any layout print command in the layout menu works in the same way.

For example, let's reinsert GROSS in the #2 position. The display shows 2 ASCII, the layout menu item currently in the #2 position. Press +/- . . .

The layout submenu shown in Figure 7 appears. Scroll through the layout submenu by pressing **MENU**. When GROSS is displayed press **SELECT**. 2 GROSS is displayed showing that it has been inserted in the second position. 2 ASCII becomes 3 ASCII, etc.

Adding characters to an ASCII string

For example, let's say you've just created a new ASCII layout print command in the #1 position in the layout menu (1 ASCII). To insert new codes, display 1 ASCII, then press **SELECT**... 1 is displayed.

Key in the ASCII control code number you want and press MENU...

2 _ is displayed prompting you for the 2nd ASCII control code number in the ASCII string.

Repeat this step until you have entered all the ASCII control code numbers you want or the indicator tells you the memory is full, then press **SELECT**. . .

1 ASCII is displayed in this example.

Inserting code numbers in an existing ASCII string

You may insert new code numbers in an existing ASCII string. Display the code number you want the new code number to precede and press +/-. A cursor appears and you may enter the new code number. All the following code numbers move down one position in the sequence.

Repeating a code number in an ASCII string

To repeat any ASCII code number, instead of entering it multiple times, enter the code number, then a decimal, then the number of times you want that code number repeated.

For example: To enter seven carriage returns, enter 13.7.

To enter two capital letter Os in a row, enter 79.2.

Table 2 ASCII Control Codes

Code #	Control Character						
0	NUL	33	!	66	В	99	С
1	SOH	34	"	67	С	100	d
2	STX	35	#	68	D	101	е
3	ETX	36	\$	69	E	102	f
4	ЕОТ	37	%	70	F	103	g
5	ENQ	38	&	71	G	104	h
6	ACK	39	'	72	Н	105	i
7	BEL	40	(73	I	106	j
8	BS	41)	74	J	107	k
9	НТ	42	*	75	К	108	I
10	Line Feed	43	+	76	L	109	m
11	VT	44	,	77	М	110	n
12	Form Feed	45	-	78	N	111	0
13	Carriage Return	46		79	0	112	р
14	S0	47	/	80	Р	113	q
15	S1	48	0	81	Q	114	r
16	DLE	49	1	82	R	115	s
17	DC1	50	2	83	S	116	t
18	DC2	51	3	84	Т	117	u
19	DC3	52	4	85	U	118	٧
20	DC4	53	5	86	V	119	w
21	NAK	54	6	87	W	120	х
22	SYN	55	7	88	Х	121	у
23	ЕТВ	56	8	89	Υ	122	z
24	CAN	57	9	90	Z	123	{
25	EM	58	:	91	[124	I
26	SUB	59	;	92	\	125	}
27	ESC	60	<	93]	126	~
28	FS	61	=	94	۸	127	Delete
29	GS	62	>	95	_		
30	RS	63	?	96	,		
31	US	64	@	97	а		
32	Space	65	А	98	b		

NOTE: Refer to your printer or computer's User's Manual for special control codes that your printer or computer responds to.

Setup, Scale, Options, Security, Serial, Analog-Output

This lets you specify which weight the analog output will follow. Choices are: off, displayed weight, gross weight, or net weight.

Setup, Scale, Options, Security, Serial, Analog, Output-**Units**

Analog output is independent of the unit of measure selected for the display. This menu lets you specify which unit of measure is used for the analog output. Choices are: pounds, 1000 g, or gallons.

Setup, Scale, Options, Security, Serial, Analog, Output, Units-Full

When selected, the indicator will display the last value used or the default value. You enter the full capacity of the analog output which may be less than or greater than the capacity of the scale. For example, the capacity of the indicator may be 5000 lb, but it may be desirable to have 3000 lb as the full capacity of the analog output. In any case, the analog output has nominal under range and over range limits of 20%.

Setup, Scale, Options, Security, Serial, Analog, Output, Units, Full-**Zero, Full, End**

The choices present under *ADJUST* allow the zero and the span of the analog outputs to be adjusted without actually putting weights on and off the scale.

Selecting ZERO lets you adjust the zero of the analog output for a zero weight reading. This is done by pressing the 0, 1, 2, 3, or 4 key to increase the output and by pressing the 5, 6, 7, 8, or 9 key to decrease the output. The number on the display gives a visual representation of the zero setting, with 00.000 being the nominal value. The zero adjustment has a $\pm 10\%$ range, -10.000 to +10.000 on the display.

Selecting *FULL* lets the operator adjust the span of the analog output for the full capacity weight reading. The keys and the number on the display function like the zero adjustment above, with 100.000 as the nominal full capacity value. The span has a +/- 10% range, 90.000 to 110.00 on the display. Weight does not have to be on the scale to perform this task.

When ZERO, FULL, or END are displayed, the analog output follows the value selected under OUTPUT and UNITS. The only time the value is not output is while actually adjusting zero or full.

These menu items cause the option card to simulate output, as if weight was being placed on or off the scale platform.

On an LED version indicator, push the button that is mounted inside the rear panel.

Setup, Scale, Options, Security, Serial-Seal All

If you choose the YES option, all items under configuration are sealed when switch S1-1 is in the OFF position (LCD version) or the button is pushed in the LED version. If NO is selected, units, capacity, division, zero range, stability, AZT, tare, layout, zero, span, linearity, and seal all are sealed.

Setup, Adjust-

Zero, Span, Linear., Display

This option lets you calibrate the indicator by setting the zero, span, and linearity. Below are specific instructions for setting these parameters.

Calibration Procedures



Make sure your test weights match the selected unit of measure on your indicator.

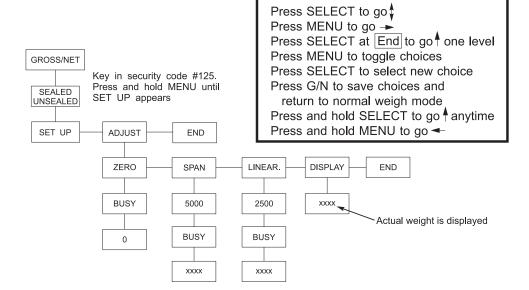
To calibrate your WI-125 SST, you must enter the Configuration Menu outlined below. If you are already in the Configuration Menu, go directly to the procedures for setting Zero & Span and Linearity and viewing Display which are continued on the next page.

To enter the Configuration Mode:

- While in Gross/Net Weighing Mode, enter the security code number 125
- 2. With the number "125" displayed, press and hold the **MENU** key until SET UP is displayed.

DO NOT let go of the **MENU** key until *SET UP* is displayed or else *TARE* will be displayed. If this occurs, press the **G/N** key to return to Weighing Mode and begin again at Step 1.

- 3. Press MENU to display ADJUST.
- 4. Press **SELECT** to display *ZERO*.
- 5. You are now in the Configuration Menu and may calibrate your system. To move around within the Configuration Menu follow the instructions printed in the box below. Specific instructions for setting Zero & Span and Linearity and viewing Display are provided on the next page.



Setting ZERO and SPAN (Calibration)

 When ZERO is displayed, remove all weight from scale. Wait till the scale is stable and press SELECT...

BUSY is displayed briefly, then 0.

2. Press **SELECT**. . . ZERO is displayed.

3. Press **MENU**... SPAN is displayed.

4. Set test weight on scale and let the scale stabilize. Press **SELECT...**

A number is displayed.

5. Key in the amount of the test weight on the scale and press **SELECT...**

Display shows *BUSY* briefly, then

the weight.

You may exit to the normal Weighing Mode by pressing \mathbf{G}/\mathbf{N} , or

continue to Step 6...

