Avery Weigh-Tronix

THE evolution SERIES™

Model E1010 Indicator Service Manual

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

Risk of electrical shock. Do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

Avery Weigh-Tronix reserves the right to change specifications at any time.

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.

Table of Contents

Specifications

Power requirements
- 100-240 Volts AC @ 600 mA
- 50/60 Hz
- 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 input sensitivity
- 0.2 µV/divisions minimum
- 1.0 µV/divisions recommended

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)
- Peak, Print, OP1, OP2, OP3

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
- 41,248,140 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
- Serial port RS-232 or 20mA current loop, or RS-422 or RS-485

Serial Command Inputs
- Programmable serial response to ASCII character input, SMA protocol

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, Check weighing,
- Peak measurement, Batching, 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.

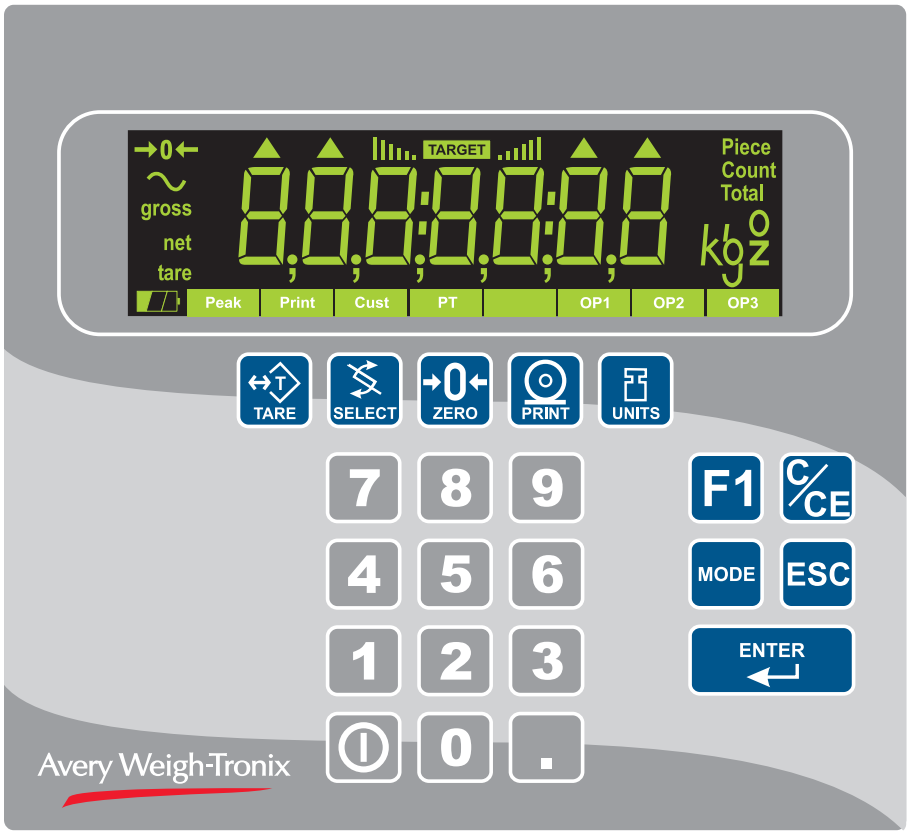


Figure 1
E1010 front panel

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 User menu.

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 User menu.

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

Press the **PRINT** key to send information to a peripheral device through the Comm port. Also acts as a down arrow key when in the User menu.

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 User menu.

Press the **F1** key to select application specific choices. Press and hold to access the cutoffs (trips) function. 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 User menu.

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

Use the numeric keypad to enter values.
For example:

- ID entry
- Setpoint 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

Caution

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.

The charger has a 12 VDC 800 mA output with center positive connection.

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.
CAnt	The unit cannot perform a function. Displayed only while key is held down.
SEALEd	Displayed while a key is pressed when attempting to modify a sealed selection without edit privileges.

When you are in the *Linearity* menu item in the Service menu, you may see the following errors:

Display	Description
Error 0	Out of ascending order
Error 1	Value <1% of capacity
Error 2	Value causes resolution >100,000 divisions

When you are in the *Span* menu item in the Service menu, you may see the following errors:

Display	Description
Error 0	Entered value > set capacity
Error 1	Value <1% of capacity
Error 2	Value causes resolution >100,000 divisions
Error 3	No ADC counts OR in Overload OR in Underload } All these relate to mV/V input

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

Service menu (password is 0101)

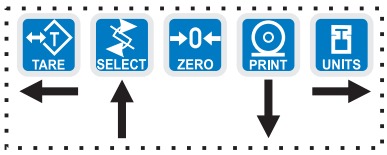
The second menu covered is the **Service** menu. This menu covers many areas. In it you can:

- 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
- 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.

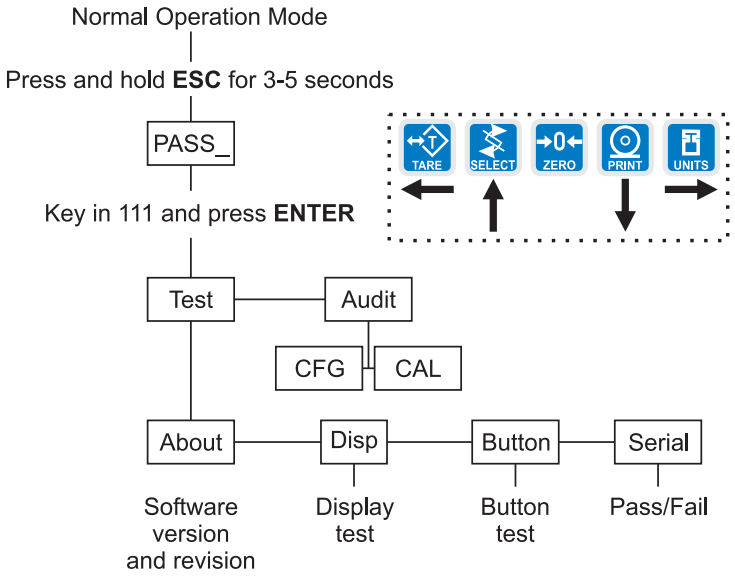


Figure 2
User menu flowchart

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.

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. . .

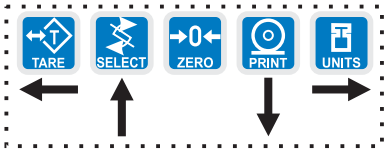
   All the display elements flash.

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 / Number Equivalents

Tare =	1	4 =	12
Select =	2	5 =	13
Zero =	3	6 =	14
Print =	4	1 =	17
Units =	5	2 =	18
F1 =	6	3 =	19
Power =	7	0 =	23
7 =	8	. =	24
8 =	9	C/CE =	20
9 =	10	Mode =	15

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).

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.

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

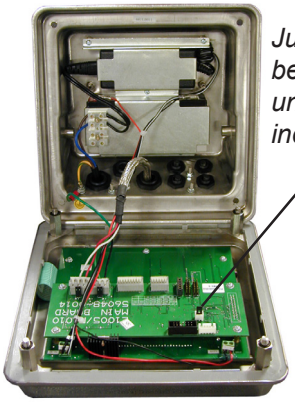
    CAL is displayed. This stands for the calibration audit counter. Press the **PRINT** key to see the number of times the indicator has been calibrated.

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 must be in place to unseal the indicator.

CAL submenu

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.

ZERO
(Setting Zero Reference Point)

Press the ZERO (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

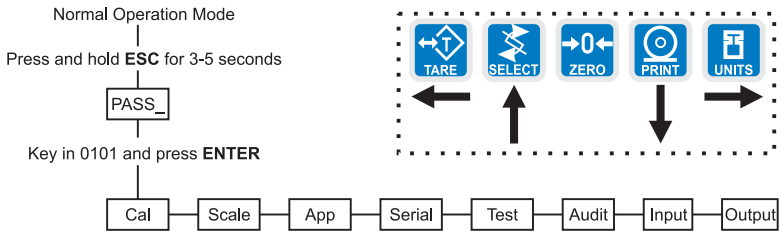


Figure 3
Service menu top level flowchart

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.

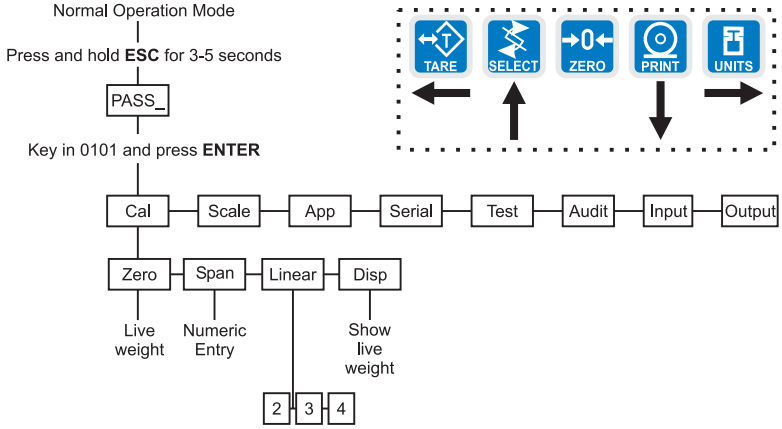


Figure 4
CAL submenu

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

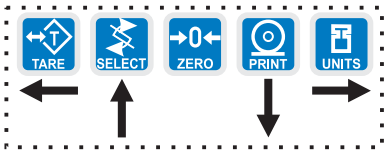
2. Press the **PRINT** key. . .
   ZERO is displayed. Use this item to set the zero reference for the indicator/scale.

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 ZERO (ESC) key to abort calibration.

1. From previous step 5, 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 **ZERO** 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. From previous step 6, 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. You will be prompted to save the changes. Press **ENTER** to save them or the **ESC** key to abort the save process and 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. From previous step 8 press the **UNITS** key. . .

   DISP is displayed.

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

   The live weight is displayed.

3. Press the **F1** key to return to ***DISP***.
4. Press the **SELECT** key. . .

   CAL is displayed.

This completes the CAL section of the Service menu. The next menu item, SCALE, is covered in the next section.

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.

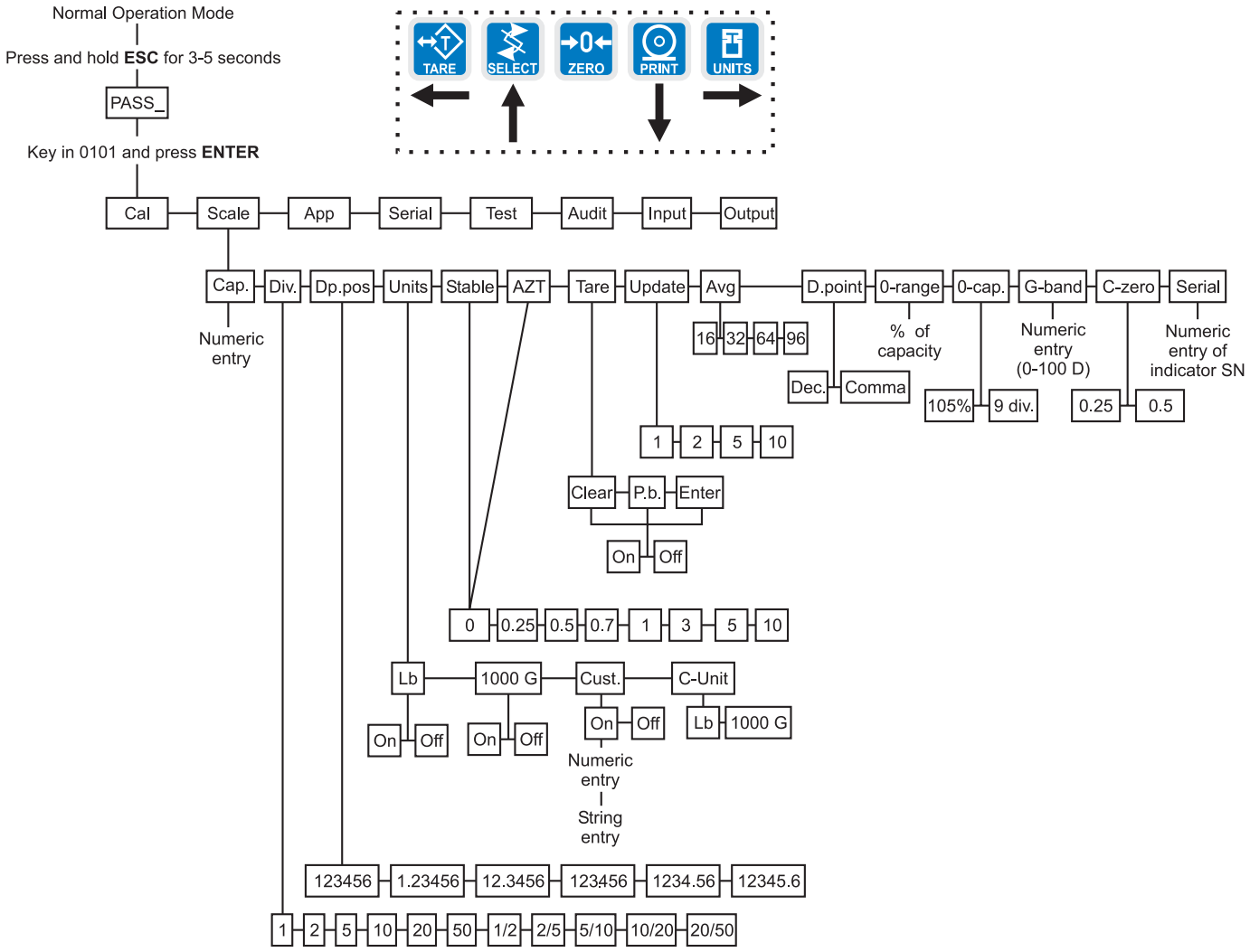


Figure 5
Scale submenu flowchart

CAP. (Capacity)

1. Access the Service menu. . .
   CAL is displayed.
2. Press the **UNITS** key. . .
   SCALE is displayed.
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. From previous step 3, press the **UNITS** key. . .

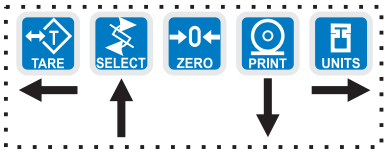
   DIV. is displayed. This stands for the division size of your displayed weight.

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. From previous step 3, 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. From previous step 3, 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 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.

$$\frac{\text{one cal unit}}{\text{number of custom units}}$$

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 F1 when you are done. . .

   CUST is displayed.

7. Press the **SELECT** key. . .

   UNITS is displayed.

8. 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).

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

   C-UNIT is displayed.

10. 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. From previous step 10 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 light 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. From previous step 3 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. From previous step 3, press **UNITS** key. . .

   TARE is displayed.

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 falls below the value 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.
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.

