Avery Weigh-Tronix

Model E1010 Indicator

E1010

Service Manual

ENGLISH

AWT35-500132 Issue B April 23, 2007

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 présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la Class A prescrites dans le Règlement sur le brouillage radioélectrique que edicté par le ministère de2s Communications du Canada.

EUROPEAN COUNTRIES

WARNING

This is a Class A product. In a domestic environment this product may cause radio interference in which the user may be required to take adequate measures.

CAUTION

CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED.
REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER.
DISPOSE OF USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS

ATTENTION: IL Y A DANGER D'EXPLOSION S'IL Y A REMPLACEMENT INCORRECT DE LA BATTERIE, REMPLACER UNIQUEMENT AVEC UNE BATTERIE DU MÊME TYPE OU D'UN TYPE ÉQUIVALENT RECOMMANDÉ PAR LE CONSTRUCTEUR. METTRE AU REBUT LES BATTERIES USAGÉES CONFORMÉMENT AUX INSTRUCTIONS DU FABRICANT".

CAUTION: THE POWER SUPPLY CORD IS USED AS THE MAIN DISCONNECT DEVICE, ENSURE THAT THE SOCKET-OUTLET IS LOCATED/INSTALLED NEAR THE EQUIPMENT AND IS EASILY ACCESSIBLE.

ATTENTION: LE CORDON D'ALIMENTATION EST UTILISÉ COMME INTERRUPTEUR GÉNÉRAL. LA PRISE DE COURANT DOIT ÊTRE SITUÉE OU INSTALLÉE À PROXIMITÉ DE L'ÉQUIPEMENT ET ÊTRE FACILE D'ACCÉS".

Table of Contents

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.

Specifications

Power requirements
- 100-240 Volts AC @ 600 mA
- 50/60 Hz
- Optional Internal battery: 23 hours of continuous operation with one weight sensor; 15 hours of continuous operation with four weight sensors
- Standby mode extends battery life

Excitation
- 5 volts
- Supports up to four 350-ohm weight sensors

Analog signal input range
- 12 mV/V

Analog signal sensitivity
- 0.5 µV/division minimum

Calibration
- 2 to 5 points stored

Operational keys
- Tare, Select, Zero, Print, Units, F1, Clear, Mode, Escape, Enter, On/Off, 0-9 numeric and decimal point

Operational annunciators
- Center of Zero, Motion, Gross, Tare, Net, Battery status
- Under/Target/Over
- Units of measure (LB, KG, Custom)
- Peak, Print, OP1, OP2, OP3, Count

Display
- Seven-digit, seven-segment, 0. 8-inch high
- Lighted STN Transmissive
- Display rate Selectable (1, 2, 5, 10)

Analog to digital conversion rate
- 60 times per second

Unit of measure:
- Three, independently programmable
- Pounds, Kilograms, Custom

Capacity selections
- 999,999 with decimal located from zero to five places

Incremental selections
- Multiples and sub-multiples of 1, 2, 5

Programmable selections
- Zero range, motion detection, automatic zero tracking, five-point linearization

Time and date / RAM
- Battery backed up real time clock and RAM

Internal resolution
- 64,424,509 counts per mV/V per sec

Standard inputs
- Three logic level inputs for: Zero, Print, Tare, Units, F1

Standard outputs
- Three cutoff outputs, open collector design
- Two serial ports with RS-232. One of the ports can also be 20mA current loop, or RS-422 or RS-485

Serial outputs

Two serial ports:
- RS-232 / RS-422 / RS-485 / 20mA current loop
- RS-232

Serial Command Inputs
- Programmable serial response to ASCII character input, SMA protocol, broadcast, enquire, RD-4100, E-Series remote display

Self diagnostics

Display, keys, inputs, outputs, serial port,

Circuitry protection
- RFI, EMI, and ESD protection

Options
- Trips Interface Unit (TIU3)

Operating applications
- General weighing, simple counting, checkweighing, accumulation, peak measurement, batching, and remote display

Operating temperature
- 14 to 104° F (-10 to 40° C) approved
- -4 to 140° F (-20 to 60° C) non-legal
- 10 to 90% noncondensing humidity

Enclosure
- Stainless steel NEMA 6/4X

Dimensions:
- 9.25” W x 9.25” H x4.5 “ D
  (23.5cm W x 23.5cm H x 11.4cm D)
  (without mounting bracket)
- 9.75" W x 11” H x 7" D
  (24.8cm W x 28cm H x 17.8cm D)
  (with mounting bracket)

Weight: 11 lb, 5 kg

Agencies:
- NTEP CC# 04-029
  Class III/IIIL:10,000 divisions
- OIML Cert. No. R76/1992-GB1-04.09
  Class III: 10,000 divisions
- Canadian Weights and Measures pending
- UL/CUL
- CE marked

Introduction

About This Manual

This manual covers the information you need to configure and service your Model E1010 Indicator.

Major sections of this manual are headed by titles in a black bar like *Introduction* above. Subheadings appear in the left column. Instructions and text appear on the right side of the page. Occasionally notes, tips, and special instructions appear in the left column.

Front Panel

Attention

The Model E1010 is battery powered. The unit can be run on AC power if the battery is drained or absent.

See Battery Information *for more specific information.*

The front panel, shown in Figure 1, consists of the keys and display.

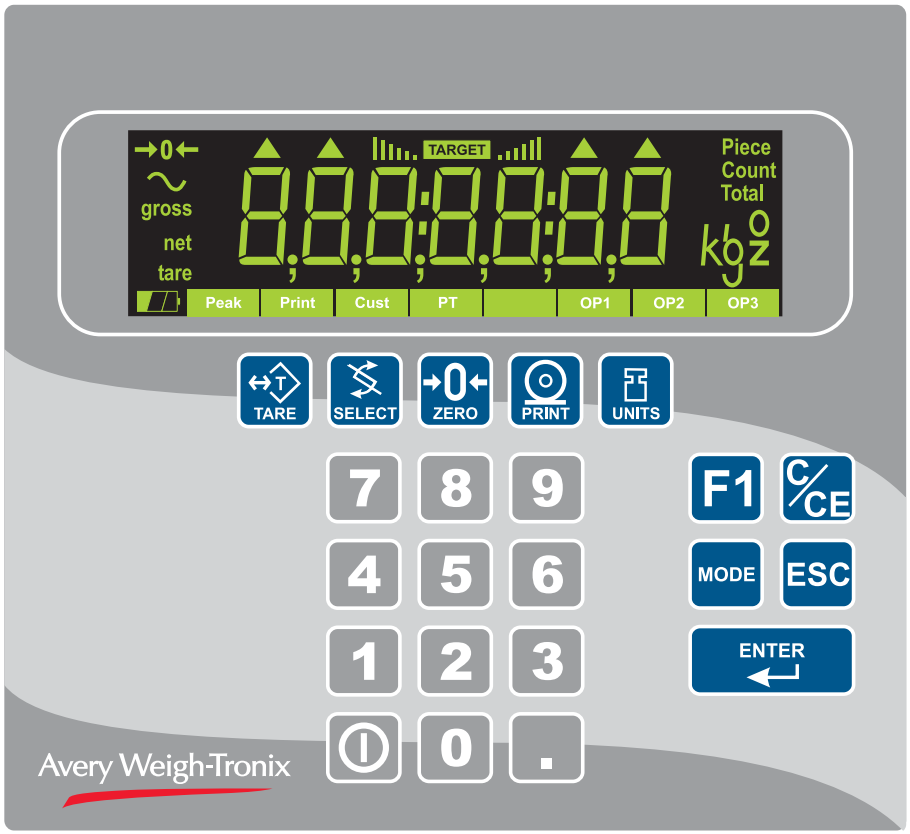


Figure 1
E1010 front panel

Keys

Never press a key with anything but your finger. Damage to the overlay may result if sharp or rough objects are used.

The functions of the keys on the front panel are listed below.

Press the **TARE** key to perform a tare function. Also acts as a left arrow key when in the menu structure.

Press the **SELECT** key to toggle between Gross, Tare, Net, Count, Gross Accumulator, Net Accumulator, Transaction Counter, Piece Weight, and Peak. This is dependent on the current application. Also acts as an up arrow key when in the menu structure. Press and hold to access the outputs function.

Press the **ZERO** key to zero the display.

Press the **PRINT** key to send information to a peripheral device through one of the communication ports. Also acts as a down arrow key when in the menu structure.

Press the **UNITS** key to scroll through the available units of measure while in normal operating mode. Also acts as a right arrow key when in the menu structure.

Press the **F1** key to select application specific choices. Also used to access PLU (Product Look Up) memory channels.

Press the **C/CE** key to clear entries.

Press the **MODE** key to scroll through the enabled applications. The application name is briefly displayed when key is released.

Press the **ESC** key to escape a function or return to normal operation mode. Press and hold to access the password display for the menu structure.

Press the **ENTER** key to accept displayed choices.

Use the numeric keypad to enter values.
For example:

- ID entry
- Output target entry
- Preset tare entry
- Password entry

To turn the unit on, press and hold the **ON/OFF** key until the backlight turns on. To turn the unit off, press and hold the **ON/OFF** key until the unit turns off.

Battery Information

Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the manufacturer's instructions.

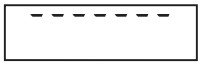
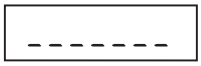
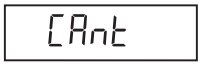
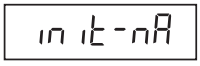
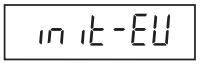
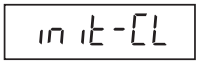
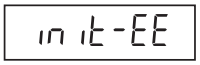
This unit contains a sealed rechargeable 6 volt, 3.0Ah, lead-acid battery. Life expectancy of this battery is 3-5 years in standby use or:

180 charging cycles (approx.) if discharged 100%
400 charging cycles (approx.) if discharged 50%
1200 charging cycles (approx.) if discharged 30%

Battery life is 23 hours with one 350 ohm weight sensor and 15 hours with four 350 ohm weight sensors. Recharge time from complete discharge is 14 hours while powered up and in service (single loadcell). The AC adapter/charger will charge the battery as it powers the indicator.

Error Messages

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

Display	Description
	Overrange weight.
	Underrange weight.
	The unit cannot perform a function. Displayed only while key is held down.
	Displayed while a key is pressed when attempting to modify a sealed selection without edit privileges.
	Appears when the A to D converter is not functioning properly.
	The indicator is being set to North American defaults.
	The indicator is being set to European defaults.
	Clearing calibration and resetting to factory default.
	Wiping all configuration and calibration information from the EEPROM. See note at left.
	If you are in the counting sample mode menus, this means the piece weight is too small, make the sample size larger.

*If the **init-EE** message is displayed (can be displayed for over a minute), it is usually followed by the **init-nA** and then the **init-CL** message.*

Menu Structure

There are several menus you use to setup or service the Model E1010. You access the menus through the front panel. Each menu is briefly described here. For in depth information about a menu, go to that menu's section in this manual.

User menu (password is 111)

The first menu covered in this manual is the **User** menu. This menu allows the user to:

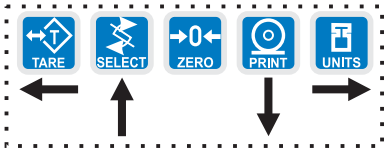
- view software part numbers and revision level
- test the display and buttons
- test the serial port
- view the number of configurations and calibrations performed on the indicator

When testing inputs and outputs, follow all lockout and tagout procedures to avoid injuries.

Service menu (password is 0101)

The second menu covered is the **Service** menu. This menu covers many areas. In it you can:

- calibrate the system
- configure the metrological function of the indicator
- Enable or disable available applications
- configure serial port
- test the display and buttons, test the serial port, test the inputs and outputs (See note at left)
- view the number of configurations and calibrations performed on the indicator
- configure inputs and outputs



Supervisor menu (password is 1793)

The third menu is the **Supervisor** menu. This section lets you:

- Set time and date
- Setup a piece look up (PLU) database, clear and/or print data gathered by each application
- test the display and buttons, test the serial port, test the inputs and outputs
- view the number of configurations and calibrations performed on the indicator

Accessing the Menus

You must key in the password within 10 seconds or the display returns to normal operation mode.

1. Access the menus by pressing and holding the **ESC** key for 3-5 seconds.

   PASS_ is displayed.

2. Key in the password of the menu you want to access and press **ENTER**.

   The first item in that menu is displayed.

3. Use the navigation keys shown in the box near each menu to move through the menu.

User Menu

The User menu lets you test various functions of the indicator. The User menu is shown in Figure 2.

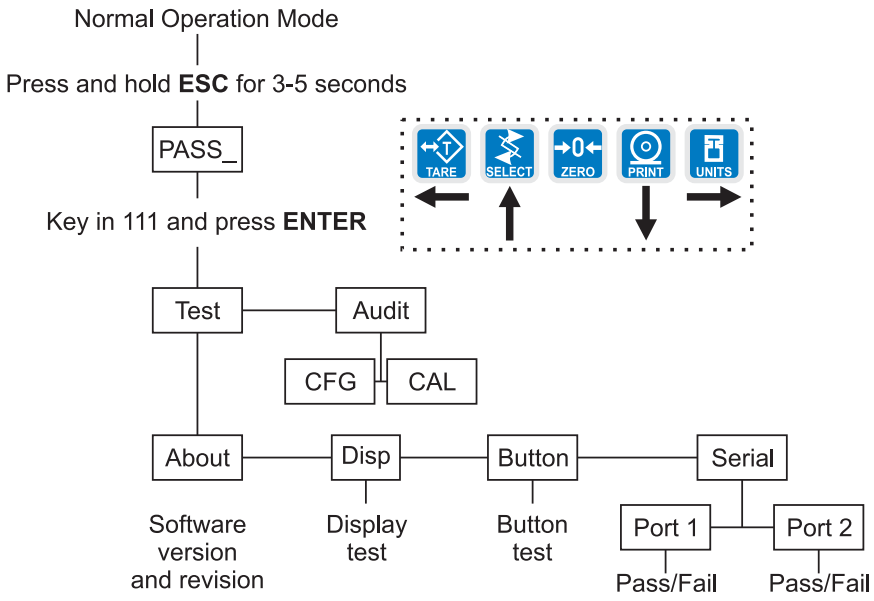


Figure 2
User menu flowchart

Following are specific instructions for the User menu.

1. Access the User menu by pressing and holding the **ESC** key for 3-5 seconds.

   PASS_ is displayed.

2. Key in the User menu password (111) and press **ENTER**.

   TEST is displayed.

3. Press the **PRINT** key.

   ABOUT is displayed.

4. Press the **PRINT** key. . .

   The part number and revision level of the software found in your indicator is displayed. Use the **TARE** and **UNITS** keys to scroll through the part number and revision.

5. Press the **SELECT** key. . .

   ABOUT is displayed.

6. Press the **UNITS** key. . .

   DISP is displayed. This is the display test item.

7. Press the **PRINT** key to perform a dynamic test of the display. . .

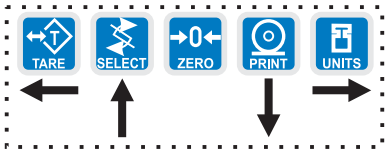
   All the display elements flash.

8. Press the **SELECT** key to stop the test. . .

   DISP is displayed.

9. Press the **UNITS** key. . .

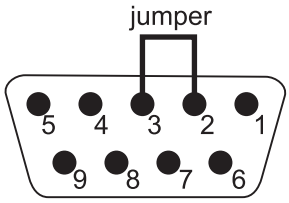
   BUTTON is displayed. This is the button test item.



10. Press the **PRINT** key to perform a button test. Each key you press will be reflected on the display by a number to confirm the button is functioning correctly. See Table 1. The **ESC** key is excluded from this test. It is used to stop the testing and return to the menu item.

Table 1

KEY =	***DISPLAY***
TARE =	***tArE***
SELECT =	***SELECt***
ZERO =	***ZEro***
PRINT =	***Print***
UNITS =	***Units***
F1 =	***F1***
Power =	***on/oFF***
9 =	***999***
8 =	***888***
7 =	***777***
6 =	***666***
5 =	***555***
4 =	***444***
3 =	***333***
2 =	***222***
1 =	***111***
0 =	***000***
. =	***dP***
C/CE =	***CE***
MODE =	***nnodE***
ENTER =	***EntEr***
ESC	***ESc*** is briefly displayed before exiting the test



Serial port connector

11. Press **ESC** key to stop the button test.

    BUTTON is displayed.

12. Press the **UNITS** key. . .

    SERIAL is displayed. This is the serial test item. To test the serial port, jumper the TX and RX lines (pins 2 & 3 in the DB-9 connector). See illustration at left.

13. Press the **PRINT** key to access the serial test.

    The display will show ***PASS*** if the serial port is working properly and the Rx and Tx lines are jumpered. If there is a problem the display will show ***FAIL***.

14. Press the **SELECT** key to exit the serial test.

    SERIAL is displayed. Remove the jumper from the TX and RX lines of the DB-9 serial connector.

15. Press the **SELECT** key. . .

    TEST is displayed.

16. Press the **UNITS** key. . .

    AUDIT is displayed.

17. Press the **PRINT** key. . .

    CFG is displayed. This stands for the configuration audit counter. Press the **PRINT** key to see the number of times the configuration has been altered on this indicator. This number is displayed temporarily and then ***CFG*** is displayed.

18. Press the **SELECT** key to return to the ***AUDIT*** menu item. Press the **UNITS** key. . .

    CAL is displayed. This stands for the calibration audit counter. Press the **PRINT** key to see the number of times the indicator has been calibrated. This number is displayed temporarily and then ***CAL*** is displayed.

19. Press **ESC** twice to return to normal operation mode.

Service Menu

See Appendix 1 to see the complete Service menu.

Password for the Service menu is 0101.

Jumper JP1 must be in place to unseal the indicator.

CAL submenu

The indicator must be unsealed to perform calibration. The indicator is unsealed when Jumper JP1 is on. It is sealed with Jumper JP1 removed.

ZERO
(Setting Zero Reference Point)

*Press the **ESC** key to abort calibration.*

The first level of the Service menu is shown in Figure 3. Under these nine items you can do most of the configuration and calibration procedures to ready the indicator for use. Other items are covered in the Supervisor menu covered later in this manual

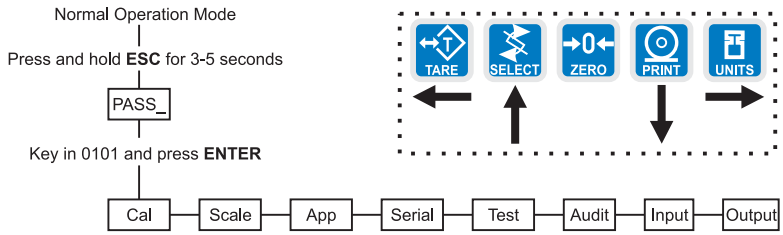


Figure 3
Service menu top level flowchart

Since the whole Service menu is quite large, it has been broken up into its individual submenus. Each submenu is illustrated below followed by specific instructions. See *Appendix 1: Complete Service Menu* to see the whole menu at once.

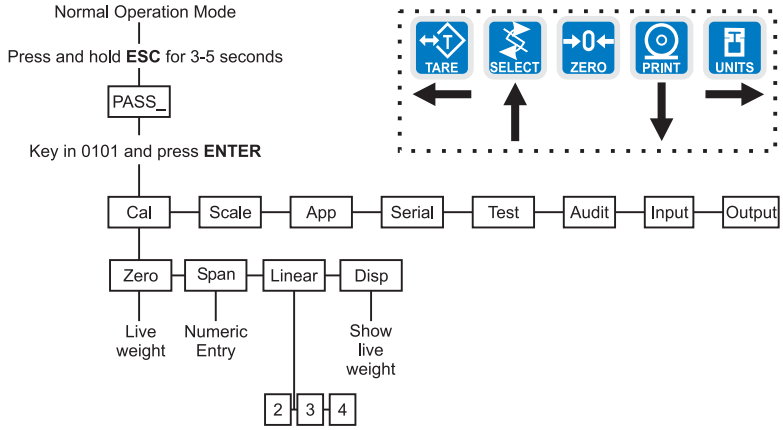


Figure 4
CAL submenu

1. Access the Service menu. . .
   CAL is displayed.

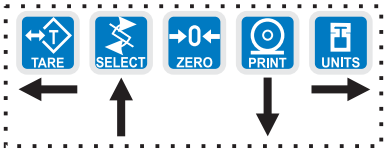
2. Press the **PRINT** key. . .
   ZERO is displayed. Use this item to set the zero reference for the indicator/scale.

3. Remove all weight from the scale and press the **PRINT** key. . .
   Live weight is shown.

4. Press the **ENTER** key to perform the zero procedure. . .
   BUSY is briefly displayed then the live weight which should be ***0***.

5. Press the **ENTER** key to save and return to the ZERO menu item. . .
   ZERO is displayed.

SPAN
(Setting Span)



*Press the **ESC** key to abort calibration.*

1. Press the **UNITS** key. . .

   SPAN is displayed. Use this item to set the span for the indicator/scale.

2. Press the **PRINT** key. . .

   Current capacity is displayed.

3. Key in a new span weight value and press **ENTER** (when you start to key in the span weight, the old value is replaced by the new)

   or

   press **ENTER** to accept current span weight value. . .

   The live weight is displayed.