Setting LINEAR.

Make sure you have the proper amount of weight keyed in and the proper amount of weight on the scale when setting LIN-EAR., or SPAN You may stop calibration after setting ZERO and SPAN or continue on to set LINEAR. if necessary for your application.

- 6. Press **SELECT** to return to the *SPAN* display, then press **MENU** to advance to the *LINEAR* display.
- 7. Place approximately half the span test weight on the scale. Press **SELECT**...

A number is displayed.

8. Key in the weight now on the scale and press **SELECT**...

BUSY is displayed briefly and then the weight. You may exit to the normal Weighing Mode by pressing **G/N**, or continue to Step 9...

Viewing DISPLAY

Use this mode to do a build-up test or to check linearity.

- Press **MENU** twice to advance to DISPLAY.
- 10. Press **SELECT** to see the displayed weight without exiting the configuration menu.

You may exit to normal Weighing Mode by pressing **G/N**.

Reset Menu and Master Clear



Do not reset anything unless it is absolutely necessary. If you reset ADJUST, this may mean you have to bring in a weight truck to re-calibrate your system.

If the indicator's memory, calibration or other data becomes corrupted, a reset menu will become active. RESET will be displayed telling you there has been a problem. You may also choose to perform a Master Clear to reset the setup, adjust or data values to default values. Performing a master clear gives you access to the first reset menu shown below. If the indicator found a problem with itself, you will see the second menu. In either case, you must turn switch S1-1 on before you can reset setup or adjust items. **NOTE:** The only items active for a reset or master clear are those items that are not set to the factory defaults.

To perform a master clear follow these steps:

1. Turn the unit off, hold the **TARE** and **ZERO** keys down as you turn on the unit. . .

CODE NO. is displayed.

2. Press **SELECT**... is displayed.

3. Key in your security code number, then press **SELECT**. . .

CODE NO. is displayed.

You must enter the security code number before you can reset any

items.

4. Press MENU...

RESET is displayed. From here you access the rest of the menu items the same as you do for all the other menus.

Master Clear Menu

ALL -Includes Setup, Adjust, and Data

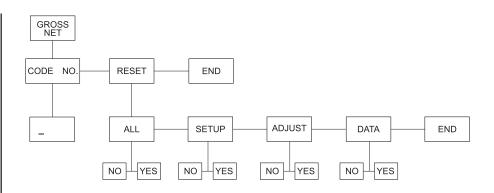
SET UP - Configuration

selections

ADJUST - Calibration settings

DATA -User entered

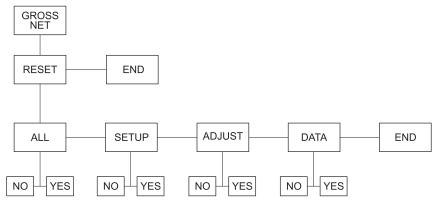
information



If SETUP, ADJUST, or DATA are set to defaults, they will not appear in the menu.

If SETUP, ADJUST, or DATA appear, you have the option to reset one, two, or all three of them to default values.

Reset Menu



If SETUP, ADJUST, or DATA appears and it is flashing, the indicator is telling you that it is corrupted and must be reset to default values.

If *ALL* appears, you have the option to reset all values to their default settings simultaneously.

If *ALL* is flashing, the indicator is telling you that *SETUP*, *ADJUST*, and *DATA* are all corrupted and you must reset them all to default values.

If you choose *ALL*, the unit returns automatically to weighing mode. All factory defaults are now in place, **including calibration values**.

To reset any of the choices, use the **MENU** key to toggle between the choices. When the correct choice is displayed, press **SELECT**, then press **G/N** to save.

If you choose to reset some choices, but not all, the unit will return to weighing mode when you press **G/N**. If nothing is corrupted (no choices are flashing) you can return to weighing mode by pressing **SELECT** while *END* (after *RESET*) is displayed.

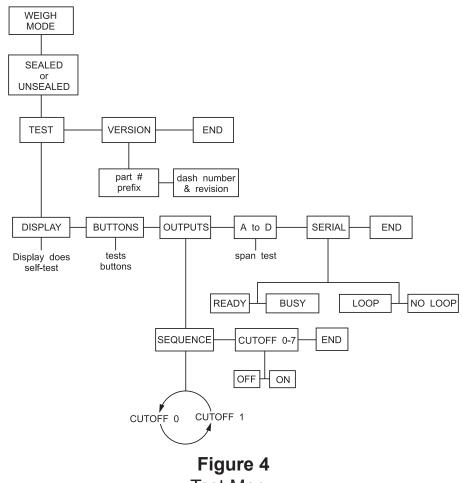
Instructions for moving around within the Configuration Menu

Press SELECT to go Press MENU to go Press SELECT at End to go one level Press MENU to toggle choices
Press SELECT to select new choice
Press G/N to save choices and return to normal weigh mode
Press and hold SELECT to go anytime
Press and hold MENU to go

Indicator Diagnostics

Test Mode

The test mode is used to test various functions of the WI-125. The test menu is shown in Figure 4. Instructions for using the test menu are found below.



Test Menu

Press **MENU** to move → in the diagram

Press and hold **MENU** for 1.5 seconds to move ← in the diagram

Press **PRINT/SELECT** to move ψ in the diagram

Press PRINT/SELECT for 1.5 seconds to select new choice and move ↑ in the diagram

Press **G/N** at any time to save changes and return to gross/net weighing mode

- 1. Enter the test mode from gross/net operation by pressing and holding the **MENU** key until **tESt** is displayed. **SEALEd** or **unSEALEd** is displayed briefly while you hold the key. If you release the **MENU** key too soon, press **G/N** to return to normal weigh mode and begin again.
- Move to the right through the menu selections by pressing **MENU** briefly. Move to the left through the menu selections by pressing **MENU** for 1.5 seconds or hold down for continuous scrolling.

- To move down a level in the hierarchy, press SELECT. Anytime you
 wish to get to the next higher level in the hierarchy, press and hold
 SELECT for approximately 1.5 seconds or press SELECT whenever
 End is displayed.
- 4. Press **MENU** to toggle between choices.
- 5. Press **G/N** to return to gross weighing operation at any time.

Below are the specific directions and explanations for the items you see in the test menu.

- VERSION Under *VErSIOn* are the Weigh-Tronix part number and revision number for the software found in your machine. Weigh-Tronix part numbers are divided into two parts: the prefix and the dash number. With *VErSIOn* displayed, press **SELECT** to view the prefix, then push **MENU** to view the dash number. Press SELECT to return to *VErSIOn*.
- DISPLAY With *diSPLAY* displayed, press **SELECT** and the bottom row of annunciators turns on. Press **SELECT** again and a dynamic test is run. Press **MENU** to stop the dynamic test or consecutively press **MENU** to step through the display test routine. Press **SELECT** when the dynamic test is active to return the unit to *diSPLAY*.
- BUTTONS With *buttonS* displayed, press **SELECT** and an underscore will appear on the screen. Press any key except **MENU** to check for proper key functioning. After testing the buttons, press **MENU** to return to the display.
- OUTPUTS These tests allow you to turn the cutoffs on and off automatically in sequence, under SEQUENCE, or individually, under CUTOFF 0-7. When you exit the outputs test, the cutoffs revert to their proper condition according to the weight on the scale.
- A to D Displays the analog to digital counts. The span is normally 20000 counts per millivolt per volt. With a calibrator at zero millivolts per volt, the displayed value should be between -200 and +200. Press **SELECT** to return to A to D.
- SERIAL Tells you if the serial output is ready or busy. A jumper connecting pins DTR to CTS of the serial port will cause REAdY to be displayed. Pressing the MENU key puts no LOOP on the display. With pins XMITT to RECV connected, LOOP is displayed. With them disconnected, no LOOP is displayed. Press SELECT to return to SErIAL.

