880 Performance™ Series

Controller/Indicator
Version 4.01

Operation Manual

March 10, 2021

RICE LAKE WEIGHING SYSTEMS

PN 152240 Rev D

The most current version of this publication, software, firmware and all other product updates can be found on our website:

www.ricelake.com

Contents

1.0 Introduction

This manual is intended for operators who use the 880 digital weight indicators.

This 880 Performance Series Operation Manual (PN 152240) is included with the indicator and provides basic operating instructions for users of the 880, please leave it with the indicator when installation and configuration are complete.

IMPORTANT ***Information contained within this manual is exclusively for units with CPU board, PN 175109 (blue in color).***

The 880 Performance Series Technical Manual (PN 158387) is referred to in this manual is available online.

Manuals and additional resources are available on the Rice Lake Weighing Systems website at **www.ricelake.com**

Warranty information can be found on the website at **www.ricelake.com/warranties**

1.1 FCC Compliance

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 prescites dans le Règlement sur le brouillage radioélectrique edicté par le ministère des Communications du Canada.

1.2 Safety

Safety Signal Definitions:

DANGER *Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. Includes hazards that are exposed when guards are removed.*

WARNING *Indicates a potentially hazardous situation that, if not avoided could result in serious injury or death. Includes hazards that are exposed when guards are removed.*

CAUTION *Indicates a potentially hazardous situation that, if not avoided, could result in minor or moderate injury.*

IMPORTANT *Indicates information about procedures that, if not observed, could result in damage to equipment or corruption to and loss of data.*

General Safety

Do not operate or work on this equipment unless this manual has been read and all instructions are understood. Contact any Rice Lake Weighing Systems dealer for replacement manuals.

WARNING

Failure to heed may result in serious injury or death.

Some procedures described in this manual require work inside the indicator enclosure.

These procedures are to be performed by qualified service personnel only.

Do not open the indicator, all procedures that require work inside the indicator enclosure are to be performed by qualified service personnel only.

Do not allow minors (children) or inexperienced persons to operate this unit.

Do not operate without the enclosure completely assembled.

Do not use for purposes other than weight taking.

Do not place fingers into slots or possible pinch points.

Do not use this product if any of the components are cracked.

Do not exceed the rated specification of the unit.

Do not make alterations or modifications to the unit.

Do not remove or obscure warning labels.

Do not submerge.

Before opening the unit, ensure the power cord is disconnected from the outlet.

IMPORTANT *Properly seal cord grips to prevent moisture damage inside of the enclosure. Cable plugs must be installed in unused cord grips. Cord grip dome nuts, around a cable or a plug, must be torqued to 22 in-lb. The cord grip nut against the enclosure must be torqued to 33 in-lb.*

1.3 Overview

The 880 is a programmable single-channel digital weight indicator, available in a panel mount or universal enclosure.

The front panel can be sealed to a NEMA Type 4X/IP69K rating. The front panel consists of a six-button keypad and a six-digit,

14-segment LED display. The Universal front panel includes a numeric key pad.

Features include:

- LED display, 0.56" (14 mm), six-digit, 14-segment
- RS-232 or RS-485 serial port
- USB device port connects directly to a PC
- Ethernet TCP/IP polled or continuous - supporting both a server and client connection
- AC or DC models
- Built-in DIN-rail clips on controller box (panel mount)
- Display and controller can be separated up to 250' (panel mount)
- Expansion slot for one option card
- Operator functions through menu key for audit trail, preset tare, accumulator, time & date, Ethernet MAC ID and setpoints
- Audit trail tracking for configuration and calibration changes; password protection for user and configuration changes
- 20 setpoints with latched batch engine or unlatched outputs
- Four onboard digital I/O channels
- Programmable ticket formats up to 1,000 characters for header text, gross, net, accumulator and setpoints
- Local/remote operation
- Multi-range or multi-interval weighing
- Filter settings for light, medium and heavy noise

Options/Accessories:

- Metrological hardware sealing kit
- Adapter plate for converting 310 A and 520 panel mounts
- Panel mount kit for universal enclosure

Network Cards:

- 179158 Indicator Option, EtherCat Model 880 Indicator
- 179159 Indicator Option, Ethernet/IP Model 880 Indicator
- 179160 Indicator Option, Profinet Model 880 Indicator
- 179161 Indicator Option, Modbus TCP Model 880 Indicator
- 179162 Indicator Option, Devicenet Model 880 Indicator
- 179163 Indicator Option, Profibus Model 880 Indicator

1.4 Operating Modes

The three modes of operation for the 880 are described in the following sections.

1.4.1 Weigh Mode

In this mode, the indicator displays gross or net weights to indicate the type of weight value displayed and annunciators to indicate scale status.

1.4.2 Configuration Mode

Most of the procedures described in this manual, including configuration and calibration, require the indicator to be in ***Configuration*** mode.

To enter ***Configuration*** mode, remove the fillister head screw from the enclosure backplate. Insert a non-conductive tool into the access hole and press the setup switch once. ***SCALE*** displays.

IMPORTANT ***Breaking the seal to enter Configuration mode voids a Legal for Trade unit.***

1.4.3 User Setup Mode

User ***Setup*** mode (accessed by pressing **MENU**) is used to:

- View the audit trail
- Set the time and date
- View or clear the accumulator value
- Change setpoint values
- View the current tare value
- Enter ***Setup*** mode (if audit trail is enabled)

See 880 Performance Series Technical Manual (PN 158387) for more information.

1.5 Front Panel Display

The front panel consists of a six-button keypad and a six-digit, 14-segment LED display.

The Universal front panel includes a numeric key pad.

The numeric display consists of six, 14-segment LED digits. If a negative number is displayed, the first LED is used to display -, reducing the number of available digits to five.

The symbols on the keys in Figure 1-1 (representing up, down, enter, left, right) describe the key functions assigned in ***Setup*** mode. The keys are used to navigate through menus, select digits within numeric values, and increment/decrement values.

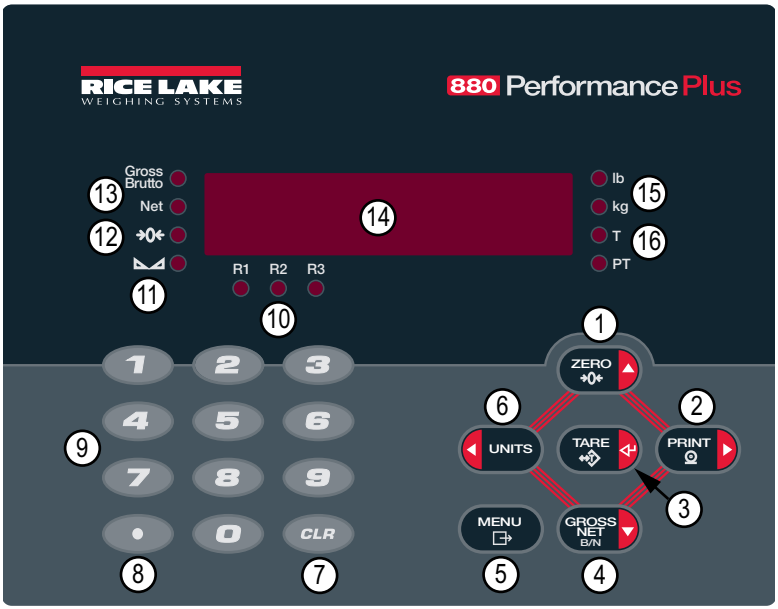

Figure 1-1. 880 Front Panel Display (Universal Model)