4. Place the correct span weight on the scale and press **ENTER** when weight is stable.

   BUSY is briefly displayed then the weight.

5. Press the **ENTER** key to accept the calibration and return to the SPAN menu item. . .

   SPAN is displayed.

6. Press **ESC** to return to normal weighing mode
   OR go to step 1 below.

LINEAR
(Linearization)

Linear points must be done in order (2-4) with increasing weight.

1. Press the **UNITS** key. . .

   LINEAR is displayed. Use this item to set extra calibration points.

2. Press the **PRINT** key. . .

   2 is displayed. This represents cal point 2.

3. Press the **PRINT** key to set this calibration point. . .

   A numeric value is displayed.

4. Key in a weight value for this calibration point and press the **ENTER** key. . .

   Live weight on the scale is displayed.

5. Place the test weight for this calibration on the scale and press **ENTER**. . .

   Busy is briefly displayed and then ***2***.

6. Press the **UNITS** key to move to the next calibration point. . .

   3 is displayed.

7. Repeat steps 3-6 for cal point 3 and 4.
   When you are done ***4*** will be displayed.
8. Press the **SELECT** key to return to the LINEAR menu item.
9. Press the **ESC** key to return to normal operating mode.

DISP
(Live Weight Display)

Use this item to view the live weight on the scale without exiting the Service menu.

1. Press the **UNITS** key. . .
   DISP is displayed.
2. Press the **PRINT** key. . .
   The live weight is displayed.
3. Press the **ENTER** key to return to ***DISP***.
4. Press the **SELECT** key. . .
   CAL is displayed.

This completes the CAL section of the Service menu.

SCALE submenu

This section of the Service menu lets you set up the metrological items for the scale and indicator. Figure 5 shows the flowchart of this menu item. Follow the directions and explanations below to set up these items.

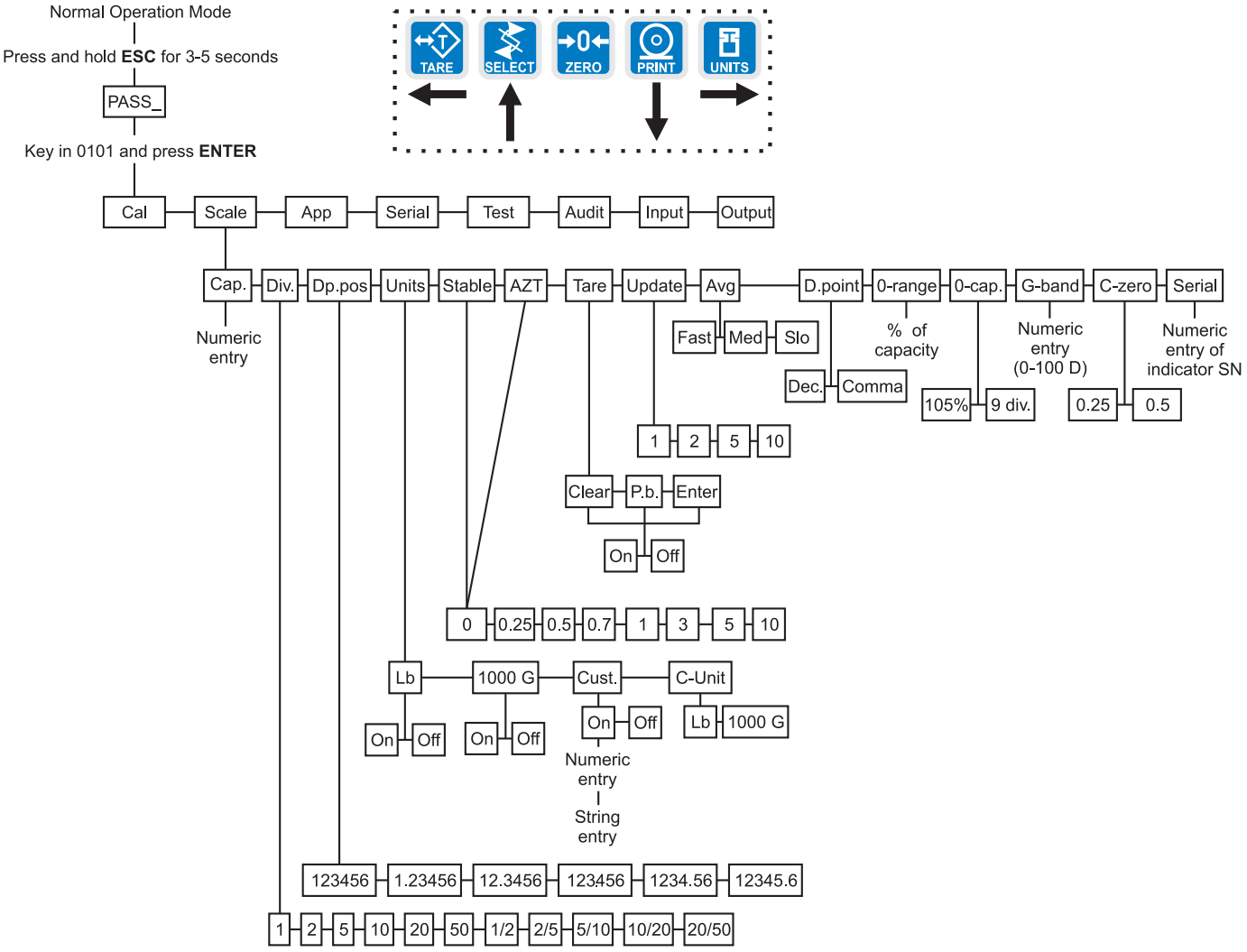


Figure 5
Scale submenu flowchart

1. Access the Service menu. . .
   CAL is displayed.

2. Press the **UNITS** key. . .
   SCALE is displayed.

CAP. (Capacity)

3. Press the **PRINT** key. . .
   CAP. is displayed. Use this item to set the capacity for the scale.

4. Press the **PRINT** key. . .
   The current capacity value is shown.

5. Press **ENTER** to accept this value or key in a new capacity and press **ENTER**. . .
   CAP. is displayed.

DIV.
(Division)

Combine this item and the next one, DP.POS., to set the division size.

1. Press the **UNITS** key. . .

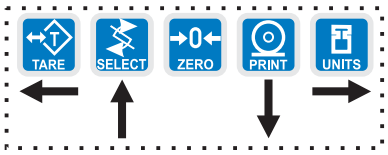
   DIV. is displayed. This stands for the division size of your displayed weight.

2. Press the **PRINT** key. . .

   The current division size is shown. Pick from the following values; 1, 2, 5, 10, 20, 50, **1/2, 2/5, 5/10, 10/20, 20/50**.

   The fraction choices are for use as dual range divisions. The first number is the division size for the first half of the capacity and the second number is the division size for the 2nd half of the capacity.

   All of these capacities function in conjunction with the decimal place position. For example, if you choose a division size of 5 and a decimal position of 12345.6, your division size will be .5.



3. Scroll through the choices by using the **UNITS** or **TARE** key. When your choice is displayed, press **ENTER**.

   DIV. is displayed.

DP.POS.
(Decimal point position)

Use this item to set the decimal point position in the displayed weight.

1. Press the **UNITS** key. . .

   DP.POS. is displayed. This stands for decimal point position.

2. Press the **PRINT** key. . .

   The current decimal point position is shown. Choices available are; 123456, 12345.6, 1234.56, 123.456, 12.3456 and 1.23456.

3. Scroll through the choices by using the **UNITS** or **TARE** key. When your choice is displayed, press **ENTER**.

   DP.POS. is displayed.

UNITS
(Unit of measure)

You can have up to three units of measure active. They are lbs, kgs, or a custom unit of measure.

Follow these steps:

1. Press the **UNITS** key. . .

   UNITS is displayed.

2. Press the **PRINT** key. . .

   LB is displayed. LB, 1000G or CUST are your choices for units of measure. These stand for pounds, kilograms, or a custom unit of measure.

If your new custom unit is larger than one CAL UNIT, then you key in how many CAL UNITS make up 1 new custom unit. For example 1 TON = 2000 pounds so with pounds selected as our CAL UNIT we would key in 2000 for the multiplier.

one cal unit
number of custom units

If your new custom unit is smaller than one CAL UNIT, then you divide one cal unit by the number of custom units it takes to make up a single CAL UNIT. Multipliers are limited to a total of seven digits by the display.

Example #1:
16 ounces = 1 pound.
Do the math:
(one cal unit / number of custom units = the multiplier)
1/16=0.0625
So with pounds selected as our CAL UNIT we would key in 0.0625 for the multiplier.

Example #2:
1000 Grams = 1 KG.
Do the math:
(one cal unit / number of custom units = the multiplier)
1/1000=0.001
So with KG selected as our CAL UNIT we would key in 0.001 for the multiplier.

3. Scroll the unit you want to enable and press the **PRINT** key. . .

   ON or ***OFF*** is displayed.

4. For LB and 1000G follow this step. For CUST, go to step 4a.

   Toggle between ***ON*** or ***OFF*** by using the **UNITS** or **TARE** key. Press **ENTER** when your choice is displayed.

   UNITS is displayed.

   Skip to step 7.

4a. For CUST, toggle between ON or OFF by using the **UNITS** or **TARE** key. Press **ENTER** when your choice is displayed. . .

   An entry screen is displayed.

5. Key in a multiplier. See note at left. Press **ENTER** to accept the value. .

   A string entry screen appears.

6. Use the print format editing procedure to edit the string to create a label for your custom unit. Press **ENTER** when you are done. . .

   CUST is displayed.

7. Press the **UNITS** key. . .

   C-UNIT is displayed. This stands for calibration unit. Use this item to set the calibration unit of measure; lbs or kgs (1000 G).

8. Toggle between the choices by using the **UNITS** or **TARE** key and press the **ENTER** key to accept the choice. . .

   C-UNIT is displayed.

9. Press the **SELECT** key. . .

   UNITS is displayed.

STABLE
(Stability window)

Use this item to define the stability window in terms of divisions for a period of 1 second.

1. Press the **UNITS** key. . .

   STABLE is displayed.

2. Press the **PRINT** key. . .

   The current division size is displayed. If a weight changes less than this number of divisions in one second, the motion annunciator turns off and the weight is considered stable.

   You choices are 0, 0.25, 0.5, 0.7, 1, 3, 5, and 10.

3. Scroll through the choices by using the **UNITS** or **TARE** key and press the **ENTER** key to accept the displayed choice. .

   STABLE is displayed.

AZT
(Automatic Zero Tracking)

Use this item to define the automatic zero tracking window in terms of divisions for a period of 1 second.

1. Press the **UNITS** key. . .

   AZT is displayed.

For the purpose of explaining all items in the menus, these instructions show an orderly accessing of each part of the menu. You do not have to access an item in this way. Use the navigation buttons to skip around to the item you want to change or view.

2. Press the **PRINT** key. . .

   The current value is displayed.

   AZT adjusts the zero balance towards zero at the rate of 1/2 the remaining weight per second after being within the configured division size for at least 1 second.

   You choices are 0, 0.25, 0.5, 0.7, 1, 3, 5, and 10.

3. Scroll through the choices by using the **UNITS** or **TARE** key and press the **ENTER** key to accept the displayed choice. .

   AZT is displayed.

TARE
(Tare parameters)

Use this item to set the tare function parameters.

1. Press **UNITS** key. . .

   TARE is displayed.

Attention

If pre-set tares are used and enabled from the Supervisor menu, Pushbutton tare is automatically disabled regardless of this setting.

2. Press the ***PRINT*** key. . .

   CLEAR is displayed. You have these choices under TARE; ***CLEAR***, ***PB*** and ***ENTER***.

Clear tare	If you enable this item, the tare will be automatically cleared when the weight comes within the number of divisions from zero set under the G-Band menu item.
Pushbutton tare	If you enable this item, you can use the **TARE** key to tare a weight from the scale. If you disable this item, you cannot tare using the **TARE** key. See note at left.
Enter tare	If you enable this item (ON), you can enter a known tare weight by keying in a weight and pressing the **TARE** key.

3. Toggle between the choices using the **TARE** or **UNITS** key. When your choice is displayed press the **PRINT** key. . .

   ON or ***OFF*** is displayed.

4. Toggle between the choices using the **TARE** or **UNITS** key. When your choice is displayed press the **ENTER** key then press the **SELECT** key. .

   TARE is displayed.

UPDATE
(Display Update Rate)

Use this item to set the number of display updates/second. Choices are 1, 2, 5 and 10 times/second.

1. Press the **UNITS** key. . .

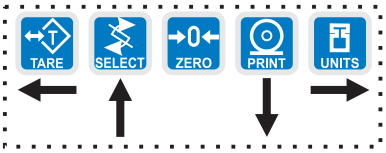
   UPDATE is displayed.

2. Press the **PRINT** key. . .

   Current setting is displayed.

3. Scroll through the choices (1, 2, 5, or 10 times per second) by using the **UNITS** or **TARE** key and press the **ENTER** key to accept the displayed choice. .

   UPDATE is displayed.



AVG
(Averaging of A-D)

The A-D weight conversion happens 60 times per second in this indicator. ***AVG*** is the number of A-D conversions you want to average for the weight that is displayed.

1. Press the **UNITS** key. . .

   AVG is displayed.

2. Press the **PRINT** key. . .

   The current choice is displayed. Choices are Fast, Med and Slo.
   FAST - xxx = 2, 1 display per .2 second

   MED - xxx = 4, 1 display per .4 second

   SLO - xxx = 6, 1 display per .6 second

3. Press **ENTER** to accept the current value

   OR

   Scroll through the choices by using the **UNITS** or **TARE** key and press the **ENTER** key to accept the displayed choice. .

   AVG is displayed.

D.POINT
(Decimal point)

Use this item to toggle between decimal point and a comma for the fraction delimiter for the display. For example, if you pick ***DEC*** the display will show 10.5. If you pick ***COMMA***, the display will show 10,5.

1. Press the **UNITS** key. . .

   D.POINT is displayed.

2. Press the **PRINT** key. . .

   The current setting is displayed.

3. Toggle between the choices, ***DEC*** or ***COMMA***, by using the **UNITS** or **TARE** key and press the **ENTER** key to accept the choice. . .

   D.POINT is displayed.

0-RANGE
(Zero range)

Use this item to key in a percentage of scale capacity, within which the **ZERO** key will zero the scale.

1. Press the **UNITS** key. . .

   0-RANGE is displayed.

2. Press the **PRINT** key. . .

   The current setting is displayed.

3. Key in a new percentage value and press **ENTER** to accept the value
   or

   Press the **ENTER** key to accept the displayed choice. . .

   0-RANGE is displayed.

O-CAPC
(Over capacity range)

Use this item to set the point at which over range (upper) dashes are displayed. You can choose between 105% of capacity or 9 divisions over capacity.

1. Press the **UNITS** key. . .

   O-CAPC is displayed.

2. Press the **PRINT** key. . .

   The current setting is displayed.

3. Toggle between 105% of capacity or 9 divisions by using the **UNITS** or **TARE** key and press the **ENTER** key to accept the choice. . .

   O-CAPC is displayed.

G-BAND
(Gross zero band)

Use this item to set the gross zero band. This is a parameter used by other menu items to trigger events (i.e., Clear Tare). Gross Zero Band allows the configuration of a rane, from Zero, which will reset triggers. You can enter values between 1 and 100 divisions.

1. Press the **UNITS** key. . .

   G-BAND is displayed.

2. Press the **PRINT** key. . .

   The current setting is displayed.

3. Key in a new value and press **ENTER** to accept the value
   or

   Press the **ENTER** key to accept the displayed choice. . .

   G-BAND is displayed.

C-ZERO
(Center of zero window)

This item is to set the window size for the center-of-zero annunciator. You can choose between ±¼ and ±½ division. When the weight falls within the window size, the center-of-zero annunciator lights.

1. Press the **UNITS** key. . .

   C-ZERO is displayed.

2. Press the **PRINT** key. . .

   The current setting is displayed.

3. Toggle between 0.25 and 0.5 by using the **UNITS** or **TARE** key and press the **ENTER** key to accept the choice. . .

   C-ZERO is displayed.

SERIAL
(Serial number entry)

Use this item to enter the serial number for your indicator. This value is used in some serial outputs and reports for record keeping purposes.

1. Press the **UNITS** key. . .

   SERIAL is displayed.

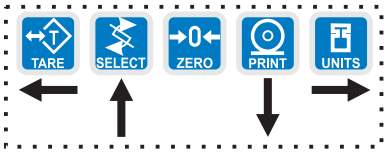
2. Press the **PRINT** key. . .

   SN-----is displayed briefly followed by the first six digits of the serial number.

The serial number of your indicator can be found on the affixed tag on the outside of the indicator case.

3. Key in the first six digits of the serial number of your indicator and press **ENTER** to accept the value or press **ESC** to view next. . .

   -----SN is displayed briefly followed by the current value of the last three serial number digits.



4. Key in the last three serial numbers of your indicator and press **ENTER** to accept the value or press **ESC** to to return to. . .

   SERIAL is displayed.

This completes the SCALE portion of the Service menu. To exit to normal weighing mode, press the **ESC** key

OR

Press the **SELECT** key and continue to the APP submenu covered in the next section.

APP submenu

The next section of the Service menu is the APP submenu. See Figure 6. This menu lets you choose the default parameters for your location and also lets you enable or disable each application available in this indicator. Under each enabled application you can edit the default print format (#0) and choose which formats (#0-9) to print. You can configure the extra formats (#1-9) in the SERIAL submenu item in the Service menu.

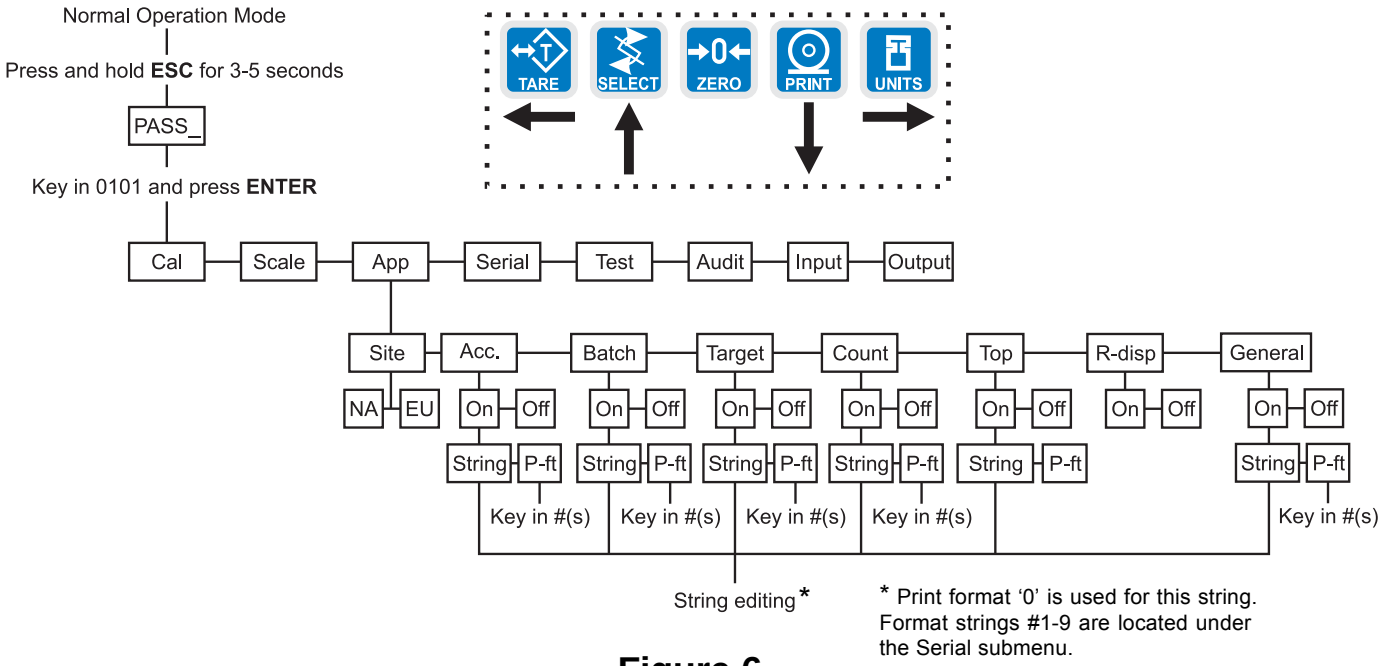


Figure 6
APP (applications) submenu

Follow these steps to access each item in the APP menu and to understand what they do and how to set them:

Applications are enabled and disabled in the Service menu but you do each application's setup in the Supervisor menu.

1. Access the Service menu. . .
   CAL is displayed.

2. Press the **UNITS** key repeatedly until. . .
   APP is displayed.

SITE
(Setting site defaults)

3. Press the **PRINT** key. . .
   SITE is displayed.

   Use this item to choose your instrument location; NA (North America), EU (Europe). Choosing the correct one will set defaults to your location's requirements.

4. Press the **PRINT** key. . .
   Current setting is displayed.

5. Toggle between the choices by using the **UNITS** key or **TARE** key and press the **ENTER** key to accept the displayed choice. .
   INIT-NA or ***INIT-EU*** is displayed briefly then ***SITE*** is displayed.

   INIT stands for initializing the defaults.