Disassembly and Reassembly



Be sure the unit is unplugged before attempting any repair.

Follow the steps in this section to disassemble and reassemble your WI-125 indicator.

1. Remove the tilt knobs as shown in Figure 8.



Figure 8
Removing the tilt knobs

2. Remove the screws holding the base to the indicator case. See Figure 9.



Figure 9
Removing stand screws

3. Place the indicator face down and remove the acorn nuts from the back of the indicator. See Figure 10.



Figure 10 Removing acorn nuts

4. Lift the back of the indicator off, being careful of the connecting wires. See Figure 11.

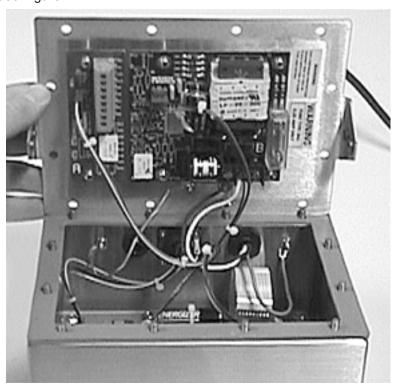
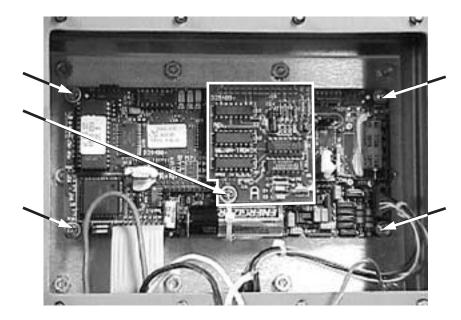


Figure 11
Back removed

- 5. Disconnect the wires from their attachment points.
- 6. Figure 12 shows the main pc board inside the front of the enclosure. Remove this board by removing the screws pointed out in Figure 12 and lifting it off the display board underneath. Outlined in white is the optional time and date card. Pull this card up from the main board once the screw holding it down is removed.



The illustrations show the inside of the LCD version of the WI-125. The LED version will differ slightly.

Figure 12
Screws holding down the main pc board

7. There are two boards attached to the back of the indicator. The one on the left in Figure 13 is the RS-232 terminal block. The one on the right is the power supply board. Remove these by removing the screws pointed out by the arrows.

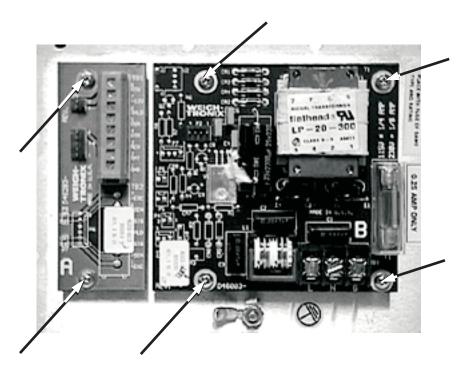


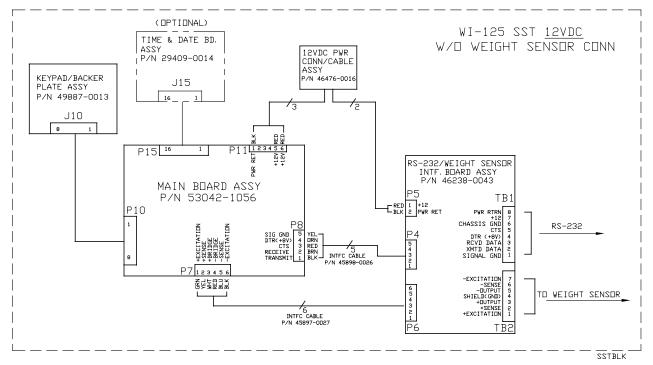
Figure 13 RS-232 terminal and power supply board.

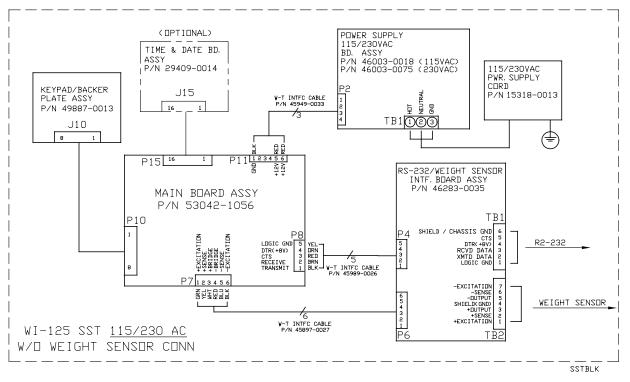
8. Reassemble the unit by reversing the disassembly procedure.

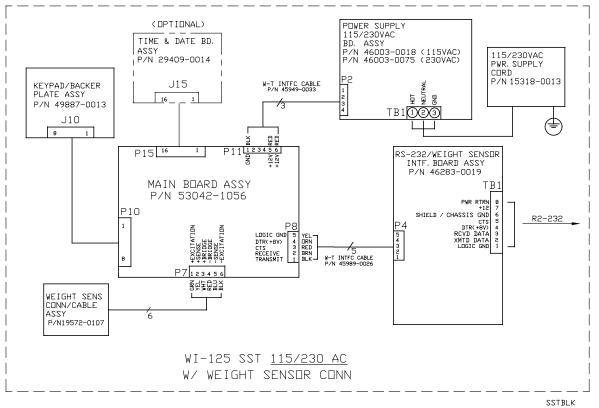
VIEW OF ENCLOSURE WITH THE HOLE PATTERN FOR WEIGHT SENSOR CONNECTOR 1 THIS SIDE 1 WEIGHT SENSOR CONNECTOR/ 25) (29) (3) TORQUE TO 15 IN. LBS 6 NOT USED WITH 12VDC 19-VERSION INDICATORS TORQUE TO 22 IN. LBS TORQUE TO 12 IN. LBS CRIAN CARLOS CAR INTERFACE CABLE FROM WEIGHT SENSORS NDT USED WITH 12EVDC VERSION INDICATORS TO 22 IN. LBS NOT USED WITH 12VDC VERSION INDICATORS NOT USED WITH 12VDC VERSION INDICATORS