Item No.	Function
1	Sets the current gross weight to zero; Used to navigate to other menus or to select another digit when editing a value
2	Sends an on-demand print format to a communications port, provided the conditions for standstill are met; If enabled in configuration, ***Print*** may display while the unit is printing; Used to navigate to other menus or select another digit when editing a value
3	Performs several predetermined tare functions dependent on the mode of operation selected in the **TAREFN**; Acts as enter for numeric or parameter entry
4	Toggles displayed weight between ***Gross*** and ***Net*** mode; If a tare value has been entered or acquired, the net value is the gross weight minus the tare; ***Gross*** mode is indicated by the **Gross/Brutto** annunciator; ***Net*** mode is indicated by the **Net** annunciator; Used to navigate to different menus or to select another digit when editing a value
5	Allows access to the user setup menu; Also acts as the cancel key when editing parameter values, or **Exit** key when in the configuration or user setup menus
6	Switches the weight display to an alternate unit, defined in the format menu (Section 2.2.4 on page 20); Units available: lb, kg, oz, metric ton, ton, gram; Used to navigate to different menus or to select another digit when editing a value
7	Clears a numeric entry from the LCD (not available with the panel mount)
8	Inserts a decimal point where necessary (not available with the panel mount)
9	The numeric keypad can be used to enter values; Values may also be entered by scrolling through values with the arrow keys (not available with the panel mount)
10	Indicates the current range when configured for multi-range or multi-interval; R1, R2, R3
11	Scale is at standstill or within the specified motion band; Some operations, including Zero, Tare and Printing, can only be completed LED is lit
12	Indicates current gross weight reading is within ±0.25 display divisions of the acquired zero, or is within the center of zero band; A display division is the resolution of the displayed weight value, or the smallest incremental increase or decrease which can be displayed or printed
13	***Gross Weight*** mode (or Brutto in ***OIML*** mode); ***Net Weight*** mode
14	Indicator display area
15	lb/kg LED – lb and kg annunciators indicate units associated with the displayed value; If the displayed value is pounds, lb lights; If displayed value is kilograms, kg lights; Primary or secondary – If the other units value is neither lb or kg then lb lights for the units assigned as primary, and kg lights for the units assigned as secondary; lb/tn, t, oz, g, or none – Alternate conversions which can be displayed include short tons (tn), metric tons (t), ounces (oz), grams (g), or NONE (no units); If the displayed units is one of these alternate conversions, and the other unit value is lb then kg lights; tn, t, oz, g, or none – Alternate conversions which can be displayed include short tons (tn), metric tons (t), ounces (oz), grams (g), or NONE (no units); If the displayed units is one of these alternate conversions, and the other unit value is kg then lb lights
16	T LED – Indicates a tare has been acquired and stored by the system; PT LED – Indicates a preset tare weight has been keyed in or entered via the EDP serial port

Table 1-1. Key Functions

1.6 Menu Structures and Parameter Descriptions

The front panel keys are used to navigate through the menus in ***Setup*** mode (Figure 1-2).

- UNITS and PRINT move left and right (horizontally) in a menu level
- ZERO and GROSS NET B/N move up and down (vertically) to different menu levels
- TARE serves as an enter key for selecting parameter values within the menus

1.6.1 Navigating Through Levels

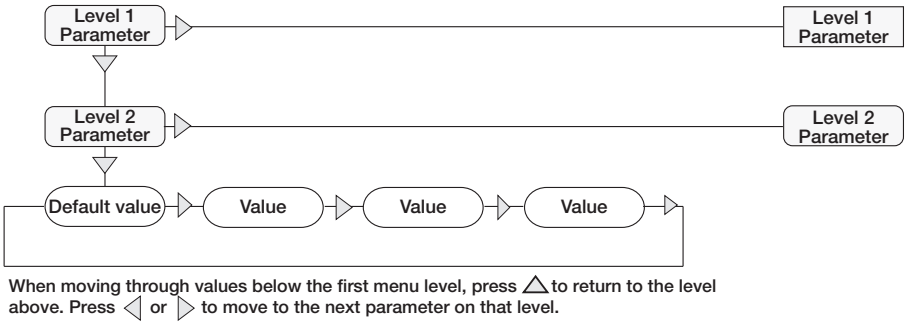

Figure 1-2. Setup Mode Menu Navigation

To select a parameter, press UNITS or PRINT to scroll left or right until the desired menu group displays then press GROSS NET B/N to move down to the sub-menu or parameter to be edited. When moving through the menu parameters, the current selected value displays.

1.6.2 Edit Parameter Values

To change a parameter value, scroll left or right to view the values for a parameter.

When the desired value displays, press TARE to select the value and move back up one level. To edit numerical values, use the navigation keys to select the digit and to increment or decrement the value. Alternatively, use the numeric keypad to enter the digits. The decimal point begins flashing if a decimal value is allowed. Use the navigation keys to move the decimal point left or right. Press TARE when done.

See the 880 Performance Series Technical Manual (PN 158387) for more information.

1.6.3 Alphanumeric Entry Procedure

Use the following scheme for alphanumeric entry when using the five-button keypad.

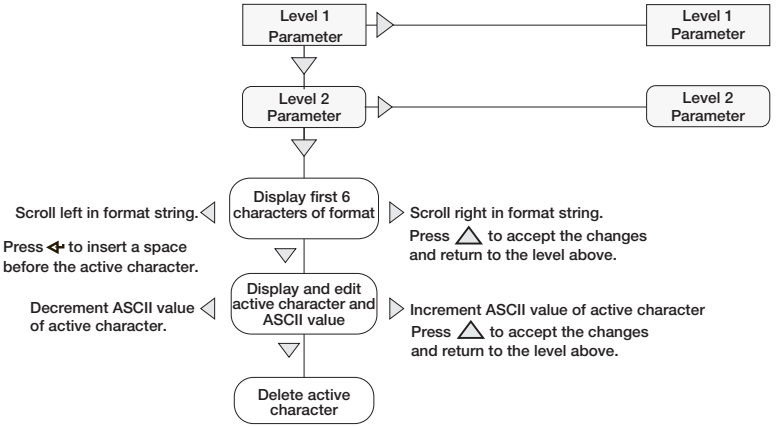

Figure 1-3. Editing Procedure for Numeric Values

1.6.4 Numeric Values Editing Procedure (880 Plus Only)

When using the numeric keypad option, the method for editing numeric values relies on the numbers which are embossed on the keypad (as opposed to using the arrows).

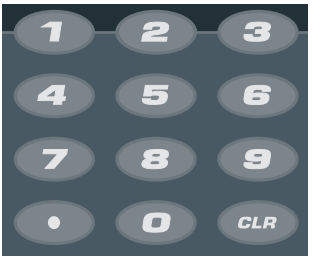

Figure 1-4. Numeric Keypad

1. Using the numeric keypad, insert the required value.
   - Press CLR to clear the currently selected digit
   - Press • to enter a decimal point
2. Press TARE to save the value entered and return to the level above.

Note ***When editing fractional numeric values, the decimal point must be positioned in accordance with the primary units formatting, otherwise the keyed number may be rejected by the software.***

1.7 Indicator Operations

Basic 880 operations are summarized below.

1.7.1 Toggle Gross/Net Mode

1. Press GROSS NET B/N to toggle the display mode between gross and net.

Note

Net mode is available when a tare value has been entered or acquired (Net = Gross minus Tare). If tare has not been entered or acquired, the display remains in Gross mode. The LEDs next to Gross or Net indicate the current mode.

1.7.2 Toggle Units

Press UNITS to switch between primary and secondary units. The current units LED lights.

1.7.3 Zero Scale

1. In ***Gross*** mode, remove all weight from the scale and wait for the ◣ ◢ LED to light.
2. Press ZERO →0← . The →0← LED lights to indicate the scale is zeroed.

Note

The scale must be stable and within the configured zero range for the scale to be zeroed. If the scale cannot be zeroed, Nozero displays.

1.7.4 Acquire Tare

1. Place a container on the scale and wait for the ◣ ◢ LED to light.
2. Press TARE to acquire the tare weight of the container. The Net weight displays and the **T** LED lights to display the tare value was entered.

1.7.5 Remove Stored Tare Value

1. Remove all weight from the scale and wait for the ◣ ◢ LED to light. The display should read zero and the →0← LED should be lit.
2. Press ZERO to zero the scale if needed.
3. Press TARE (or ZERO in ***OIML*** mode). Display shifts to gross weight and the Gross LED is lit.

Note

If keyed tares are allowed, press TARE ***to open the keyed tare prompt.***

To clear the tare, press TARE ***again.***

1.7.6 Preset Tare (Keyed Tare)

Note ***Tare mode must be set to keyed or both for the preset tare feature to function.***

1. With the scale empty and zero weight on the display, press TARE. ***000000*** displays with the focused digit flashing.
2. Edit the value using the keypad on the 880Plus or use the following method for the panel mount.

- Press ◁ or ▷ to select the digit
- Press △ or ▽ to increment or decrement the value
- Press TARE to move to the decimal point entry
- Press ◁ or ▷ to adjust the decimal point placement
- Press TARE when the value is correct

The display changes to the ***Net*** mode and the **PT** LED lights to display the preset tare was entered.