GENERAL
(General weighing application)

1. Press the **UNITS** key repeatedly until…

   GENERAL is displayed. This stands for the general weighing application.

2. Press the **PRINT** key…

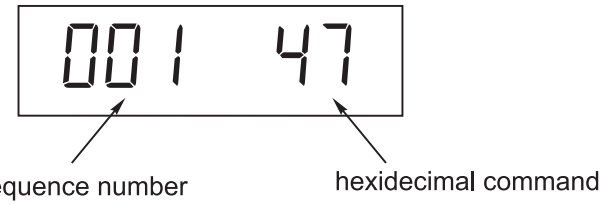
   ON or ***OFF*** is displayed.

3. Use the **UNITS** or **TARE** key to display the ***ON*** choice and press the **ENTER** key to enable this application . .

   STRING is displayed. This is where you can edit the default print format.

4. With ***STRING*** displayed press the **PRINT** key…

   A string of numbers appears. See note at left and example below.



There are default print formats for each application. These are all given a format number = 0.

   These numbers represent the default print format in numbered sequence of hexadecimal commands. Each hexadecimal command represents one printing character or print command. These numbers allow you to customize the print output of the indicator.

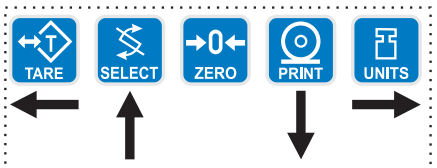
   See the Extra Info: Print Format Editing section for full explanation and instruction on modifying a print format.

5. Modify the print format as needed and press the **ENTER** key when finished. .

   STRING is displayed.

6. Press the **UNITS** key…

   P-FT is displayed. This stands for print format. You can send one or more print formats through the serial port each time the **PRINT** key is pressed. This is the item you use to define which formats get printed.



7. Press the **PRINT** key…

   Numeric entry screen is displayed.

8. Key in the format numbers you want printed using the numeric entry procedure. See note at left. For example, to print formats 0, 1, and 4, key in 014 and press the **ENTER** key. To print the 0, 1, 3, and 10 formats, key in 01310 and press the **ENTER** key…

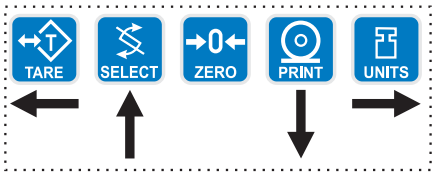
   P-FT is displayed.

Always enter format numbers in ascending order.

9. Press the **SELECT** key twice…

   GENERAL is displayed.

ACC
(Accumulator application)



1. Press the **UNITS** key repeatedly until …

   ACC. is displayed. This stands for the Accumulator application.

2. Press the **PRINT** key…

   Repeat steps 2-9 from the General (General weighing application) section to set up the Accumulation application.

3. Press the **SELECT** key twice…

   ACC. is displayed.

BATCH
(Batch application)

1. Press the **UNITS** key…

   BATCH is displayed.

2. Press the **PRINT** key…

   Repeat steps 3-9 from the General (General weighing application) section to set up the Batch application.

3. Press the **SELECT** key twice…

   BATCH is displayed.

TARGET
(Checkweighing application)

1. Press the **UNITS** key…

   TARGET is displayed.

2. Press the **PRINT** key…

   Repeat steps 3-9 from the General (General weighing application) section to set up the Target application.

3. Press the **SELECT** key twice…

   TARGET is displayed.

COUNT
(Counting application)

1. Press the **UNITS** key…

   COUNT is displayed.

2. Press the **PRINT** key…

   Repeat steps 3-9 from the General (General weighing application) section to set up the Target application.

3. Press the **SELECT** key twice…

   COUNT is displayed.

TOP
(Peak hold application)

1. Press the **UNITS** key…

   TOP is displayed.

2. Press the **PRINT** key…

   Repeat steps 2-9 from the General (General weighing application) section to set up the Target application.

3. Press the **SELECT** key twice…

   TOP is displayed.

R-DISP
(Remote Display)

Disable the sleep timer to prevent the remote display from shutting down.

1. Press the **UNITS** key…

   R-DISP is displayed.

2. Press the **PRINT** key…

   ON or ***OFF*** is displayed.

3. Toggle between the choices by using the **UNITS** key or **TARE** key and press the **ENTER** key to accept the displayed choice…

   R-DISP is displayed.

4. Repeatedly press the **SELECT** key until ***APP*** is displayed.

This completes the APP menu but see below for more information on using the E1010 as a remote display.

“

Using an E1010 as a Remote Display

To use an E1010 as a remote display the following configurations need to be set.

1. The host device needs to be configured to broadcast out a continuous stream of data from its communication port.
2. The host device needs to broadcast a serial data string that is configured as follows:

   <G or N><1 space><weight data><1 space><UU><1 CR><1LF>

   The ***G*** stands for Gross values and ***N*** stand for Net values.

   Weight Data that includes polarity and decimal point and 6 digits of weight data.

   The ***UU*** is the units of measure in a 2 character format such as lb for pound or kg for kilograms.

The E1010 in remote display mode is compatible with these indicator strings; WI-125's default print string, the standard WI-127's print Layout 5, and the WI-127 Inbound/Outbound print Layout 1.

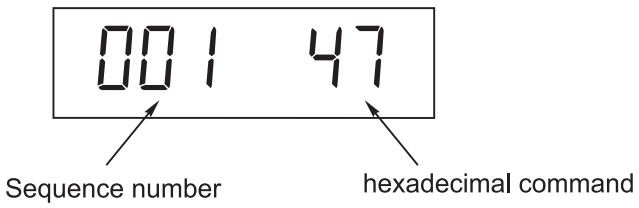
3. The host device and the Remote device need to have the serial communications setting (I.E. Baud, parity, data bits, and stop bits) matched between them with no handshaking.
4. The serial cable needs to be matched between the host and the remote. The E1005 pin outs on the external nine pin D-type serial connector are;

   Pin 2 is Transmit
   Pin 3 is Receive
   Pin 5 is Ground

   If you have an existing WI-125RD you can replace it directly with an E1010. To replace the WI-125 RD make the following changes in the remote device and properly connect the serial cable.

1. Turn on the E1010 remote display.
2. Configure the serial settings (baud, parity, data bits, and stop bits) to match the Host device. Hand shaking should be disabled.
3. Make sure the serial cable is wired correctly.

Extra Info:
Print Format Editing



The first three numbers are the sequence of the print commands. The last two characters are the hexadecimal number for the print command.

Use the keys as described in Figure 7 to scroll through the sequence and change the hex. character value.

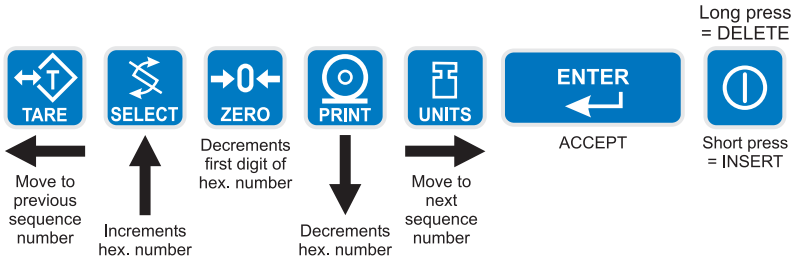


Figure 7
Key legend for hex editing

TARE key- moves to the previous sequence number
SELECT key - increments hex number
ZERO key- decrements first digit of hex number
PRINT key- decrements hex number
UNITS key- moves right through the print string
ENTER key- Accepts print string and exits edit mode
ON/OFF key- A short key press inserts a new character in front of the displayed character. Press and hold to delete the currently displayed hex character.

Hex values of 7F (127 decimal) and below are printable characters and can be seen in Table 1. Hex values from 80 (128 decimal) to FF (255 decimal) is for print command tokens and can be seen in Table 2. See note at left.

The default print format for the accumulator application is shown in a sample printout on the next page.

Attention

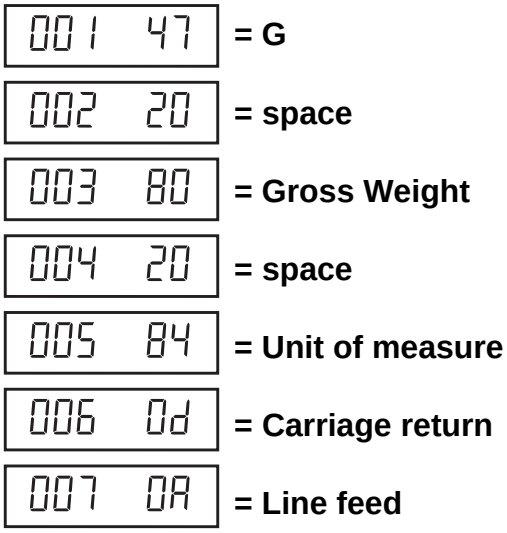
FF is the hex. value for End of String (EOS). When this value is entered in a print format, any values beyond this in the sequence are ignored and the display will wrap back to the 001 item.

You can overwrite the FF value and use up to the maximum string length if so desired. In the E1010 the maximum sequence length is 128.

```
G 1234.56 lb
T   34.56 lb
N 1200.00 lb
```

The top line consists of the following commands:

G<sp>GWT<sp>UN<CR><LF>



When this sequence is sent to a printer, the gross line of the printout is produced.

As stated before, each application has a default print format but, the indicator can print nine more formats that you can create under the Serial menu, which is explained later in this manual. Each custom format is numbered and can have a value of 1-9. See note at left.

Print Format 0 is the default print format reserved for each application mode.

Formats 1-9 are available for any application mode.

Format 10 = Format 0 for the General weighing mode
Format 11 = Format 0 for the ACC mode
Format 12 = Format 0 for the Batch mode
Format 13 = Format 0 for the Target mode
Format 14 = Format 0 for the Count mode
Format 15 = Format 0 for the Top mode

Table 1
Printable characters chart

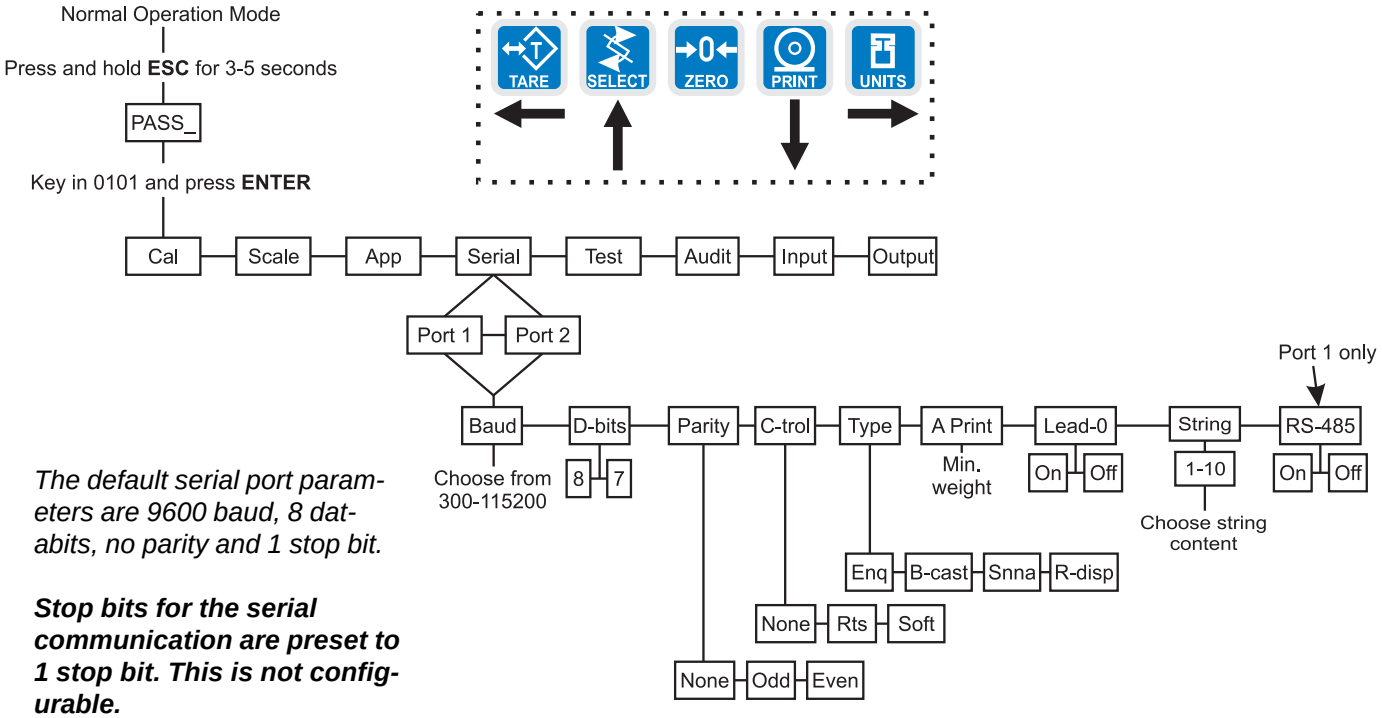
Code #	Cont. Char.	Print Char.	Hex	Code #	Cont. Char.	Print Char.	Hex	Code #	Cont. Char.	Print Char.	Hex
0	NUL		00	045	-	-	2D	090	Z	Z	5A
01	SOH	☺	01	046	.	.	2E	091	[	[	5B
02	STX	☻	02	047	/	/	2F	092	\	\	5C
03	ETX	♥	03	048	0	0	30	093	]	]	5D
04	EOT	♦	04	049	1	1	31	094	^	^	5E
05	ENG	♣	05	050	2	2	32	095	_	_	5F
06	ACK	♠	06	051	3	3	33	096	`	`	60
07	BEL		07	052	4	4	34	097	a	a	61
08	BS		08	053	5	5	35	098	b	b	62
09	HT		09	054	6	6	36	099	c	c	63
010	LF	LF	0A	055	7	7	37	0100	d	d	64
011	VT	♂	0B	056	8	8	38	0101	e	e	65
012	FF	FF	0C	057	9	9	39	0102	f	f	66
013	CR	CR	0D	058	:	:	3A	0103	g	g	67
014	S0	♫	0E	059	;	;	3B	0104	h	h	68
015	S1	☼	0F	060	<	<	3C	0105	i	i	69
016	DLE	4	10	061	=	=	3D	0106	j	j	6A
017	DC1	3	11	062	>	>	3E	0107	k	k	6B
018	DC2	ø	12	063	?	?	3F	0108	l	l	6C
019	DC3	Ø	13	064	@	@	40	0109	m	m	6D
020	DC4	ß	14	065	A	A	41	0110	n	n	6E
021	NAK	§	15	066	B	B	42	0111	o	o	6F
022	SYN		16	067	C	C	43	0112	p	p	70
023	ETB	—	17	068	D	D	44	0113	q	q	71
024	CAN	↑	18	069	E	E	45	0114	r	r	72
025	EM	↓	19	070	F	F	46	0115	s	s	73
026	SUB	→	1A	071	G	G	47	0116	t	t	74
027	ESC	←	1B	072	H	H	48	0117	u	u	75
028	FS	—	1C	073	I	I	49	0118	v	v	76
029	GS	—	1D	074	J	J	4A	0119	w	w	77
030	RS	5	1E	075	K	K	4B	0120	x	x	78
031	US	6	1F	076	L	L	4C	0121	y	y	79
032	SP		20	077	M	M	4D	0122	z	z	7A
033	!	!	21	078	N	N	4E	0123	{	{	7B
034	"	"	22	079	O	O	4F	0124	|	|	7C
035	#	#	23	080	P	P	50	0125	}	}	7D
036	$	$	24	081	Q	Q	51	0126	~	~	7E
037	%	%	25	082	R	R	52	0127	DEL	□	7F
038	&	&	26	083	S	S	53				
039	'	'	27	084	T	T	54				
040	(	(	28	085	U	U	55				
041	)	)	29	086	V	V	56				
042	*	*	2A	087	W	W	57				
043	+	+	2B	088	X	X	58				
044	,	,	2C	089	Y	Y	59				

Table 2
Printing commands chart

Dec	HEX	Token	Application	Group
128	80	GWT	Gross Weight	
129	81	NWT	Net Weight	
130	82	PST	Preset Tare	
131	83	SAT	Semi-Auto Tare (Pb tare)	
132	84	UN	Units	Weight
135	87	ID	Machine ID (serial #)	Misc
136	88	TIM	Time	Time
137	89	DAT	Date	Date
138	8A	TTV	Target Value	Trip
142	8E	CLA	Checkweigher Low Accept Val.	
143	8F	CHA	Checkweigher Hi Accept Value	
148	94	PCE	Piece Weight	
149	95	CNT	Count	
151	97	GTO	Gross Accumulator	Weight
153	99	STO	Net Accumulator	Weight
155	9B	PLU	PLU Number (channel)	
156	9C	DES	PLU Description (ID)	
162	A2	DIS	Remote Display Status (DIS)	Miscellaneous
170	AA	VER	Software Version Number	Miscellaneous
173	AD	WST	Weight Steady	Weight
178	B2	PUP	Tare Associated with PLU	
184	B8	PUT	Totals Information	PLU
188	BC	PCT	Count Total	PLU
189	BD	LST	Net Accumulator	PLU
190	BE	LGT	Gross Accumulator	PLU
200	C8	DSP	Print the displayed weight	Weight
216	D8	ACT	Print the active value (‘G’ for gross, ‘N’ for net, ‘T’ for tare)	Weight
240	F0	D2K	Date with 4 digit year	
242	F2	PWT	Peak Hold Weight Value	
255	FF	EOS	End of String	String

SERIAL submenu

The next section of the Service menu is the SERIAL submenu. See Figure 8. This menu lets you configure the serial port and create custom print formats #1-9.



The default serial port parameters are 9600 baud, 8 databits, no parity and 1 stop bit.

Stop bits for the serial communication are preset to 1 stop bit. This is not configurable.

Figure 8
SERIAL (serial communication) submenu

Follow these steps to access each item in the SERIAL menu and to understand what they do and how to set them:

1. Access the Service menu. . .

   CAL is displayed.

2. Press the **UNITS** key repeatedly until. . .

   SERIAL is displayed.

BAUD (Baud rate)

3. Press the **PRINT** key. . .

   BAUD is displayed. Use this item to set the baud rate. Choices are from 300 to 115,200. Default is 9600.

4. Scroll the choices by using the **UNITS** key or **TARE** key and press the **ENTER** key to accept the displayed choice. .

   BAUD is displayed.

D-BITS
(Data bits)

1. Press the **UNITS** key. . .

   D-BITS is displayed. Use this item to set the data bits value.

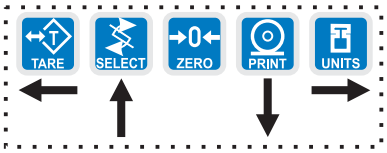
2. Press the **PRINT** key. . .

   7 or ***8*** is displayed.

3. Toggle between the choices by using the **UNITS** key or **TARE** key and press the **ENTER** key to accept the displayed choice. .

   D-BITS is displayed.

PARITY
(Parity setting)



1. Press the **UNITS** key. . .

   PARITY is displayed. Use this item to set parity.

2. Press the **PRINT** key. . .

   NONE, ***ODD*** or ***EVEN*** is displayed.

3. Scroll through the choices by using the **UNITS** key or **TARE** key and press the **ENTER** key to accept the displayed choice. .

   PARITY is displayed.

C-TROL
(Handshake control)

1. Press the **UNITS** key. . .

   C-TROL is displayed. Use this item to set parity. Use this item to set the handshake control.

2. Press the **PRINT** key. . .

   NONE, ***RTS*** or ***SOFT*** (Xon/Xoff) is displayed.

3. Scroll through the choices by using the **UNITS** key or **TARE** key and press the **ENTER** key to accept the displayed choice. .

   C-TROL is displayed.

TYPE
(Serial port mode)

1. Press the **UNITS** key. . .

TYPE is displayed. Use this item to set the port mode. You can pick from these choices:

ENQ This stands for enquire. When an appropriate enquire code is sent to the indicator, the configured print format is sent through the port.

B-CAST This stands for broadcast. If this is enabled, the indicator will send out the configured print format at the configured rate whenever scale weight is stable.

SMA Scale Manufacturer's Association protocol. See Table 3 below.

Table 3
SMA protocol

SMA Protocol **Command Sent to Indicator**	**Result**
<LF>W<CR>	Weight returned
<LF>Z<CR>	Scale zeros itself
<LF>T<CR>	Scale tares itself
<LF>A<CR>	Sends the SMA compliance level.
<LF>B<CR>	1st B sent returns manufacturer 2nd B sent returns model software # 3rd B sent returns the software revision level 4th B sends an END
<ESC>	This reboots the indicator

R-DISP This places the port in continuous send mode. This is an unconditional serial output. Scale motion will not stop output.

Mode 1 - Remote weight display only:
In this mode the indicator will function as a remote display without annunciators or key functions. The keypad and annunciators of the remote indicator are disabled but valid messages received from the serial port are displayed.

Mode 2 - Remote weight display with annunciators:
In this mode the indicator acts the same as in Mode 1 plus annunciator information will be displayed.

Mode 3 - Remote weight display with keypad:
In this mode the indicator acts the same as in Mode 1 plus the remote keypad is enabled.

Mode 4 - Remote weight display with keypad and annunciators:
In this mode the indicator acts the same as in Mode 1 plus annunciator information will be displayed and the remote keypad is enabled.