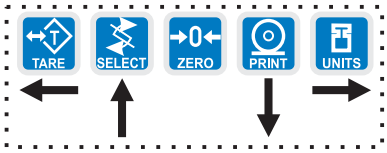
1. From previous step 4, press the **UNITS** key. . .
   UPDATE is displayed.
2. Press the **PRINT** key. . .
   Current setting is displayed.
3. Scroll through the choices (1, 2, 5, or 10 times per second) by using the **UNITS** or **TARE** key and press the **ENTER** key to accept the displayed choice. .
   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 conversions you want to average for the weight that is displayed.

FAST - 1 display rate average
MED - 1 second average
SLO - 2 second average

1. From previous step 3, press the **UNITS** key. . .
   AVG is displayed.
2. Press the **PRINT** key. . .
   The current choice is displayed. Choices are Fast, Med and Slo. See note at left.



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. From previous step 3, 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. From previous step 3, 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. From previous step 3, 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). You can enter values between 0 and 100 divisions.

1. From previous step 3, 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. From previous step 3, 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. From previous step 3, press the **UNITS** key. . .

   SERIAL is displayed.

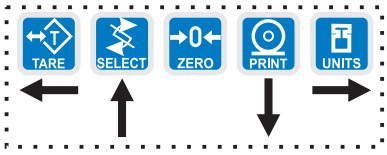
2. Press the **PRINT** key. . .

   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. . .

   -----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. . .

   SERIAL is displayed.

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

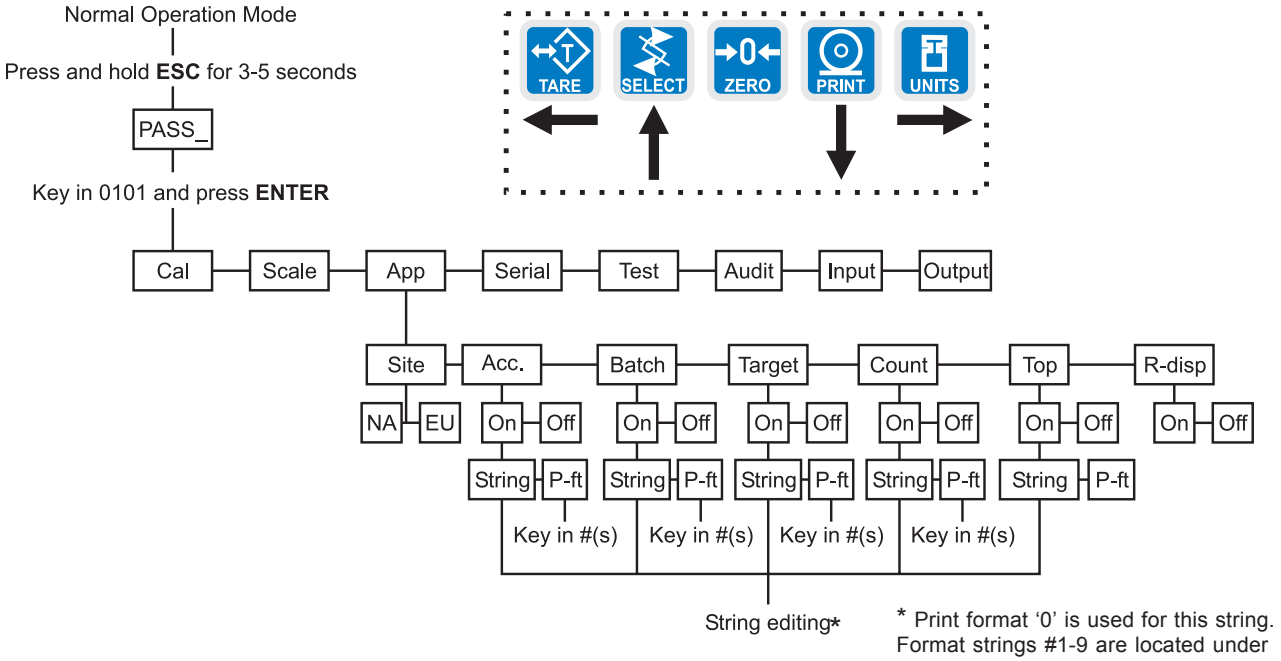


Figure 6
APP (applications) submenu

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.

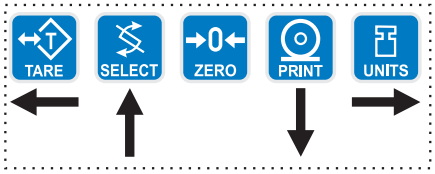
5. Toggle between the choices by using the **UNITS** key or **TARE** key and press the **ENTER** key to accept the displayed choice. .
   INIT-NA or ***INIT-EU*** is displayed briefly then ***SITE*** is displayed.

   INIT stands for initializing the defaults.

ACC
(Accumulator application)

If you turn off all applications, the Accumulator application will become active.

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



When you key in a 1 followed by a 0, the indicator knows this is a 10 not separate 1 and 0 formats.

Always enter format numbers in ascending order.

1. From step 5 in the previous section, press the **UNITS** key. .

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

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

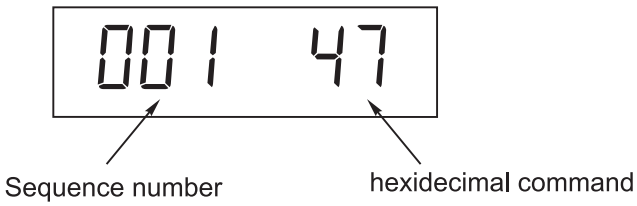
   ON or ***OFF*** is displayed.

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.



   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. . .

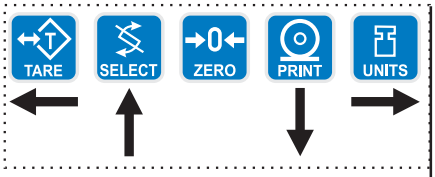
   Numeric entry screen is displayed.

8. Key in the format numbers you want printed. 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.

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

   ACC. is displayed.



10. Press the **UNITS** key. . .
    BATCH is displayed.

BATCH
(Batch application)

1. From previous step 10, press the **PRINT** key. . .
   Repeat steps 2-10 from the *ACC (Accumulator application)* section to set up the Batch application.
2. Press the **SELECT** key twice. . .
   BATCH is displayed.
3. Press the **UNITS** key. . .
   TARGET is displayed.

TARGET
(Checkweighing application)

1. From previous step 3, press the **PRINT** key. . .
   Repeat steps 2-10 from the *ACC (Accumulator application)* section to set up the Target application.
2. Press the **SELECT** key twice. . .
   TARGET is displayed.
3. Press the **UNITS** key. . .
   COUNT is displayed.

COUNT
(Counting application)

1. From previous step 3, press the **PRINT** key. . .
   Repeat steps 2-10 from the *ACC (Accumulator application)* section to set up the Target application.
2. Press the **SELECT** key twice. . .
   COUNT is displayed.
3. Press the **UNITS** key. . .
   TOP is displayed.

TOP
(Peak hold application)

1. From previous step 3, press the **PRINT** key. . .
   Repeat steps 2-10 from the *ACC (Accumulator application)* section to set up the Target application.
2. Press the **SELECT** key twice. . .
   TOP is displayed.
3. Press the **UNITS** key. . .
   R-DISP is displayed.

R-DISP
(Remote Display)

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

1. From step 3 in section *TOP (Peak hold application)*, press the **UNITS** key. . .

   R-DISP is displayed. This stands for remote display. Use this item to set up your indicator as a remote display for another indicator.

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

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

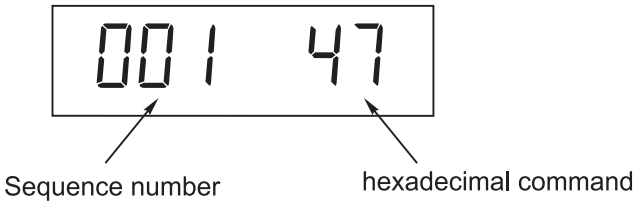
3. Toggle between the choices by using the **UNITS** key or **TARE** key and press the **ENTER** key to accept the displayed choice. . .

   R-DISP is displayed.

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

This completes the APP menu.

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.

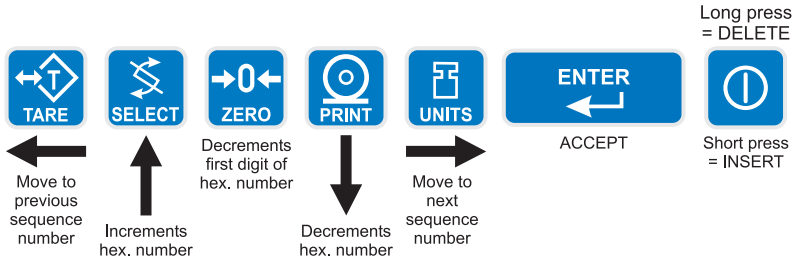


Figure 7
Key legend for hex editing

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.

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

Formats 1-9 are available for any application mode.