Note ***Entering a keyed tare of zero removes the stored tare value.***

1.7.7 Print Ticket

1. Wait for the ◣ ◢ LED to light.
2. Press PRINT to send data to the configured communications port.

1.7.8 Front Panel User Setup

Press MENU to enter ***User Setup*** mode. Use ***User Setup*** to:

- View audit trail information
- Enter ***Configuration*** mode if audit trail is enabled
- View or set time and date
- View or clear the accumulator
- Change setpoint values and enable/disable setpoints
- View the current tare value

1.7.9 Displaying Audit Trail Information

The Audit Trail Configuration and Calibration counters can be viewed through the User Menu.

1. Press MENU. ***Audit*** displays.
2. Press ▽ to display the Legally Relevant Firmware version.
3. Press ▷ to display ***Calib***.
4. Press ▽ to view the Calibration Counter.
5. Press MENU to return to ***Calib***.
6. Press ▷ to display ***CFG***.
7. Press ▽ to view the Configuration Counter.
8. Press MENU to return to ***CFG***.
9. Press MENU to return to the ***Weigh*** mode.

1.7.10 Setpoints

Setpoints must be enabled in the ***Configuration*** mode to be accessible in the ***User Setup*** mode.

IMPORTANT ***Breaking the seal to enter the Configuration mode voids a Legal for Trade unit.***

To enter the ***Configuration*** mode:

1. Remove the large fillister head screw from the back of the enclosure.
2. Insert a non-conductive tool into the access hole and press the setup switch. ***Scale*** displays.
3. Press ◁ or ▷ until ***Setpts*** displays.
4. Press ▽. ***SP CFG*** displays.
5. Press ▽. Press ◁ or ▷ to desired setpoint number.
6. Press ▽ to enter setpoint settings.
7. Select the type by pressing ◁ or ▷ to desired setting then press ▽ to set the value. For complete list of settings see the 880 Performance Series Technical Manual (PN 158387) for more information.
8. When all settings have been made, press MENU to return to ***Weigh*** mode.

Note ***Setpoints are now accessible from the front panel menu.***

1.7.11 Display or Edit Setpoint Value

1. Press MENU. ***Audit*** displays.
2. Press ◁ or ▷ until ***Setpts*** displays.
3. Press ▽ and the first available setpoint number displays.
4. Press ◁ or ▷ to toggle through each setpoint which is operator accessible.
5. Press ▽. ***Value*** displays.
6. Press ▽ again to display or edit the value.
7. Edit the value using the keypad on the 880Plus or use the following method for the panel mount.

• Press △ or ▽ to increment or decrement the value of the flashing digit

• Press ◁ or ▷ to select the digit to edit

• Press TARE to move to the decimal point entry

• Press ◁ or ▷ to adjust the decimal point placement

8. Press TARE to accept the displayed value.
9. Repeat the above steps to set ***Preact***, if enabled.
10. When all settings have been made, press MENU to return to ***Weigh*** mode.

Note ***Setpoint Value and Preact Value may be accessible from front panel in Weigh mode. Some indicator configurations may not allow setpoint values to be changed through the front panel or may require a password to display or change the setpoint value.***

1.7.12 Turn Setpoint On or Off

Turn a setpoint off at the front panel.

1. Press MENU. ***Audit*** displays.
2. Press ◁ or ▷ until ***Setpts*** displays.
3. Press ▽ and the first available setpoint number displays.
4. Press ◁ or ▷ to toggle through each setpoint which is operator accessible.
5. Press ▽ then press ◁ or ▷ to **Enable**.
6. Press ▽ then press ◁ or ▷ to turn setpoint **On/Off**.
7. Press TARE to accept the setting.
8. Press MENU to return to ***Weigh*** mode.

Note ***Some indicator configurations may not allow setpoints to be turned off through the front panel or may require a password to turn the setpoint on and off.***

1.7.13 Set Time and Date

1. Press MENU. ***Audit*** displays.
2. Press ◁ or ▷ until ***T&D*** displays.
3. Press ▽. ***Time*** displays.
4. Press ▽ to enter time.
5. Edit the value using the keypad on the 880Plus or use the following method for the panel mount.

• Press ◁ or ▷ to select the digit
• Press △ or ▽ to increment or decrement the value

6. Press TARE when the value is correct. ***Date*** displays.
7. Press ▽ to enter date.
8. Edit the value in the specified format **MMDDYY**, **DDMMYY**, or **YYMMDD**.

• Press ◁ or ▷ to select the digit
• Press △ or ▽ to increment or decrement the value

9. Press TARE when the value is correct. ***Time*** displays.
10. Press MENU to return to ***Weigh*** mode.

1.7.14 Display Accumulator

Enable the accumulator before use in either ***Weigh*** mode or setpoint operations.
Once enabled, weight (net weight if a tare is in the system) is accumulated whenever a print operation is performed using the **Print** key, digital input, setpoint ***PSHACC*** operation or ***KPRINT*** serial command. The scale must return to below the threshold value (except for the setpoint ***PSHACC*** operation) before the next accumulation.

1. Press MENU to enter the ***User Setup*** mode, ***Audit*** displays.
2. Press ◁ or ▷ until ***Accum*** displays.

Note ***Accum is only displayed if the accumulator is enabled. See the 880 Performance Series Technical Manual (PN 158387) for more information.***

3. Press ▽. ***View*** displays.
4. Press ▽ to view the current accumulator value.
5. While the accumulator value is displayed, press PRINT to print the value.

Note ***The format of the print output can be configured using the accumulator print format. See the 880 Performance Series Technical Manual (PN 158387) for more information.***

1.7.15 Clear the Accumulator

1. Press MENU to enter the ***User Setup*** mode. ***Audit*** displays.
2. Press ◁ or ▷ until ***Accum*** displays.
3. Press ▽ then press ◁ or ▷ until ***CLR Y*** displays.
4. Press TARE to clear the accumulator. ***Clear*** displays briefly and returns to ***CLR Y***.
5. Press MENU to return to the ***Weigh*** mode.

Note

The Print key only performs one accumulation, and only if the weight is above the accumulator threshold. Weight must return to below the accumulator threshold value before another accumulation is allowed.

Accumulator threshold is configured in the setup menu. See the 880 Performance Series Technical Manual (PN 158387) for more information.

1.7.16 Display Tare

When a stored Tare value displays, the Gross and Net LEDs turn off then →0← lights.
To display a stored tare:

1. Press MENU.
2. Press ▷ to ***Tare*** then press ▽ to view the current tare value.
3. Press MENU twice to return to ***Weigh*** mode.

If there is no tare in the system, the value displayed is zero and the Gross and Net LED turn off. See the 880 Performance Series Technical Manual (PN 158387) for more information.

2.0 Configuration

To configure the 880 indicator, the indicator must be placed in ***Configuration*** mode.
The setup switch is accessed through a small hole on the enclosure (Figure 2-1).
The setup switch access hole is located on the backplate for the panel mount, and from the bottom of the enclosure on the universal model. Insert a non-conductive tool into the access hole and press the setup switch.

IMPORTANT ***Use caution when inserting the non-conductive tool into the backplate, press the tool in about 3/4", using the board as a guide, until the switch is engaged. Do not use excessive force that may damage the switch.***

Note ***If audit trail is enabled, press*** MENU ***to access Setup mode. Press ◁ or ▷ until SETUP displays then press ▽ to Scale. See the 880 Performance Series Technical Manual (PN 158387) for more information.***

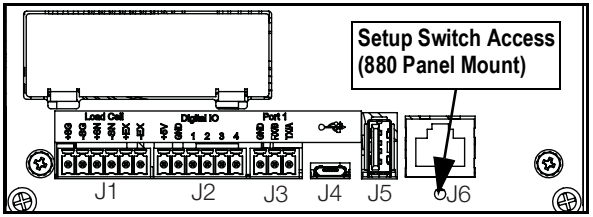

Figure 2-1. Back View – Setup Switch Access

Note ***Setup switch access for the 880 Universal Mount is located at the bottom of the enclosure next to the cord grips.***

When the indicator is placed in ***Configuration*** mode, **SCALE** displays. The **SCALE** menu is the first of eight top-level menus used for configuring the indicator. Detailed descriptions of these menus are given in the 880 Performance Series Technical Manual (PN 158387).
When configuration is complete, return to the **SCALE** menu and press the △ (ZERO) key to exit ***Setup*** mode.