If communication is lost between the host and the remote, the remote will display "-", middle dashes, until a signal is acquired again.

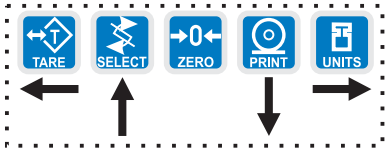
2. Press the **PRINT** key. . .

   Current setting is displayed.

3. Scroll through the choices by using the **UNITS** key or **TARE** key and press the **ENTER** key to accept the displayed choice. .

   TYPE is displayed.

A PRINT
(Autoprint minimum trigger weight)



Autoprint will print out the configured print format once, after the weight has stabilized over the value entered in the steps below. It will not print again until the scale weight returns to zero and then stabilizes over the autoprint value.

1. Press the **UNITS** key. . .
   A PRNT is displayed. Use this item to set the autoprint value.
2. Press the **PRINT** key. . .
   Current setting is displayed.
3. Key in your weight choice and press the **ENTER** key to accept. . .
   A PRINT is displayed.

LEAD-0
(Leading zero)

1. Press the **UNITS** key. . .
   LEAD-0 is displayed. Use this item to turn a leading zero on or off for all system variables.
2. Press the **PRINT** key. . .
   ON or ***OFF*** is displayed.
3. Toggle between the choices by using the **UNITS** key or **TARE** key and press the **ENTER** key to accept the displayed choice. .
   LEAD-0 is displayed.

STRING
(Custom print formats)

Print Format 0 is the default print format reserved for each application mode.

Formats 1-9 are available for any application mode.

Format 10 = Format 0 for General weighing mode.
Format 11 = Format 0 for the ACC mode
Format 12 = Format 0 for the Batch mode
Format 13 = Format 0 for the Target mode
Format 14 = Format 0 for the Count mode
Format 15 = Format 0 for the Top mode

Use the String item to create customized print formats. The default print format is always = 0. Use this menu to create formats #1-9 and 11-15. See note at left. Formats #1-9 can be printed by keying in the format number and pressing the **PRINT** key.

1. Press the **PRINT** key. . .
   1 is displayed. This is the print format number.
2. Scroll through the list of 1-10 using the **UNITS** key and press **PRINT** to select the displayed choice. . .
   A string is displayed. Refer to the section *Extra Info: Print Format Editing* to understand how to edit strings.
3. Modify as many formats as you wish and when you are finished press the **ENTER** key. . .
   STRING is displayed.
4. Press the **SELECT** key. . .
   SERIAL is displayed.

This completes the SERIAL submenu. Press the **UNITS** key to go to the TEST submenu or press **ZERO** to return to normal weighing mode.

TEST submenu

The next section of the Service menu is the TEST submenu. See Figure 9. This menu lets you view indicator information and test the display, keypad, serial port, inputs and outputs.

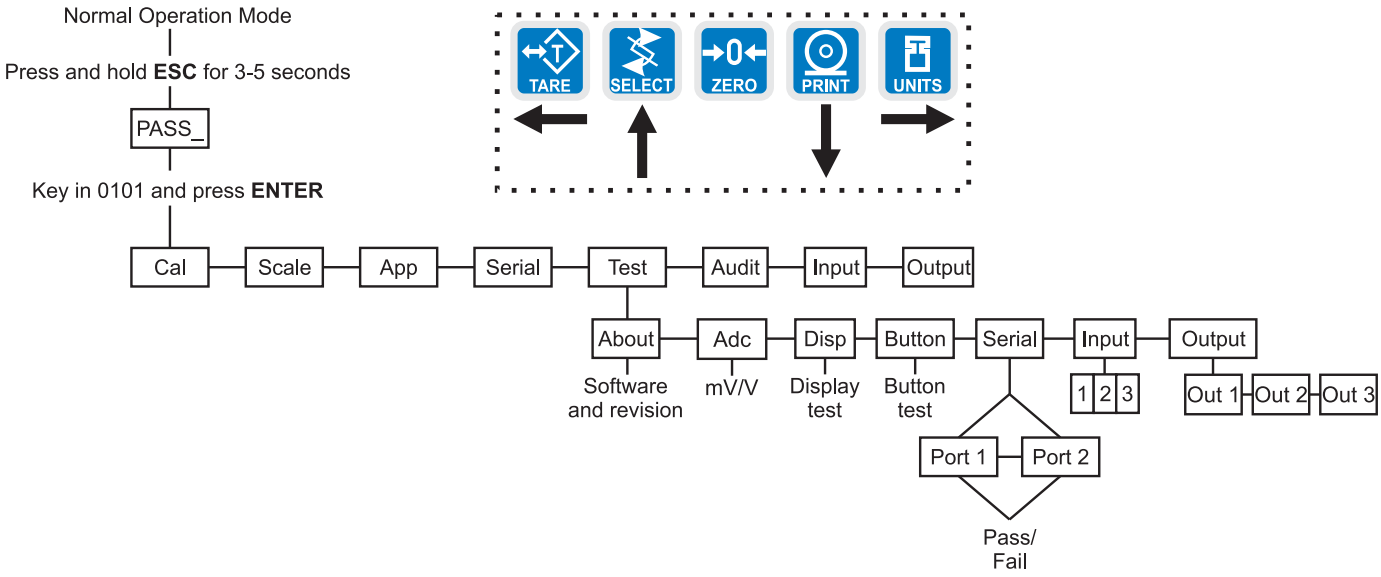


Figure 9
TEST (diagnostic) submenu

Follow these steps to access each item in the Test submenu and to understand what they do and how to set them:

1. Access the Service menu. . .

   CAL is displayed.

2. Press the **UNITS** key repeatedly until. . .

   TEST is displayed. This menu lets you view indicator information and test the display, keypad, serial port, inputs and outputs.

ABOUT (Indicator information)

3. Press the **PRINT** key. . .

   ABOUT is displayed. Press the **PRINT** key then the **UNITS** key to view the revision level for the software found in your indicator.

   Press **SELECT** key to return to ***ABOUT***.

ADC (Analog to Digital converter)

4. Press the **UNITS** key. . .

   ADC is displayed. This stands for the analog to digital converter value in mV/Vs.

5. Press the **PRINT** key. . .

   The mV/V value coming into the indicator is displayed.

6. Press the **SELECT**. . .

   ADC is displayed.

DISP
(Display test)

7. Press the **UNITS** key. . .

   DISP is displayed. This is the display test item.

8. Press the **PRINT** key to perform a dynamic test of the display.
9. Press the **ESC** key to stop the dynamic test.

BUTTON
(Key test)

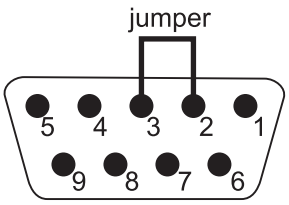
10. Press the **UNITS** key. . .

    BUTTON is displayed. This is the button test item.

11. Press the **PRINT** key to perform a button test. Each key you press will be reflected on the display screen to confirm the button is functioning correctly.
12. Press the **ESC** key to stop the button test.

    BUTTON is displayed.

SERIAL
(Serial port test)



Serial port connector

13. Press the **UNITS** key. . .

    SERIAL is displayed. This is the serial test item. To test the serial port, jumper the TX and RX lines. See illustration at left. Continue to step 14.

14. Press the **PRINT** key to access the serial test.

    The display will show ***PASS*** if the serial port is working properly. If there is a problem the display will show ***FAIL***.

15. Press **SELECT** key to exit the serial test.

    SERIAL is displayed.

INPUT
(Input test)

16. Press the **UNITS** key. . .

    INPUT is displayed. This is the input test item.

17. Press the **PRINT** key to access the test.

    1 is displayed. ***1*** stands for input 1.

18. If you jumper pins 1 and 2 of the I/O connector on the bottom of the indicator. . .

    1 becomes ***0*** until the jumper is removed.

    Use the **UNITS** key to scroll to input 2 or 3 for testing.

    To test input 2, jumper pins 1 and 3. ***2*** becomes ***0*** until the jumper is removed.

    To test input 3, jumper pins 1 and 4. ***3*** becomes ***0*** until the jumper is removed.

19. Press the **SELECT** key. . .

    INPUT is displayed.

OUTPUT (Output test)

20. Press the **UNITS** key. . .

    OUTPUT is displayed. This is the output test item.

21. Press the **PRINT** key to access the test.

    OUT 1 is displayed. This stands for output 1.

22. Press the **PRINT** key. . .

    The display toggles between ***ON*** and ***OFF***. This will toggle the output off and on. Monitor the output to see that it is turning off and on. Use a Trips Interface Unit (TIU3) or other output device.

23. Stop the test by pressing the **SELECT** key. . .

    OUT 1 is displayed.

24. Press the **UNITS** key. . .

    OUT 2 is displayed.

25. Repeat steps 22 and 23 for outputs 2 and 3. . .
26. Press the **SELECT** key. . .

    OUTPUT is displayed.

26. Press the **SELECT** key. . .

    TEST is displayed.

This completes the TEST section of the menu. Press the **ZERO** key to return to normal operating mode or press the **UNITS** key to move to the next menu item, AUDIT.

AUDIT submenu

The next section of the Service menu is the AUDIT submenu. See Figure 10. This menu lets you view configuration and calibration audit counters. These counters cannot be changed, only viewed.

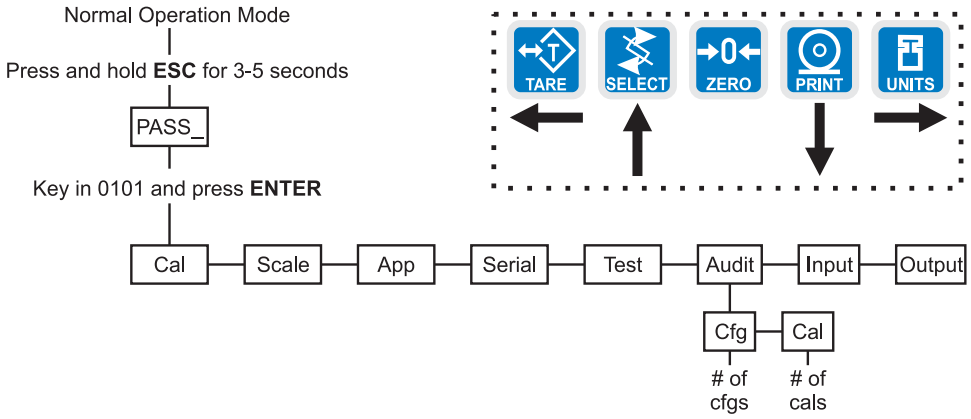


Figure 10
AUDIT submenu

Follow these steps to access each item in the AUDIT menu:

1. Access the Service menu. . .

   CAL is displayed.

2. Press the **UNITS** key repeatedly until. . .

   AUDIT is displayed.

CFG (Configuration audit counter)

3. Press the **PRINT** key. . .

   CFG is displayed. This stands for the Configuration audit counter. Use this item to see how many times this indicator has been configured.

4. Press the **PRINT** key. . .

   A number is briefly displayed, then ***CFG*** is displayed. This is the number of times this indicator has been configured.

CAL (Calibration audit counter)

5. Press the **UNITS** key. . .

   CAL is displayed. This stands for the Calibration audit counter. Use this item to see how many times this indicator has been calibrated.

4. Press the **PRINT** key. . .

   A number is briefly displayed, then ***CAL*** is displayed. This is the number of times this indicator has been calibrated.

5. Press the **SELECT** key. . .

   AUDIT is displayed.

This completes the AUDIT submenu. Press the **UNITS** key to go to the INPUT submenu or press **ZERO** to return to normal weighing mode.

INPUT submenu

The next section of the Service menu is the INPUT submenu. See Figure 11. This menu lets you configure the inputs of the indicator.

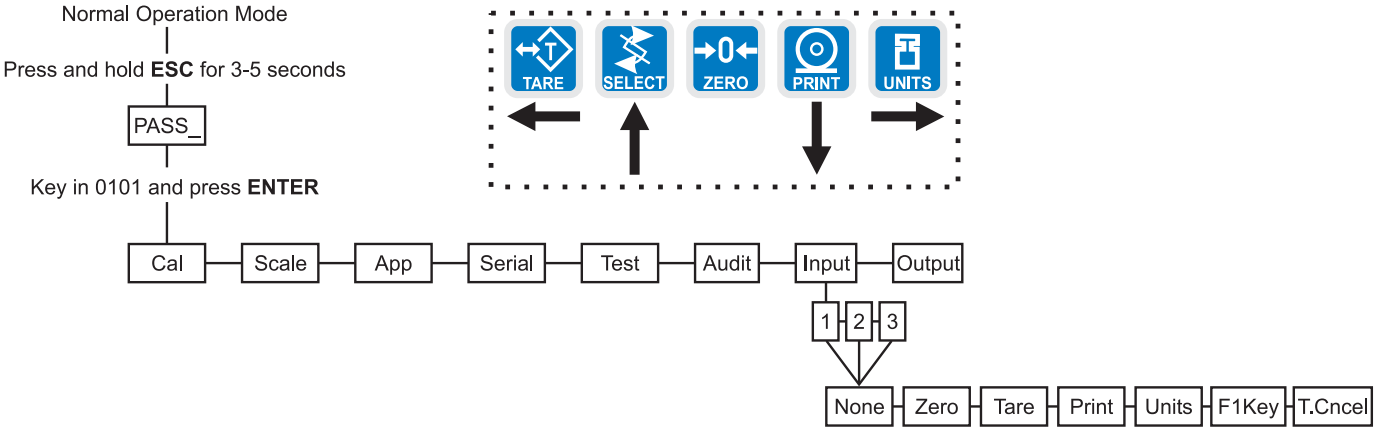


Figure 11
INPUT submenu

Follow these steps to access and configure the inputs:

1. Access the Service menu. . .

   CAL is displayed.

2. Press the **UNITS** key repeatedly until. . .

   INPUT is displayed.

3. Press the **PRINT** key. . .

   1 is displayed. This stands for input #1. You can scroll to each input by using the **UNITS** key or **TARE** key. When you access each input, by pressing the **PRINT** key, you get to choose from this list of input types:

NONE	No input
ZERO	Performs a **ZERO** key press
TARE	Performs a **TARE** key press
PRINT	Performs a **PRINT** key press
UNITS	Performs a **UNITS** key press
F1KEY	Performs a **F1** key press
T.CNCEL	Cancels the active tare

4. Scroll through the choices by using the **UNITS** key or **TARE** key and press the **ENTER** key to accept the displayed choice. .

   INPUT is displayed.

This completes the INPUT submenu. Press the **UNITS** key to go to the OUTPUT submenu or press **ZERO** to return to normal weighing mode.

OUTPUT submenu

The next section of the Service menu is the OUTPUT submenu. See Figure 12. This menu lets you configure the outputs of the indicator.

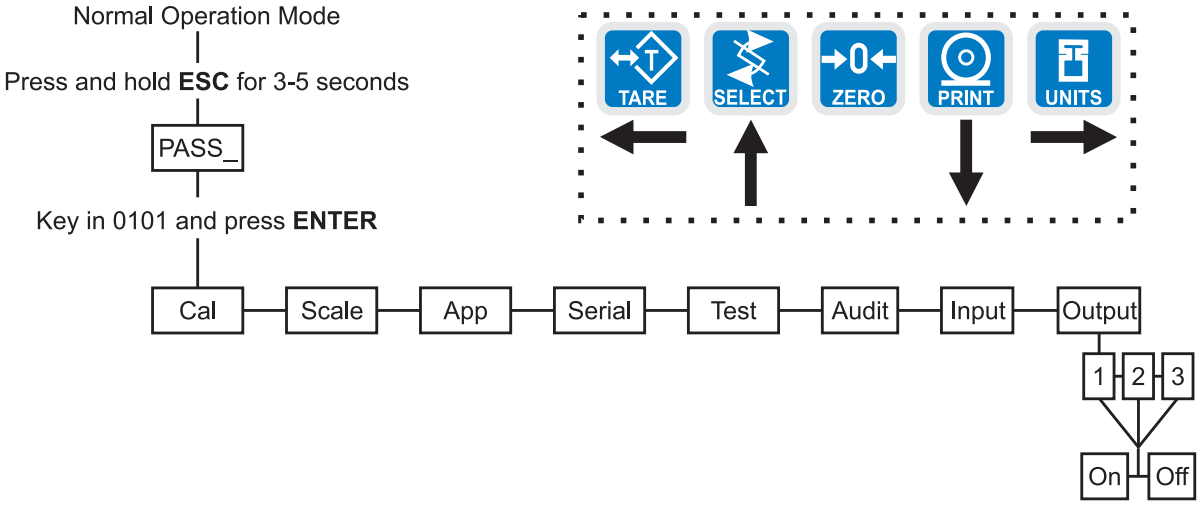


Figure 12
OUTPUT submenu

Follow these steps to access and configure the inputs:

1. Access the Service menu. . .

   CAL is displayed.

2. Press the **UNITS** key repeatedly until. . .

   OUTPUT is displayed.

3. Press the **PRINT** key. . .

   1 is displayed. This stands for output #1. You can scroll to each output by using the **UNITS** key or **TARE** key. When you access each output, by pressing the **PRINT** key, you enable or disable the output by selecting ON or OFF.

4. Toggle between ON and OFF by using the **UNITS** key or **TARE** key and press the **ENTER** key to accept the displayed choice. . .

   OUTPUT is displayed.

5. Press the **ZERO** key and the indicator returns to normal weighing mode.

See the output/annunciator/TIU3 relay relationship for each application on the following page.

Output operation in general weighing mode:	*Below Configured Value:* Outputs are ON Annunciators are OFF TIU3 Relays are ON	*Above Configured Value:* Outputs are OFF Annunciators are ON TIU3 Relays are OFF
Output operation in accumulation mode:	*Below Configured Value:* Outputs are ON Annunciators are OFF TIU3 Relays are ON	*Above Configured Value:* Outputs are OFF Annunciators are ON TIU3 Relays are OFF
Output operation in checkweighing mode:	Outputs are OFF in gross zero band Annunciators are OFF TIU3 Relays are OFF	Outputs latch on for appropriate ABOVE, OVER and ACCEPT Annunciators are ON TIU3 Relays are ON
Output operation in batching mode:	Outputs are OFF until activated by recipe Annunciators are OFF TIU3 Relays are OFF	Outputs are ON when activated by recipe Annunciators are ON TIU3 Relays are ON
	(All outputs turn off when scale reaches recipe weight)	
Output operation in counting mode:	*Below Configured Value:* Outputs are ON Annunciators are OFF TIU3 Relays are ON	*Above Configured Value:* Outputs are OFF Annunciators are ON TIU3 Relays are OFF
Output operation in peak mode:	Below Configured Value: Outputs are ON Annunciators are OFF TIU3 Relays are ON	Above Configured Value: Outputs are OFF Annunciators are ON TIU3 Relays are OFF

This completes the Service menu. Press the **ZERO** key to return to normal weighing mode.

Supervisor Menu

Password for the Supervisor menu is 1793.

The Supervisor menu is shown in Figure 13. Use this menu to set time and date, print and clear reports, perform diagnostic tests and view audit counters.

WARNING: Entering this menu and changing settings may affect operation of the indicator and may require a service call to correct. Be sure you want to change settings before doing so.

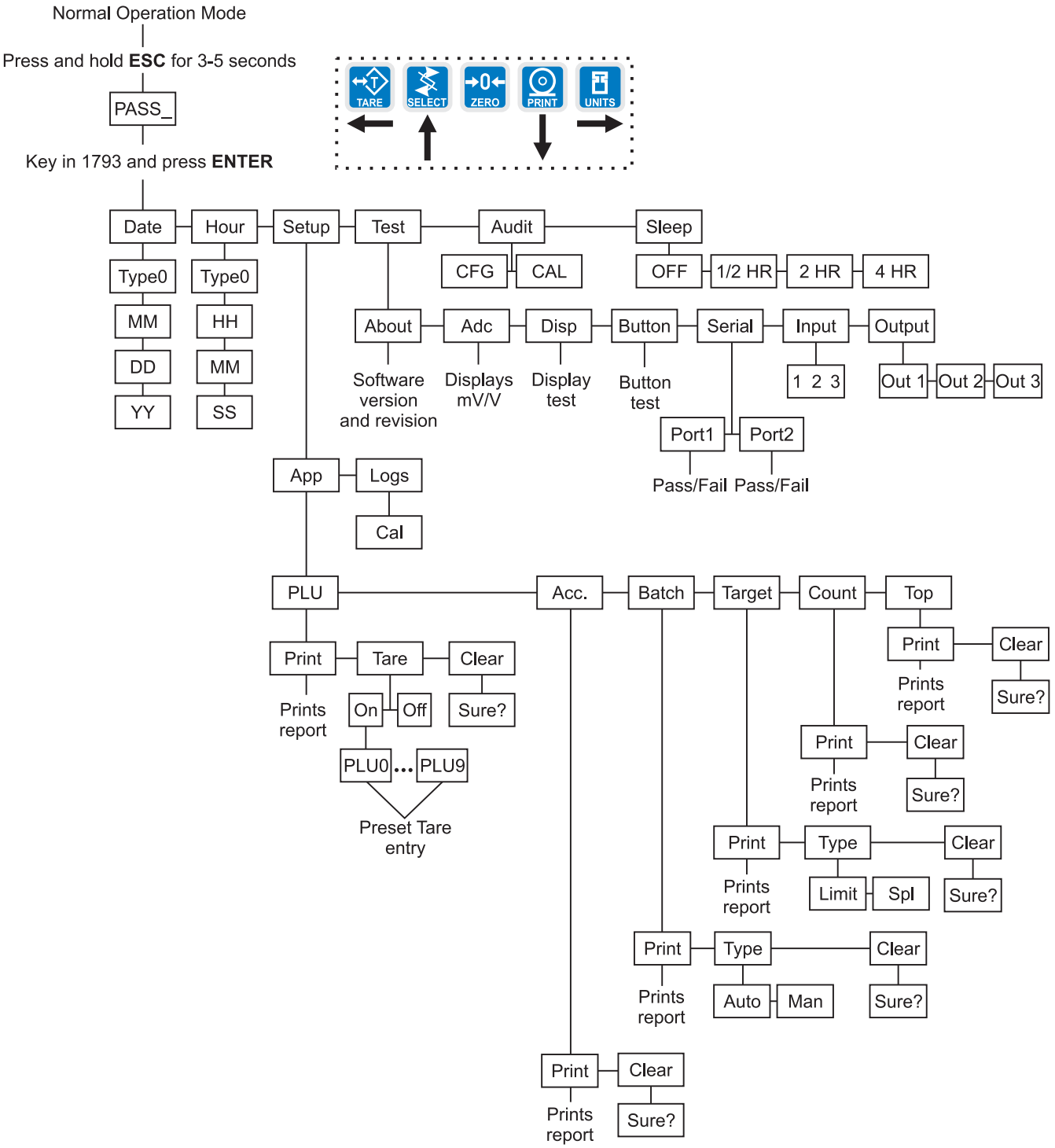


Figure 13
Supervisor menu flowchart

Password for the Supervisor menu is 1793.