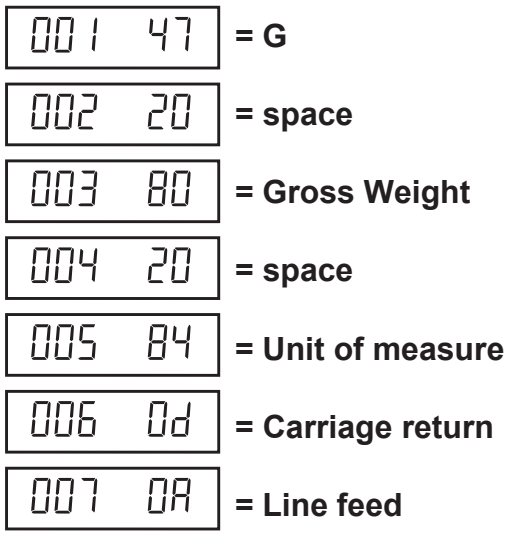
Format 10 - not available

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

```
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.

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

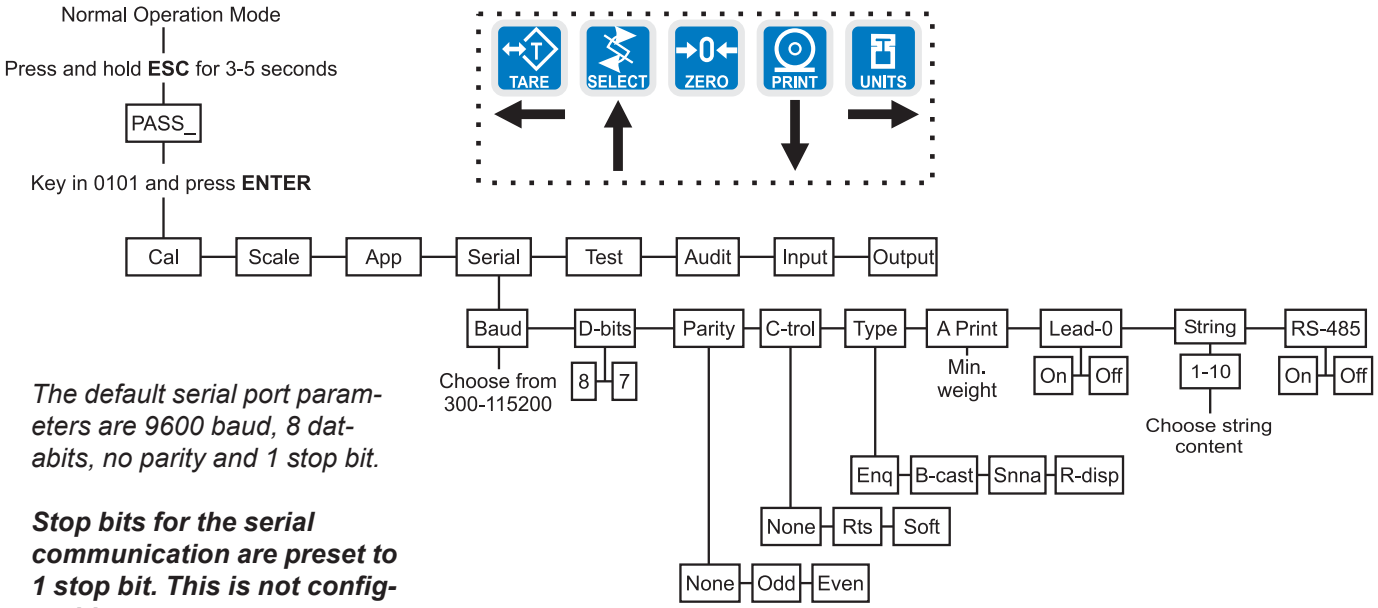
Dec	HEX	Token	Application	Group
128	80	GWT(,n)	Gross Weight [1]	
129	81	NWT(,n)	Net Weight [1]	
131	83	SAT(,n)	Semi-Auto Tare [1]	
132	84	UN	Units	Weight
135	87	ID	Machine ID (serial #)	Misc
136	88	TIM,x	Time	Time
137	89	DAT,x	Date	Date
138	8A	TTV,n	Target Value	Trip
142	8E	CLA(,n)	Checkweigher	Checkweight
			'Low Accept' value [1]	
143	8F	CHA(,n)	Checkweigher 'High Accept' value [1]	Checkweight
148	94	PCE	Piece Weight	Count
149	95	CNT	Current Count Value	Count
151	97	GTO	Gross Accumulator	Weight
153	99	STO	Net Accumulator	Weight
162	A2	DIS	Remote Display Status (DIS)	Miscellaneous
170	AA	VER	Software Version Number	Miscellaneous
173	AD	WST	Weight Steady	Weight
184	B8	PUT	Totals Information	PLU
188	BC	PCT	Count Total	PLU
189	BD	LST	Gross Accumulator	PLU
190	BE	LGT	Net Accumulator	PLU
200	C8	DSP(,n)	Print the displayed weight	Weight
215	D7	NULL	Null Token	Strings
216	D8	ACT	Print the active value ('G' for gross, 'N' for net, 'T' for tare)	Weight
242	F2	PWT	Peak Hold Weight value	Weight
255	FF	EOS	End of String	String

Notes
These tokens can be optionally followed by an ASCII 2 to 9 to specify the number of weight digits (including decimal point). If no specifier is given it defaults to 6 digits (+ decimal point) (equivalent to ASCII 6).

Further, parameter values may be ASCII digits (i.e. range '0' thru '9') or DECIMAL values (i.e. range 0 thru 255). In all cases, parameters consume one byte. In the term/token table parameters are indicated as follows:
Optional, (ASCII) - (,n)
Optional, (Decimal) - (,x)
Mandatory, (ASCII) - ,n
Mandatory, (Decimal) - ,x

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.

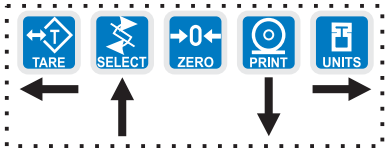
4. Scroll the choices by using the **UNITS** key or **TARE** key and press the **ENTER** key to accept the displayed choice. .

   BAUD is displayed.

D-BITS
(Data bits)

1. From previous step 4, 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. From previous step 3, 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. From previous step 3, 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. From previous step 3, 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.

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

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

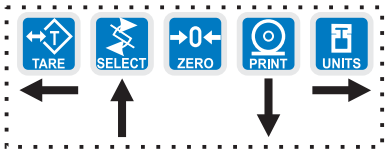
2. Press the **PRINT** key. . .

   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. From previous step 3, 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. From previous step 3, 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 - not available

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. From previous step 5, 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.

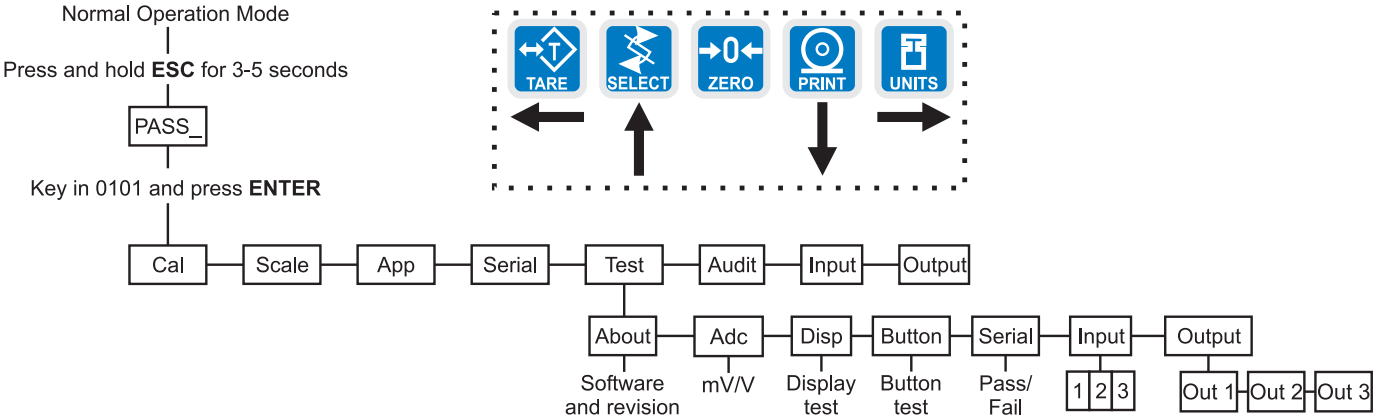


Figure 9
TEST (diagnostic) submenu

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)

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. 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.

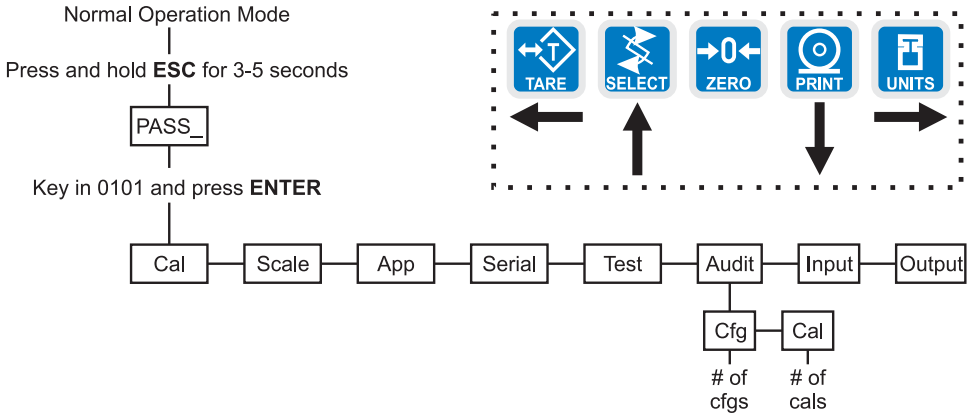


Figure 10
AUDIT submenu

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.

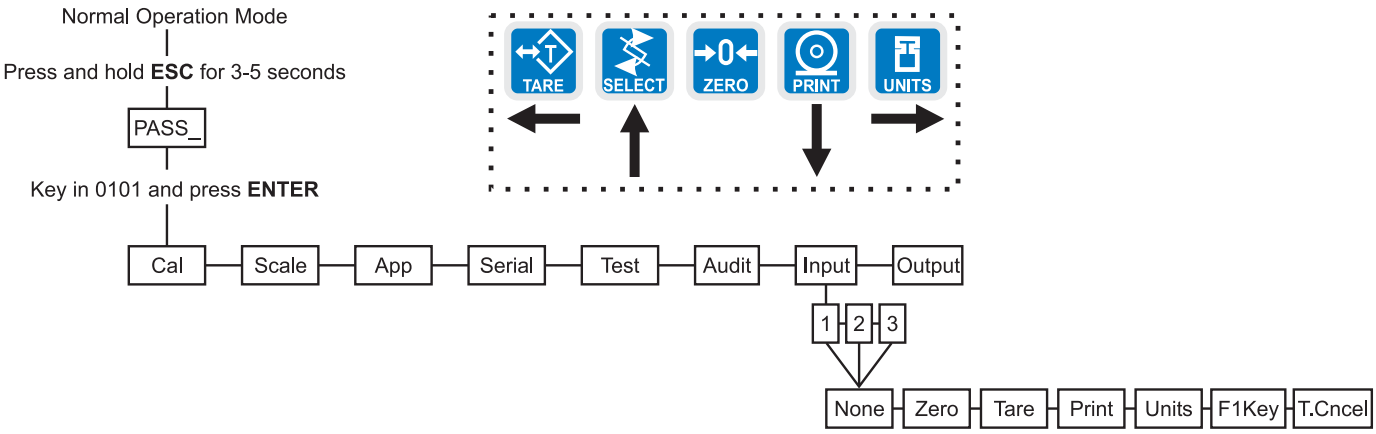


Figure 11
INPUT submenu

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.

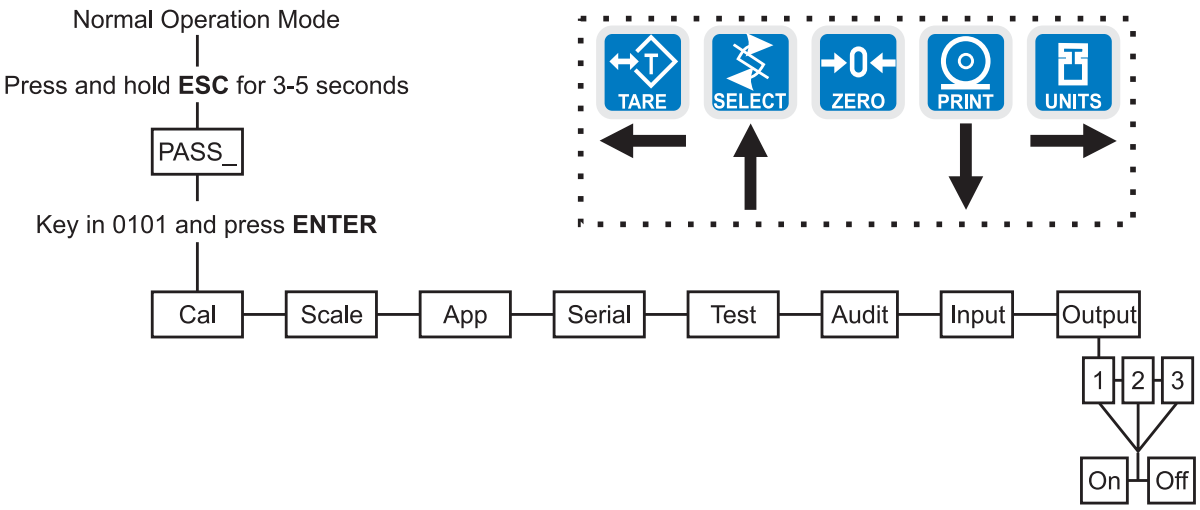


Figure 12
OUTPUT submenu

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.

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.

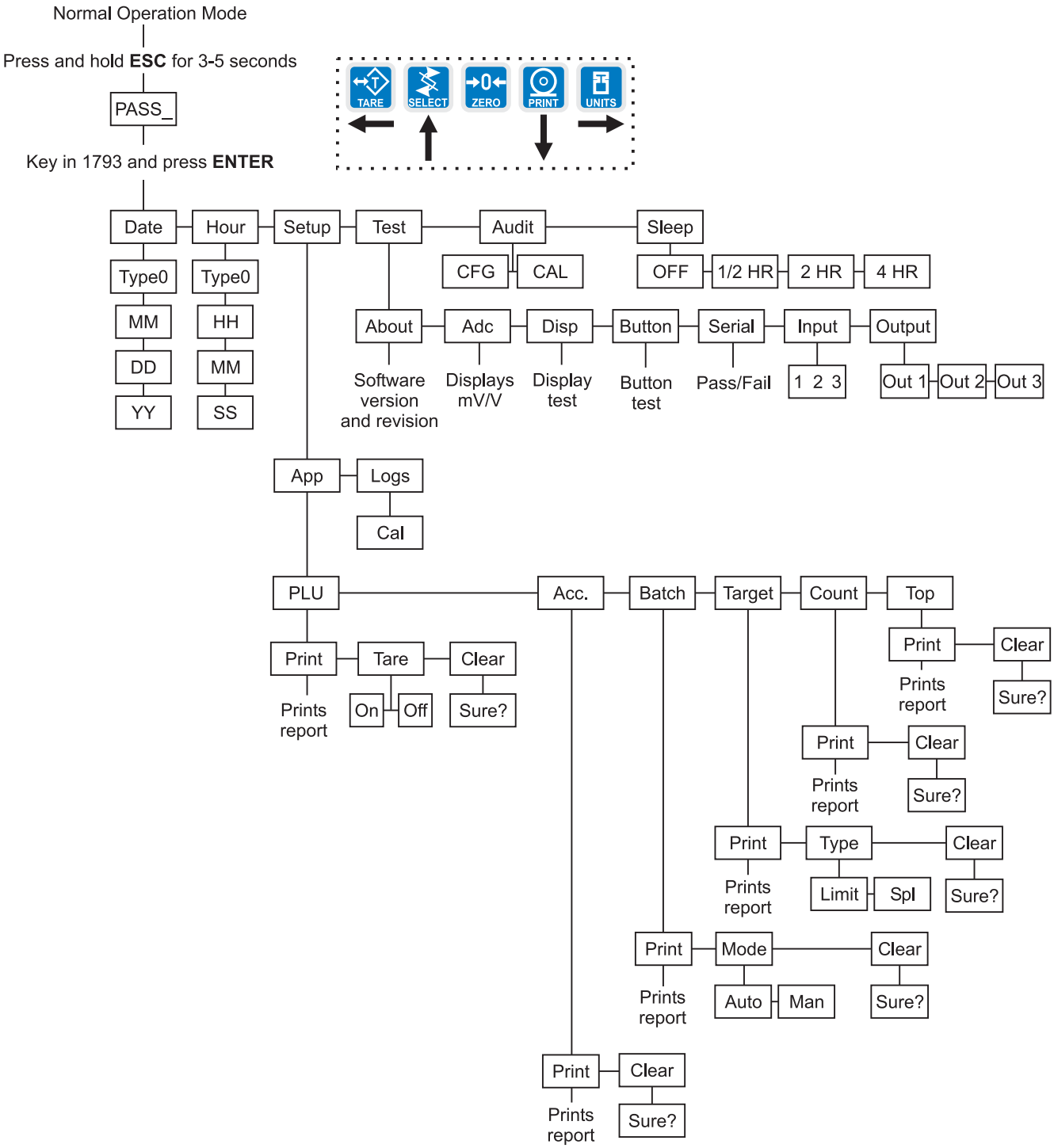


Figure 13
Supervisor menu flowchart

Password for the Supervisor menu is 1793.

1. Access the Supervisor menu by pressing and holding the **ZERO** 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.