When configuration is complete, press MENU to return to the ***Weigh*** mode.

2.1 Configuration Methods

The 880 indicator can be configured by using the front panel keys to navigate through a series of configuration menus or by sending commands or configuration data to the EDP port. Configuration using the menus is described in the 880 Performance Series Technical Manual (PN 158387).

Configuration using the EDP port can be accomplished using either the EDP command set described in the 880 Performance Series Technical Manual (PN 158387) or Version 3.0 or later of the Revolution® configuration utility.

2.1.1 Revolution Configuration

The Revolution configuration utility provides the preferred method for configuring the 880 indicator. When Revolution configuration is complete, configuration data is downloaded to the indicator.

See the 880 Performance Series Technical Manual (PN 158387) for more information.

2.1.2 EDP Command Configuration

The EDP command set can be used to configure the 880 indicator using either a computer or terminal. Like Revolution, EDP command configuration sends commands to the indicator EDP port; unlike Revolution, EDP commands can be sent using an external device capable of sending ASCII characters over a serial connection.

EDP commands duplicate the functions available using the indicator front panel and provide some functions not otherwise available. EDP commands can be used to simulate pressing front panel keys, to configure the indicator, or to dump lists of parameter settings. See the 880 Performance Series Technical Manual (PN 158387) for more information about using the EDP command set.

2.1.3 Front Panel Configuration

The 880 indicator can be configured using a series of menus accessed through the indicator front panel when the indicator is in ***Setup*** mode. Table 2-1 summarizes the functions of each of the main menus.

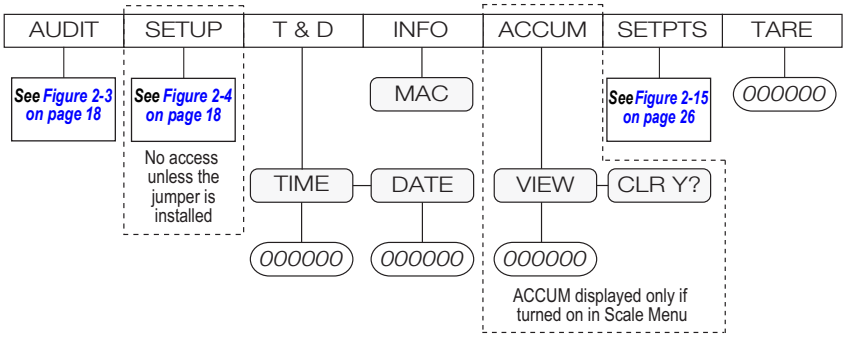

Figure 2-2. 880 Menu Layout

Menu		Description
AUDIT	Audit Trail	Displays the legally relevant (LR) firmware version, configuration count and calibration count
SETUP	Setup	Used to enter ***Configuration*** mode, if audit trail is enabled
T&D	Time and Date	View and change Time and Date
INFO	Information	View read only information about the indicator Ethernet MAC ID
ACCUM	Accumulator	View, print or clear the current accumulator value, if enabled
SETPTS	Setpoints	Configure setpoint values and Enable/Disable setpoints; Only configured setpoints are available
TARE	Tare	View the current tare value

Table 2-1. 880 Menu Summary

2.2 Menu Structures and Parameter Descriptions

The following sections provide graphic representations of the 880 menu structures.

In the actual menu structure, the settings chosen under each parameter are arranged horizontally.

To save page space, menu settings display in vertical columns. The factory default setting display at the top of each column and is bold. Parameters are surrounded by a dotted-line box display under the special circumstances explained under each box.

Most menu diagrams are accompanied by one or more tables which describe all parameters and parameter values associated with the menu option. Default parameter values are displayed in bold type.

2.2.1 Audit Menu

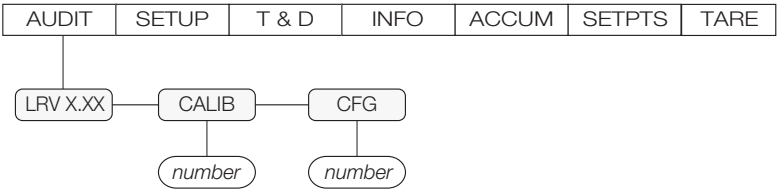

Figure 2-3. Audit Menu Structure

Parameter	Description
LRV	Legally relevant firmware version
CALIB	Displays total calibration events (read only)
CFG	Displays total configuration events (read only)