WI-125SST INDICATOR (LCD VERSION) (115/230VAC & 12VDC) PARTS AND ASSEMBLY

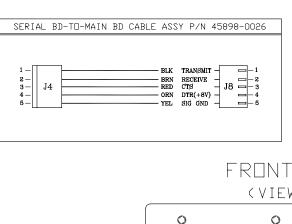
ITEM NO.	DESCRIPTION	W-T P/N	QTY
1	Enclosure (AC, hole pattern for wt sens strain	48721-0015	1
'	relief)	40721 0010	
<0r>	Encl. (AC, hole pattern for wt. sens. connector)	48721-0023	1
<or></or>	Encl. (DC, hole pattern for wt. sens. strain relief)	48721-0031	1
2	Bezel Gasket	48723-0013	1
3	Keypad/Backer Plate Assy	49887-0013	1
5	Kep Nut,#8-32	1025-00125	12
6	Main Board Assy w/ E-PROM	53042-1056	1
	Main Board Assy w/o E-PROM	53042-0033	1
	E-PROM (SST)	53662-0016	1
7	Screw, #6-32 X .31" L	14473-0231	11
8	Lock Washer, #6	14474-0032	7
9	Time And Date Pc Bd Assy (Optional)	29409-0014	1
10	Serial/Wght. Sens. Bd (VAC,w/o wt sens conn)	46283-0035	1
<0r>	Serial/Wght. Sens. Bd (VAC,w/ wt sens conn)	46283-0019	1
<0r>	Serial/Wght. Sens. Bd (VDC,w/o wt sens conn)	46283-0043	1
11	Rear Cover Gasket	48187-0012	1
12	Rear Cover	48186-0039	1
13	Cap Nut,#10-32	15786-0016	10
14	Cap Nut,Modified,#10-32	26513-0013	2
15	Compliance Label (115vac)	45891-0015	1
<or></or>	Compliance Label (230vac)	45890-0016	1
16	Power Supply Pc Bd Assy (used w/ 115 VAC only)	46003-0018	1
<or></or>	Power Supply Pc Bd Assy (used w/ 230VAC only)	46003-0075	1
17	Ground Wire Assy	48712-0024	1
18	Standoff (Used W/Time & Date Bd Option)	15437-5018	1
19	Neoprene Washer, (Used W/ Pwr Cord)	26357-0038	1
20	Strain Relief (Used W/ Pw Cord)	15257-0040	1
21	Neoprene Washer, (Used W/Weight Sens Ca.)	26357-0053	1
22	Strain Relief (Use W/Weight Sens Ca.)	15257-0057	1
23	Neoprene Washer, (Used W/Serial Ca.)	26357-0046	1
24	Strain Relief (Used W/Serial Ca.)	15257-0024	1
25	Lock Nut	17777-0021	1
26	Cap Nut, #8	15771-0021	4
27	Rubber Bumper	15349-0024	4
28	Stand Bracket	48724-0012	1
29	Belleville Washer, 190 ld X .375 Od	1033-13294	2
30	Knob	1091-14144	2
31	Machine Screw,Hex Hd,#10-32 X .25l	14505-0019	2
32	Washer,#10-Internal Tooth	15698-0054	2
33	Power Cord W/ Plug End (Input AC only)	15318-0013	1
<0r>	Power Connector/Cable assy (Input 12VDC only)	46476-0016	1
34	Weight Sensor Interface Connector	19572-0107	1
35	Screw #4-40 x .38L	14473-0124	4
36	Lock Washer, #4	14474-0024	4
37	Hex Nut, #4-40	14471-0027	4
38	Lock Washer, #8	14474-0040	4

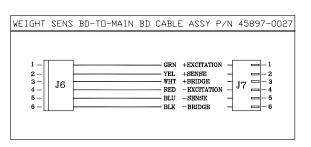


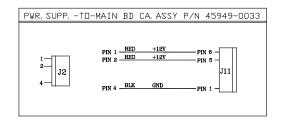


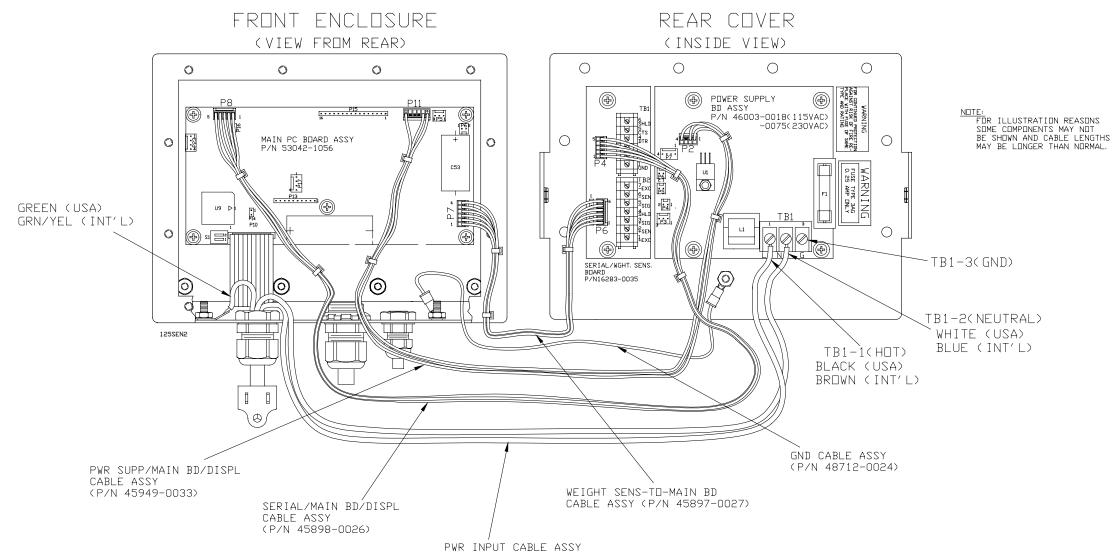


(115/230VAC)
W/O WEIGHT SENSOR CONNECTOR
PC BOARD/CABLE IDENTIFICATION





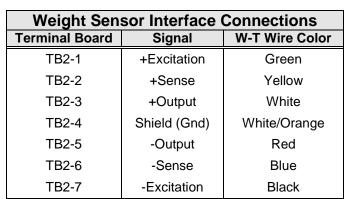




WI-125SST INDICATOR (LCD VERSION)

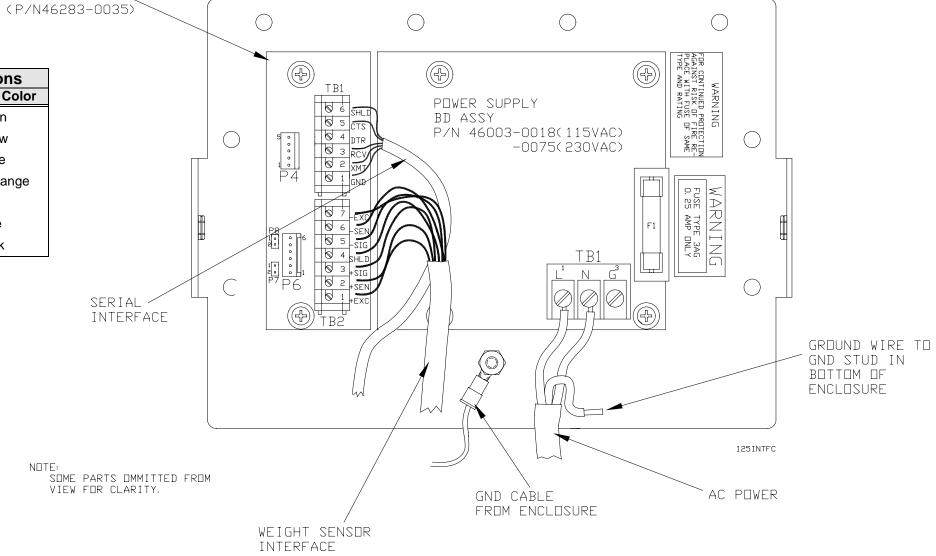
(115/230VAC) W/O WEIGHT SENSOR CONNECTOR EXTERNAL INTERFACE CONNECTIONS



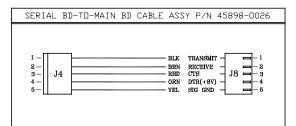


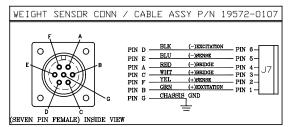
SERIAL/WEIGHT SENSOR BOARD -

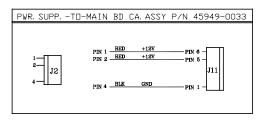
RS-232 Interface Connections	
Terminal Board	Signal
TB1-1	Signal Ground
TB1-2	Transmit Data
TB1-3	Receive Data
TB1-4	Data Terminal Ready
TB1-5	Clear To Send
TB1-6	Chassis Ground