1. Access the Supervisor menu by pressing and holding the **ESC** key for 3-5 seconds…

   PASS_ is displayed.

2. Key in the password, 1793, and press **ENTER**…

   DATE is displayed. Use this to set the current date.

DATE submenu (Set date)

3. Press the **PRINT** key…

   TYPE1 is displayed. Dates styles are listed below along with number you enter to create that style:

   1=MM/DD/YY

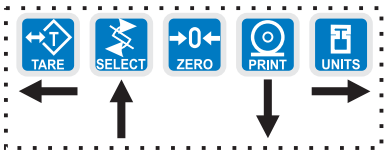
   2=MM/DD/YYYY

   3=DD/MM/YY

   4=DD/MM/YYYY

4. Using the **TARE** and/or **UNITS** key, scroll to the number for the style you want to use in all dated reports and press the **ENTER** key…

   nn XX is displayed. ***nn*** stands for month. ***XX*** is the current value.



5. Key in the month number (1 for Jan., 2 for Feb., etc.) and press the **ENTER** key…

   DD XX is displayed. ***DD*** stands for day and ***XX*** represents the current value.

6. Key in the date value and press the **ENTER** key…

   YY XX is displayed. ***YY*** stands for year and ***XX*** represents the current value.

7. Key in the year (04=2004, etc.) and press the **ENTER** key…

   DATE is displayed.

HOUR submenu (Set time)

1. Enter the Supervisor menu…

   DATE is displayed.

2. Press the **UNITS** key…

   HOUR is displayed. Use this item to set the time.

3. Press the **PRINT** key…

   TYPE1 is displayed.

   Type 1 is 24 hr. military format

   Type 2 is 12 hour, AM/PM format

   Time must be entered in 24 hour (military) time.

Time must be entered in 24 hour (military) time.

4. Use the **TARE** and/or **UNITS** key to scroll to the number for the style you want to use in all time stamped reports and press the **ENTER** key…

   HH XX is displayed. This stands for hour and its current value. See note at left.

5. Key in the hour in military time and press the **ENTER** key…

   nn XX is displayed. ***nn*** stands for minute and ***XX*** represents the current value.

6. Key in the minutes and press the **ENTER** key…

   SS XX is displayed. ***SS*** stands for seconds and ***XX*** represents the current value.

7. Key in the seconds and press the **ENTER** key …

   HOUR is displayed.

SETUP submenu (Setup menu)

1. Enter the Supervisor menu…

   DATE is displayed.

2. Repeatedly press the **UNITS** key until…

   UNITS is displayed. Use this item to set the time.

3. From previous step 6, press the **UNITS** key…

   SETUP is displayed. Use this submenu to print and/or clear application reports and choose the operation modes or values for applications which have choices. Each is explained in the following steps. Reference Supervisor Menu on page 34

APP (Applications)

4. Press the **PRINT** key…

   APP is displayed. Each application is listed below this menu item. Applications are enabled and disabled in a password protected menu but you do each application's configuration under this menu item. Contact your local supplier or Avery Weigh-Tronix distributor for assistance with the password protected menu.

PLU (Product Look Up)

5. Press the **PRINT** key…

   PLU is displayed. This stands for Product Look Up. There are 10 PLU memory channels, numbered 0-9. Each channel contains all the parameter values and accumulator totals associated with all the different applications.

   This menu item lets you print out the information shown in the list at left, set a tare for each of the PLU channels and/or clear the information.

Printed PLU Information
Channel #
ID#
Tare
Gross Accum.
Net Accum.
Total
TARGET OP1
TARGET OP2
TARGET OP3
Lower Limit
Upper Limit
Count Accum.
Piece Weight
Peak Weight

6. Press the **PRINT** key…

   PRINT is displayed. Use this item to print out a complete report of all application parameters and totals.

7. Press the **ENTER** key to print the report…

   Display shows ***BUSY*** briefly then returns to ***PRINT***. The report will be printed to your connected external device.

8. Press the **UNITS** key…

   TARE is displayed. This item enables or disables the use of preset tares.

   With PLU tares enabled, you cannot enter keyboard or pushbutton tares. PLU tares and the other tares are mutually exclusive per NTEP rules.

With PLU tares enabled, you cannot enter keyboard or pushbutton tares. PLU tares and the other tares are mutually exclusive per NTEP rules.

9. Use the **TARE** or **UNITS** key to toggle between the ***ON*** and ***OFF*** choices. Press the **PRINT** key when your selection is displayed…

   If you choose ON go to step 9a. If you choose off, skip to step 9b.

With PLU tares enabled, you cannot enter keyboard or pushbutton tares. PLU tares and the other tares are mutually exclusive per NTEP rules.

9a. If you choose ***ON*** …

   PLU 0 is displayed. See note at left.

   Press the **PRINT** key…

   A numeric entry screen is displayed.

   Key in a tare value for PLU 0 and press **ENTER** to accept it

   OR

   Scroll to any PLU you want by using the **TARE** or **UNITS** key, press the **PRINT** key and then key in the tare value and press **ENTER** to accept it.

   The PLU number is shown

   Repeat scrolling to a PLU and entering a value until you are finished, then press **SELECT**…

   TARE is displayed.

9b If you choose ***OFF***…

   TARE is displayed. With PLU tares disabled, the user can enter keyboard or pushbutton tares during normal weighing operations.

10. Press the **UNITS** key…

   CLEAR is displayed. Use this item to clear all the information stored for each PLU. **WARNING - Only do this if you are sure you want the information permanently removed!**

   You may want to print out the reports before clearing all the information.

11. Press the **PRINT** key…

   SURE? is displayed.

12. Press the **ESC** key to abort the save process or press the **ENTER** key to clear all the information…

   CLEAR is displayed.

13. Press the **SELECT** key…

   PLU is displayed.

ACC (Accumulator Application)

14. Press the **UNITS** key…

   ACC. is displayed. This stands for the accumulator application.

15. Press the **PRINT** key…

   PRINT is displayed. Use this item to print out a complete report of accumulator totals.

16. Press the **ENTER** key …

   Display shows ***BUSY*** briefly then returns to ***PRINT***.

17. Press the **UNITS** key…

    CLEAR is displayed. Use this item to clear all the information stored for this application. **WARNING - Only do this if you are sure you want the information permanently removed!**

    You may want to print out the report before clearing all the information.

18. Press the **ENTER** key…

    SURE? is displayed.

19. Press the **ESC** key to abort the save process or press the **ENTER** key to clear all the information…

    CLEAR is displayed.

20. Press the **SELECT** key…

    ACC. is displayed.

BATCH
(Batch Application)

21. Press the **UNITS** key…

    BATCH is displayed.

22. Press the **PRINT** key…

    PRINT is displayed. Use this item to print out a complete report of batch information.

23. Press the **ENTER** key …

    Display shows ***BUSY*** briefly then returns to ***PRINT***.

24. Press the **UNITS** key…

    TYPE is displayed. Use this item to set the type of the batching application to Automatic or Manual

    AUTO In this mode you start the batch by pressing the **F1** key. Output #1 activates and *OP1* annunciator lights. When the weight reaches the configured cutoff value, output #1 turns off. Output #2 automatically activates and *OP2* lights to continue the batch. This pattern repeats through output #2 and #3.

    MAN. In manual mode, the user presses **F1** to start the batching process. As each output weight is met the output deactivates and the user must press the **F1** key to activate each subsequent output.

25. Press the **PRINT** key…

    The current type setting is displayed.

26. Toggle between the choices by pressing the **TARE** or **UNITS** key. Press the **ENTER** key when your choice is displayed…

    TYPE is displayed.

27. Press the **UNITS** key…

    CLEAR is displayed. Use this item to clear all the information stored for this application. **WARNING - Only do this if you are sure you want the information permanently removed!**

    You may want to print out the report before clearing all the information.

28. Press the **ENTER** key…

    SURE? is displayed.

29. Press the **ESC** key to abort the save process or press the **ENTER** key to clear all the information…

    CLEAR is displayed.

30. Press the **SELECT** key…

    BATCH is displayed.

TARGET (Checkweighing application)

1. Press the **UNITS** key…

   TARGET is displayed. Use this item to print and clear reports for the checkweigher application and to set the type of sampling to be used, Net or Sample.

2. Press the ***PRINT*** key…

   PRINT is displayed. Use this item to print out a complete report of checkweigher information.

3. Press the **ENTER** key …

   Display shows ***BUSY*** briefly then returns to ***PRINT***.

4. Press the **UNITS** key…

   TYPE is displayed. Use this to set the way you set the target weight for the checkweighing application. You have two choices; ***LIMIT*** and ***SPL*** (sample).

   LIMIT You enter the upper and lower limits for your item and the indicator will use those values to run the checkweighing graph on the top center of the display. This setting allows an Accept range. Each segment of the fan graph will equal one division.

   SPL This method allows the user to place a correct weight “product” on the scale to set the target weight. The indicator will use this weight to run the display. Upper and lower limits will automatically be 1 division above and below the target weight respectively. Each colored display graduation is equal to 1 scale division. The *TARGET* light stays lit if weight is ±1 division of the target weight.

5. Toggle between the choices by pressing the **TARE** or **UNITS** key. Press the **ENTER** key when your choice is displayed…

   TYPE is displayed.

6. Press the **UNITS** key…

   CLEAR is displayed. Use this item to clear all the information stored for this application. **WARNING - Only do this if you are sure you want the information permanently removed!**

   You may want to print out the report before clearing all the information.

7. Press the **ENTER** key…

   SURE? is displayed.

8. Press the **ESC** key to abort the save process or press the **ENTER** key to clear all the information…

   CLEAR is displayed.

9. Press the **SELECT** key…

   TARGET is displayed.

COUNT (Counting Application)

1. Press the **UNITS** key…

   COUNT is displayed. Use this item to clear and print reports for the count application.

2. Press the **PRINT** key…

   PRINT is displayed. Use this item to print out a complete report of count application information.

3. Press the **ENTER** key …

   Display shows ***BUSY*** briefly then returns to ***PRINT***.

4. Press the **UNITS** key…

   CLEAR is displayed. Use this item to clear all the information stored for this application. **WARNING - Only do this if you are sure you want the information permanently removed!**

   You may want to print out the report before clearing all the information.

5. Press the **ENTER** key…

   SURE? is displayed.

6. Press the **ESC** key to abort the save process or press the **ENTER** key to clear all the information…

   CLEAR is displayed.

7. Press the **SELECT** key…

   COUNT is displayed.

TOP (Peak Weight Application)

1. Press the **UNITS** key…

   TOP is displayed. Use this item to clear and print reports for the peak application.

2. Press the **PRINT** key…

   PRINT is displayed. Use this item to print out a complete report of peak application information.

3. Press the **ENTER** key …

   Display shows ***BUSY*** briefly then returns to ***PRINT***.

4. Press the **UNITS** key…

   CLEAR is displayed. Use this item to clear all the information stored for this application. **WARNING - Only do this if you are sure you want the information permanently removed!**

   You may want to print out the report before clearing all the information.

5. Press the **ENTER** key…

   SURE? is displayed.

6. Press the **ESC** key to abort the save process or press the **ENTER** key to clear all the information…

   CLEAR is displayed.

7. Press the **SELECT** key repeatedly until ***SETUP*** is displayed.

This concludes the Application section of the Supervisor menu.

TEST submenu (Test menu)

1. Enter the Supervisor men and press the **UNITS** key repeatedly until…

   TEST is displayed. This menu lets you view indicator information and test the scale, the display, keypad, serial port, inputs and outputs.

ABOUT (Indicator information)

2. Press the **PRINT** key…

   ABOUT is displayed. Press the **PRINT** key then the **UNITS** key to view the part number and revision level for the software found in your indicator.

   Press **SELECT** key to return to ***ABOUT***.

ADC (Analog to Digital converter)

3. Press the **UNITS** key…

   ADC is displayed. This stands for the analog to digital converter value in mV/Vs.

4. Press the **PRINT** key…

   The mV/V value coming into the indicator from the scale is displayed. You can use the **ZERO** key to zero the mV/V reading. The scale can then be tested for function and linearity.

5. Press the **SELECT**…

   ADC is displayed.

DISP (Display test)

6. Press the **UNITS** key…

   DISP is displayed. This is the display test item.

7. Press the **PRINT** key to perform a dynamic test of the display. This allows you to see any damaged areas of the display, which may require a display replacement.
8. Press the **ESC** key to stop the dynamic test.

BUTTON (Key test)

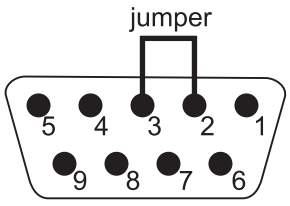
9. Press the **UNITS** key…

   BUTTON is displayed. This is the keypad button test item.

10. Press the **PRINT** key to perform a button test. Each key you press will be reflected on the display screen to confirm the button is functioning correctly.
11. Press the **ESC** key to stop the button test.

    BUTTON is displayed.

SERIAL
(Serial port test)



Serial port connector

12. Press the **UNITS** key…

    SERIAL is displayed. This is the serial port test item.

13. Press the **PRINT** key…

    PORT1 is displayed.

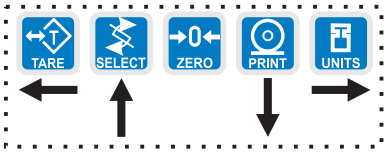
14. Use the **TARE** or **UNITS** keys to toggle between ***Port 1*** and ***Port 2***. To test the communications port, jumper the TX and RX lines (pins 2 and 3 as shown in illustration at left). When the port you want to test is displayed, press the **PRINT** key…

    With the pins jumpered, if the wiring and hardware are operating correctly, ***PASS*** will be displayed. If there is a problem, ***FAIL*** will be displayed and you should contact a service representative.

15. Press **SELECT** key to exit the serial test.

    SERIAL is displayed.

INPUT
(Input test)



16. Press the **UNITS** key…

    INPUT is displayed. This will test remote input switches connected to the indicator.

17. Press the **PRINT** key to access the test.

    1 2 3 is displayed. ***1*** stands for input 1, etc.

18. Activate any remote switches connected to the indicator to verify hardware and wiring…

    The display will show the input number change to ***0*** if the external switch is operating properly.

19. Press the **SELECT** key to exit the test…

    INPUT is displayed.

OUTPUT
(Output test)

CAUTION: Follow all lockout and red tag procedures. Disconnect all devices not intended to start before running this test.

20. Press the **UNITS** key…

    OUTPUT is displayed. This is the output test item. **See note at left.**

21. Press the **PRINT** key to access the test.

    OUT 1 is displayed. This stands for output 1.

22. Press the **PRINT** key…

    The display toggles between ***ON*** and ***OFF***. This will toggle the output off and on. Use a Trips Interface Unit (TIU3) or other output device. Monitor the output to see that it is turning on and off.

23. Stop the test by pressing the **SELECT** key…

    OUT 1 is displayed.

24. Press the **UNITS** key…

    OUT 2 is displayed.

25. Repeat steps 21 and 22 for outputs 2 and 3. At step 21, use the **TARE** or **UNITS** key to scroll to the desired output.
26. Press the **SELECT** key…

    OUTPUT is displayed.

This completes the TEST menu item. Press the **SELECT** key to go to ***TEST***, then press the **UNITS** key to go to the ***AUDIT*** submenu or press **ESC** to return to normal weighing mode.

AUDIT submenu (Audit counters)

The next section of the Supervisor menu is the AUDIT submenu. This menu lets you view configuration and calibration audit counters. These counters cannot be changed, only viewed. They are a record of configurations and calibrations performed on the indicator.

Follow these steps to access each item in the AUDIT submenu:

CFG (Configuration audit counter)

1. With ***AUDIT*** displayed, press the **PRINT** key…

   CFG is displayed. This stands for the Configuration audit counter. Use this item to see how many times this indicator has been configured.

2. Press the **PRINT** key…

   A number is briefly displayed, then ***CFG*** is displayed. This is the number of times this indicator has been configured.

CAL (Calibration audit counter)

3. Press the **UNITS** key…

   CAL is displayed. This stands for the Calibration audit counter. Use this item to see how many times this indicator has been calibrated.

4. Press the **PRINT** key…

   A number is briefly displayed, then ***CAL*** is displayed. This is the number of times this indicator has been calibrated.

5. Press the **SELECT** key…

   AUDIT is displayed.

SLEEP submenu (Sleep mode)

1. Press the **UNITS** key…

   SLEEP is displayed. This stands for the sleep mode timer.

2. Press the **PRINT** key…

   Current sleep timer value is shown. Scroll through the choices (***1/2***, ***2***, ***4***, or ***OFF***) by pressing the **TARE** or **UNITS** key. Choose ***OFF*** to disable sleep mode. Choose any of the other values to enable a sleep mode after the chosen time of keyboard inactivity and no scale motion.

When the indicator goes to sleep you must press the ON/OFF switch to restart the indicator.

Any motion or any key press restarts the sleep timer.

3. Press **ENTER** when choice is displayed…

   SLEEP is displayed.

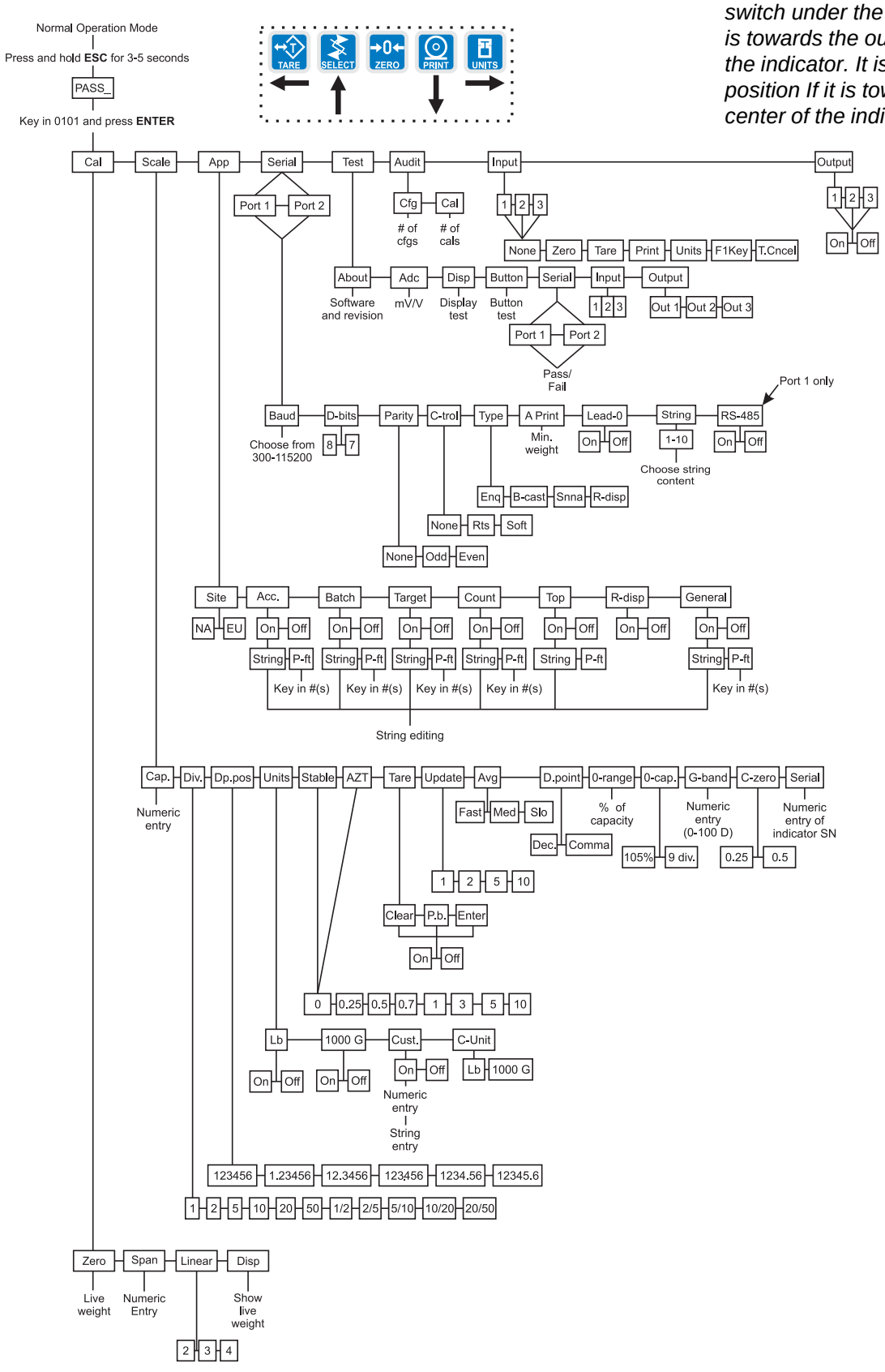
This completes the Sleep item and the Supervisor menu.