Table 2-2. Audit Menu Parameters

2.2.2 Setup Menu

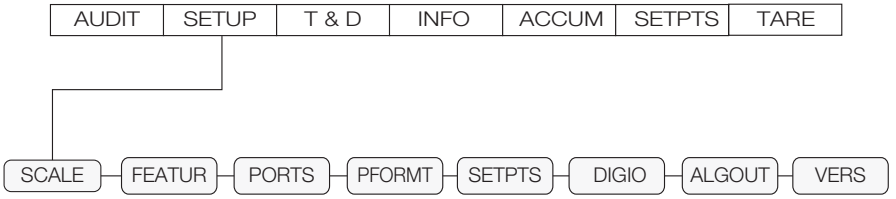

Figure 2-4. Setup Menu Structure

2.2.3 Scale Menu

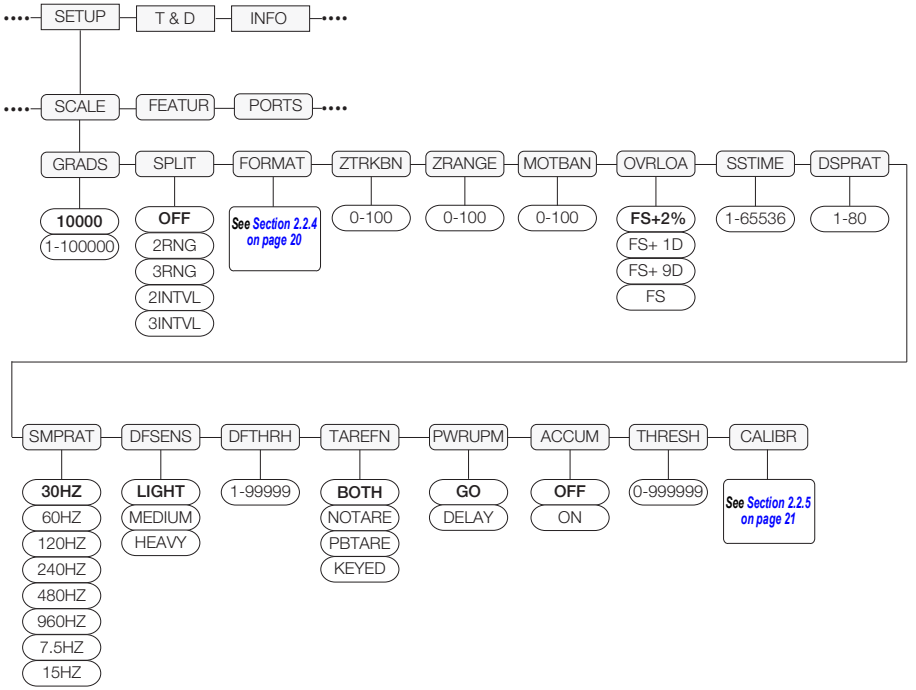

Figure 2-5. Scale Menu Structure

2.2.4 Format Menu

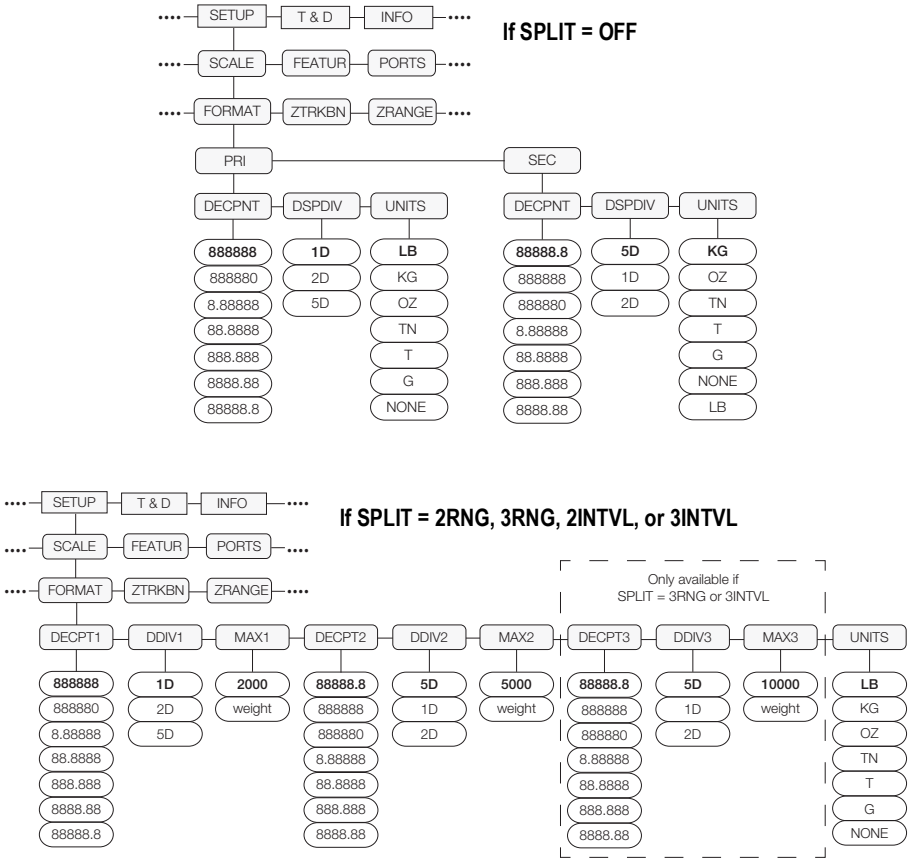

Figure 2-6. Format Menu Structure

2.2.5 Calibration Menu

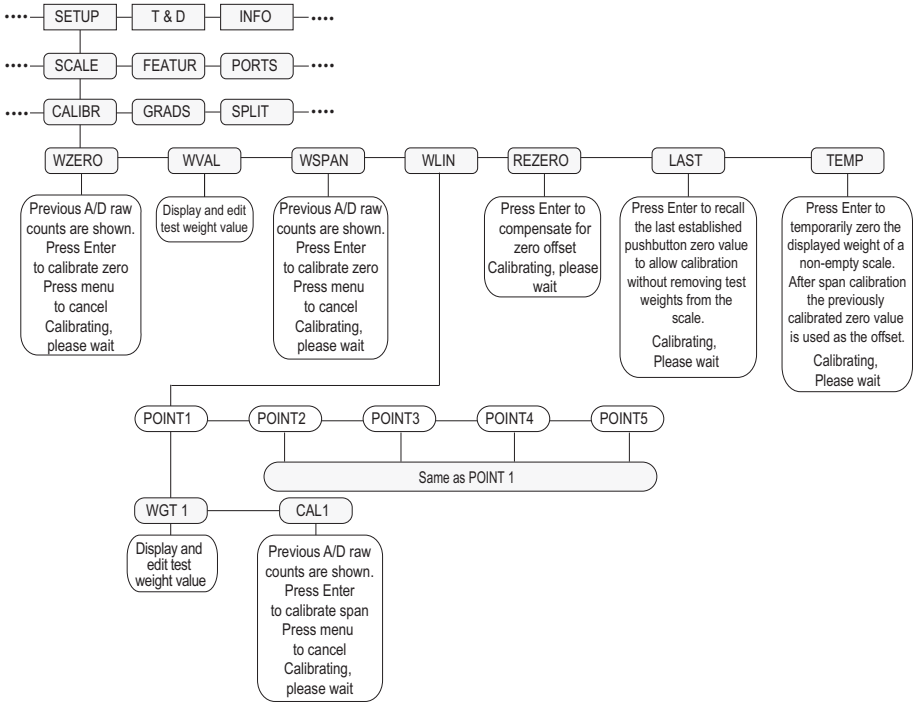

Figure 2-7. Calibration Menu Structure

2.2.6 Feature Menu

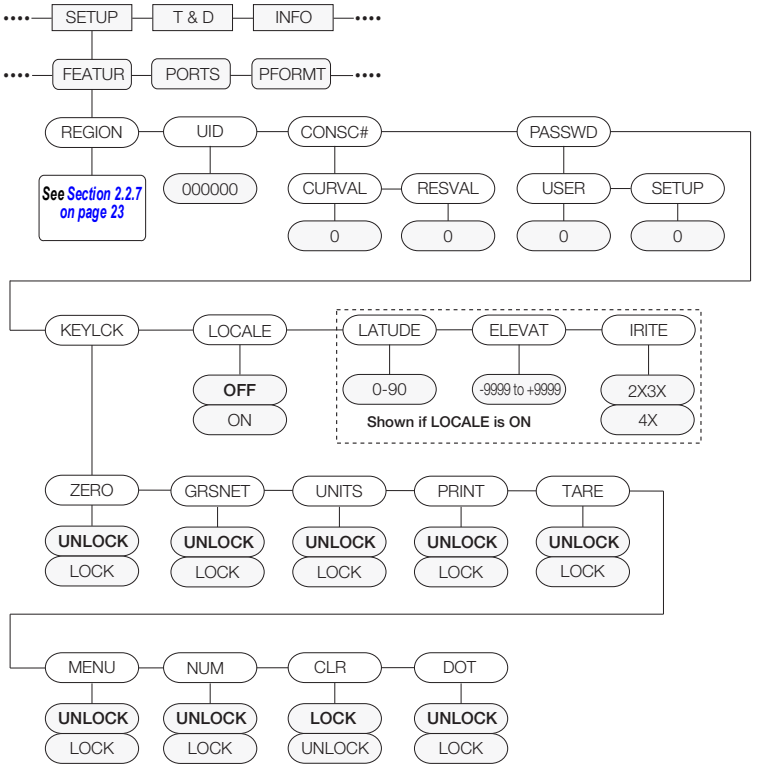

Figure 2-8. Feature Menu Structure

2.2.7 Region Menu

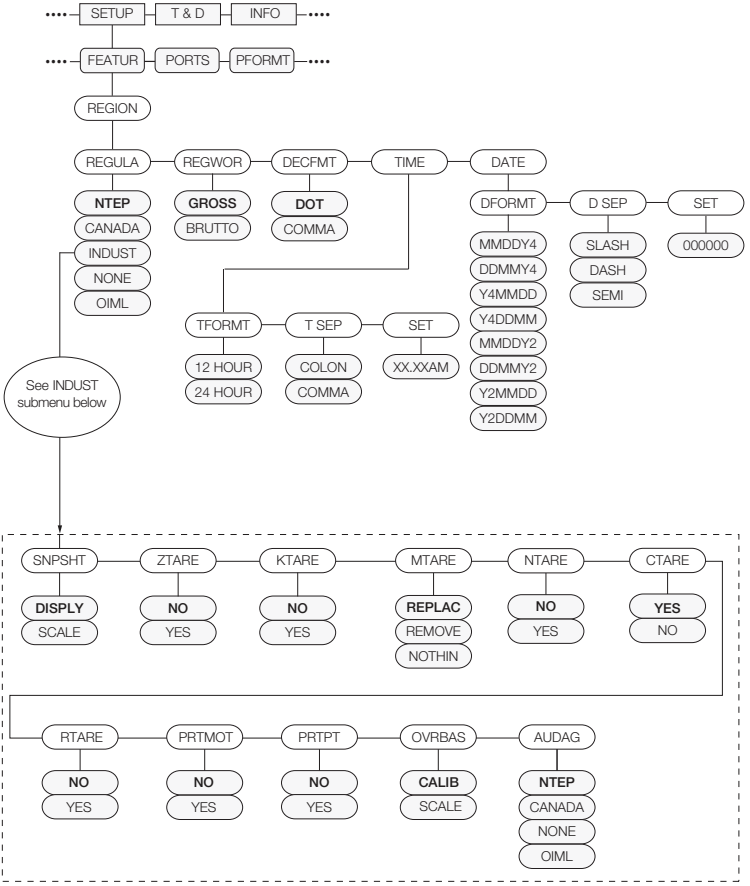

Figure 2-9. Region Menu Structure

2.2.8 Ports Menu

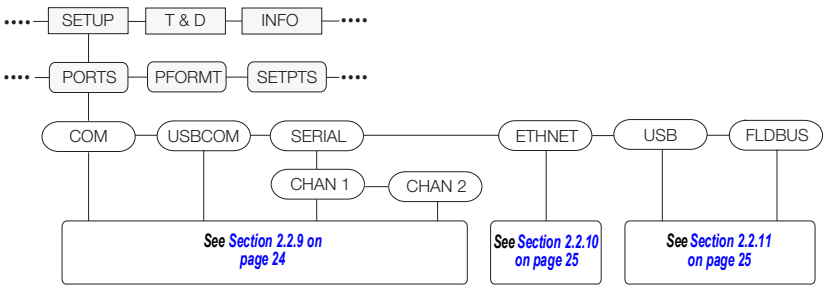

Figure 2-10. Ports Menu Structure