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

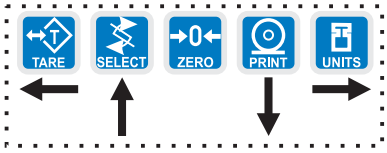
4. Key in the number for the style you want to use in all dated reports and press the **ENTER** key. . .

   M is displayed. This stands for month.

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.

DATE submenu (Set date)



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. From step 7 previously, press the **UNITS** key. . .

   HOUR is displayed. Set the time in this item.

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

   TYPE1 is displayed.

   Type 1 is 24 hr. military format
   Type 2 is 12 hour, AM/PM format

4. Key in 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.

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

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

   M XX is displayed. ***M*** 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. From previous step 7, 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.

APP (Applications)

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

   APP is displayed. Each application is listed below this menu item. As stated in the Service menu section of the manual, applications are enabled and disabled in the Service menu but you do each application's setup in this area of the Supervisor menu.

PLU (Product Look Up)

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

   PLU is displayed. This stands for Product Look Up. There are 10 PLU memory channels, numbered 1-10. Each channel contains all the parameter values and accumulator totals associated with all the different applications. This menu item lets you print out all the information in each channel, in all the applications, and/or clear the information. See list of printed information at left.

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

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

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

5. Press the **ENTER** key . . .

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

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

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

7. 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 7a. If you choose off, skip to step 7b.

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

7a. If you choose ***ON*** . . .

   PLU 1 is displayed. See note at left.

   Press the **PRINT** key. . .

   A numeric entry screen is displayed.

   Key in a tare value for PLU 1 and press **ENTER** to accept it

   OR

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

   The PLU display is shown

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

   TARE is displayed.

7b. Since you chose ***OFF***. . .

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

8. Press the **UNITS** key. . .

CLEAR is displayed. Use this item to clear all the information stored for each application. **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. See step 3 above.

8. Press the **ENTER** key. . .

SURE? is displayed.

9. Press the **ZERO** key to abort the save process or press the **ENTER** key to clear all the information. . .

CLEAR is displayed.

Press the **SELECT** key. . .

PLU is displayed.

ACC Application

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

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

11. Press the **PRINT** key. . .

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

12. Press the **ENTER** key . . .

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

13. 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. See step 3 above.

14. Press the **ENTER** key. . .

SURE? is displayed.

15. Press the **ZERO** key to abort the save process or press the **ENTER** key to clear all the information. . .

CLEAR is displayed.

16. Press the **SELECT** key. . .

ACC. is displayed.

BATCH Application