Press **ESC** to save and return to normal weighing operation.

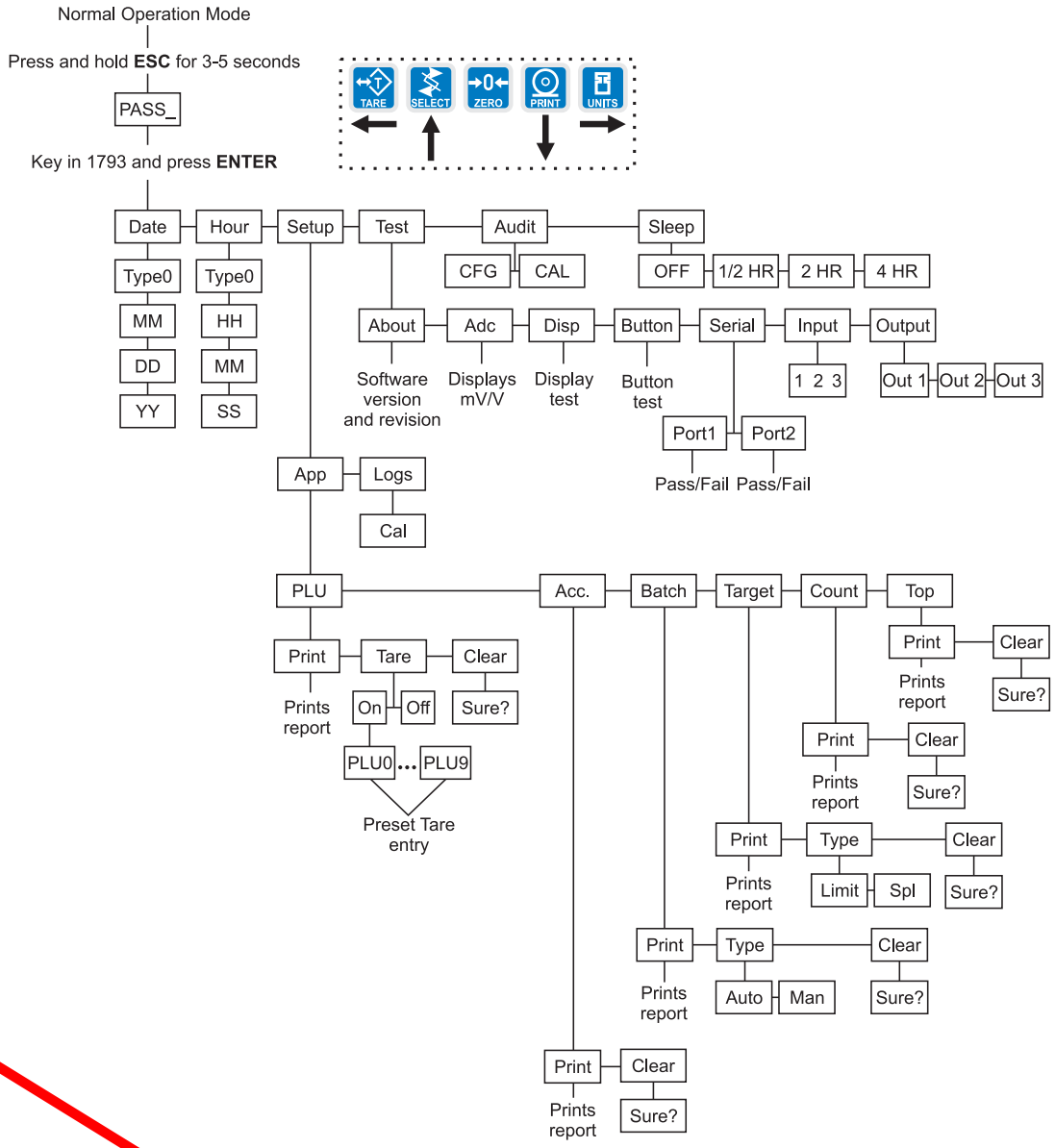
Appendix 1: Complete Menus

Service Menu

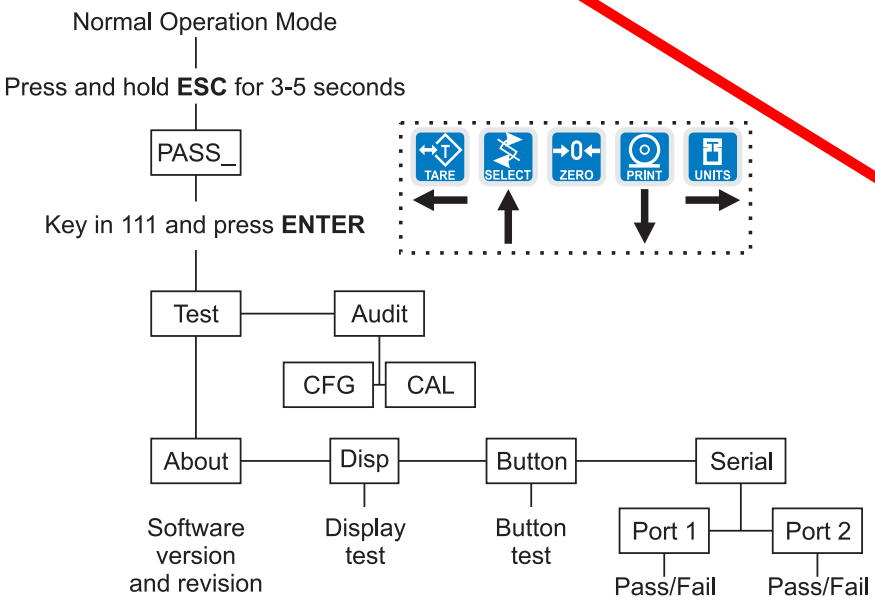
The indicator must be unsealed to perform calibration. The indicator is unsealed when the switch under the access cover is towards the outside edge of the indicator. It is in the sealed position If it is towards the center of the indicator.



Supervisor Menu



User Menu



Appendix 2: Connections and Communications

Common Serial Port Connections

RS-232

Indicator	J7 Pin in Indicator	Computer/Serial device
TX (transmit)	1	RX
RX (receive)	3	TX
CTS (clear to send)	4	RTS
RTS (ready to send)	2	CTS
Signal Ground	5	Signal Ground

RS-422/485

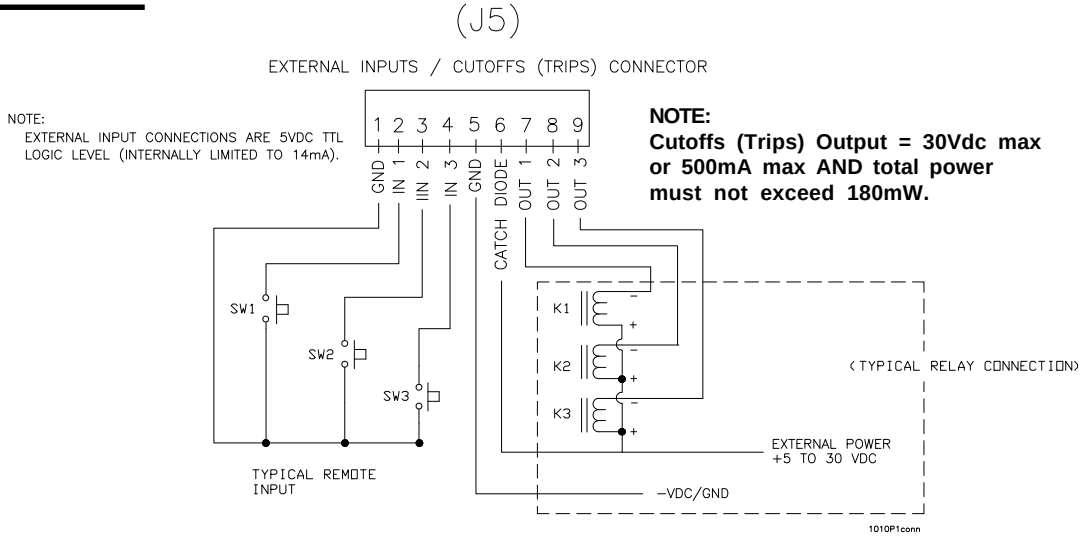
Indicator	J7 Pin in Indicator	Computer/Serial device
TXA (transmit A)	1	RXA
TXB (transmit B)	2	RXB
RXA (receive A)	3	TXA
RXB (receive B)	4	TXB
Signal Ground	5	Signal Ground (Optional)

Note that the EIA RS-422 Specification labels data lines with an “A” and “B” designator. Some RS-422 equipment uses a “+” and “-“ designator. In almost all cases, the “A” line is the equivalent of the “-“ line and the “B” line is the equivalent of the “+” line.

Current Loop

Indicator	J7 Pin in Indicator	Computer/Serial device
Out +	1	In +
Out -	2	In –
In +	3	Out +
In -	4	Out -

External Inputs / Cutoffs (Trips) Connector



MODEL E1010 SST INDICATOR
Technical Drawings Parts Lists and Illustrations

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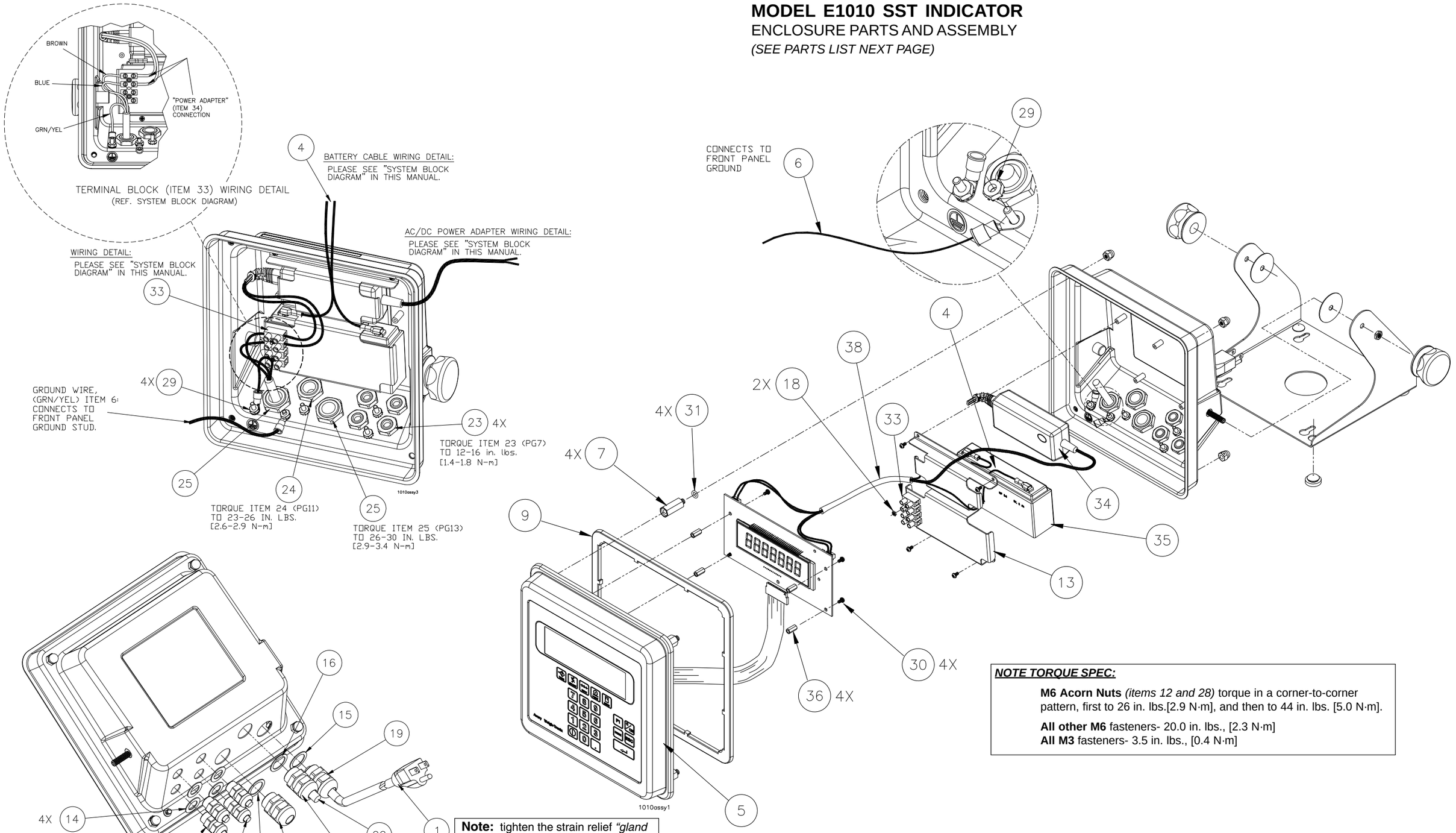
MODEL E1010 SST INDICATOR

ENCLOSURE PARTS AND ASSEMBLY

(SEE PARTS LIST NEXT PAGE)



Note: tighten the strain relief *"gland sealing nuts"* for **Item 20** (thread type "PG7") to 8-10 in.lbs. [0.9-1.1 N·m].

Item 19 ("PG 13") and **Item 21** ("PG 11") tighten to 18-22 in. lbs., [2.0-2.5 N·m].

NOTE TORQUE SPEC:

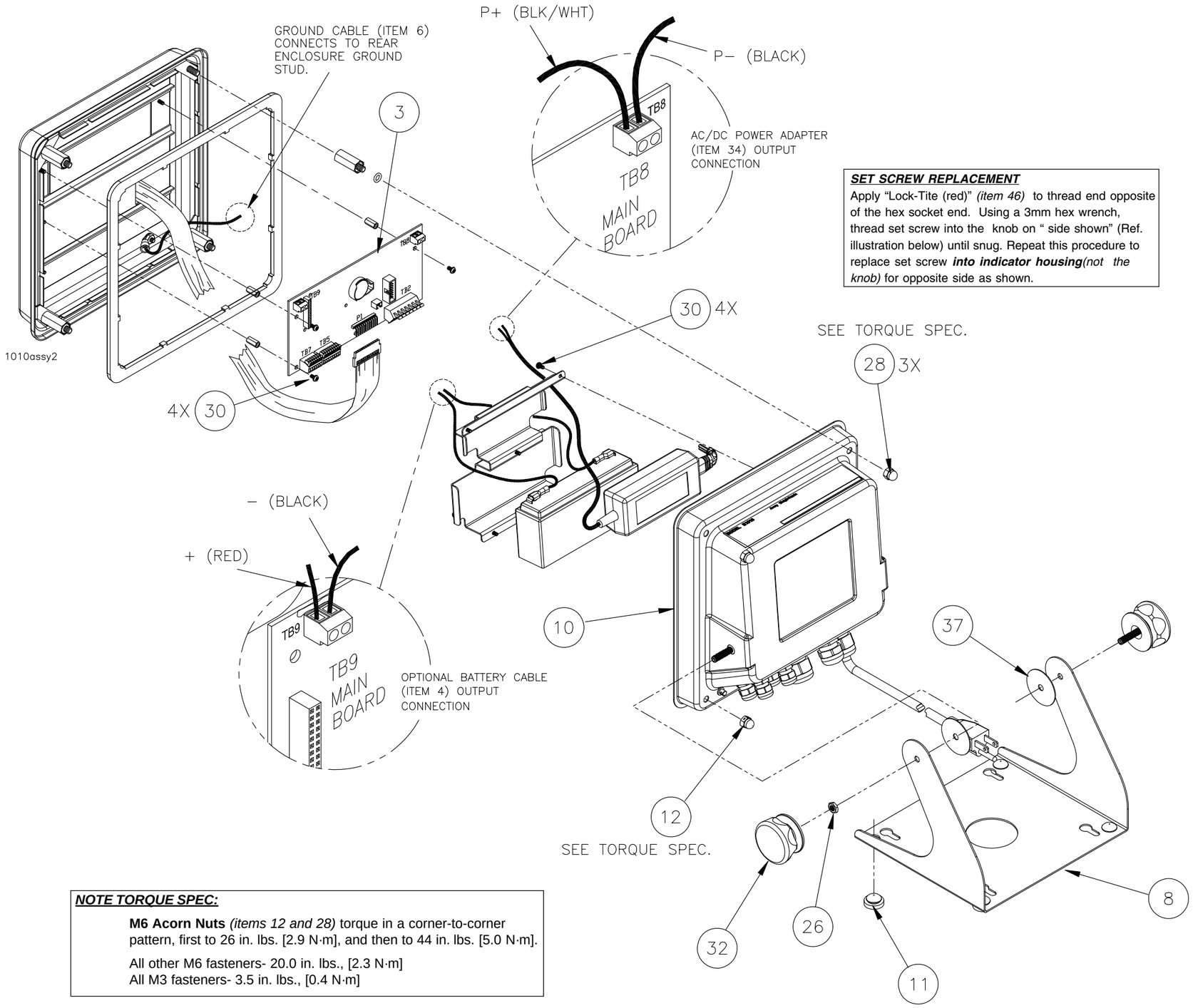
M6 Acorn Nuts *(items 12 and 28)* torque in a corner-to-corner pattern, first to 26 in. lbs.[2.9 N·m], and then to 44 in. lbs. [5.0 N·m].

All other M6 fasteners- 20.0 in. lbs., [2.3 N·m]
All M3 fasteners- 3.5 in. lbs., [0.4 N·m]

MODEL E1010 SST INDICATOR

ENCLOSURE PARTS AND ASSEMBLY

(CONTINUED FROM PREVIOUS PAGE)



SET SCREW REPLACEMENT

Apply "Lock-Tite (red)" *(item 46)* to thread end opposite of the hex socket end. Using a 3mm hex wrench, thread set screw into the knob on " side shown" (Ref. illustration below) until snug. Repeat this procedure to replace set screw ***into indicator housing****(not the knob)* for opposite side as shown.

NOTE TORQUE SPEC:

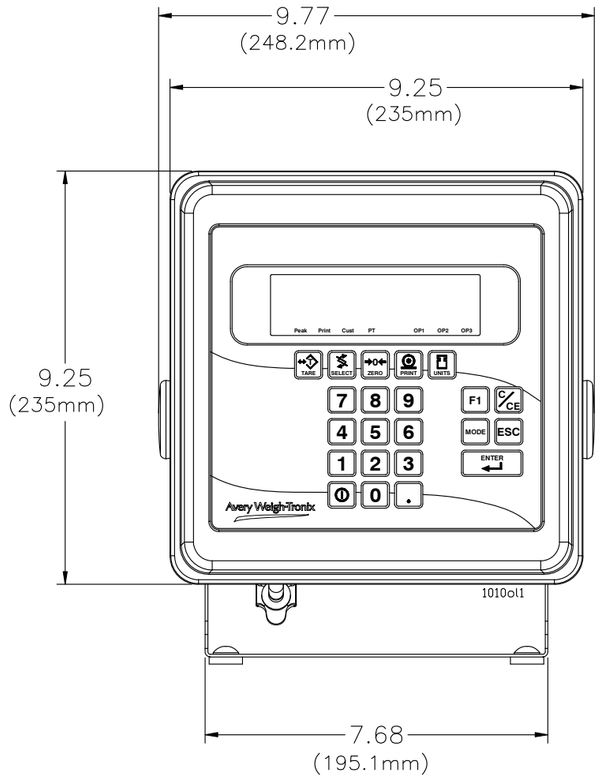
M6 Acorn Nuts *(items 12 and 28)* torque in a corner-to-corner pattern, first to 26 in. lbs. [2.9 N·m], and then to 44 in. lbs. [5.0 N·m].