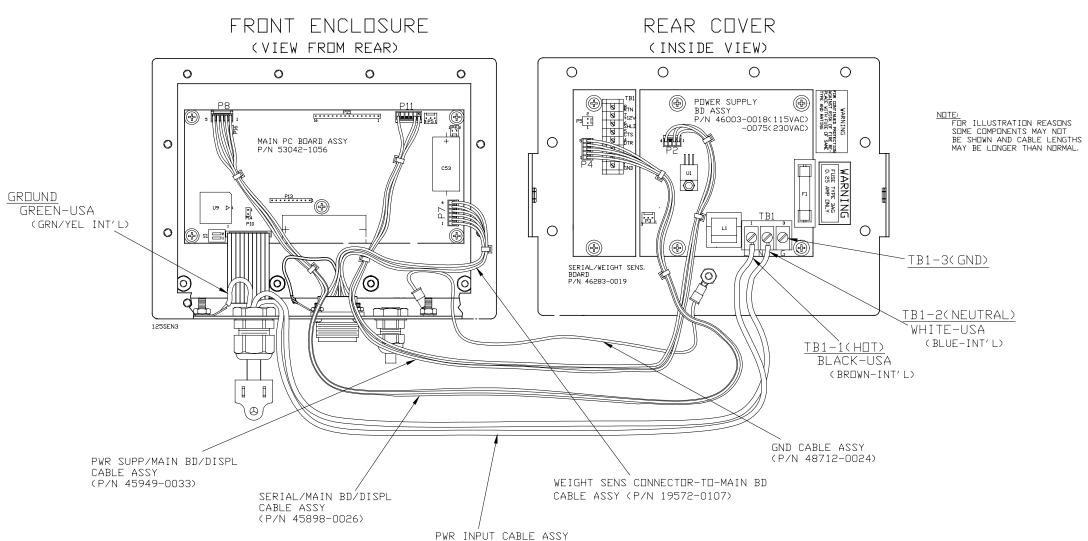


(115/230VAC) W/ WEIGHT SENSOR CONNECTOR PC BOARD/CABLE IDENTIFICATION



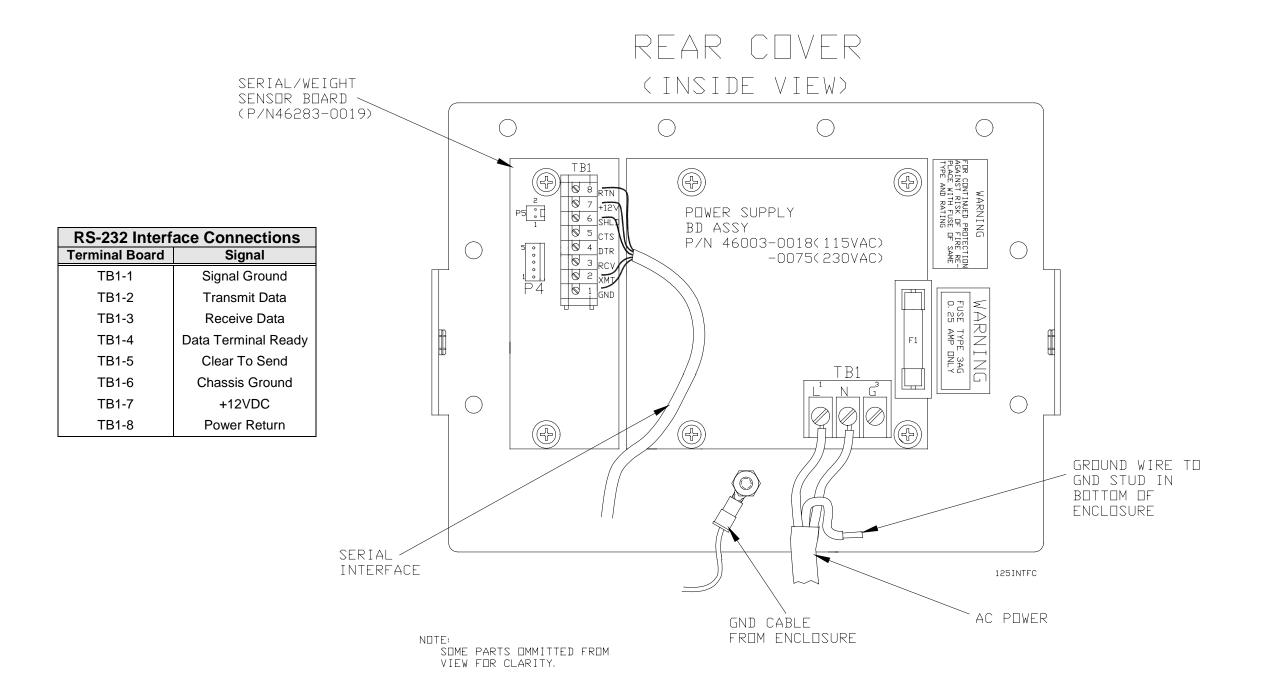




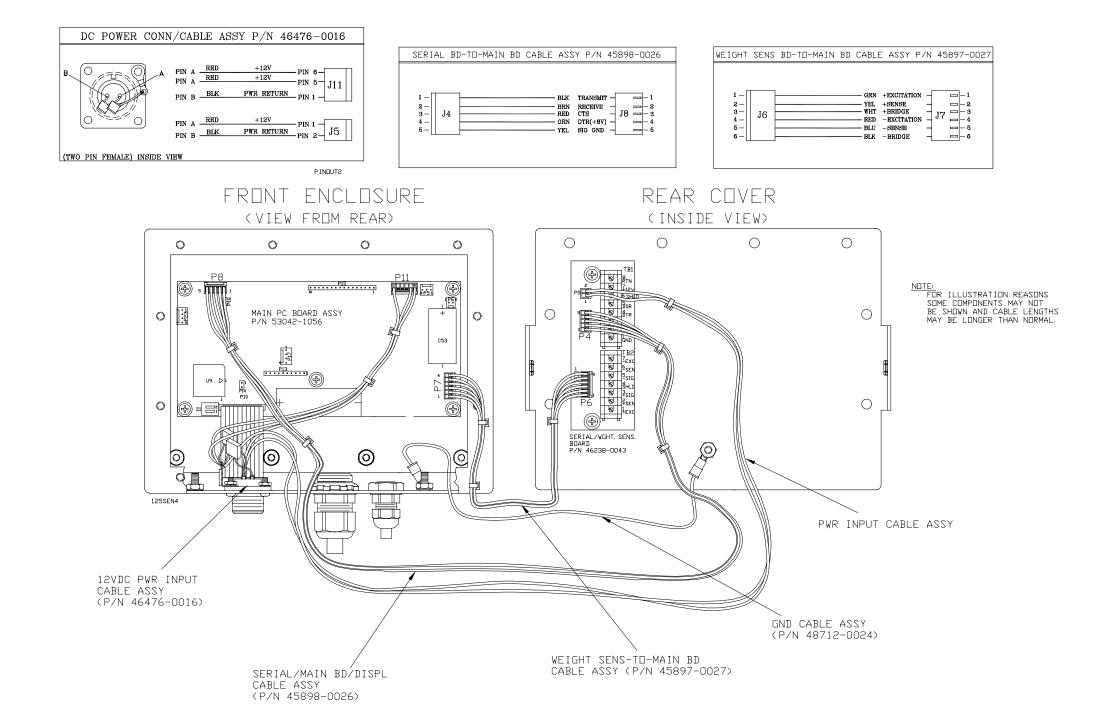


WI-125SST INDICATOR (LCD VERSION)