17. Press the **UNITS** key. . .

BATCH is displayed.

18. Press the **PRINT** key. . .

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

18. Press the **ENTER** key . . .

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

19. Press the **UNITS** key. . .

    MODE is displayed. Use this item to set the mode of the batching application to Automatic or Manual

    AUTO - As weight is added to the scale and the first cutoff point is reached, OP1 annunciator lights and Output #1 is activated. When weight reaches the second cutoff, OP2 annunciator lights and Output #2 activates. When weight reaches the third cutoff, OP3 annunciator lights and Output #3 activates.

    MAN. - In manual mode, after the user begins the batching process, the user must press the **F1** key to activate each subsequent output after each output weight is reached.

20. Press the **PRINT** key. . .

    The current mode setting is displayed.

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

    MODE is displayed.

22. 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. See step 17 above.

23. Press the **ENTER** key. . .

    SURE? is displayed.

24. Press the **ZERO** key to abort the save process or press the **ENTER** key to clear all the information. . .

    CLEAR is displayed.

25. Press the **SELECT** key. . .

    BATCH is displayed.

TARGET application (Checkweighing)

1. From previous step 17, 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 display.

   SPL - You use 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. See step 2 above.

7. Press the **ENTER** key. . .

   SURE? is displayed.

8. Press the **ZERO** 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 Application

1. From previous step 9, 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. See step 2 above.

5. Press the **ENTER** key. . .

   SURE? is displayed.

6. Press the **ZERO** 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) Application

1. From previous step 7, 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. See step 2 above.

5. Press the **ENTER** key. . .

   SURE? is displayed.

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

   CLEAR is displayed.

7. Press the **SELECT** key. . .

   TOP is displayed.

8. Press the **SELECT** key. . .

   APP is displayed.

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

   SETUP is displayed.

TEST submenu (Test menu)

1 From previous step 9, proceed to the next menu by pressing the **UNITS** key. . .

TEST is displayed. This menu lets you view indicator information and test 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 is displayed.

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.
8. Press the **ZERO** key to stop the dynamic test.

BUTTON (Key test)

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 screen to confirm the button is functioning correctly.
11. Press the **ZERO** key to stop the button test.

BUTTON is displayed.

SERIAL (Serial port test)

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. Continue to step 13.

13. 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***.

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

SERIAL is displayed.

INPUT
(Input test)

15. Press the **UNITS** key. . .
    INPUT is displayed. This is the input test item.

16. Press the **PRINT** key to access the test.
    1 2 3 is displayed. ***1*** stands for input 1, etc.

17. 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.

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

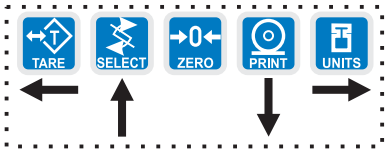
    To test input 3, jumper pins 1 and 4. ***3*** becomes ***0*** until the jumper is removed.

18. Press the **SELECT** key. . .
    INPUT is displayed.

OUTPUT
(Output test)

19. Press the **UNITS** key. . .
    OUTPUT is displayed. This is the output test item.

20. Press the **PRINT** key to access the test.
