

# 1280 Enterprise Series™

*Color Touchscreen Indicator*

## Technical Manual



**RICE LAKE®**  
WEIGHING SYSTEMS

PN 167659



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# 1.0 Introduction

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The *1280 Enterprise Series* is a color touchscreen, programmable, multi-channel digital weight indicator/controller. Manufactured with industrial-grade components, the *1280* is built to achieve top performance, even in harsh environments. The *1280* features a Freescale i.MX6 microprocessor, Linux-based operating system and 1 GB onboard memory (expandable with micro SD card). Configuration can be performed using the front panel, serial commands or Revolution® scale software.

Custom programs can be written with iRite®, a domain-based programming language based off of Basic, Pascal and Ada—empowering programmers to customize display widgets, store and retrieve data with the onboard database, and utilize the 150+ built-in-functions. From tailored basic weighing to complex process automation, the *1280* delivers uncompromising speed for today's most demanding applications as well as vast expandability for future needs.



Manuals can be viewed or downloaded from the Rice Lake Weighing Systems website at [www.ricelake.com/manuals](http://www.ricelake.com/manuals)

Warranty information can be found on the website at [www.ricelake.com/warranties](http://www.ricelake.com/warranties)

## Onboard Features

Features of the *1280* include:

- Support for up to eight scales (combination of analog load cell, total, serial scales or program scales)
- Eight programmable Digital I/O bits available on the CPU board (connector J1) including onboard pulse input pins, with 24 additional per option card
- Two communication ports that support RS-232, RS-485 and RS-422
- Two USB host ports
- One USB device port
- AC or DC power options
- Ethernet – wired and wireless

## Other Features

- Configurable print formats can be defined for up to 1000 characters each. These formats are used to print gross or net weights, setpoint weights, accumulator weights and header information. Additional print formats can be created with *iRite*.
- Truck in/out, recipe batching, counting and checkweighing *iRite* programs and source code included.
- 100 configurable setpoints.
- The *1280* is NTEP-certified for Classes III and III L at 10,000 divisions.

## Three Enclosure Types

- Universal
- Panel Mount
- Wall Mount

## Option Cards

The CPU board provides six slots for installing scale or other option cards. Available option cards include:

- Single- and dual-channel scale cards to drive up to sixteen 350 ohm load cells per card. Scale cards support both 4- and 6-wire load cell connections.
- Dual-channel analog output card for 0–10 VDC, 0–20 mA or 4–20 mA tracking of gross or net weight values.
- 24-channel digital I/O expansion card
- Dual serial port card (with RS-232, RS-422 and RS-485)
- Single analog and dual analog output cards
- Dual analog input/thermocouple card
- 4-channel relay card
- CompactCom card that supports EtherNet/IP™<sup>1</sup>, DeviceNet™<sup>2</sup>, ProfiNet, Profibus® DP<sup>3</sup> and Modbus networks.

Consult factory for more information.

---

1. EtherNet/IP™ is a trademark of ControlNet International, Ltd., under license by the Open DeviceNet Vendor Association.

2. DeviceNet™ is a trademark of the Open DeviceNet Vendor Association.

3. Profibus® is a registered trademark of Profibus International.

## 1.1 Safety

### Safety Symbol Definitions



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



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



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

### Safety Precautions



Do not operate or work on this equipment unless you have read and understood the instructions and warnings in this manual. Failure to follow the instructions or heed the warnings could result in injury or death. Contact any Rice Lake Weighing Systems dealer for replacement manuals. Proper care is your responsibility.

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#### General Safety

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*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 allow minors (children) or inexperienced persons to operate this unit.*