2.2.9 COM and USBCOM Menus

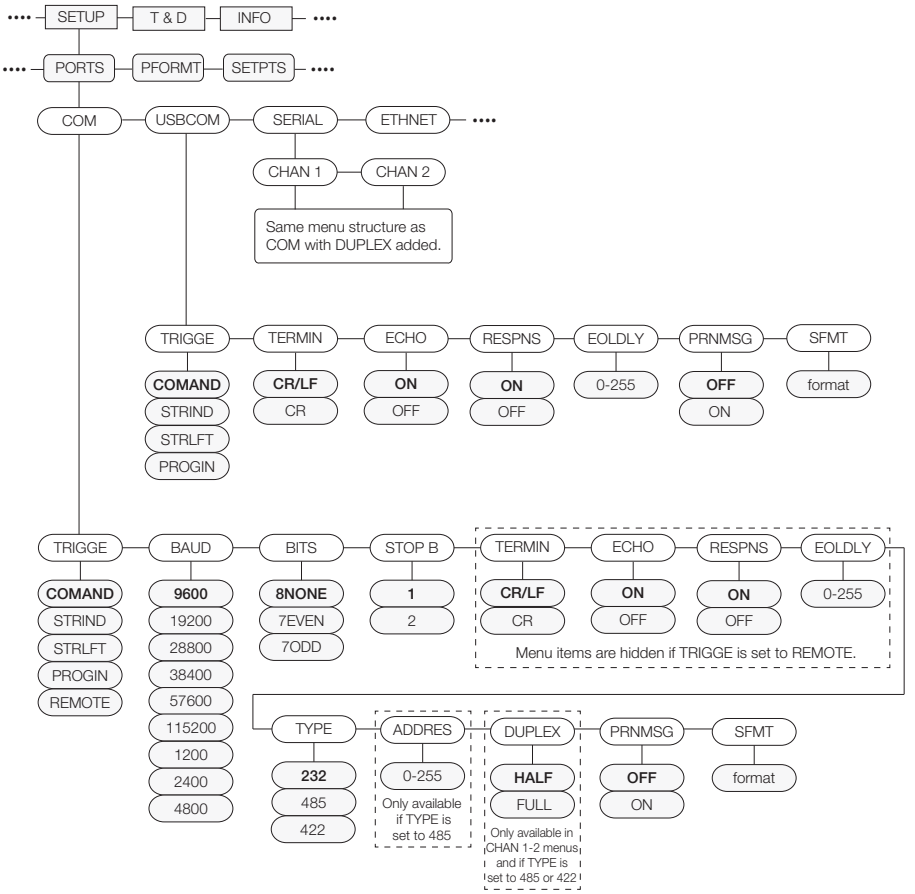

Figure 2-11. COM and USBCOM Menu Structures

2.2.10 Ethernet Communications Menu

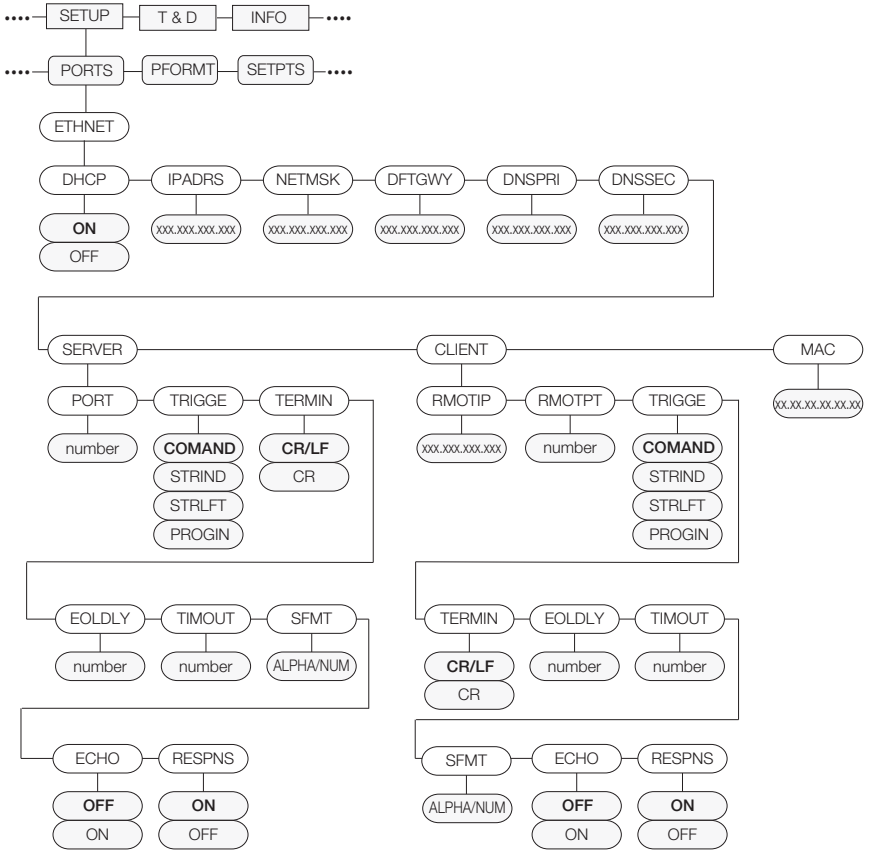

Figure 2-12. Ethernet Communications Menu Structure

2.2.11 USB Host and Fieldbus Menus

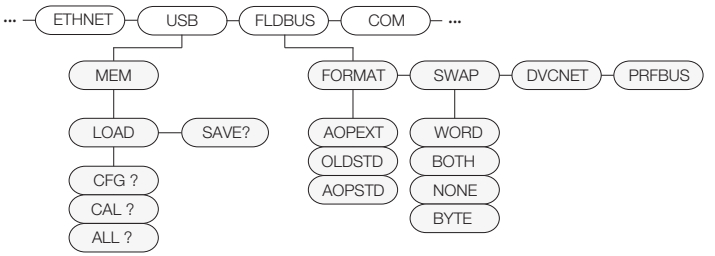

Figure 2-13. USB Host and Fieldbus Menu Structures

2.2.12 Print Format Menu

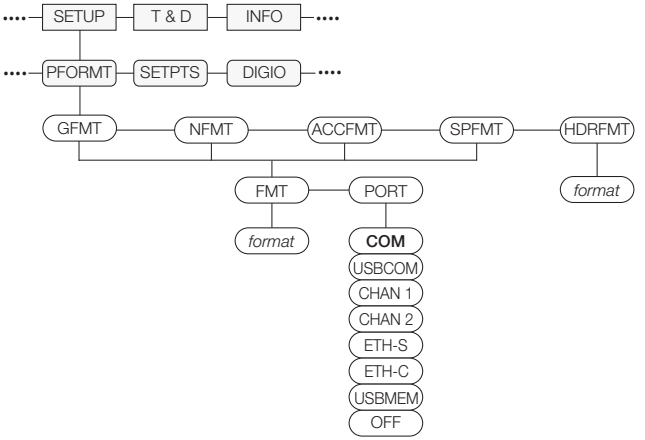

Figure 2-14. Print Format Menu Structure

2.2.13 Setpoint Menu

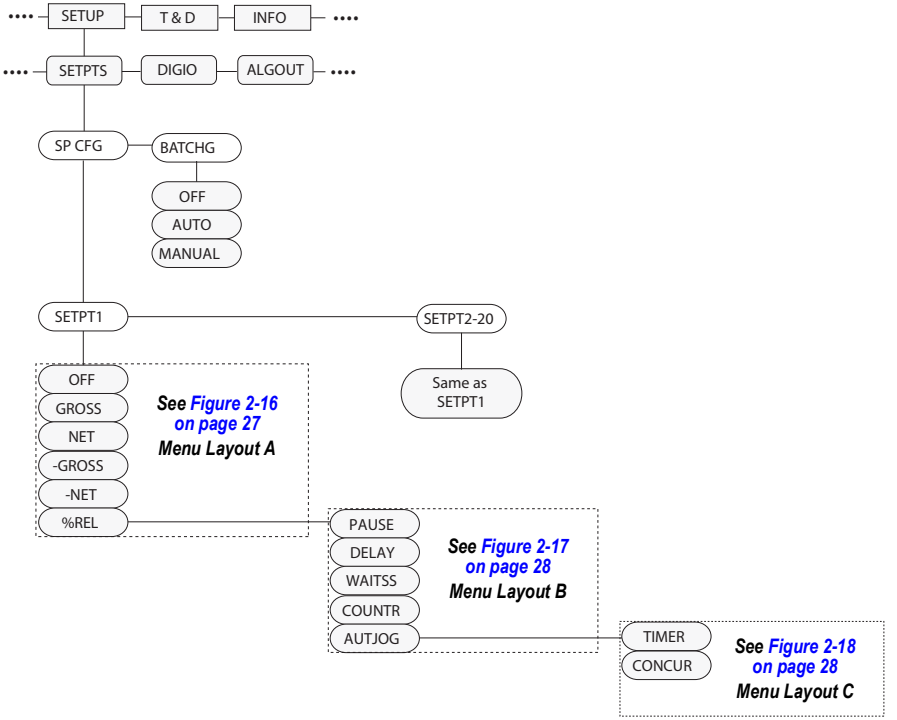

Figure 2-15. Setpoint Menu Structure

Setpoint Menu – Layout A

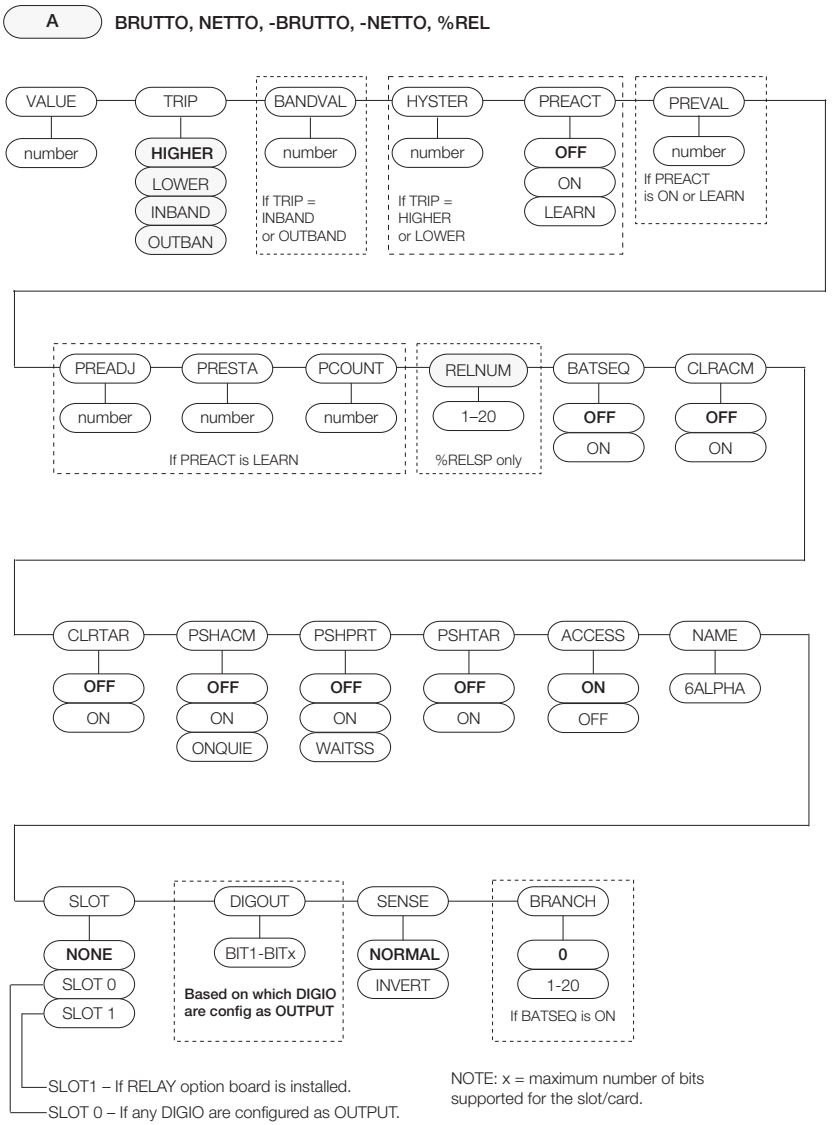

Figure 2-16. Setpoint Menu Structure – Layout A