    OUT 1 is displayed. This stands for output 1.



21. 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.

22. Stop the test by pressing the **SELECT** key. . .
    OUT 1 is displayed.

23. Press the **UNITS** key. . .
    OUT 2 is displayed.

24. Repeat steps 21 and 22 for outputs 2 and 3. . .
25. Press the **SELECT** key. . .
    OUTPUT is displayed.

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

AUDIT (Audit counters) menu

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.

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

CFG (Configuration audit counter)

1. From previous step 25, press the **UNITS** key. . .

   AUDIT is displayed.

2. 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.

3. 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)

4. 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.

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

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

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

   AUDIT is displayed.

SLEEP (Sleep mode) menu

1. From previous step 6, press the **UNITS** key. . .

   SLEEP is displayed. This stands for the sleep mode.

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

   Current value is shown. 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. Scroll through the choices by pressing the **TARE** or **UNITS** key and press **ENTER** when choice is displayed. . .

   SLEEP is displayed.

   This completes the Sleep item and the Supervisor menu.

4. Press the **SELECT** key. . .

   SAVE is displayed prompting you to save the changed information.

5. Press **ENTER** to save and return to normal weighing operation
   OR
   Press **ZERO** to abort changes and return to normal weighing operation.

Disassembly and Reassembly

Disassembly

Torque specs:
M6 = 44.0 in/lbs [5.0 N/m]
Refer to the technical illustrations in the z-fold pages for all the torque specs.

Refer to the technical illustrations in the z-fold pages at the back of this manual for exploded views, system block diagrams and much more.

If the need arises to replace a component of the indicator, use these instructions and illustrations to guide you.

1. Power down the indicator. Disconnect from AC power source.
2. Remove the 4 M6 acorn nuts shown in Figure 14.

Figure 14
Rear view of indicator

3. Carefully separate the halves. Be aware of wires connecting front and back halves.

Caution

*Failure to observe proper polarity when replacing the battery on the main PC board may cause an explosion. Replace battery only with the same -**or**- equivalent type recommended by manufacturer. Dispose of used batteries according to manufacturer's instructions.*

4. Disconnect all the cables to the PC boards. See Figure 15.

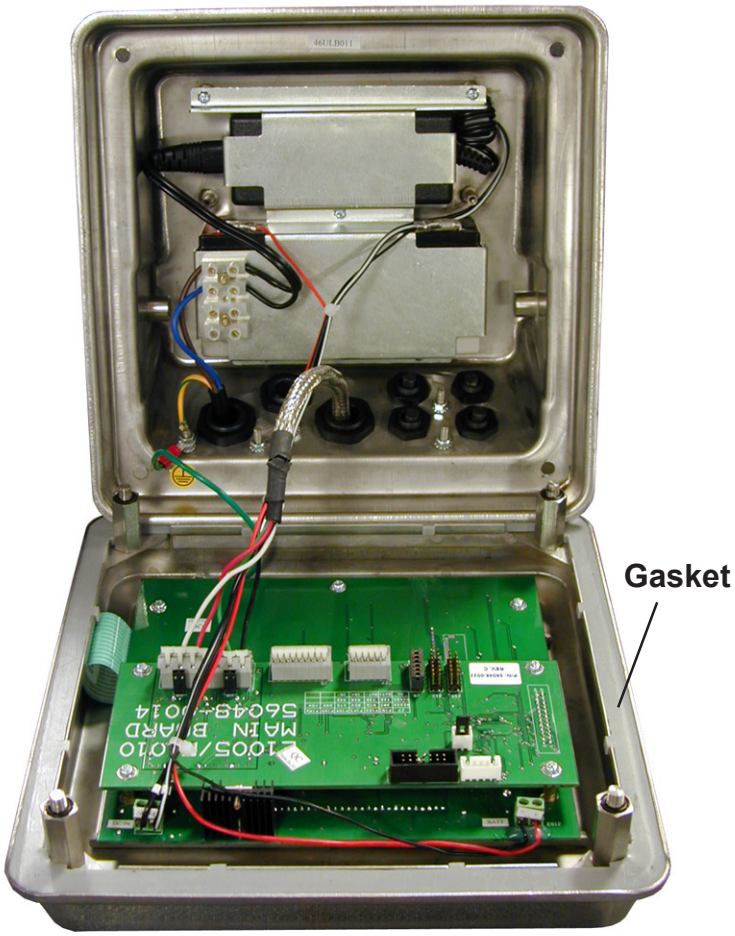


Figure 15
Interior of Model E1010

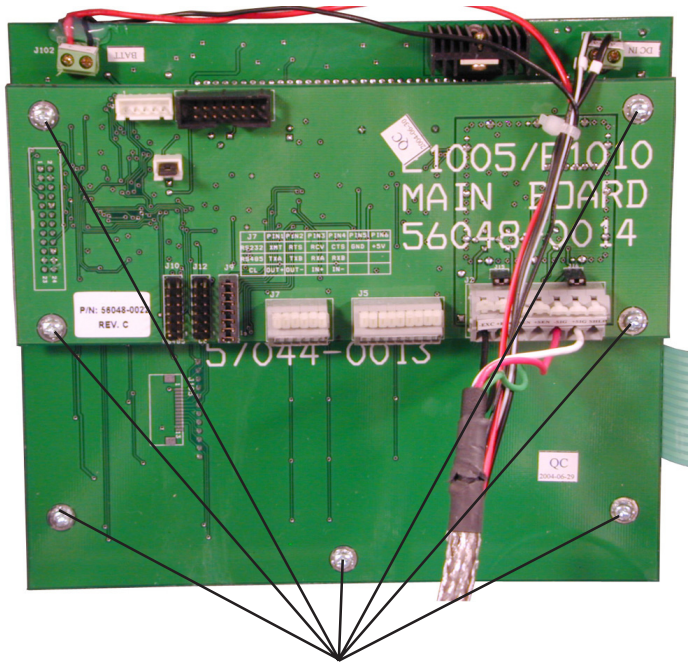
4. Replace the gasket, pointed out in Figure 15, if it is in need of replacement.

Caution

*Failure to observe proper polarity when replacing battery may cause an explosion. Replace battery only with the same -**or**- equivalent type recommended by manufacturer. Dispose of used batteries according to manufacturer's instructions.*

Battery replacement PN 250117842.

5. Remove the screws holding the PC boards to replace them. See Figure 16.



Remove these screws

Figure 16
PC boards

6 . To remove the battery and transformer, remove the five screws in the hold-down plate, shown in Figure 17.

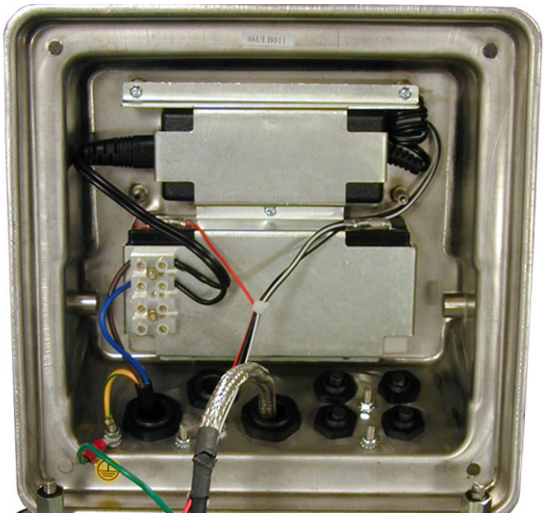


Figure 17
Battery and transformer

7. Remove the terminal connectors from the battery and the plug from the transformer.

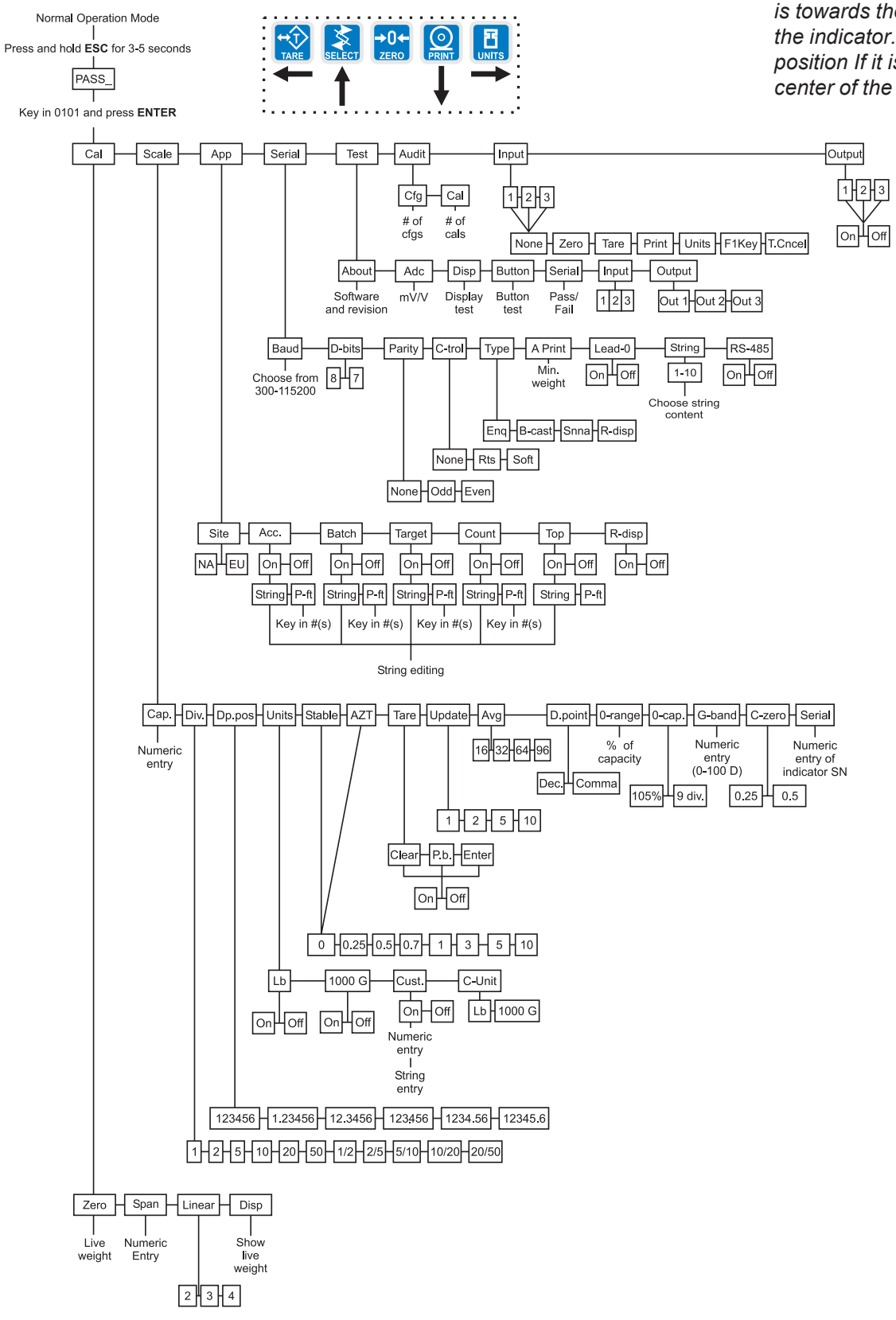
Reassembly

Reverse the disassembly steps to install a battery, transformer and PC boards.

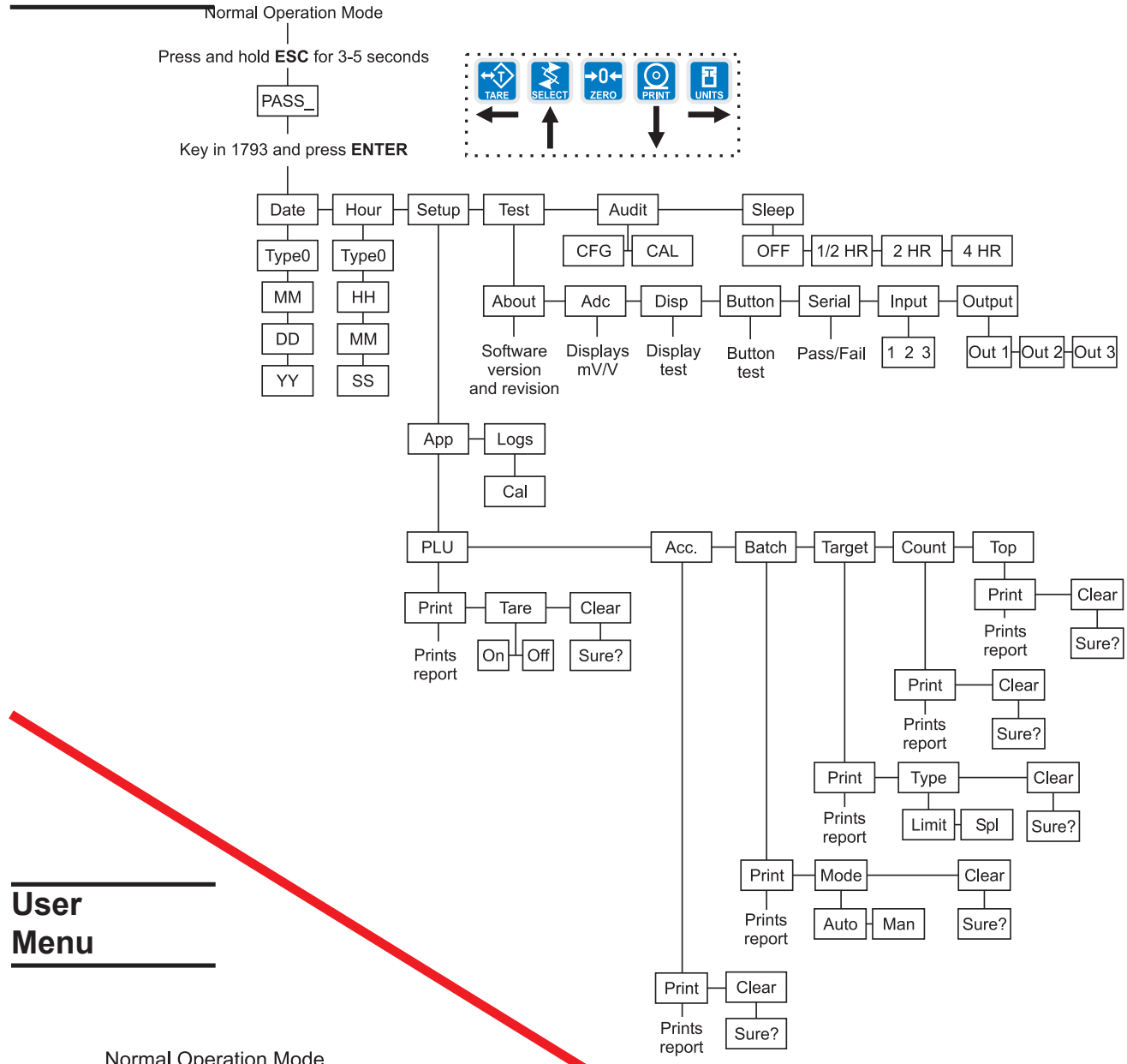
Appendix 1: Complete Menus

Service Menu

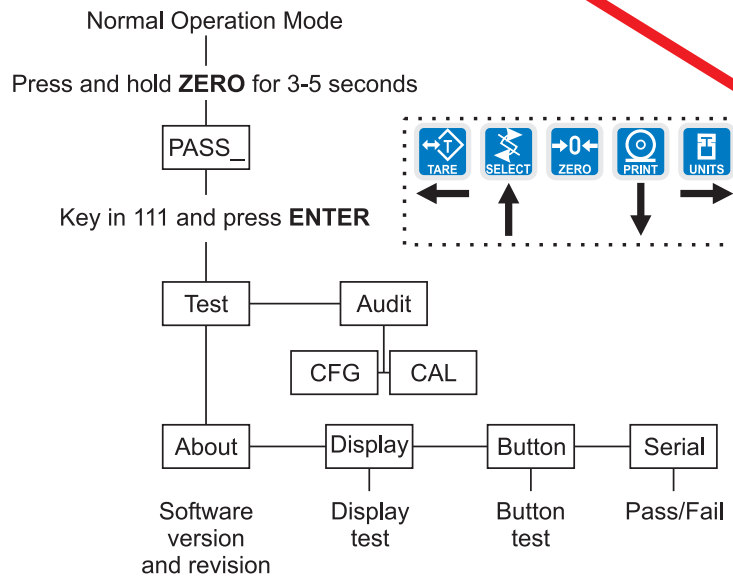