*Do not operate without enclosure completely assembled.*

*Do not place fingers into slots or possible pinch points.*

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

*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 power source.*



## 1.2 Weighing Mode

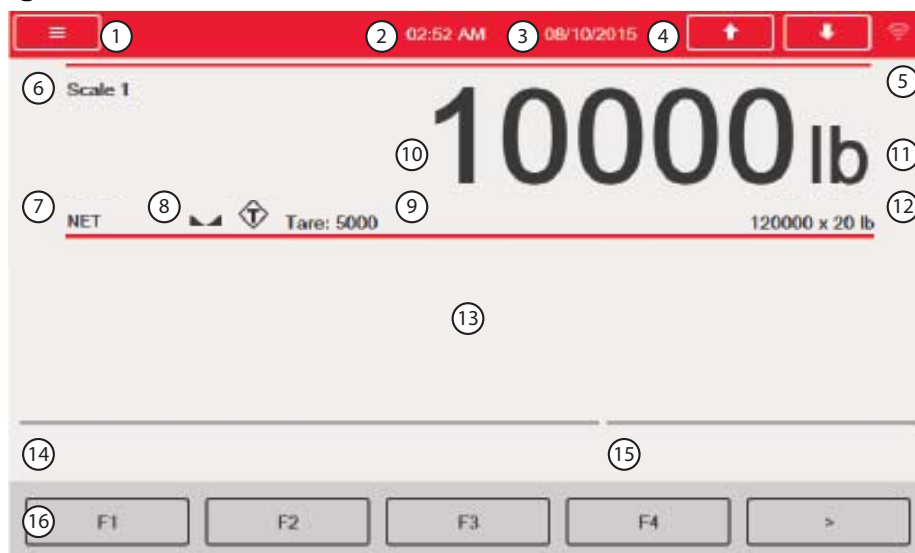


Figure 1-1. Weighing Mode Display Screen

| Item No.            | Description   |
|---------------------|---|
| Status Bar          |   |
| 1                   | Menu key – Press to enter setup menus and audit trail information.  |
| 2                   | Current time – Press to set the time.   |
| 3                   | Current date – Press to set the date.   |
| 4                   | Scale arrows – Use to scroll through the attached scales in the current scale area (up to eight scales).  |
| Weight Display Area |   |
| 5                   | Wi-Fi Symbol - Faded symbol means there is not a Wi-Fi connection, bright symbol means there is a Wi-Fi connection. Press on the symbol to bring up the <b>Network Information Screen</b> which includes information on Wired Ethernet, Wi-Fi and Bluetooth®. |
| 6                   | Current scale – Scale number currently displayed  |
| 7                   | Gross/Net – Current weighing mode   |
| 8                   | Standstill icon – Indicates scale is stable   |
| 9                   | Tare – Weight of tare in system   |
| 10                  | Weight reading for current scale  |
| 11                  | Unit of measure   |
| 12                  | Capacity and division size (values shown are for illustration only)   |
| 13                  | Application area – Contains configuration of widgets (text boxes, bar graphs, icons, etc). See Section 14.0 on page 109.  |
| 14                  | Display line for text (messages from an iRite program)  |
| 15                  | System messages or status (batch running, print queued, etc)  |
| Softkeys            |   |
| 16                  | Five touchscreen keys that can be selected (such as <b>Batch Start</b> or <b>Batch Stop</b> ) or can be user defined keys with custom text and iRite programming functionality. See Section 6.1 on page 65.   |

Table 1-1. Weigh Mode Display Screen Descriptions

### 1.3 Numeric/Alpha Entry

When data entry is required, a keyboard or a numeric keypad will display on the screen as shown in Figure 1-2 and 1-3. Additionally, the indicator’s front panel is equipped with a numeric keypad as shown in Figure 1-4 on page 5.