Setpoint Menu – Layout B

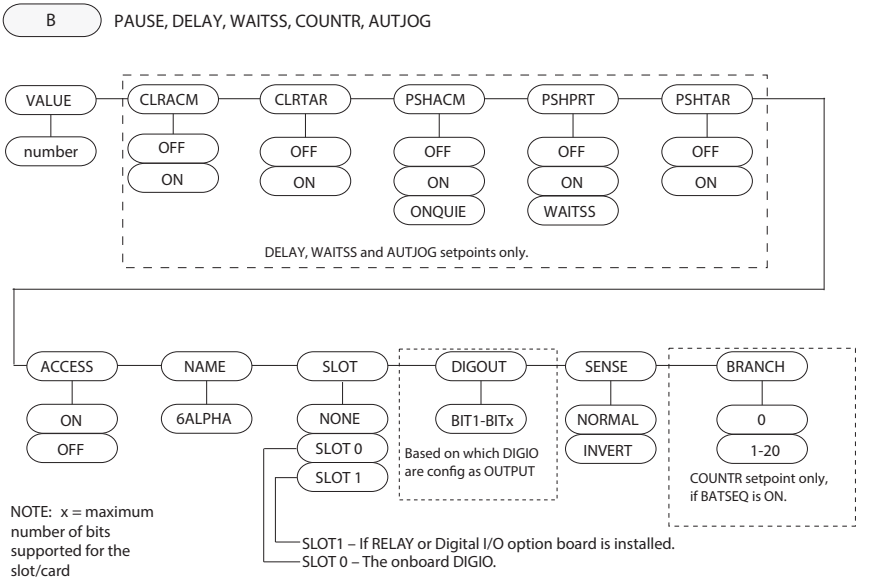

Figure 2-17. Setpoint Menu Structure – Layout B

Setpoint Menu – Layout C

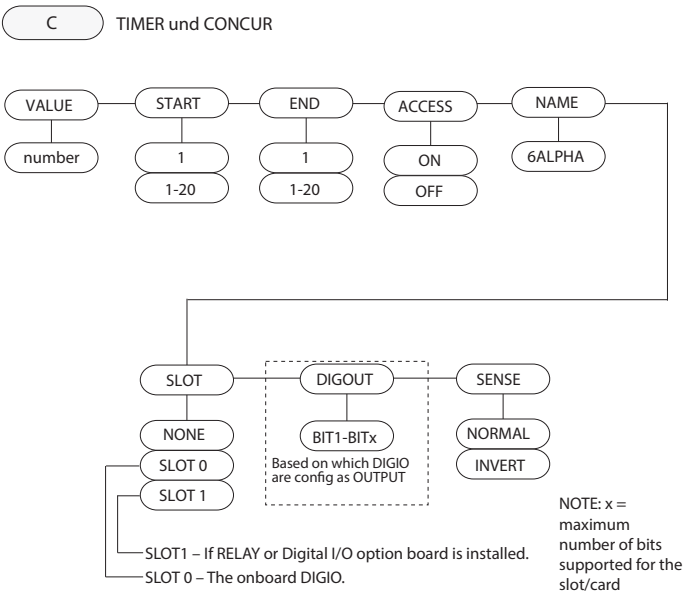

Figure 2-18. Setpoint Menu Structure – Layout C

2.2.14 Digital Input/Output Menu

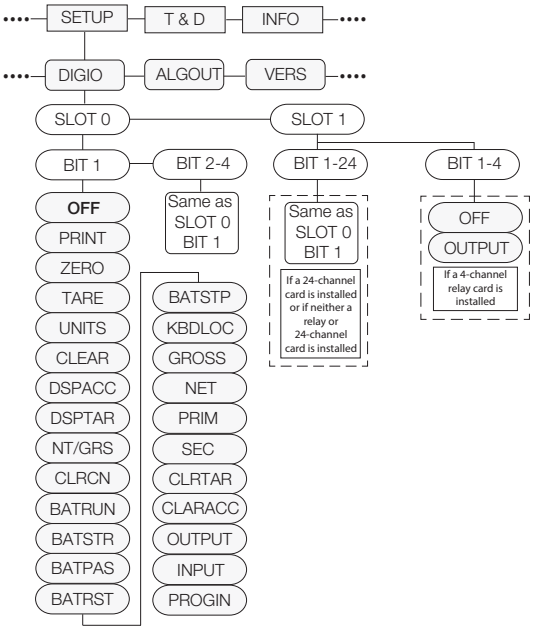

Figure 2-19. Digital Input/Output Menu Structure

2.2.15 Analog Output Menu

The ALGOUT menu is used only if the analog output option is installed. If the analog output option is installed, configure all other indicator functions and calibrate the indicator before configuring the analog output. See Technical/Service Manual for analog output calibration procedures.