The indicator must be unsealed to perform calibration. The indicator is unsealed when the switch under the access cover is towards the outside edge of the indicator. It is in the sealed position If it is towards the center of the indicator.



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

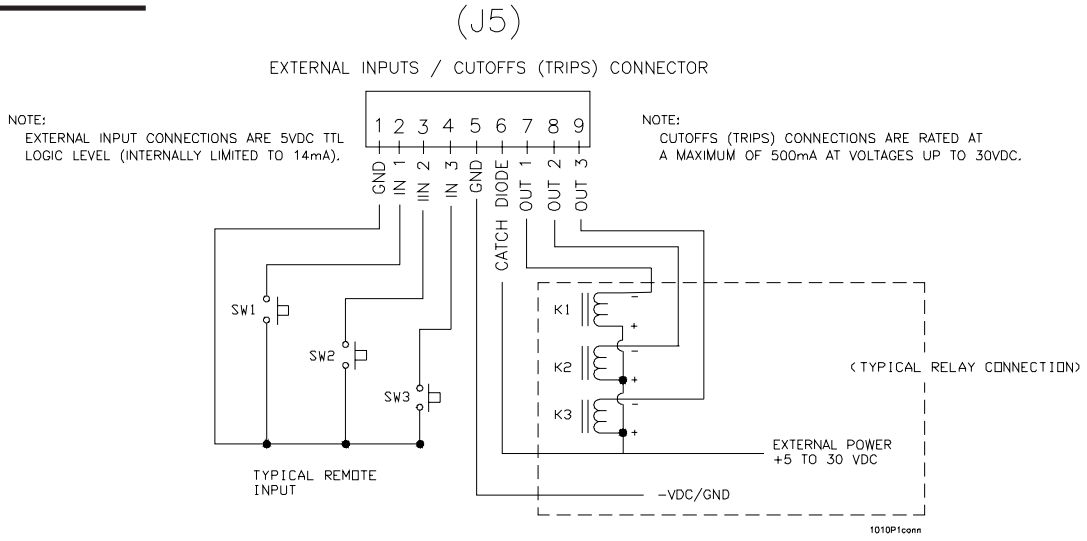
Indicator	J7 Pin in Indicator	Computer/Serial device
TXA (transmit A)	1	RXA
TXB (transmit B)	2	RXB
RXA (receive A)	3	TXA
RXB (receive B)	4	TXB
Signal Ground	5	Signal Ground (Optional)

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



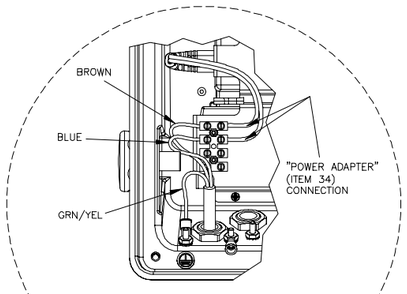
MODEL E1010 SST INDICATOR
Technical Drawings Parts Lists and Illustrations

(This Page Intentionally Blank)

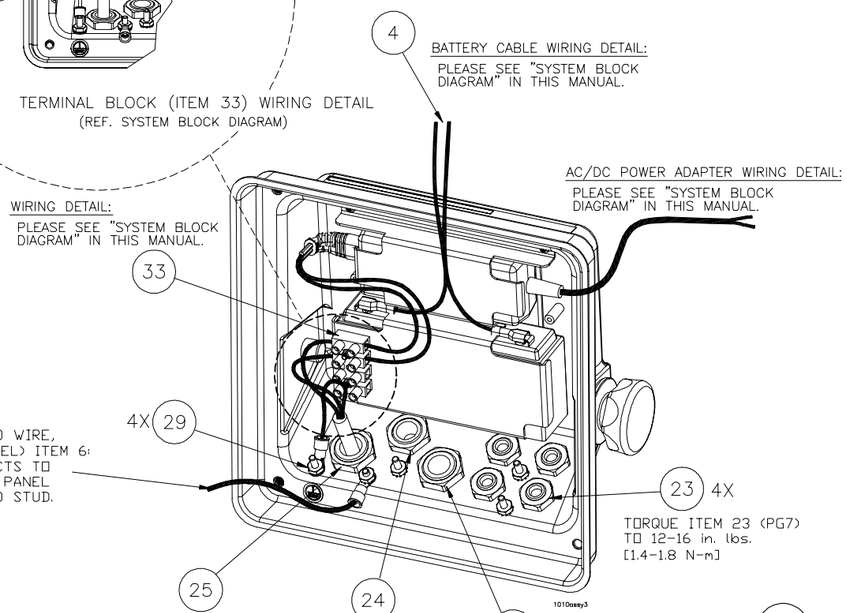
MODEL E1010 SST INDICATOR

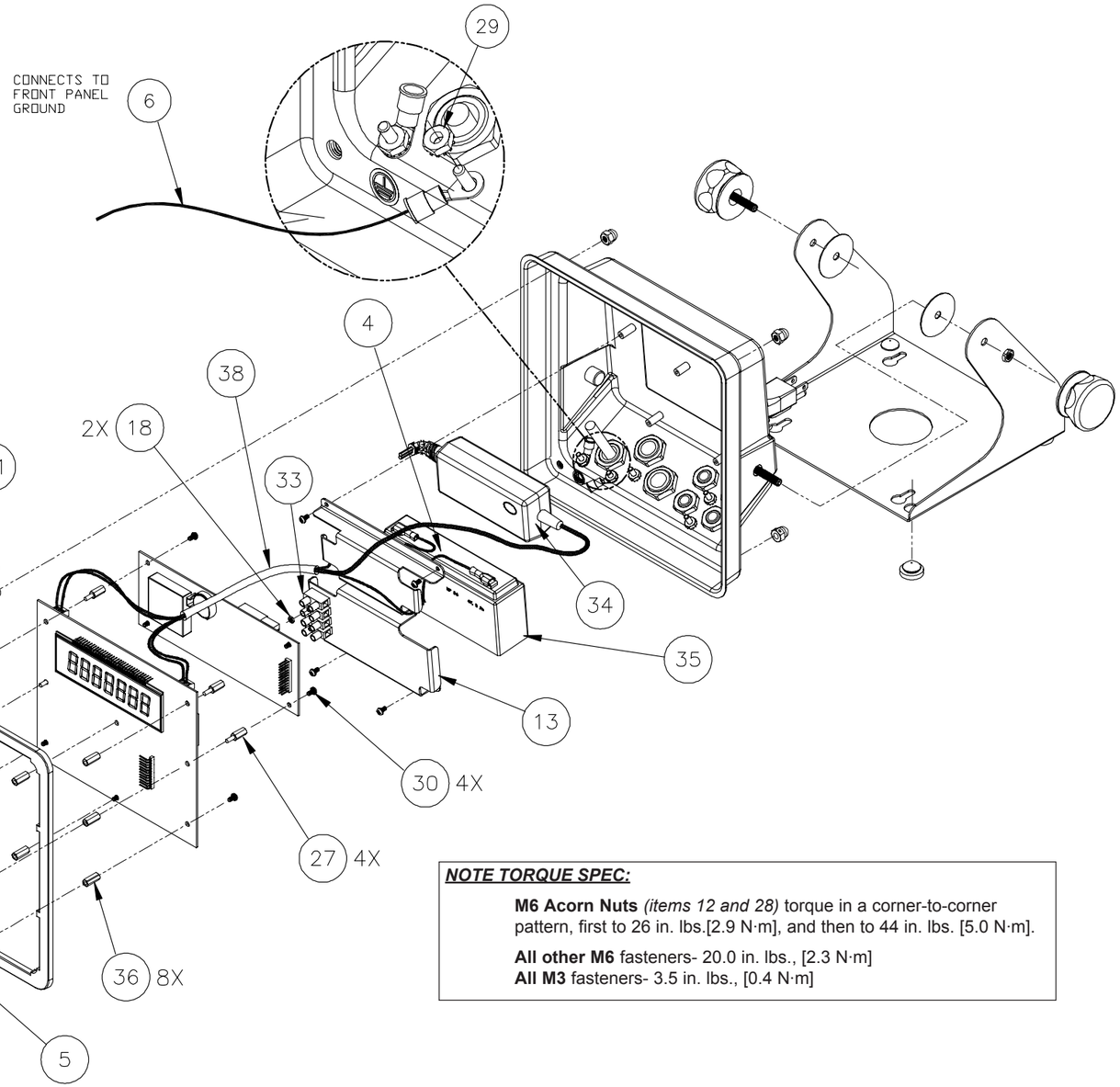
ENCLOSURE PARTS AND ASSEMBLY

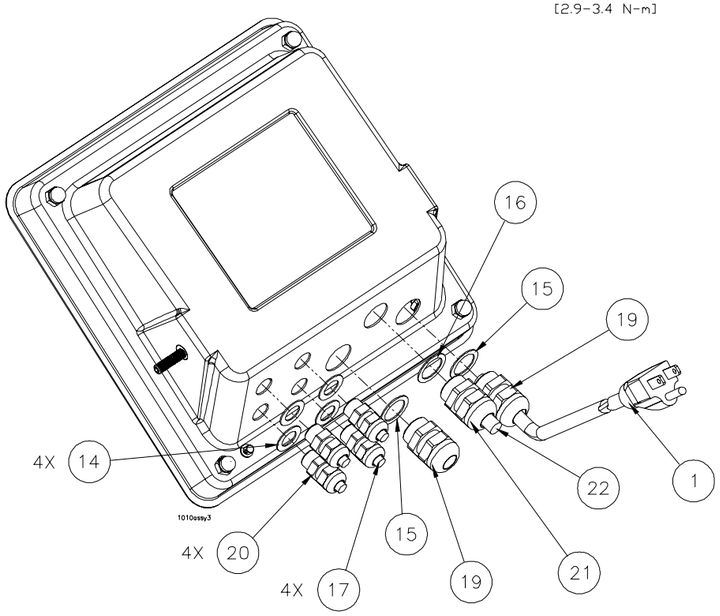
(SEE PARTS LIST NEXT PAGE)



TERMINAL BLOCK (ITEM 33) WIRING DETAIL
(REF. SYSTEM BLOCK DIAGRAM)







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:

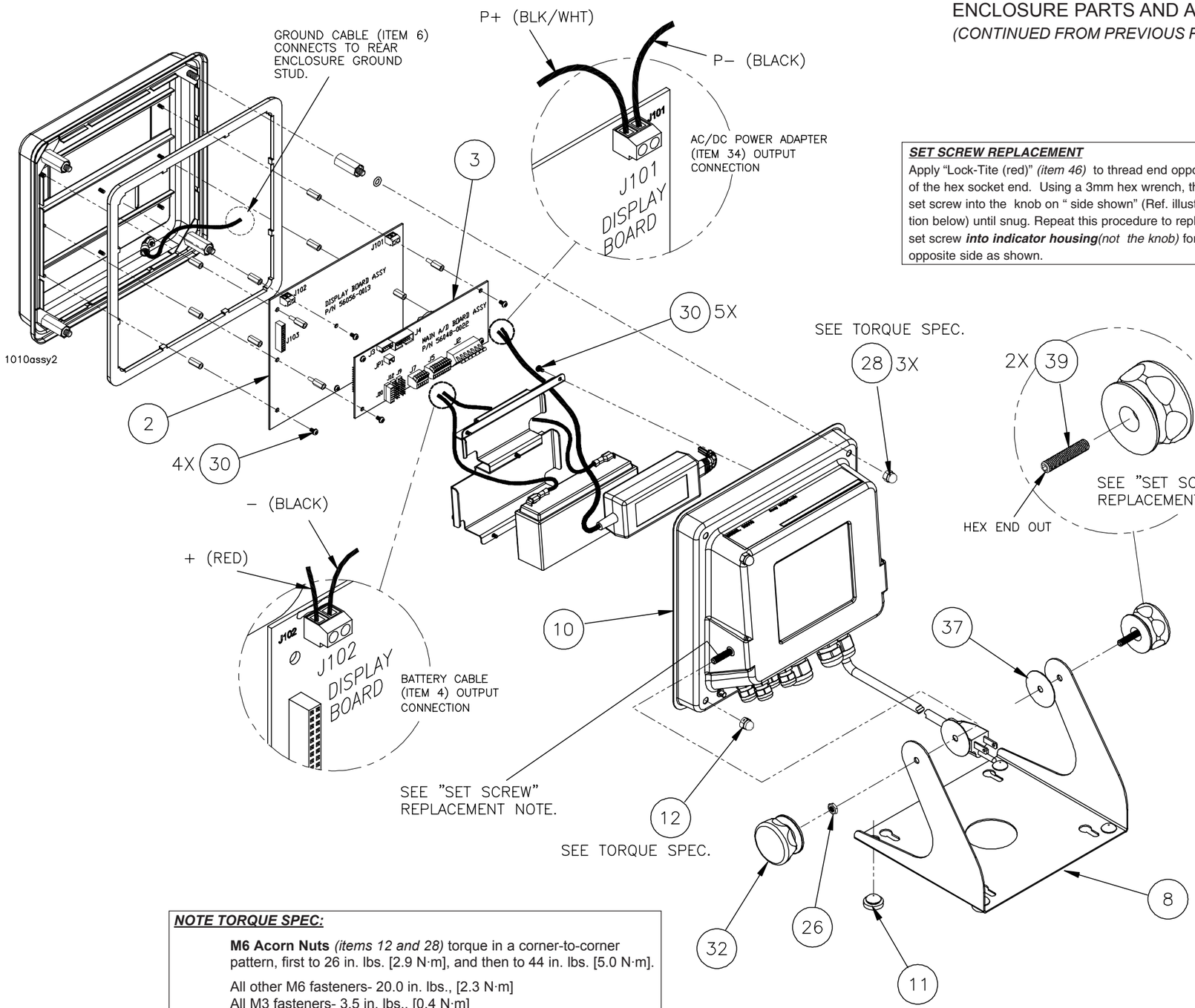
M6 Acorn Nuts *(items 12 and 28)* torque in a corner-to-corner pattern, first to 26 in. lbs.[2.9 N·m], and then to 44 in. lbs. [5.0 N·m].

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.

ITEM NO.	DESCRIPTION	W-T P/N	QTY
1	AC Power Cord Assembly *(110-240VAC, USA)* AC Power Cord Assembly *(110-240VAC, UK)*	49180-0017mts 49180-0025mts	1 1
2	Display/Keypad Board Assembly	56056-0013	1
3	Main Board assembly	56048-0022	1
4	Battery Cable Assy	56867-0012	1
5	Front Enclosure Ass'y, E1010, *(incl: keypad overlay, front encl., display window, adhesive backing)*	57043-0025	1
6	Ground Wire Assembly *(front panel-to-rear panel)*	48712-0024	1
7	Standoff, Hex, M6 x 1.06" [27.00mm] long, M/F	56126-0019	4
8	Indicator Stand	56132-0011	1
9	Enclosure Gasket	56133-0010	1
10	Rear Enclosure	56137-0016	1
11	Rubber Foot	56138-0015	4
12	Acorn Sealing Nut, M6	56844-0010	1
13	Battery/Power Adapter Bracket	56127-0018	1
14	Neoprene Washer	26357-0046	4
15	Neoprene Washer	26357-0053	2
16	Neoprene Washer	26357-0038	1
17	Neoprene Plug, .250" [6.35mm] dia. *(cut as needed)*	27429-0014	.5 ft.
18	Nut, M3	369100003	2
19	Strain Relief, M16, *(Hummel)*	55177-0043	2
20	Strain Relief, *(Hummel)*	55177-0019	4
21	Strain Relief, *(Hummel)*	55177-0035	1
22	Neoprene Plug, .354" [9mm] dia	27429-1103	.12 ft.
23	Locking Nut	55177-1017	4
24	Locking Nut	55177-1033	1
25	Locking Nut	55177-1041	2
26	Nyloc Nut, M6	13821-648	1
27	Standoff, M3 x .472" [12mm] long, M/F	60074-1128	4
28	Acorn Nut, M6	54008-0058	3
29	Nut w/ External Lock Washer, M4	54011-0038	6
30	Screw, M3 x 6mm	60084-0631	13
31	O-Ring	60062-1015	4
32	Plastic Knob, M6	68718-147	2
33	Terminal Block, 4-POS	349210016	1
34	Power Adapter, 100-240VAC/12VDC, 2.2Amp	53984-0058	1
35	Battery, 6 VDC, 3.0 Amp	349070054	1
36	Standoff, M3 x .492" [12.5 mm] long, F/F	375100312	8
37	Friction Washer	65127-515	2
38	PVC heat Shrink Tube *(VW-1)*	1157-00128	1
39	Set Screw, M6 x 30mm L	13818-257	2
40	Lock-Tite, red (not shown)	15566-0012	1

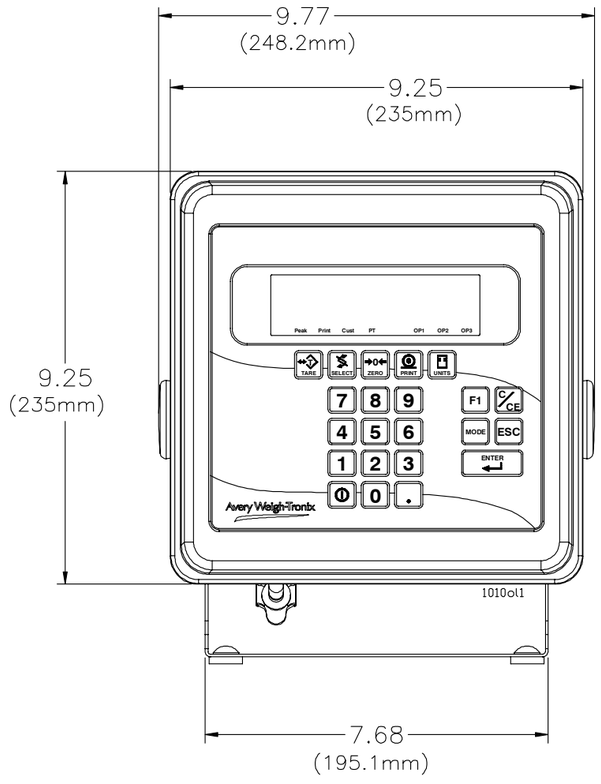
NOTE TORQUE SPEC:

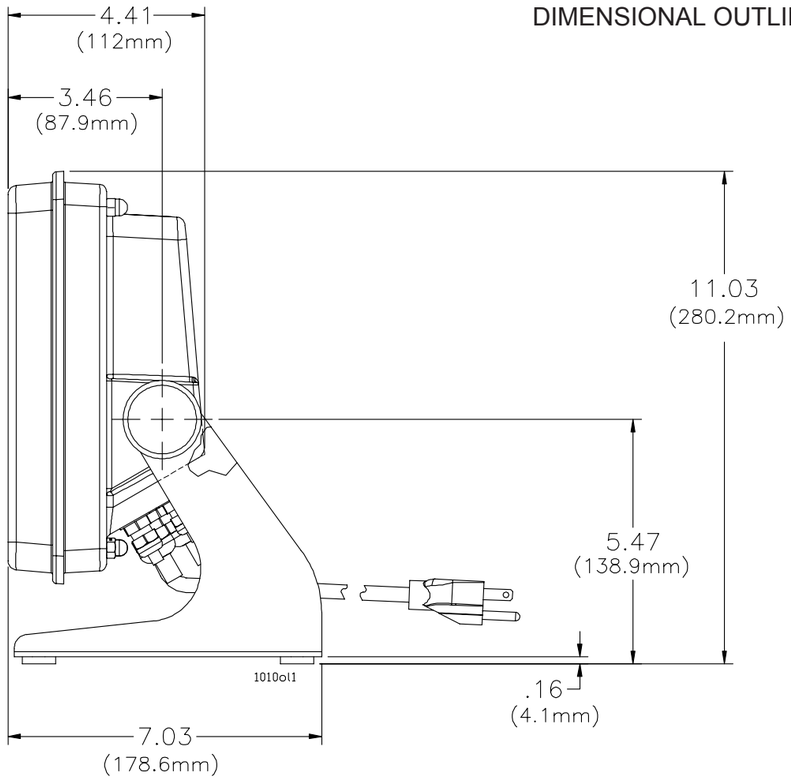
M6 Acorn Nuts *(items 12 and 28)* torque in a corner-to-corner pattern, first to 26 in. lbs. [2.9 N·m], and then to 44 in. lbs. [5.0 N·m].

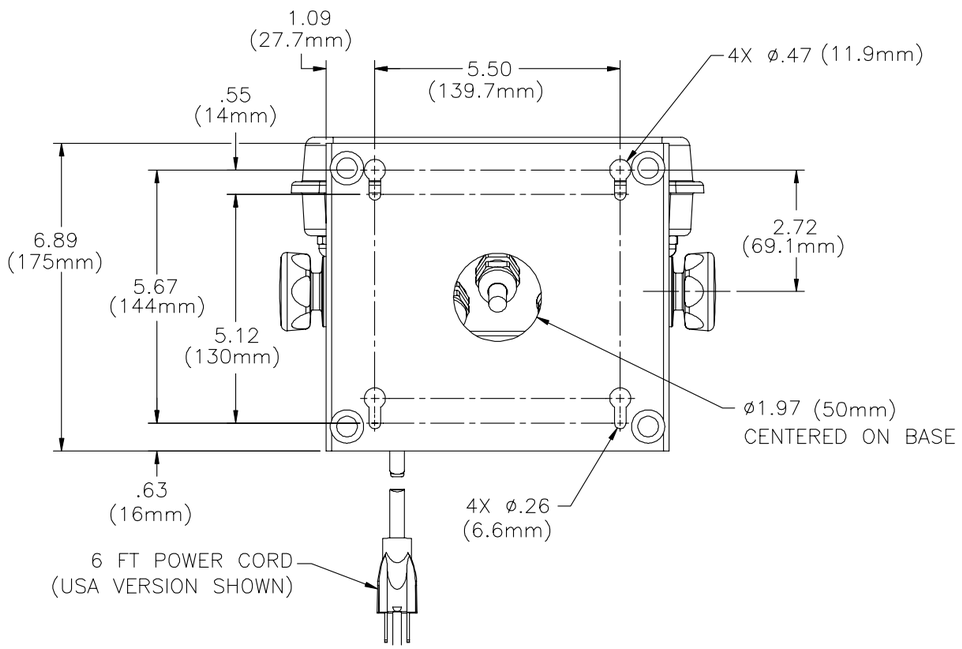
All other M6 fasteners- 20.0 in. lbs., [2.3 N·m]
All M3 fasteners- 3.5 in. lbs., [0.4 N·m]

MODEL E1010 SST INDICATOR

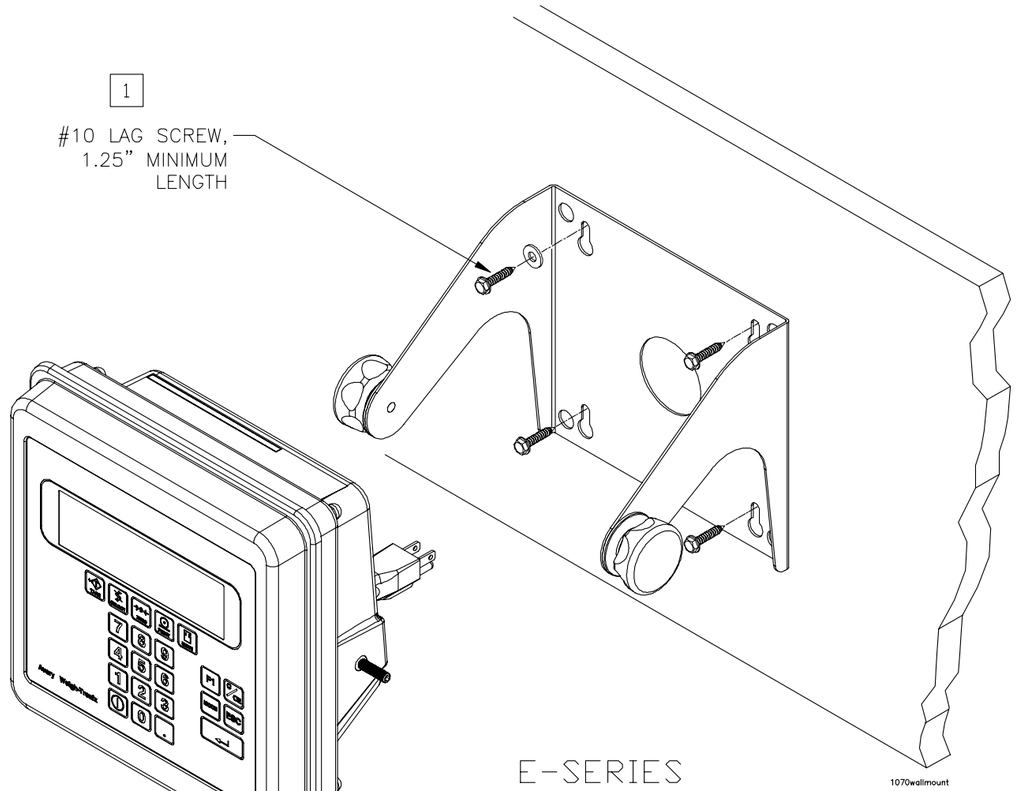
DIMENSIONAL OUTLINE DRAWING







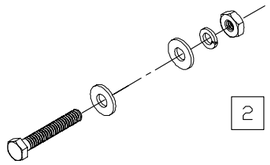
MODEL E1010 SST INDICATOR
WALL-MOUNT APPLICATION



E-SERIES
WALL-MOUNT
APPLICATION

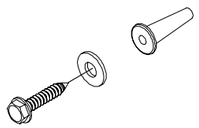
1

#10 LAG SCREW, 1.25" MINIMUM LENGTH.



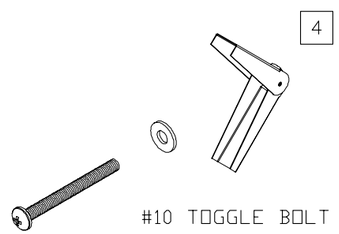
2

#10 BOLT, WASHER AND NUT



3

#10 CONCRETE ANCHOR



4