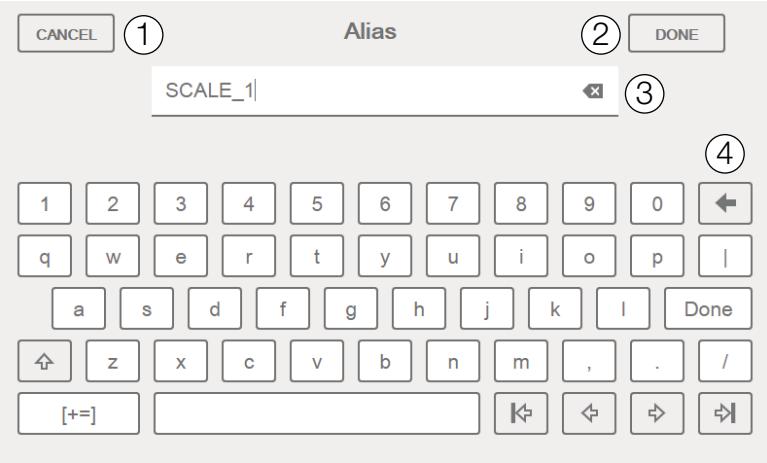


Figure 1-2. 1280 On-screen Full Keyboard for Alphanumeric Entry

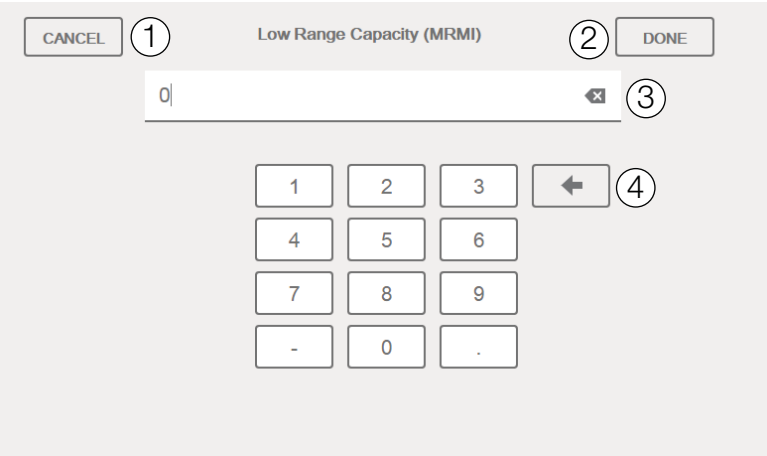


Figure 1-3. 1280 On-screen Numeric Keypad for Numeric Entry

| Item No. | Description                                   |
|----------|---|
| 1        | Cancel - Press to exit keyboard.              |
| 2        | Done - Press to complete keyboard entry.      |
| 3        | Clear - Delete everything in the prompt line. |
| 4        | Backspace - Delete one character at a time.   |

Table 1-2. On-screen Keyboard Descriptions

## 1.4 Indicator Operations



Figure 1-4. 1280 Front Panel

### 1.4.1 Navigation Keys

Navigation keys are primarily linked to iRite handlers. If no iRite handlers exist, the navigation keys toggle through a selection of displayed scales.

### 1.4.2 Numeric Keypad

Use the numeric keypad for entering numbers or keyed tares.

Press **CLEAR** to backspace when entering numbers/letters.

Press **ENTER** to save entries from the numeric keypad.

### 1.4.3 Toggle Gross/Net Mode

Pressing **GROSS NET B/N** toggles the display mode between gross and net.

- If a tared value is in the system, **Net** is displayed (net equals gross minus tare).
- If there is no tare in the system, **Gross** is displayed.

### 1.4.4 Toggle Units

Pressing **UNITS** toggles between primary, secondary and tertiary units.

### 1.4.5 Zero Scale

Use the following instructions to zero the scale (if it is within the acceptable zero range).



1. In gross mode, remove all weight from the scale and wait for **0** to display.
2. Press **ZERO +0<**. When **→0←** displays, the scale is zeroed.

### 1.4.6 Tare

Use the following instructions to acquire a tare, remove a stored tare and enter a tare using the keyboard.




#### Acquire Tare

Use the following instructions to store the weight currently on scale as tare weight and switch to net mode.

1. Place container on scale and wait for  to display.
2. Press . *Net* displays indicating the weight has been tared.

#### Remove Stored Tare Value


Use the following instructions to remove a stored tare value.

1. Remove all weight from the scale to show gross zero.
2. When  displays, press  (in OIML mode, press ). *Gross* displays.


Alternatively, remove a stored tare value using a keyed tare of zero. See “Keyed Tare” below.

#### Keyed Tare



Use the following instructions to add a keyed tare.

1. Enter a value from the numeric keypad or an attached keyboard.
2. Press . *Net* displays indicating the keyed tare weight is in the system.

### 1.4.7 Print Ticket

Pressing  sends the gross or net ticket format to the configured serial, USB or Ethernet port associated with its ticket format. When displaying the accumulator, it prints the accumulator format.

To print tickets using auxiliary formats (1-20), enter the format number with the numeric keypad.

1. Wait for  to display.
2. Enter an auxiliary format (1-20).
3. Press  to send data to the serial port.

### 1.4.8 Accumulator Functions

#### Printing While in Accumulate

If the accumulator is enabled, weight is accumulated whenever a print operation is performed by:

- Pressing the Print key
- Activating a digital input print
- Receiving a KPRINT serial command
- iRite calling the PRINT ( ) function
- Activating the accumulator setpoint

The scale must return to zero before the next accumulation.


#### Display or Clear the Accumulator


- A softkey can be programmed for each function
- A *Display* or *Clear Accumulator Digital Input* can be activated
- A serial command can be sent

#### Print the Accumulated Value

To print the accumulated value, press  while displaying the accumulator.

# 1.5 Setup Menu

Press  on the Weigh mode screen. The *Main Menu* will display.

Press  to return to the Weigh mode.