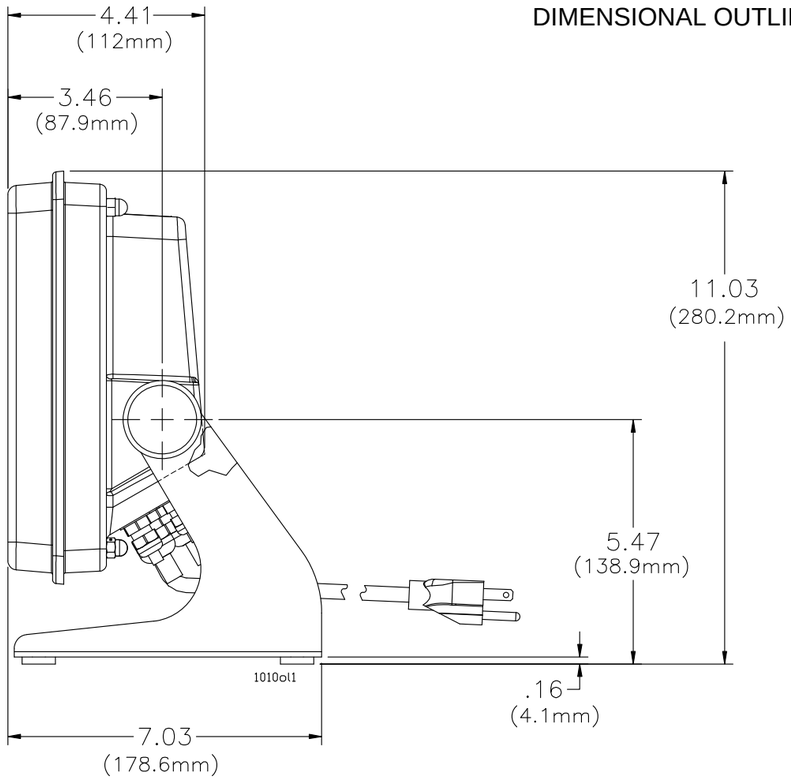
All other M6 fasteners- 20.0 in. lbs., [2.3 N·m]
All M3 fasteners- 3.5 in. lbs., [0.4 N·m]

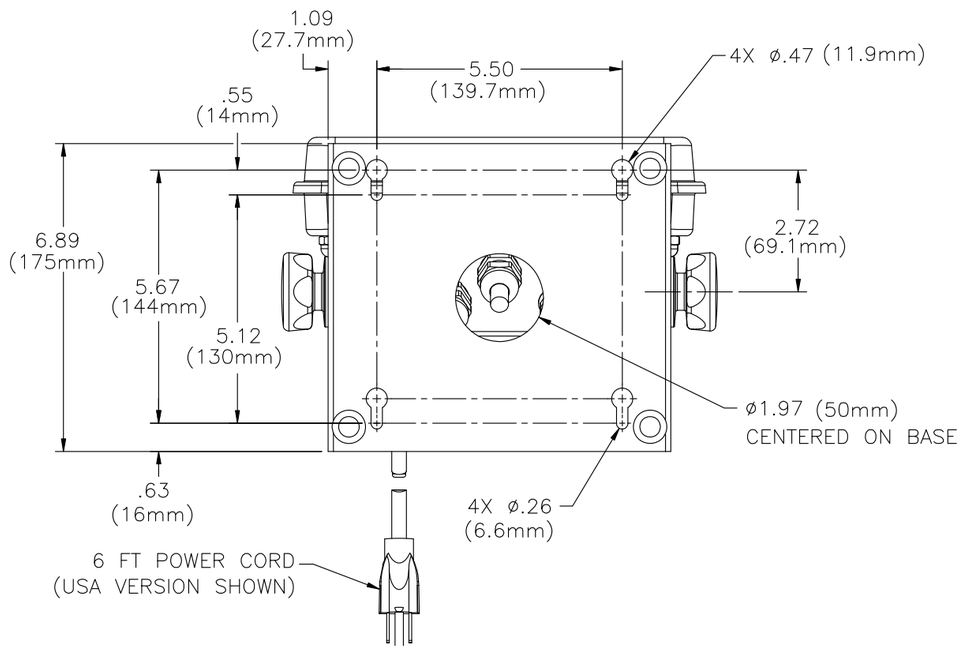
ITEM NO.	DESCRIPTION	AWT P/N
1	AC Power Cord Assembly *(110-240VAC, USA)* AC Power Cord Assembly *(110-240VAC, UK)*	
3	Display/Main Board assembly	57312-0029
4	Battery Cable Assy *(optional; used with item 35)*	
5	Front Enclosure Ass'y, E1010, *(incl: keypad overlay, front encl., display window, adhesive backing)*	57720-0025
6	Ground Wire Assembly *(front panel-to-rear panel)*	
7	Standoff, Hex, M6 x 1.06" [27.00mm] long, M/F	
8	Indicator Stand	56132-0011
9	Enclosure Gasket	57042-0018
10	Rear Enclosure	
11	Rubber Foot	56138-0015
12	Acorn Sealing Nut, M6	56844-0010
13	Battery/Power Adapter Bracket	
14	Neoprene Washer	
15	Neoprene Washer	
16	Neoprene Washer	
17	Neoprene Plug, .250" [6.35mm] dia. *(cut as needed)*	
18	Nut, M3	
19	Strain Relief, M16, *(Hummel)*	
20	Strain Relief, *(Hummel)*	
21	Strain Relief, *(Hummel)*	
22	Neoprene Plug, .354" [9mm] dia	
23	Locking Nut	
24	Locking Nut	
25	Locking Nut	
26	Nyloc Nut, M6	
27	Standoff, M3 x .472" [12mm] long, M/F	
28	Acorn Nut, M6	54008-0058
29	Nut w/ External Lock Washer, M4	
30	Screw, M3 x 6mm	
31	O-Ring	
32	Plastic Knob, M6	68718-147
33	Terminal Block, 4-POS	
34	Power Adapter, 100-240VAC/12VDC, 2.2Amp	53984-0058
36	Standoff, M3 x .492" [12.5 mm] long, F/F	
37	Friction Washer	
38	PVC heat Shrink Tube *(VW-1)*	
39	Set Screw, M6 x 30mm L	
40	Lock-Tite, red (not shown)	

MODEL E1010 SST INDICATOR

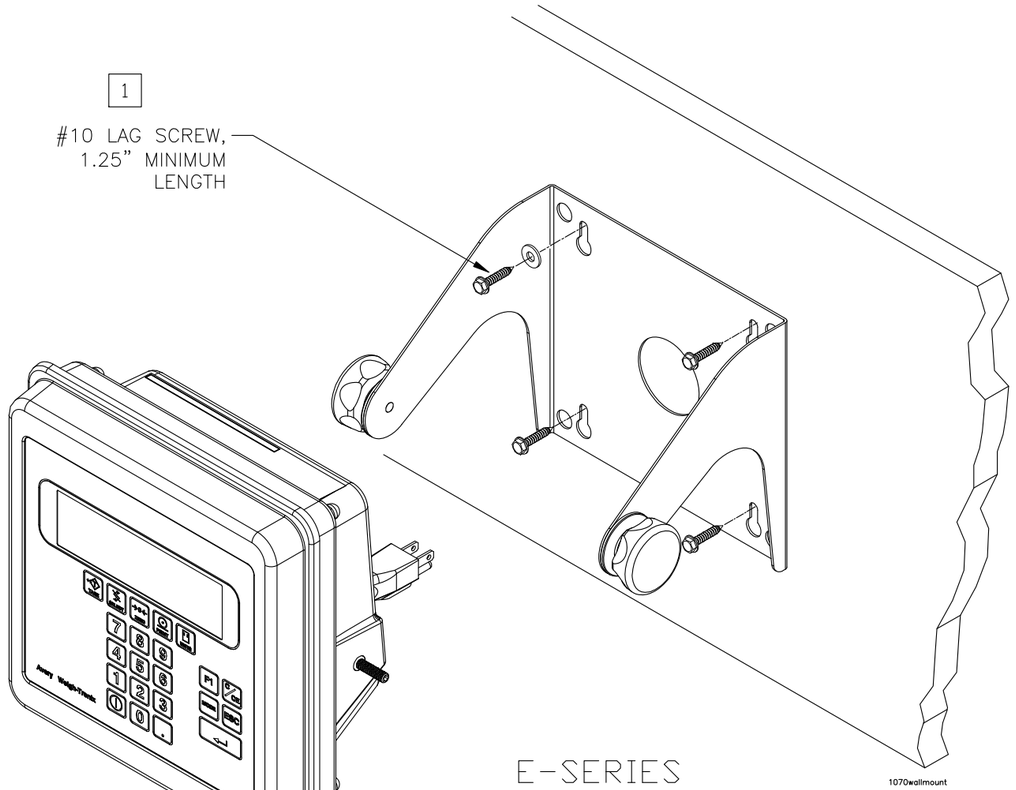
DIMENSIONAL OUTLINE DRAWING







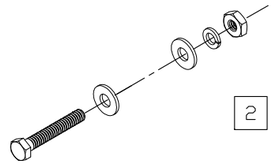
MODEL E1010 SST INDICATOR
WALL-MOUNT APPLICATION



E-SERIES
WALL-MOUNT
APPLICATION

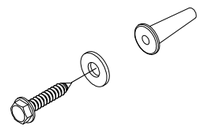
1

#10 LAG SCREW, 1.25" MINIMUM LENGTH.



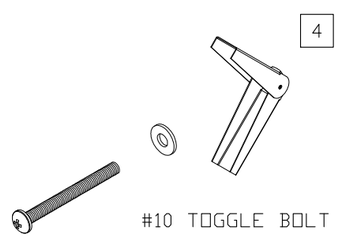
2

#10 BOLT, WASHER AND NUT



3

#10 CONCRETE ANCHOR



4

#10 TOGGLE BOLT

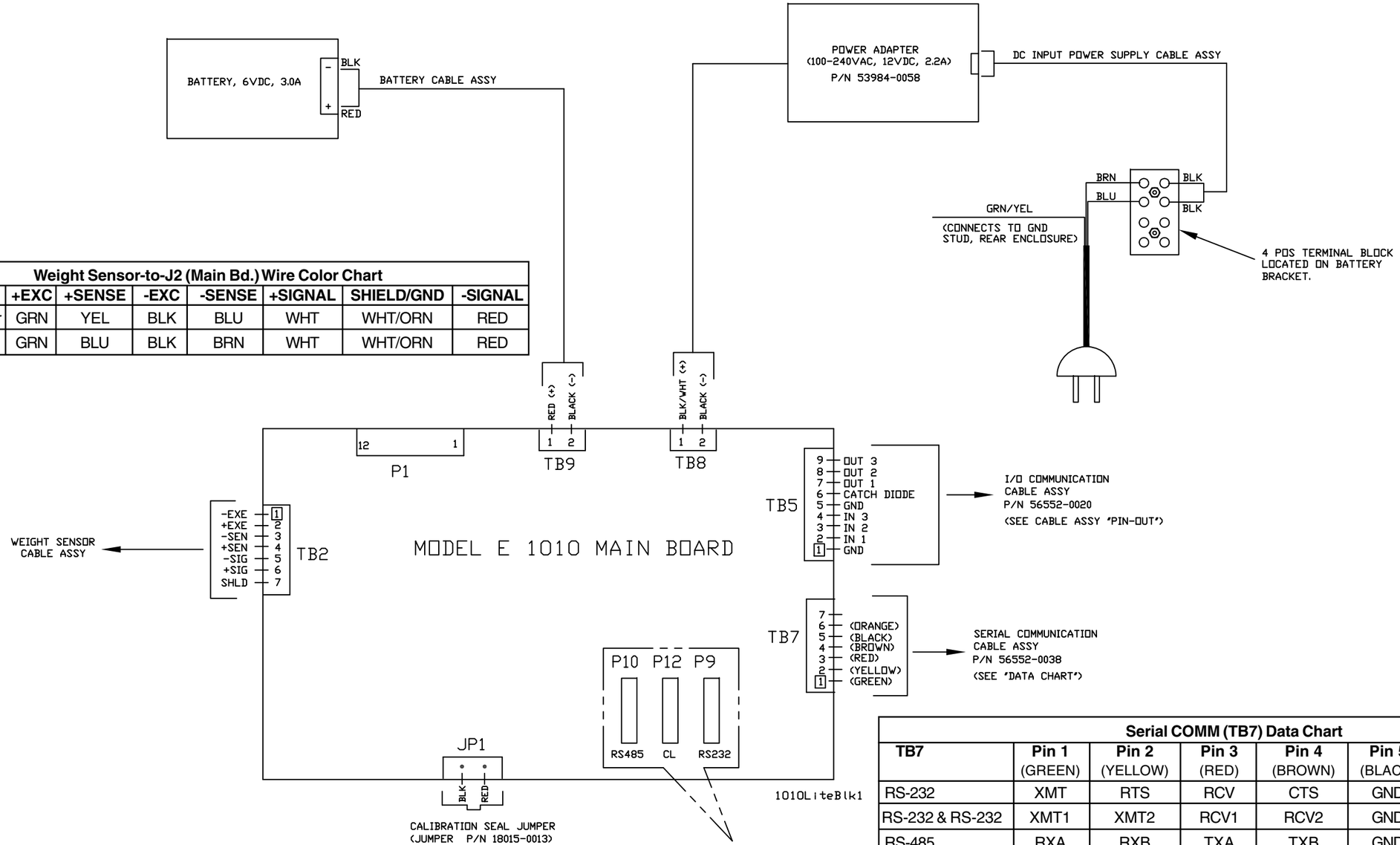
NOTES:

"E-SERIES" MINIMUM HARDWARE SPECS FOR PANEL MOUNT. (USE MFGR. RECOMMENDED HOLE SIZE FOR SELECTED FASTENER)

1. #10 LAG SCREW SUITABLE FOR SOLID WOOD OR SIMILAR MATERIAL.
2. USE BOLT, WASHERS & NUT OF SUITABLE LENGTH FOR VERTICAL/ HORIZONTAL MOUNTING ON METAL OR SIMILAR HARD SURFACE.
3. USE APPROPRIATE ANCHOR FOR CONCRETE SURFACES.
4. FOR SHEET ROCK, USE #10 TOGGLE BOLT.

MODEL E1010 SST INDICATOR

SYSTEM BLOCK DIAGRAM

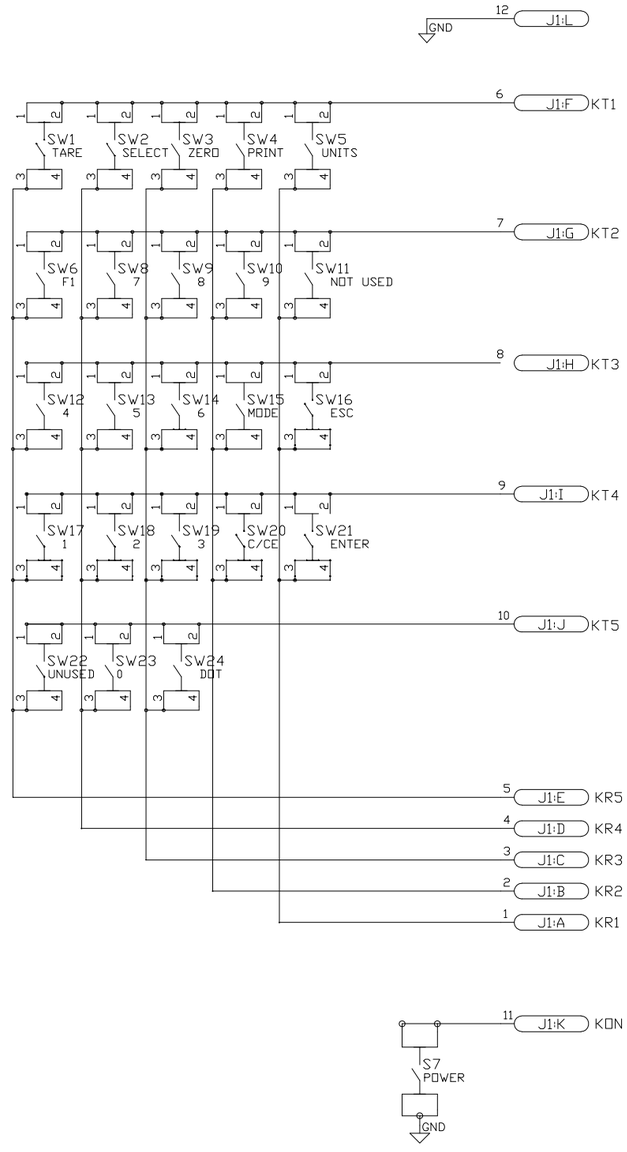


Weight Sensor-to-J2 (Main Bd.) Wire Color Chart							
	+EXC	+SENSE	-EXC	-SENSE	+SIGNAL	SHIELD/GND	-SIGNAL
AWT Wire Color	GRN	YEL	BLK	BLU	WHT	WHT/ORN	RED
SMA Wire Color	GRN	BLU	BLK	BRN	WHT	WHT/ORN	RED

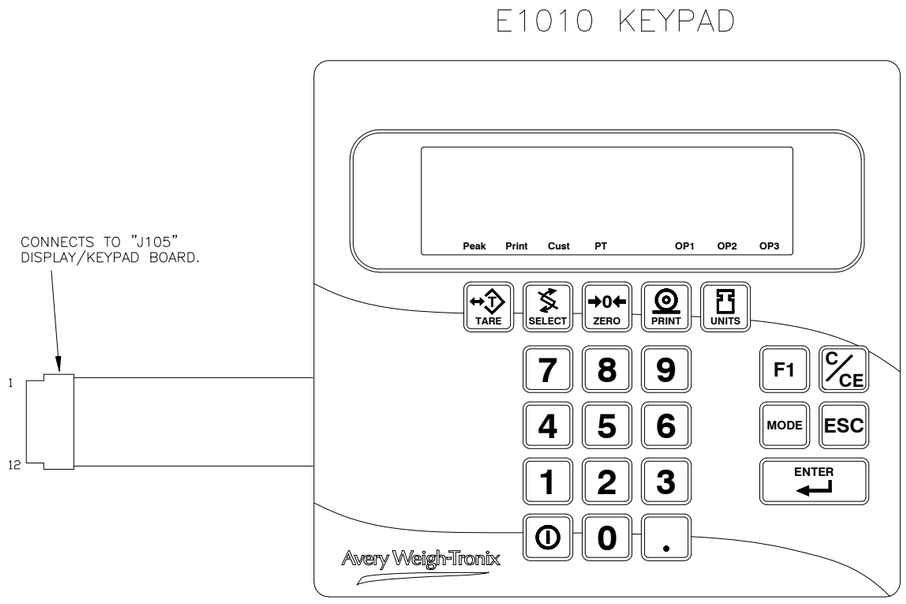
Note:
(TB5) Serial COMM is controlled by the 7-position jumper block. Factory default set to RS-232. Move jumper block to P12 for Current Loop, to P10 for RS-485.

Serial COMM (TB7) Data Chart							
TB7	**Pin 1** (GREEN)	**Pin 2** (YELLOW)	**Pin 3** (RED)	**Pin 4** (BROWN)	**Pin 5** (BLACK)	**Pin 6** (ORANGE)	**Pin 7**
RS-232	XMT	RTS	RCV	CTS	GND	+5V	GND
RS-232 & RS-232	XMT1	XMT2	RCV1	RCV2	GND	+5V	GND
RS-485	RXA	RXB	TXA	TXB	GND	+5V	GND
CL	OUT+	OUT-	IN+	IN-	GND	+5V	GND

E1010 KEYPAD SCHEMATIC



E1010 KEYPAD



MODEL E1010 SST INDICATOR

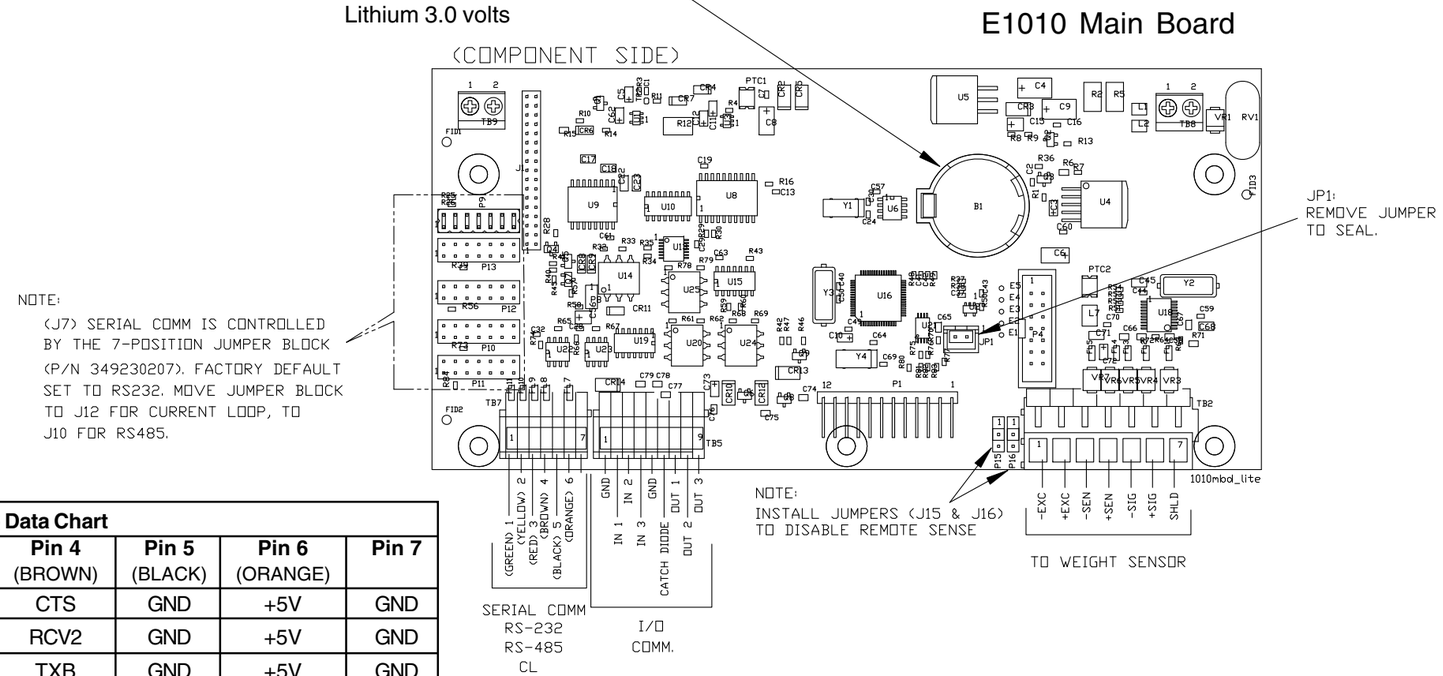
MAIN BOARD ASSY

CAUTION !