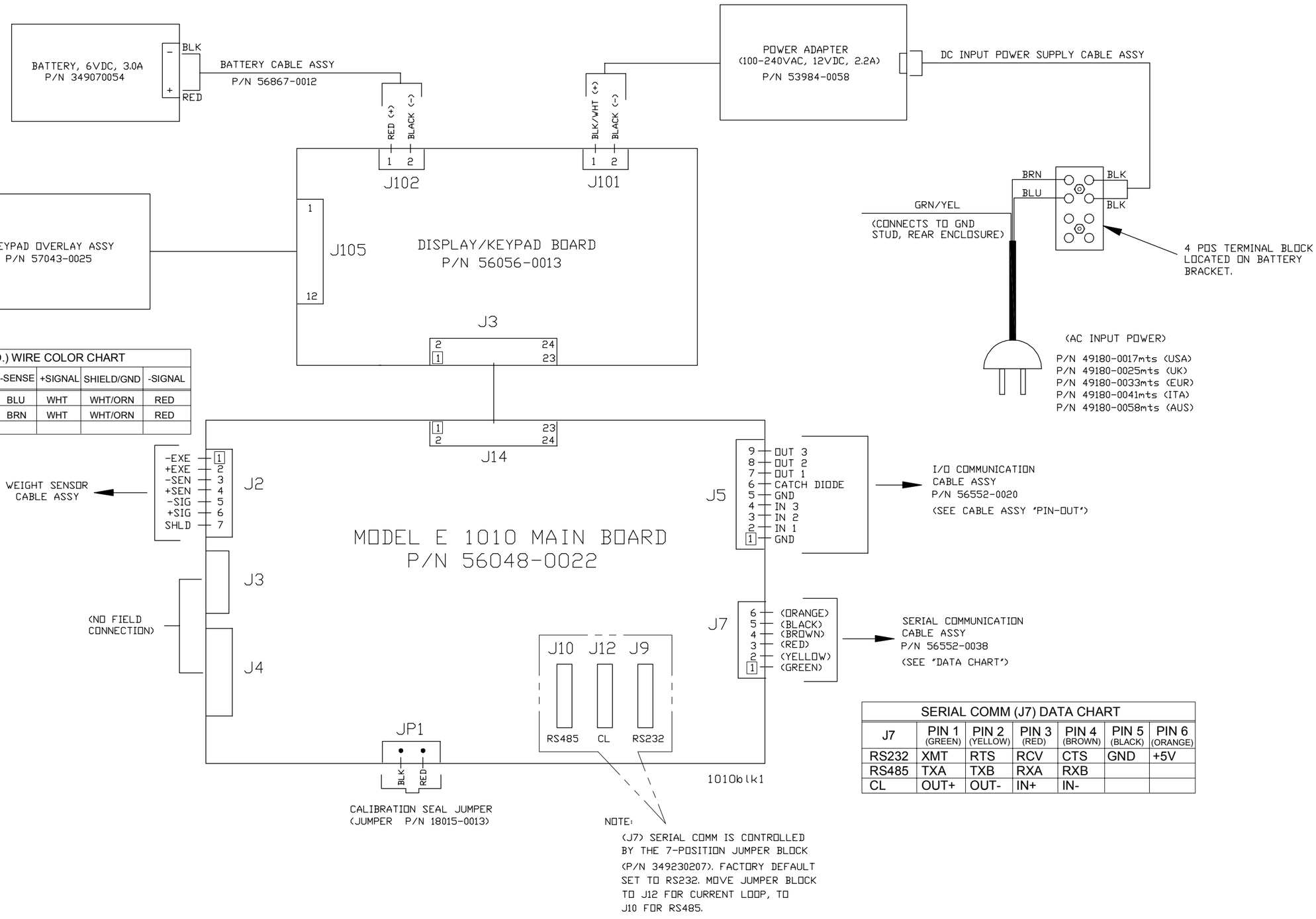
#10 TOGGLE BOLT

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



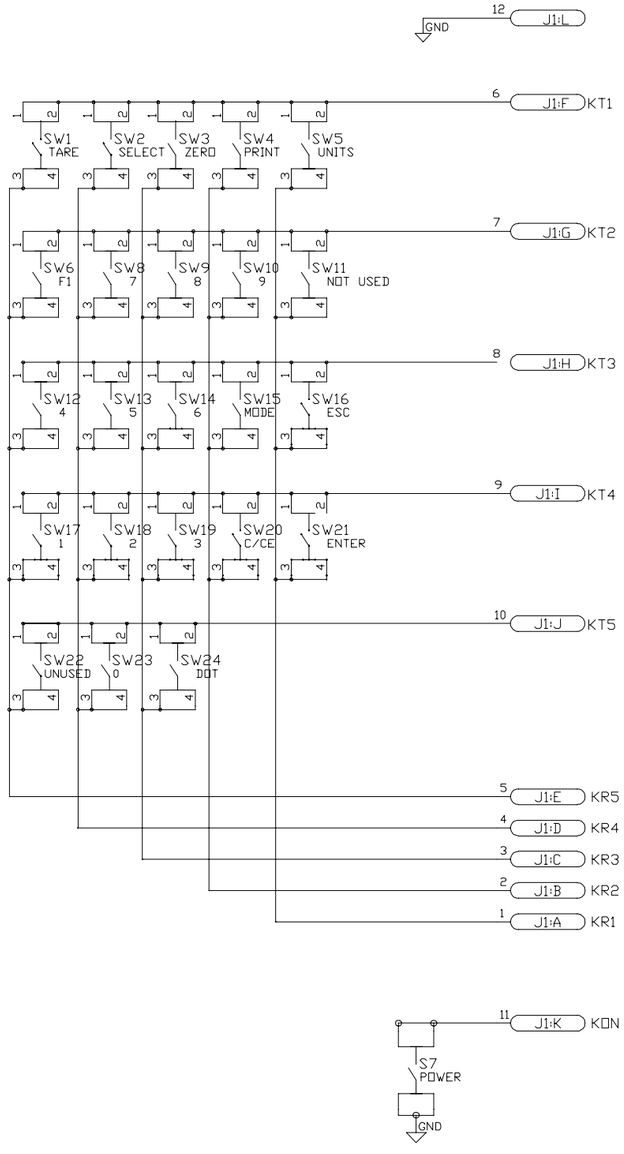
WEIGHT SENSOR-TO-J2 (MAIN BD.) WIRE COLOR CHART							
	+EXC	+SENSE	-EXC	-SENSE	+SIGNAL	SHIELD/GND	-SIGNAL
W-T wire color	GRN	YEL	BLK	BLU	WHT	WHT/ORN	RED
SMA wire color	GRN	BLU	BLK	BRN	WHT	WHT/ORN	RED

SERIAL COMM (J7) DATA CHART						
J7	PIN 1 (GREEN)	PIN 2 (YELLOW)	PIN 3 (RED)	PIN 4 (BROWN)	PIN 5 (BLACK)	PIN 6 (ORANGE)
RS232	XMT	RTS	RCV	CTS	GND	+5V
RS485	TXA	TXB	RXA	RXB		
CL	OUT+	OUT-	IN+	IN-		

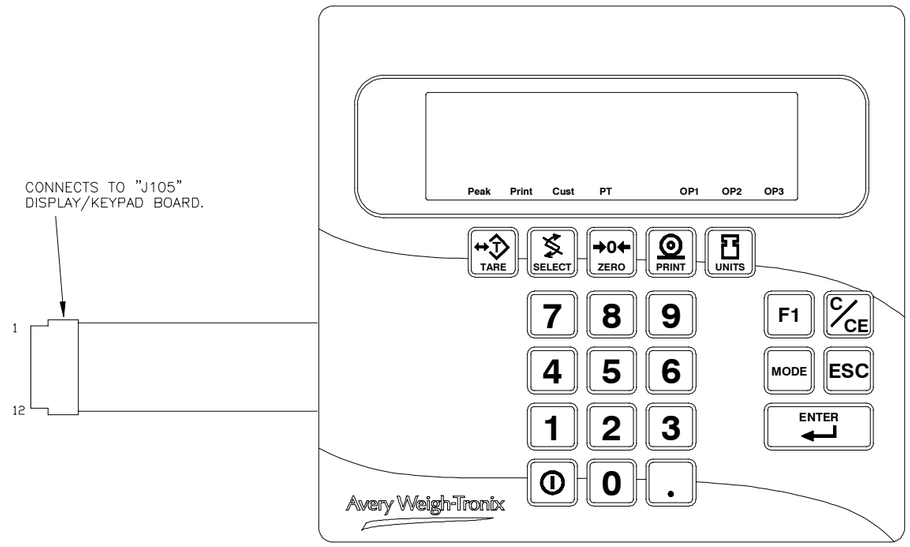
MODEL E1010 SST INDICATOR

KEYPAD *(ref: keypad assy in parts list, item 5)* & SCHEMATIC,
DISPLAY BOARD P/N 56056-0013

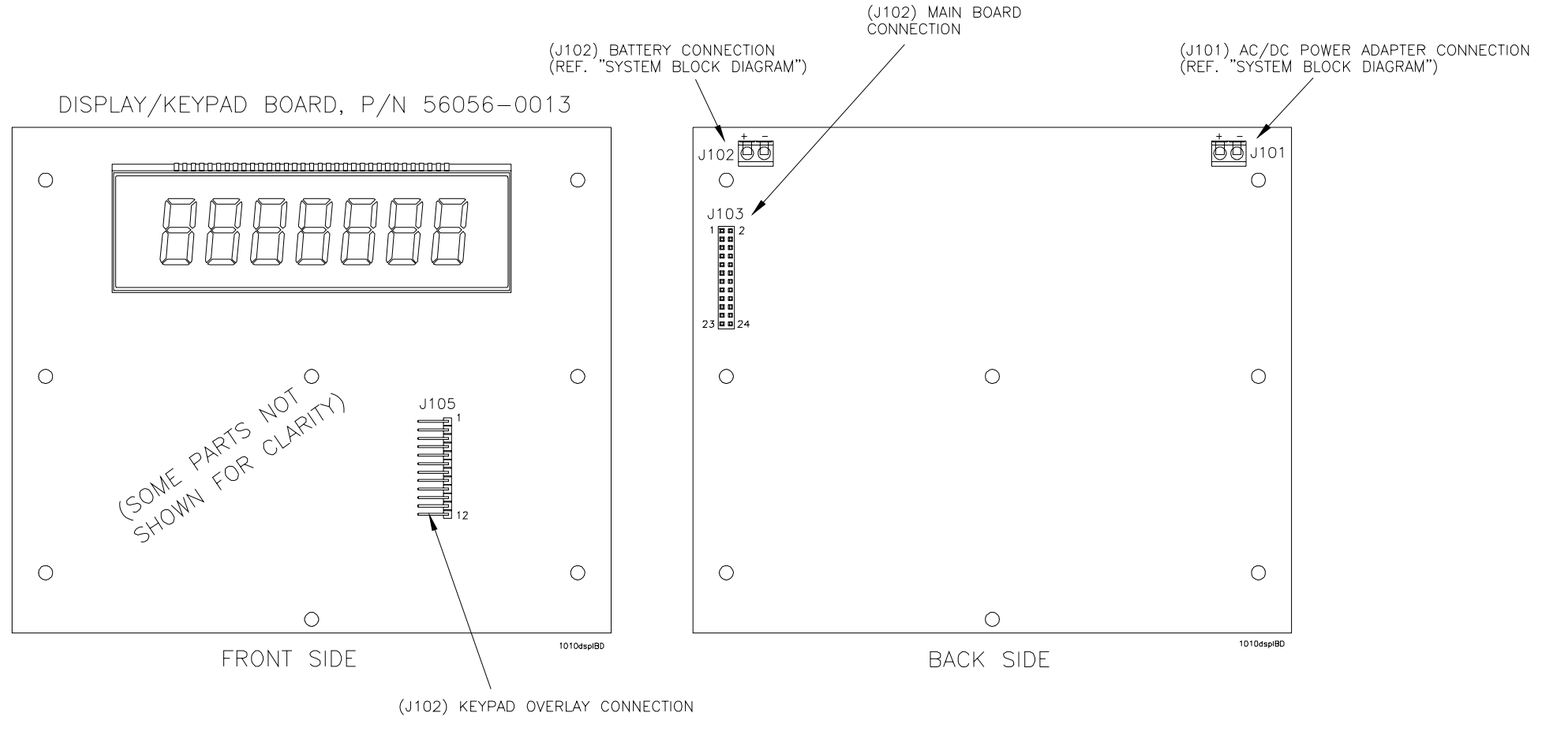
E1010 KEYPAD SCHEMATIC



E1010 KEYPAD



DISPLAY/KEYPAD BOARD, P/N 56056-0013

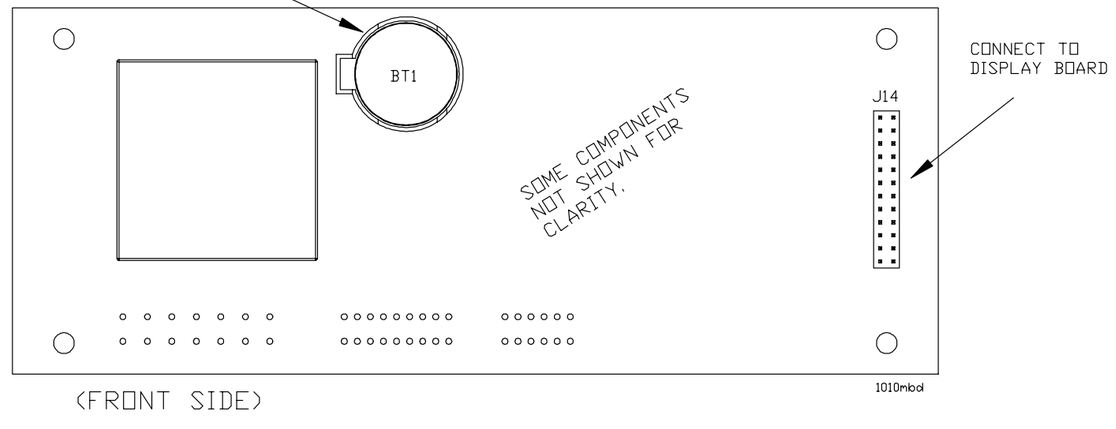


MODEL E1010 SST INDICATOR
MAIN BOARD ASSY
P/N 56048-0022

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.

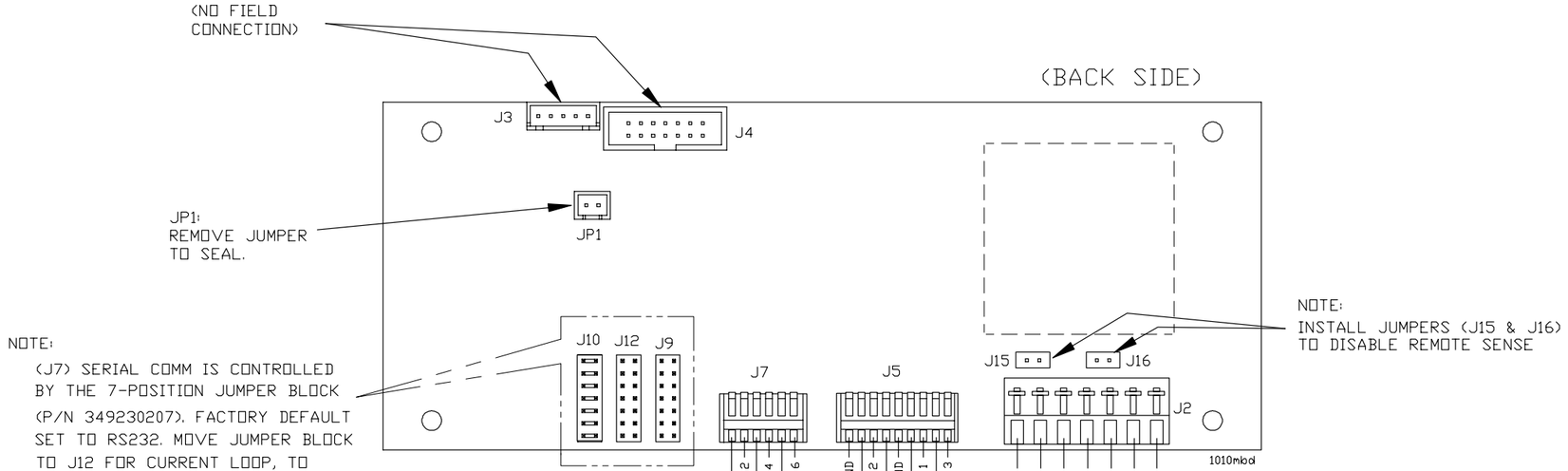
BATTERY P/N 17961-0027

E1010 MAIN BOARD
P/N 56048-0022



(FRONT SIDE)

(NO FIELD CONNECTION)

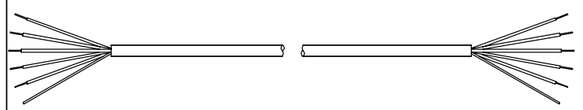


SERIAL COMM (J7, MAIN BOARD) DATA CHART						
J7	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6
RS232	XMT	RTS	RCV	CTS	GND	+5V
RS422/485	TXA	TXB	RXA	RXB		
CL	OUT+	OUT-	IN+	IN-		

MODEL E1010 SST INDICATOR

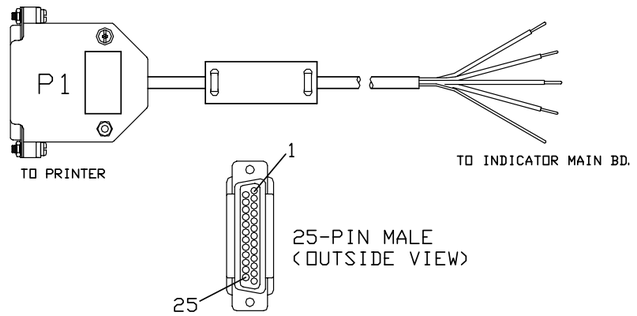
I/O EXTERNAL CABLE IDENTIFICATION PIN-OUTS

TIU3 / EXTERNAL I/O BOARD TO E1010 INDICATOR CABLE ASSY P/N 47388-0094			
W-T WIRE COLOR	ORIGIN	DESTINATION	SIGNAL FROM INDICATOR
	E1010 TERMINATION	TIU3 TERMINATION	
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

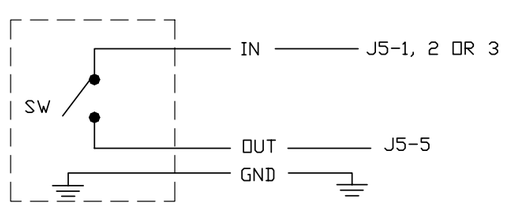
PRINTER TO E1010 INDICATOR CABLE ASSY P/N 47670-0018			
W-T WIRE COLOR	ORIGIN	DESTINATION	SIGNAL FROM INDICATOR
	TERMINATION	MAIN BOARD	
SHIELD	P1-1	GND STUD	(CHASSIS) GND
GRN	P1-2	J7-3	RECEIVE
RED	P1-3	J7-1	TRANSMIT
BLK	P1-7	J7-5	SIGNAL GND
WHT	P1-11	J7-2	CLEAR TO SEND



1010pin1

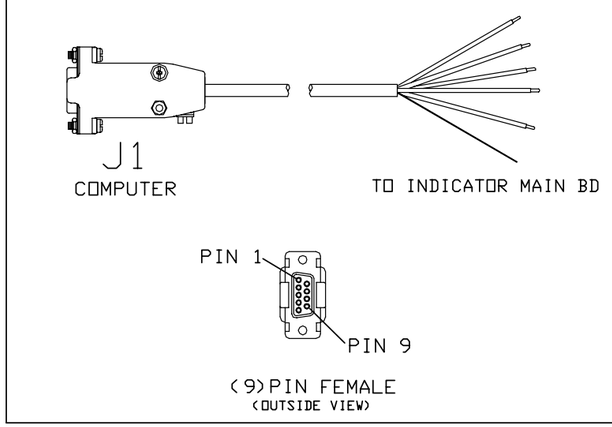
1010pin1

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



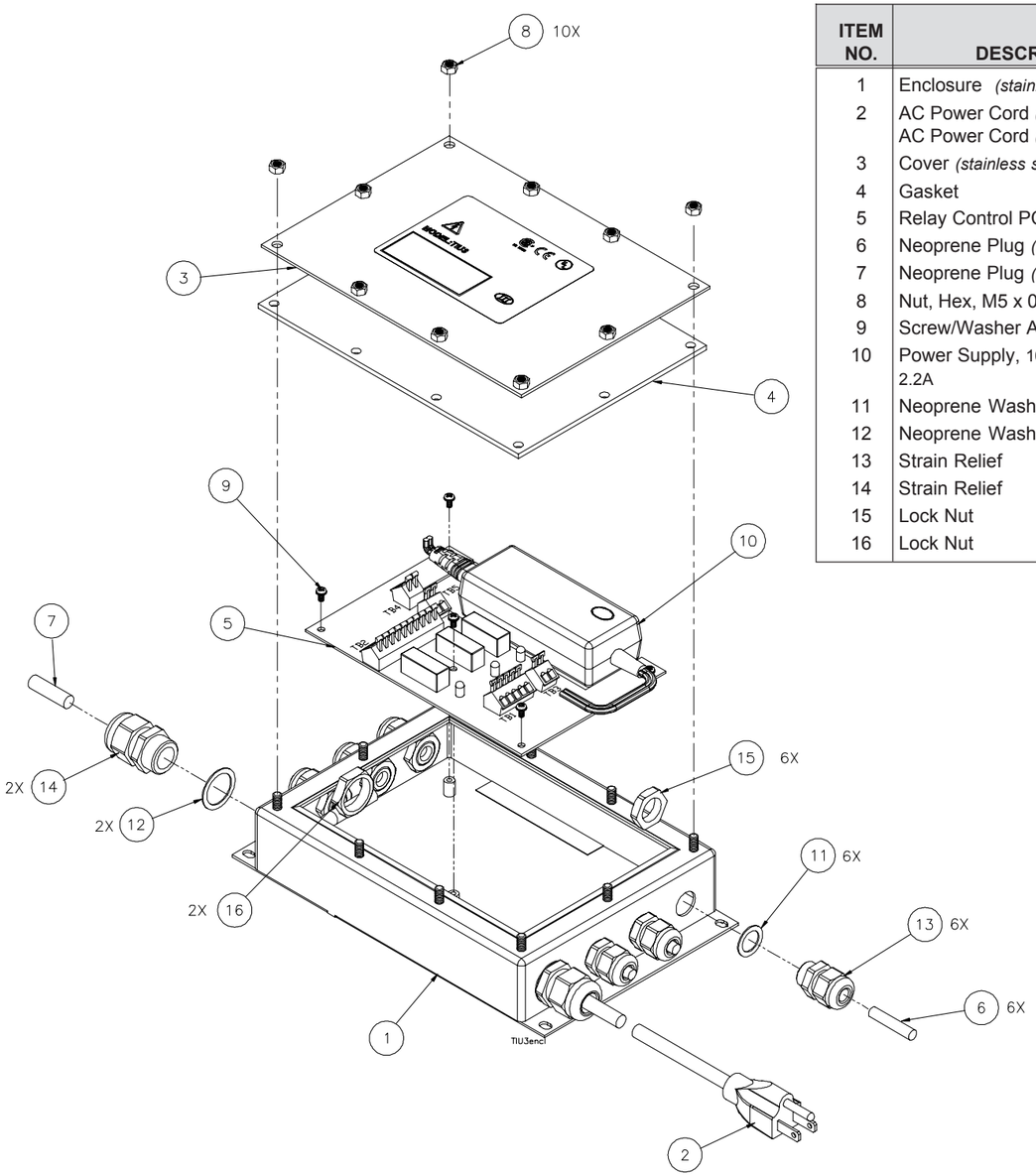
1010pin1

COMPUTER TO E1010 INDICATOR CABLE ASSY P/N 47355-0010, or -0028			
W-T WIRE COLOR	ORIGIN	DESTINATION	SIGNAL FROM INDICATOR
	TERMINATION	MAIN BOARD	
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
TRIPS INTERFACE UNIT (TIU3) *(OPTIONAL)*
& ASSEMBLY



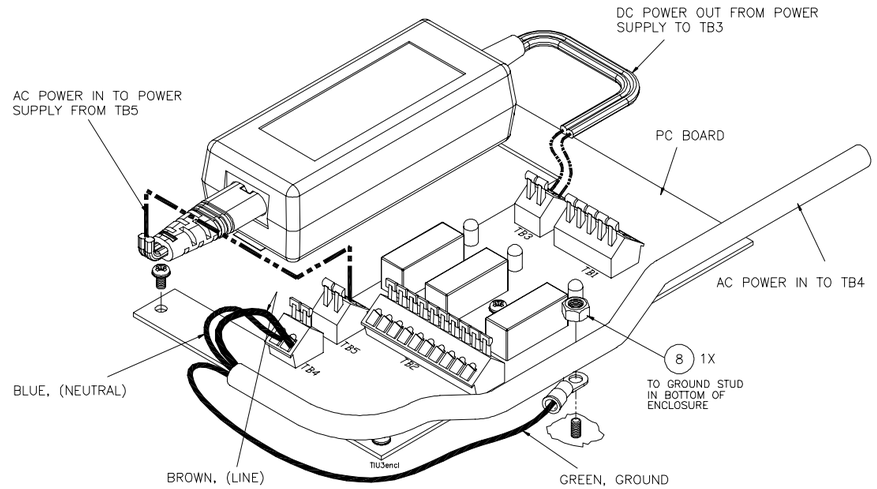
ITEM NO.	DESCRIPTION	W-T P/N	QTY
1	Enclosure *(stainless steel)*	55909-0071	1
2	AC Power Cord *(USA)* AC Power Cord *(UK)*	49180-0116mts 49180-0124mts	1 1
3	Cover *(stainless steel)*	55907-0016	1
4	Gasket	55908-0015	1
5	Relay Control PC Board Assy	56957-0013mts	1
6	Neoprene Plug *(1/4" dia.)*	27429-0014	
7	Neoprene Plug *(8mm dia.)*	27429-1087	
8	Nut, Hex, M5 x 0.8	46574-0090	11
9	Screw/Washer Assy, M3.5 x 6mm	55511-0014	5
10	Power Supply, 100-240VAC, 12VDC 2.2A	53984-0058	1
11	Neoprene Washer	26357-0020	6
12	Neoprene Washer	26357-0053	2
13	Strain Relief	55177-0027	6
14	Strain Relief	55177-0043	2
15	Lock Nut	55177-1025	6
16	Lock Nut	55177-1041	2

NOTE TORQUE SPEC:

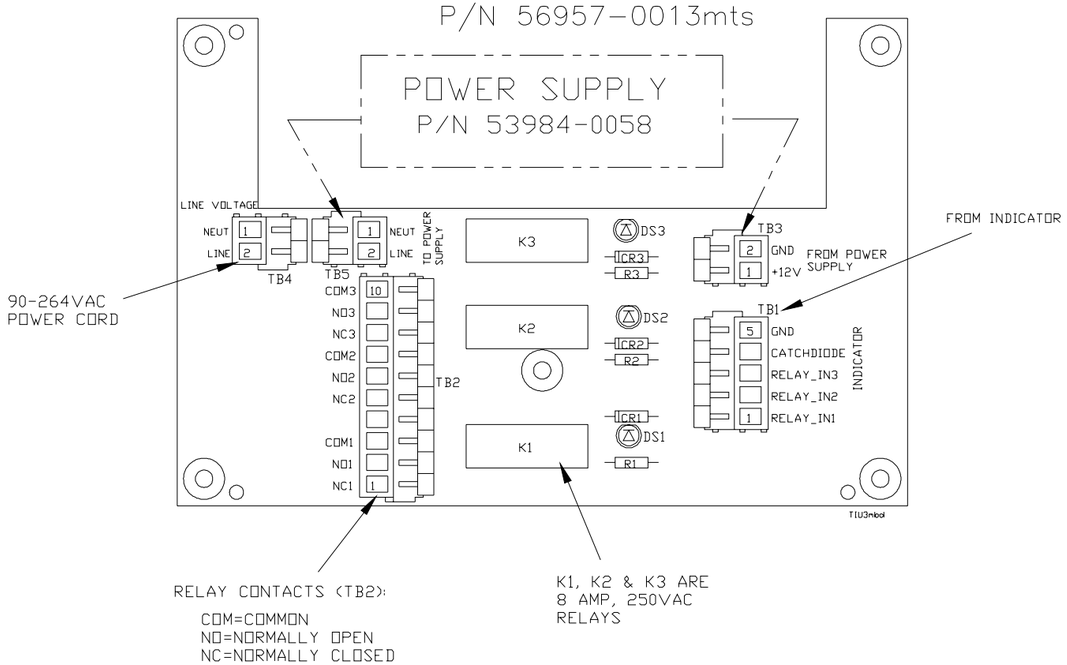
All M5 fasteners- 25.0 in. lbs., [3.0 N/m]
All M3.5 fasteners- 12.0 in. lbs., [1.35 N/m]

WIRING DETAIL

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



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



Avery Weigh-Tronix

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

Avery Weigh-Tronix UK
Foundry Lane
Smethwick, West Midlands
England B66 2LP
Tel: +44 870 90 34343
Fax: +44 121 224 8183
Email: info@awtxglobal.com
Web site:www.averyweigh-tronix.com

Avery Weigh-Tronix Canada, ULC
217 Brunswick Boulevard
Pointe Claire, QC H9R 4R7 Canada
Telephone: 514-695-0380
Toll free: 800-561-9461
Facsimile: 514-695-6820
www.weigh-tronix.ca

01/17/05 E1010_S.P65 PN 43031-0011A e4 Printed in USA