(115/230VAC)
W/ WEIGHT SENSOR CONNECTOR
EXTERNAL INTERFACE CONNECTIONS



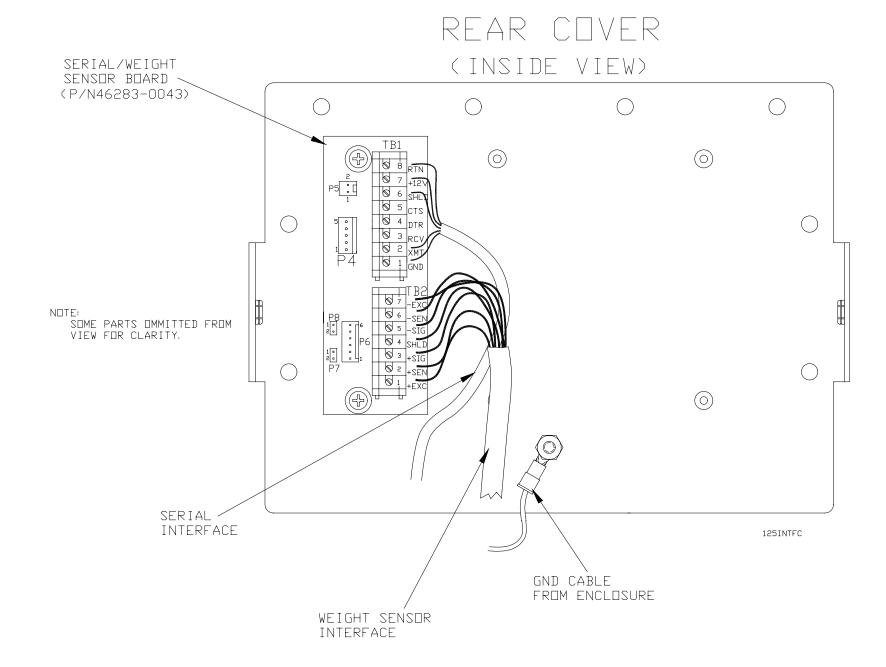
WI-125SST INDICATOR (LCD VERSION) (12VDC) W/O WEIGHT SENSOR CONNECTOR PC BOARD/CABLE IDENTIFICATION

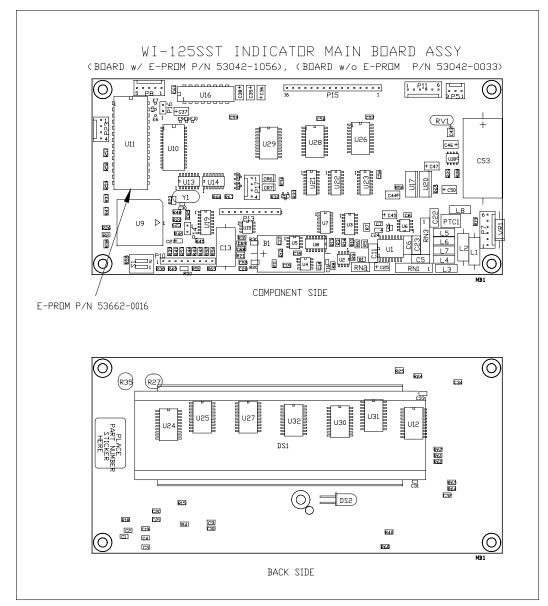


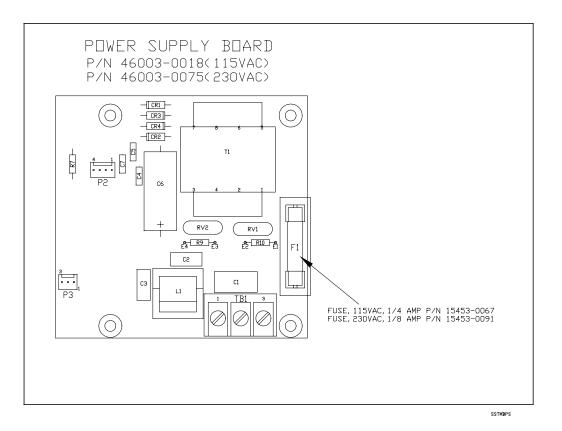
WI-125SST INDICATOR (LCD VERSION)
(12VDC)
W/O WEIGHT SENSOR CONNECTOR
EXTERNAL INTERFACE CONNECTIONS

Weight Sensor Interface Connections			
Terminal Board	Signal	W-T Wire Color	
TB2-1	+Excitation	Green	
TB2-2	+Sense	Yellow	
TB2-3	+Output	White	
TB2-4	Shield (Gnd)	White/Orange	
TB2-5	-Output	Red	
TB2-6	-Sense	Blue	
TB2-7	-Excitation	Black	

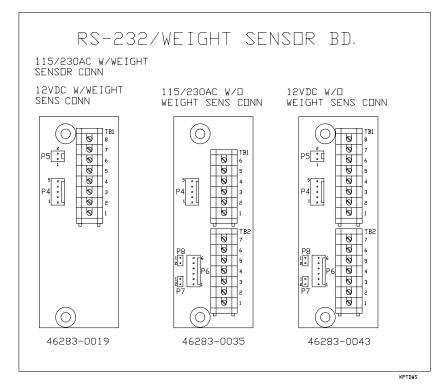
RS-232 Interface Connections		
Terminal Board	Signal	
TB1-1	Signal Ground	
TB1-2	Transmit Data	
TB1-3	Receive Data	
TB1-4	Data Terminal Ready	
TB1-5	Clear To Send	
TB1-6	Chassis Ground	
TB1-7	+12VDC	
TB1-8	Power Return	

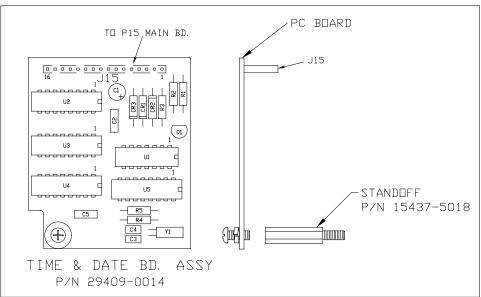






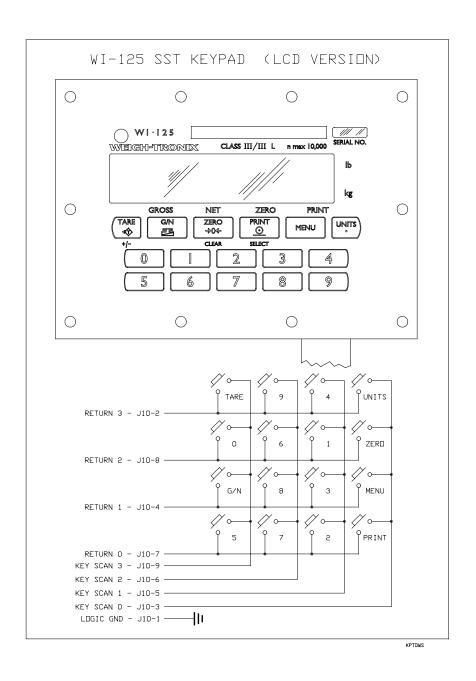
SSTMBPS





WI-125SST INDICATOR (LCD VERSION)