Note

Minimum calibration occurs at 0.5V and 1mA for a 0-10 V and 0-20 mA output. For analog output board (PN 131601), ensure SW2 switch is in the ON position if installed onto the blue CPU board (PN 175109) or in the OFF position if installed onto the green CPU board (PN 131597). The SW2 switch is located on the backside of the analog output card.
This information does not apply for analog output board (PN 164704).

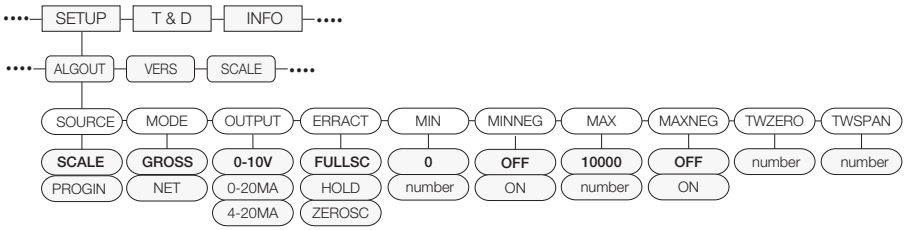

Figure 2-20. Analog Output Menu Structure

2.2.16 Version Menu

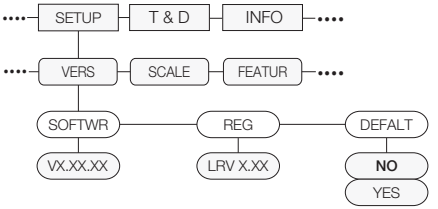

Figure 2-21. Version Menu Structure

3.0 Troubleshooting

This section provides an overview of common troubleshooting procedures.

3.1 Error Messages

The 880 provides a number of front panel error messages to assist in problem diagnosis. Table 3-1 lists these messages and their meanings.

Error Message	Description	Solution
– – – – – –	Over range	Check for improper load cell wiring, configuration, calibration, scale hardware problems
_ _ _ _ _ _	Under range	
– – – – – (center dashes)	A/D out of range; If using local/remote (serial scale) - loss of serial scale data	
CFGERR	Configuration error on power up if there was an error loading configuration	Press the **Enter** key to reboot the indicator
ERROR	Internal program error	Check configuration
HWFERR	Hardware failure error on failure to write to the EEPROM error (except for a battery error or an accumulation over range error) when exiting the menu	Press the **Enter** key to reboot the indicator
LOBATT	The low battery error flashes every 30-seconds when the battery is low	Replace the battery
NOTARE	Tare is prevented because of regulatory mode settings, the configuration of the TAREFN parameter, motion on the scale, and others	Change regulatory mode settings or the TAREFN parameter
RANGE	A numeric value entered in configuration is out of the acceptable range; The error is displays momentarily – the parameter being edited displays, allowing the value to be corrected	Re-enter a value which is in range for the parameter being edited
NO ZERO	Zero is prevented (due to regulatory mode settings, motion on the scale, zero range settings)	Check zero settings and for motion

Table 3-1. Error Messages

4.0 Compliance

CE

EU DECLARATION OF CONFORMITY

EU-KONFORMITÄTSERKLÄRUNG
DÉCLARATION UE DE CONFORMITÉ

Rice Lake Weighing Systems
230 West Coleman Street
Rice Lake, Wisconsin 54868
United States of America

RICE LAKE WEIGHING SYSTEMS

Type/Typ/Type: 880 indicator series

English We declare under our sole responsibility that the products to which this declaration refers to, is in conformity with the following standard(s) or other regulations document(s).

Deutsch Wir erklären unter unserer alleinigen Verantwortung, dass die Produkte auf die sich diese Erklärung bezieht, den folgenden Normen und Regulierungsbestimmungen entsprechen.

Francais Nous déclarons sous notre responsabilité que les produits auxquels se rapporte la présente déclartion, sont conformes à la/aux norme/s suivante ou au/aux document/s normatif/s suivant/s.

EU Directive	Certificates	Standards Used / Notified Body Involvement
2014/30/EU EMC	-	EN 55011:2009+A1:2010, EN 61326-1:2006
2014/35/EU LVD	-	IEC 60950-1 ed.2
2011/65/EU RoHS	-	EN 50581:2012

Signature: Richard Shipman

Type Name: Richard Shipman

Title: Quality Manager

Place: Rice Lake, WI USA

Date: May 3, 2019

RICE LAKE WEIGHING SYSTEMS

5.0 Specifications

Power

Line Voltages	100-240 VAC
Frequency	50-60 Hz
DC Voltages	12-24 VDC
Power Consumption	AC: 15 W, DC: 20 W

Excitation Voltage
10 VDC, 16 x 350Ω or 32 x 700Ω load cells

Analog Signal Input Range
-45 mV to 45 mV

Analog Signal Sensitivity
0.3 µV/graduation minimum at 7.5 Hz;
1.0 µV/graduation recommended

A/D Sample Rate
7.5 to 960 Hz, software selectable

Resolution

Internal	8 million counts/8,000,000 23 bit
Display	999,999

System Linearity
± 0.01% full scale

Digital I/O
Four I/O onboard (max), primary keys, pseudo functions, batching functions

Communication Ports
RS-232 full duplex or RS-485 half duplex;
USB type A connector, USB micro A/B connector 2.0;
Ethernet TCP/IP

Status Annunciators
Gross, net, center of zero, standstill, lb, kg, tare, preset tare, multi-range/interval 1/2/3

Display
LED, 0.56" (14 mm), six-digit, 14-segment with decimal or comma

Keys/Buttons
Membrane panel, tactile feel

Temperature Range

Certified	14°F to 104°F (-10°C to 40°C)
Operating	14°F to 122°F (-10°C to 50°C)

Dimensions (W x H x D)

Panel	6" x 4" x 4.95" (152 mm x 102 mm x 126 mm)
Universal	9.87" x 9.38" x 4.33" (251 mm x 238 mm x 110 mm)

Weight

Panel	2.5 lb (1.2 kg)
Universal	12 lb (5.4 kg)

Rating/Material

Display bezel NEMA Type 4X, Type 12, and IP69K

Panel Display	Stainless Steel
Controller Box	Aluminum
Universal	Stainless Steel

Warranty

Two-year limited warranty

EMC Immunity

EN 50082 Part 2 IEC
EN 61000-4-2, 3, 4, 5, 6, 8, 11, 10 V/m

Certifications and Approvals

CoC Number: 13-080
Accuracy Class: III/IIIL n_{max}: 10 000d

Approval: AM-5931C C
Accuracy Class: III/IIIHD n_{max}: 10 000

File Number: R76/2006-NL1-18.23

Certificate Number: TC8463

Universal Model
File Number: E151461

Panel Mount Model
File Number: E151461, Vol 2

The 880 DC indicator must be connected to a class 2 power source in accordance with the NEC (National Electrical Code) and local regulations.
See equipment data plate for power requirements.

230 W. Coleman St. • Rice Lake, WI 54868 • USA
U.S. 800-472-6703 • Canada/Mexico 800-321-6703 • International 715-234-9171 • Europe +31 (0)26 472 1319