FAILURE TO OBSERVE PROPER POLARITY WHEN REPLACING BATTERY (B1) MAY CAUSE AN EXPLOSION. REPLACE BATTERY ONLY WITH THE SAME -OR- EQUIVELENT TYPE RECOMMENDED BY MANUFACTURER. DISPOSE OF USED BATTERY ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

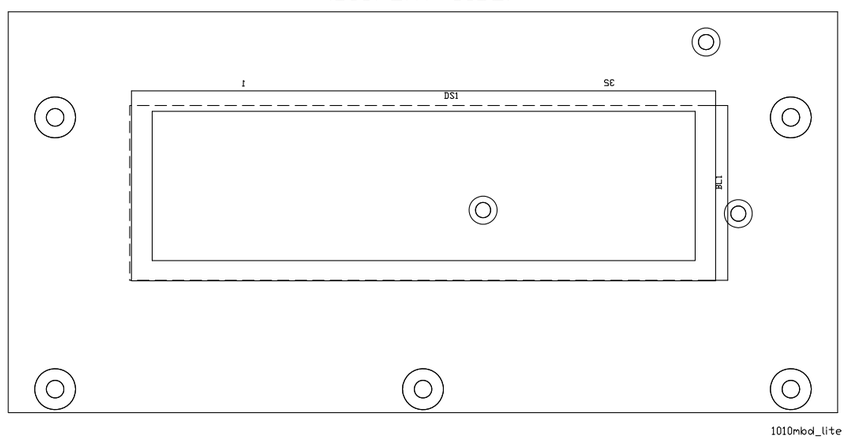
(B1) BATTERY P/N 17961-0027
Lithium 3.0 volts

E1010 Main Board



Serial COMM (TB7) Data Chart							
TB7	**Pin 1** (GREEN)	**Pin 2** (YELLOW)	**Pin 3** (RED)	**Pin 4** (BROWN)	**Pin 5** (BLACK)	**Pin 6** (ORANGE)	**Pin 7**
RS-232	XMT	RTS	RCV	CTS	GND	+5V	GND
RS-232 & RS-232	XMT1	XMT2	RCV1	RCV2	GND	+5V	GND
RS-485	RXA	RXB	TXA	TXB	GND	+5V	GND
CL	OUT+	OUT-	IN+	IN-	GND	+5V	GND

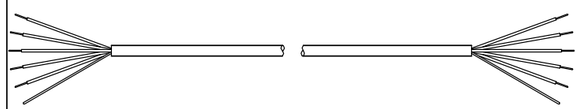
(DISPLAY SIDE)



MODEL E1010 SST INDICATOR

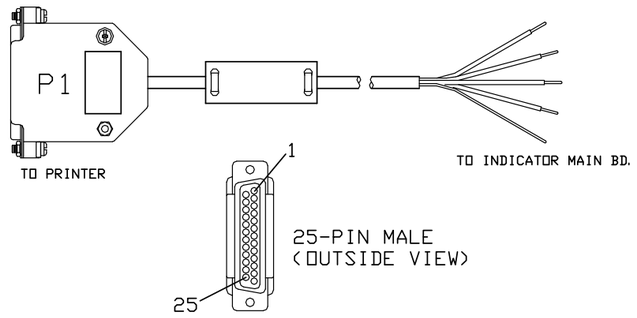
I/O EXTERNAL CABLE IDENTIFICATION PIN-OUTS

TIU3 / EXTERNAL I/O BOARD TO E1010 INDICATOR CABLE ASSY			
W-T WIRE COLOR	ORIGIN E1010 TERMINATION	DESTINATION TIU3 TERMINATION	SIGNAL FROM INDICATOR
YELLOW	J5-9	TB1-3	OUT 3
GREEN	J5-7	TB1-1	OUT 1
BLACK	J5-5	TB1-5	(LOGIC) GROUND
RED	J5-6	TB1-4	CATCH DIODE
WHITE	J5-8	TB1-2	OUT 2
SHIELD	J5-1	CHASSIS	(SHIELD) GND



1010pin1

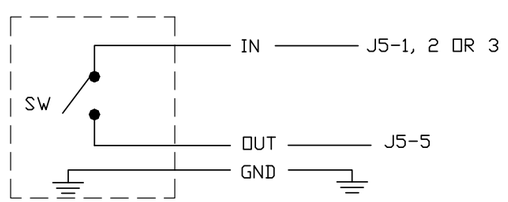
PRINTER TO E1010 INDICATOR CABLE ASSY P/N 47670-0018			
W-T WIRE COLOR	ORIGIN TERMINATION	DESTINATION MAIN BOARD	SIGNAL FROM INDICATOR
SHIELD	P1-1	GND STUD	(CHASSIS) GND
GRN	P1-2	J7-3	RECEIVE
RED	P1-3	J7-1	TRANSMIT
BLK	P1-7	J7-5	SIGNAL GND
WHT	P1-11	J7-2	CLEAR TO SEND



1010pin1

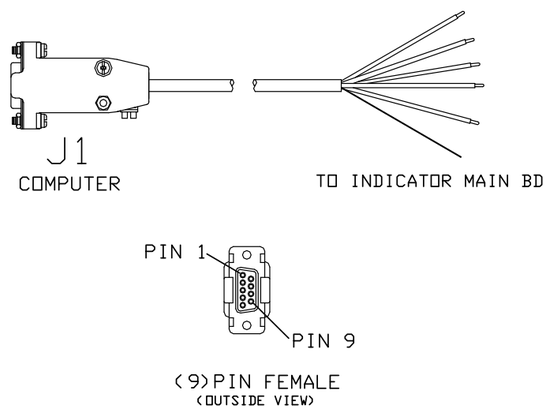
1010pin1

REMOTE INPUT WIRING CHART		
ORIGIN REMOTE INPUT	DESTINATION MAIN BOARD	SIGNAL
GND	J5-1	GND
IN	J5-1, 2 OR 3	INPUT 1, 2, OR 3
OUT	J5-5	GND



1010pin1

COMPUTER TO E1010 INDICATOR CABLE ASSY			
W-T WIRE COLOR	ORIGIN TERMINATION	DESTINATION MAIN BOARD	SIGNAL FROM INDICATOR
RED	J1-2	J7-1	TRANSMIT
GREEN	J1-3	J7-3	RECEIVE
BLACK	J1-5	J7-5	(SIGNAL) GND
YELLOW	J1-8	J7-4	RTS
BROWN	J1-7	J7-2	CTS
	SHIELD	GND STUD	(CHASSIS) GND

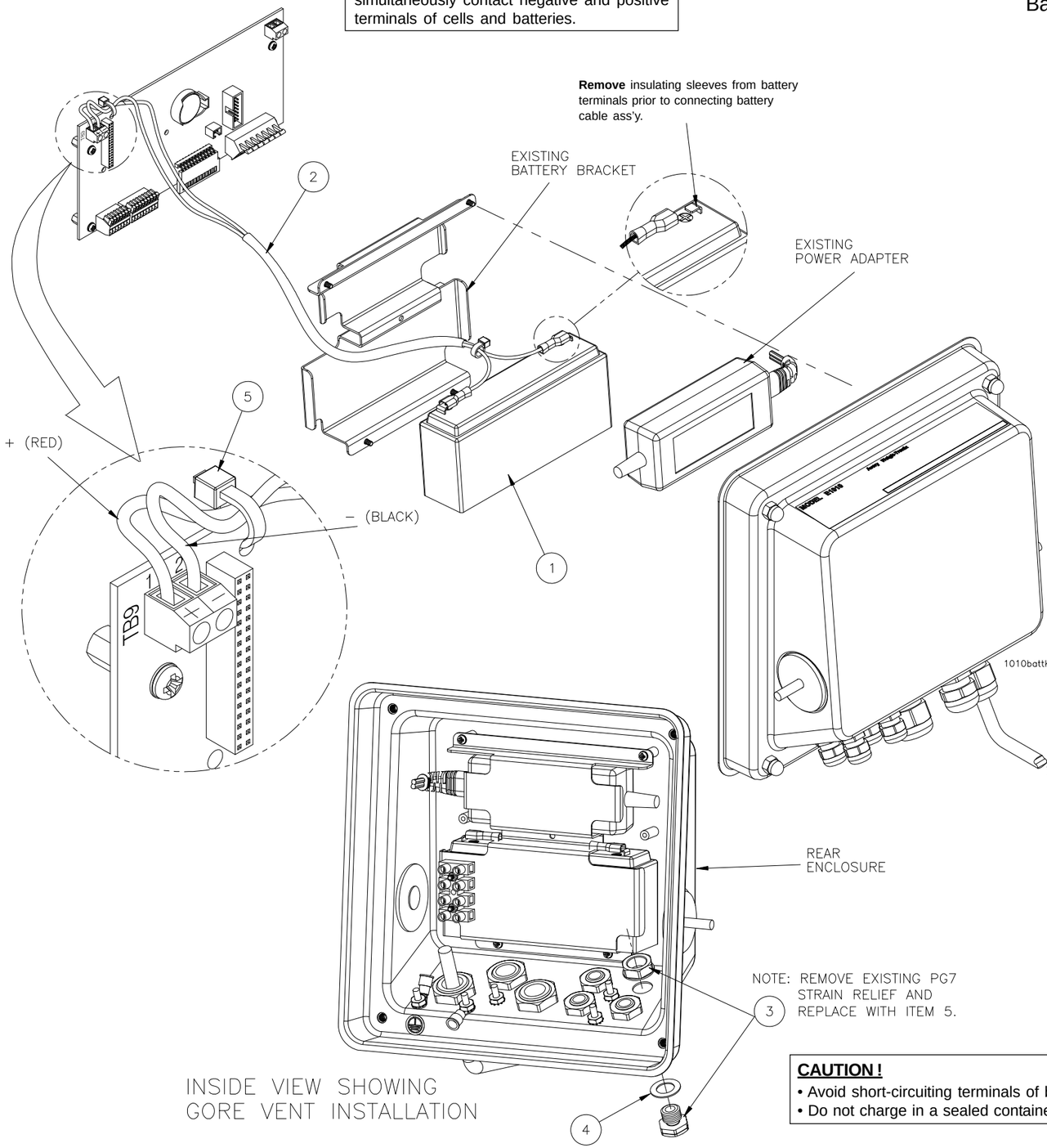


1010pin1

MODEL E1010 SST INDICATOR

Battery Kit Installation, Kit P/N 57777-0019

Warning ! Do not allow metallic materials to simultaneously contact negative and positive terminals of cells and batteries.



INSIDE VIEW SHOWING
GORE VENT INSTALLATION

Battery Installation: Remove the existing power supply/battery bracket by removing the 4 screws. Fit battery into rear of enclosure, and return power supply to it's original location. Attach red connector of battery cable *(item 2)* to the positive *(red +)* terminal of the battery. Connect opposite "stripped wire" end of "+ red wire" to the TB9 terminal *(pin 1)* of P.C. board as shown. Repeat same process for the "- black wire" to battery and TB9 *(pin 2)*.

BATTERY KIT LIST OF PARTS

ITEM NO.	DESCRIPTION
1	Battery, 6 VDC, 3Ah
2	Battery Cable assy
3	Gore Membrane Vent assy
4	Neoprene Washer
5	Cable Tie

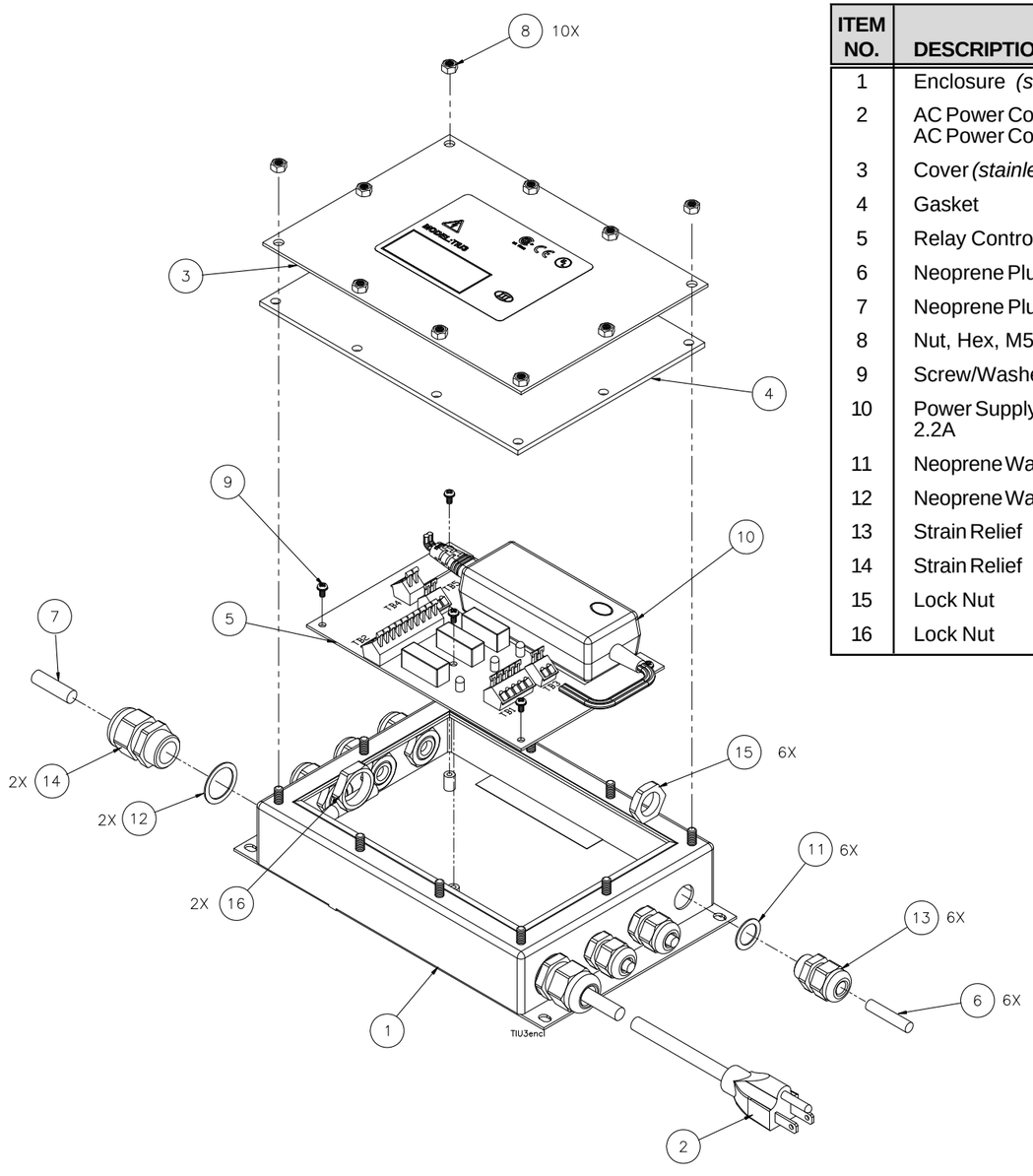
Warning ! Highly flammable hydrogen gas may be generated during charging and operation of batteries....keep sparks or other sources of ignition away from battery.

Warning ! Batteries, battery posts, terminals and related acessories contain lead and lead compounds and chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.

CAUTION !

- Avoid short-circuiting terminals of batteries.
- Do not charge in a sealed container.

MODEL E1010 SST INDICATOR
TRIPS INTERFACE UNIT (TIU3) *(OPTIONAL)*
& ASSEMBLY



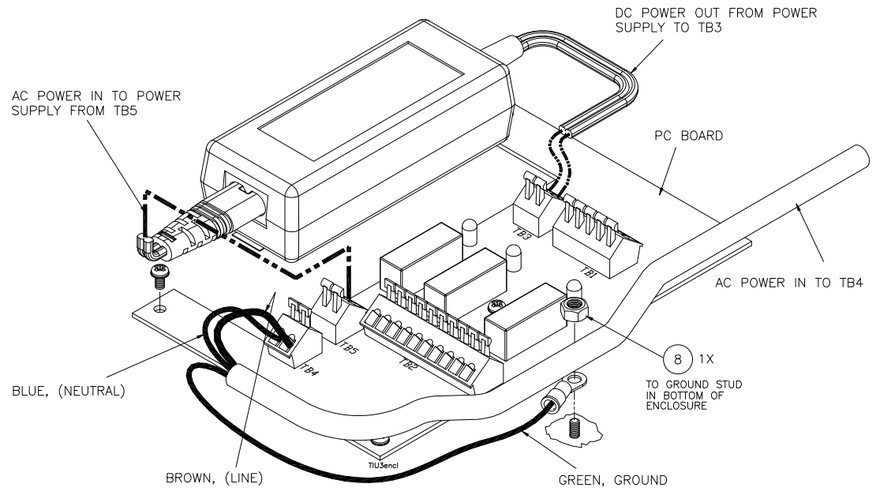
ITEM NO.	DESCRIPTION	AWT P/N
1	Enclosure *(stainless steel)*	
2	AC Power Cord *(USA)* AC Power Cord *(UK)*	
3	Cover *(stainless steel)*	
4	Gasket	55908-0015
5	Relay Control PC Board Assy	56957-0013mts
6	Neoprene Plug *(1/4" dia.)*	
7	Neoprene Plug *(8mm dia.)*	
8	Nut, Hex, M5 x 0.8	
9	Screw/Washer Assy, M3.5 x 6mm	
10	Power Supply, 100-240VAC, 12VDC 2.2A	53984-0058
11	Neoprene Washer	
12	Neoprene Washer	
13	Strain Relief	
14	Strain Relief	
15	Lock Nut	
16	Lock Nut	

NOTE TORQUE SPEC:

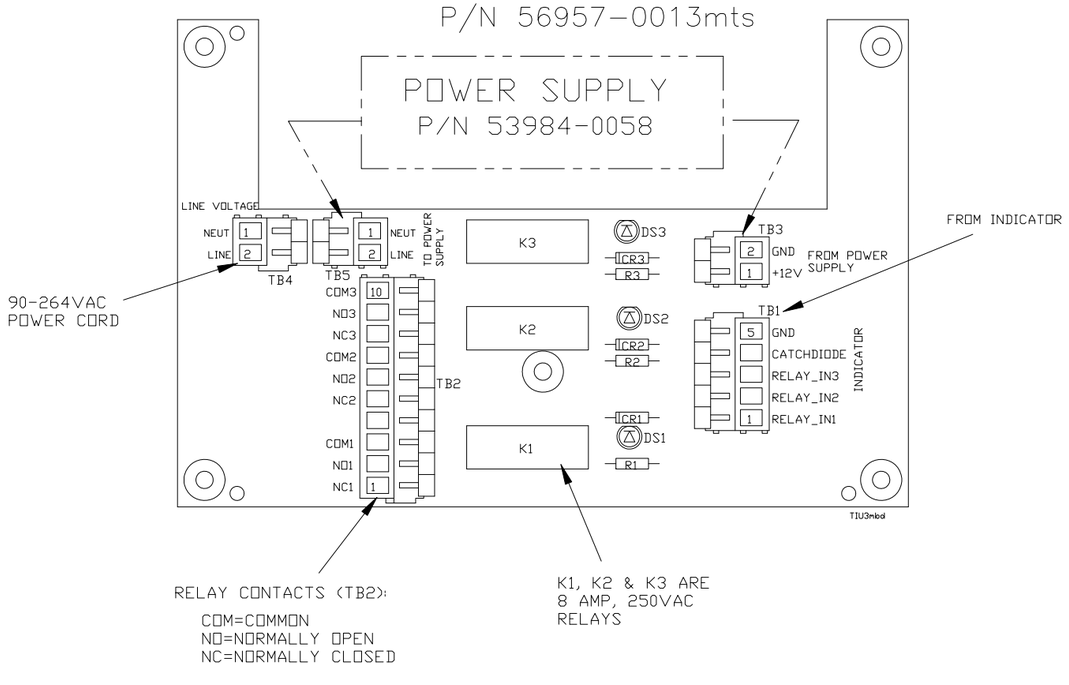
All M5 fasteners- 25.0 in. lbs., [3.0 N/m]
All M3.5 fasteners- 12.0 in. lbs., [1.35 N/m]

WIRING DETAIL

(REF: MAIN BOARD ILLUSTRATION & SYSTEM BLOCK DIAGRAM FOR MORE CONNECTION DETAILS)



TRIPS INTERFACE UNIT MAIN BOARD P/N 56957-0013mts



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