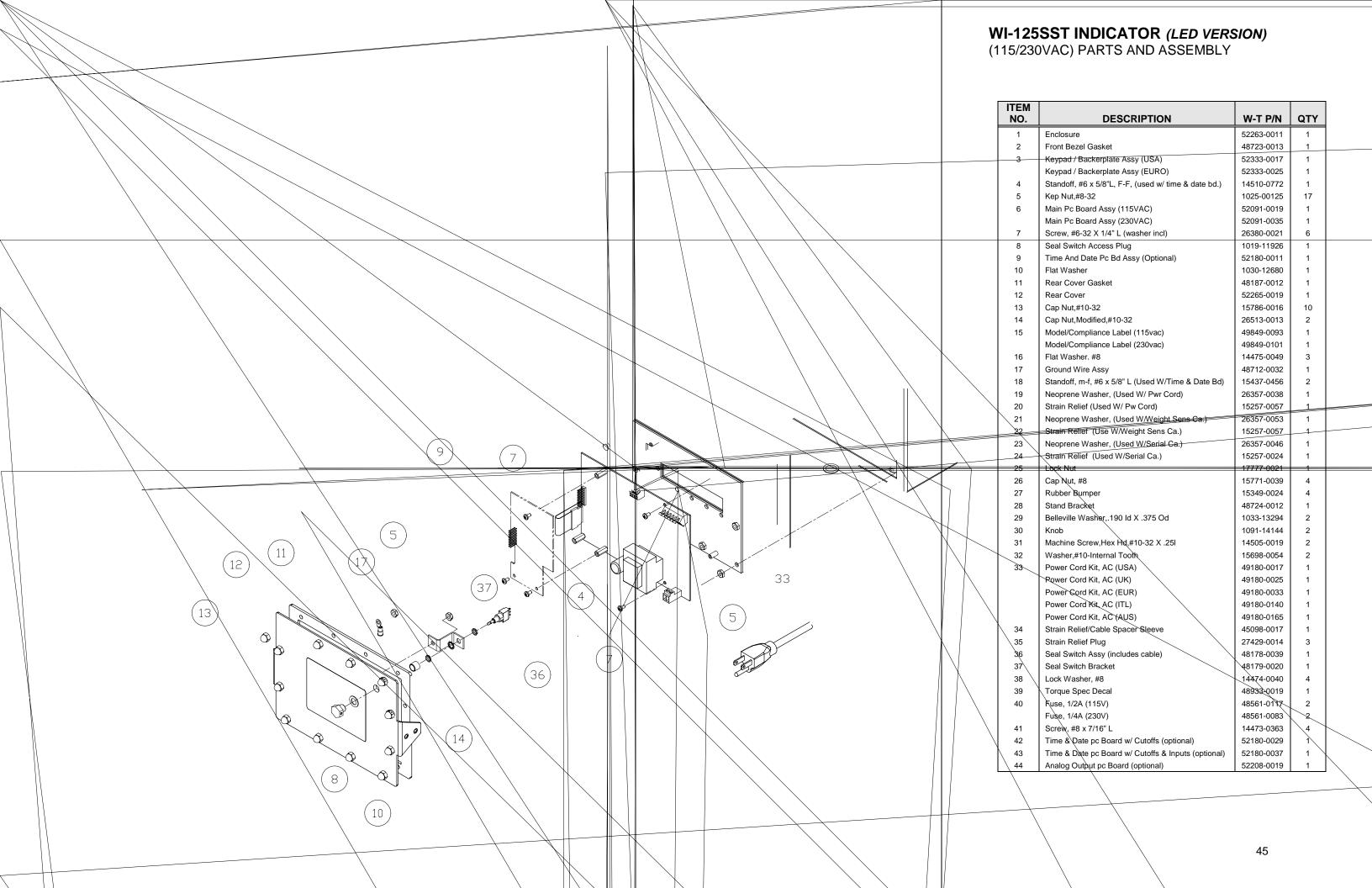
(115/230VAC & 12VDC) KEYPAD & SCHEMATIC, SERIAL / WEIGHT SENSOR BOARDS, TIME & DATE BOARD (OPTIONAL)

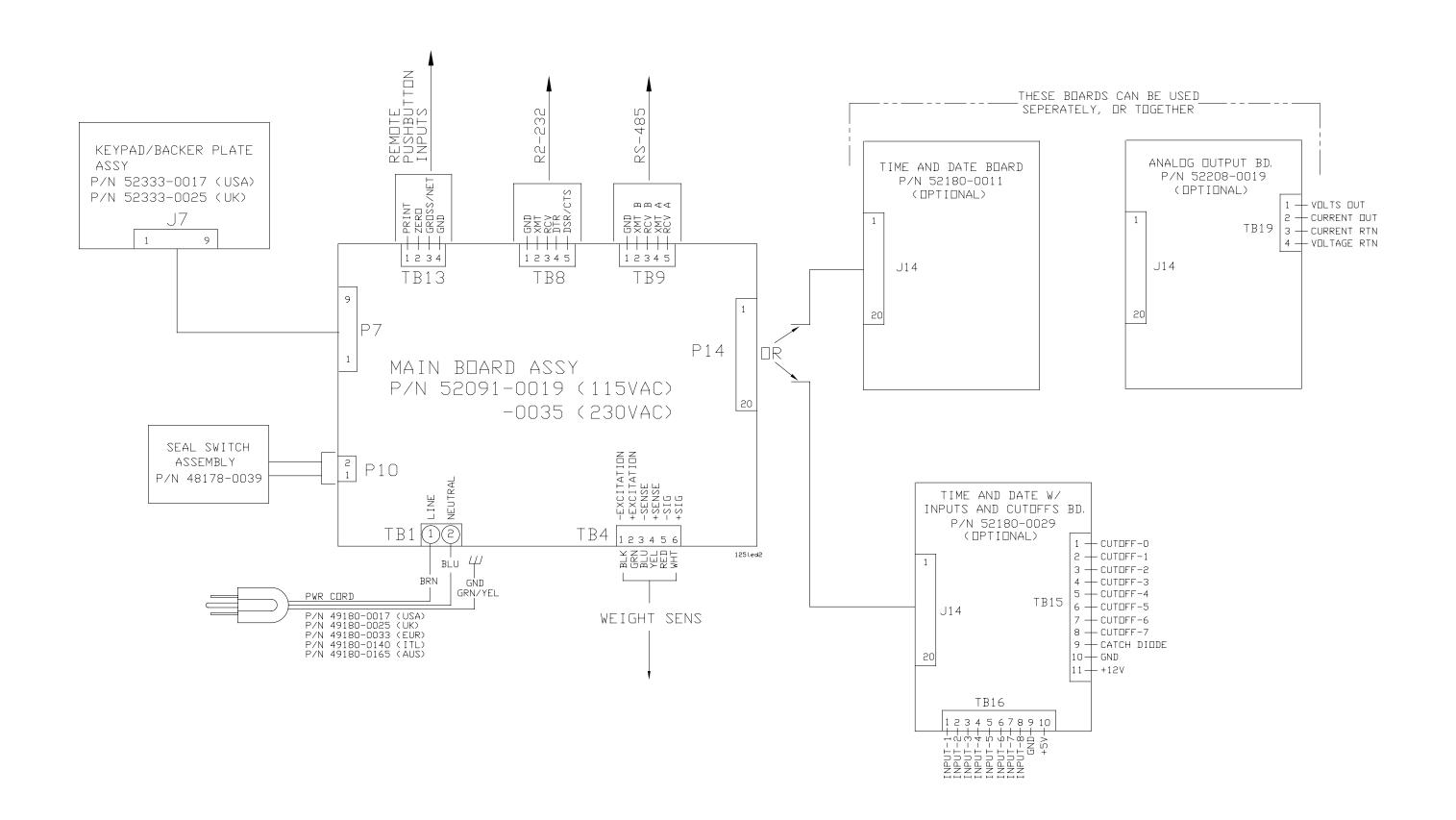


KPTDWS

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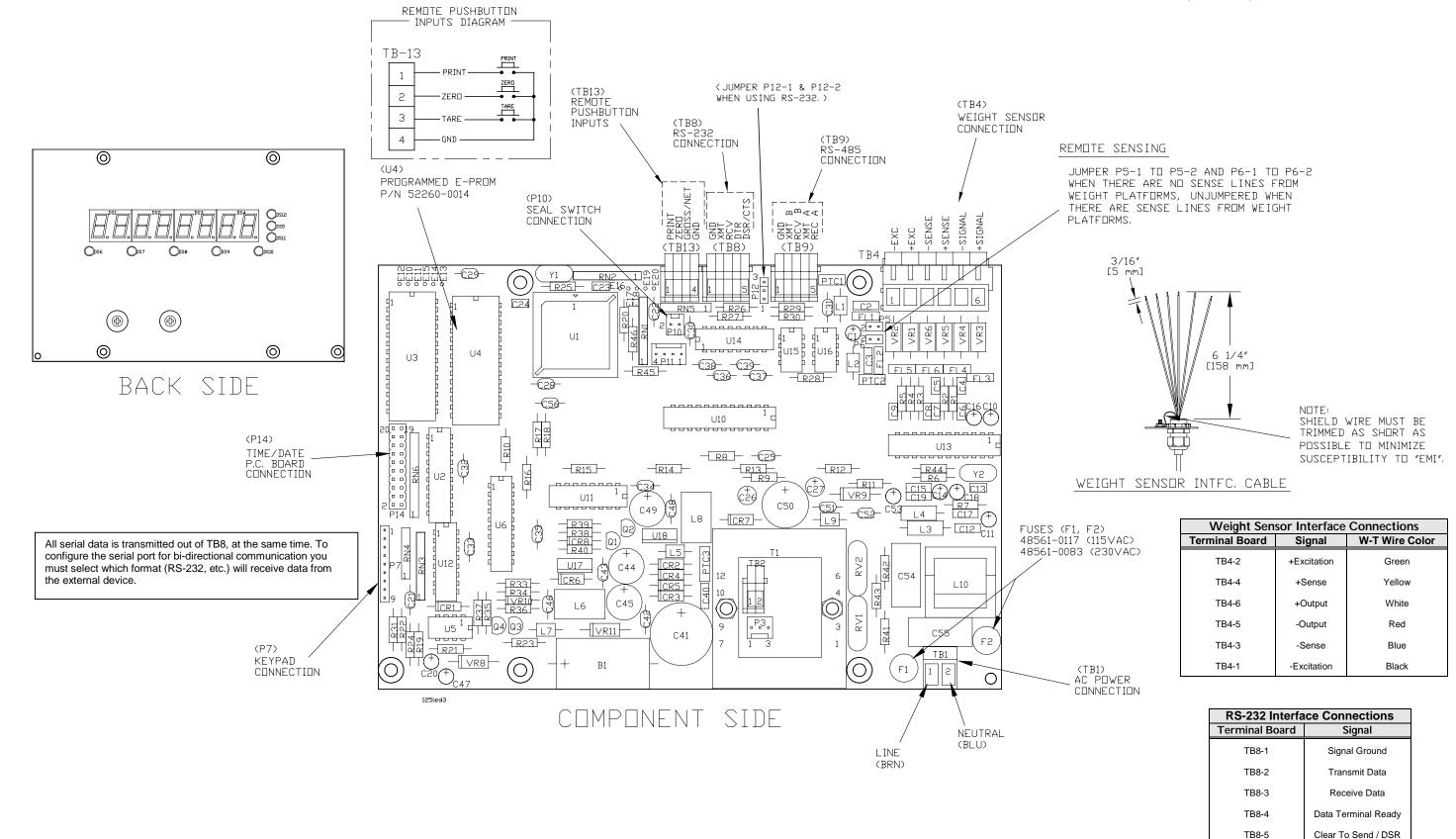
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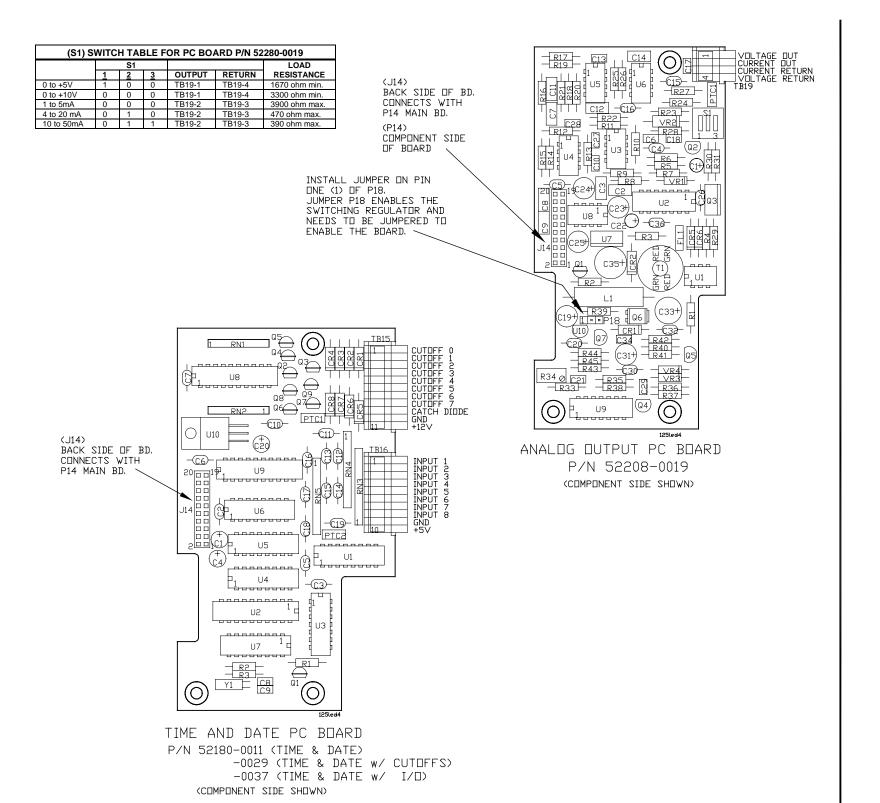




WI-125SST INDICATOR (LED VERSION)

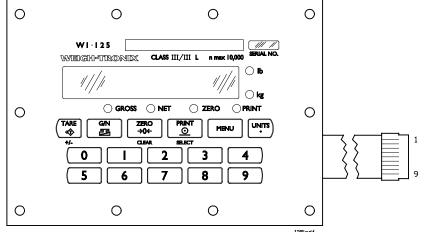
MAIN BOARD IDENTIFICATION P/N 52091-0019 (115VAC 52091-0035 (230VAC)



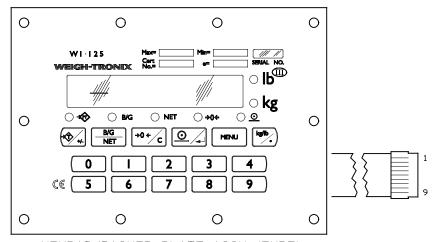


WI-125SST INDICATOR (LED VERSION)

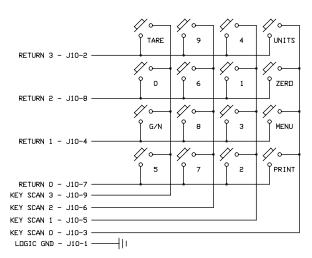
(115/230VAC) PEYPAD, OPTIONAL P.C. BOARDS



KEYPAD/BACKER PLATE ASSY (USA) 1251ed4 P/N 52333-0017



KEYPAD/BACKER PLATE ASSY (EURO)
P/N 52333-0025



KEYPAD MATRIX

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