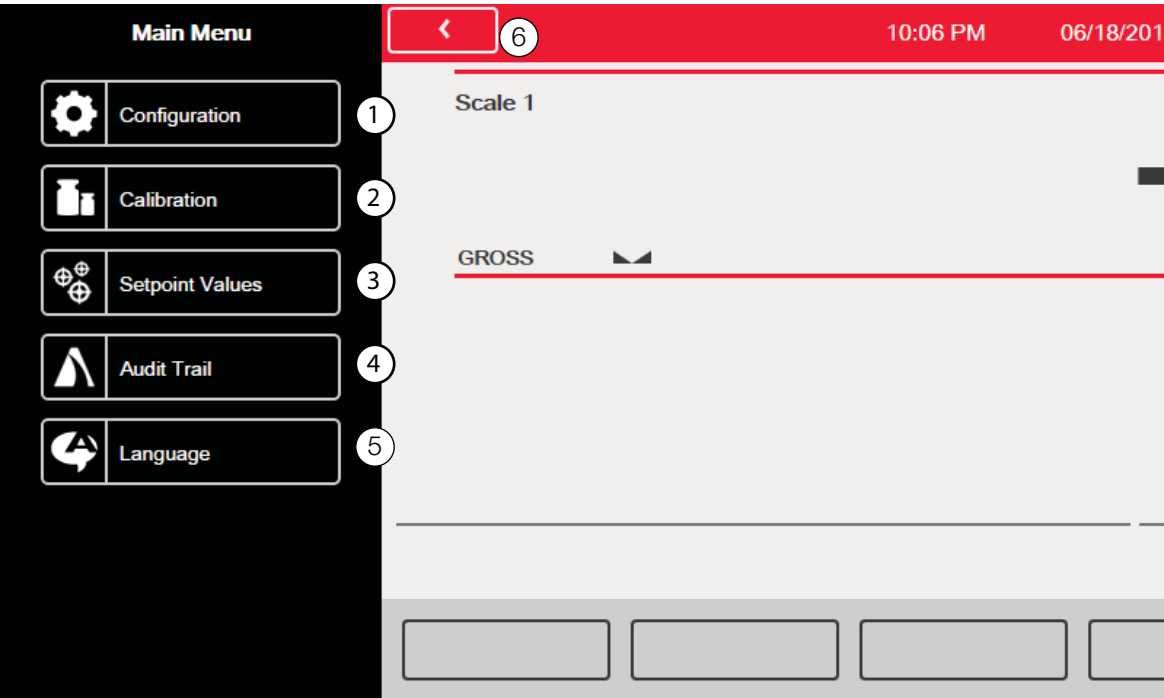


Figure 1-5. Main Menu Screen

| Item No. | Description  |
|----------|--|
| 1        | Configuration – Allows setup of indicator parameters. See Section 3.0.                                   |
| 2        | Calibration – Allows calibration of the scale. See Section 4.2.  |
| 3        | Setpoint Values – Allows setup of setpoint values. See Section 10.0.                                     |
| 4        | Audit Trail – Provides tracking information for configuration and calibration events. See Section 1.5.1. |
| 5        | Language – Allows one of 16 languages to be selected for the indicator display. See Section 1.5.2.       |
| 6        | Return Arrow – Press to return to Weigh mode from the Main menu screen.                                  |

Table 1-3. Main Menu Descriptions

1.5.1     **Audit Trail**

Audit trail support provides tracking information for configuration and calibration events. A separate calibration and configuration counter is provided for each scale; a single system configuration counter tracks all global changes that are applied to multiple scales.

To prevent misuse, unsaved configuration or calibration changes are counted as change events; restoration of the previous saved configuration or calibration is also counted.


Select to view the legally relevant version, the configuration counters and the calibration counters.



| Audit Trail                   |               |                                      |                                     |
|-------------------------------|---------------|--------------------------------------|-------------------------------------|
| Legally Relevant Version: 1.0 |               |                                      |                                     |
| Regulatory Agency: NTEP       |               |                                      |                                     |
|                               | Configuration | Calibration                          | Last Calibration Date               |
| System                        | 0             |                                      |                                     |
| Scale 1                       | 5             | 4                                    | 02:34 PM 04/10/2015                 |
| Scale 2                       | 2             | 2                                    | 02:34 PM 04/10/2015                 |
| Scale 3                       | 2             | 0                                    |                                     |
| Scale 4                       | 2             | 2                                    | 02:34 PM 04/10/2015                 |
| Scale 5                       | 2             | 2                                    | 02:34 PM 04/10/2015                 |
| Scale 6                       | 2             | 0                                    |                                     |
| Scale 7                       | 2             | 2                                    | 02:34 PM 04/10/2015                 |
| Scale 8                       | 0             | 0                                    |                                     |
|                               |               | <input type="button" value="Print"/> | <input type="button" value="Done"/> |

Figure 1-6. Audit Trail Screen

- 1. Press  to send the audit trail data out the configured communications port (default is port 1). See Section 5.1 on page 61 for port setup, including how to change the destination or baud rate of the audit trail ticket format.
- 2. Select  to return to the weigh mode.

## 1.5.2 Language

From the Main menu, press  **Language** to select one of the 16 language choices. The set language is only available in weigh mode. Configuration mode will remain in English.

1. Press  **Language** to display the list of available languages.
2. Select the desired language.
3. Press  to save the selection and return to the weigh mode.

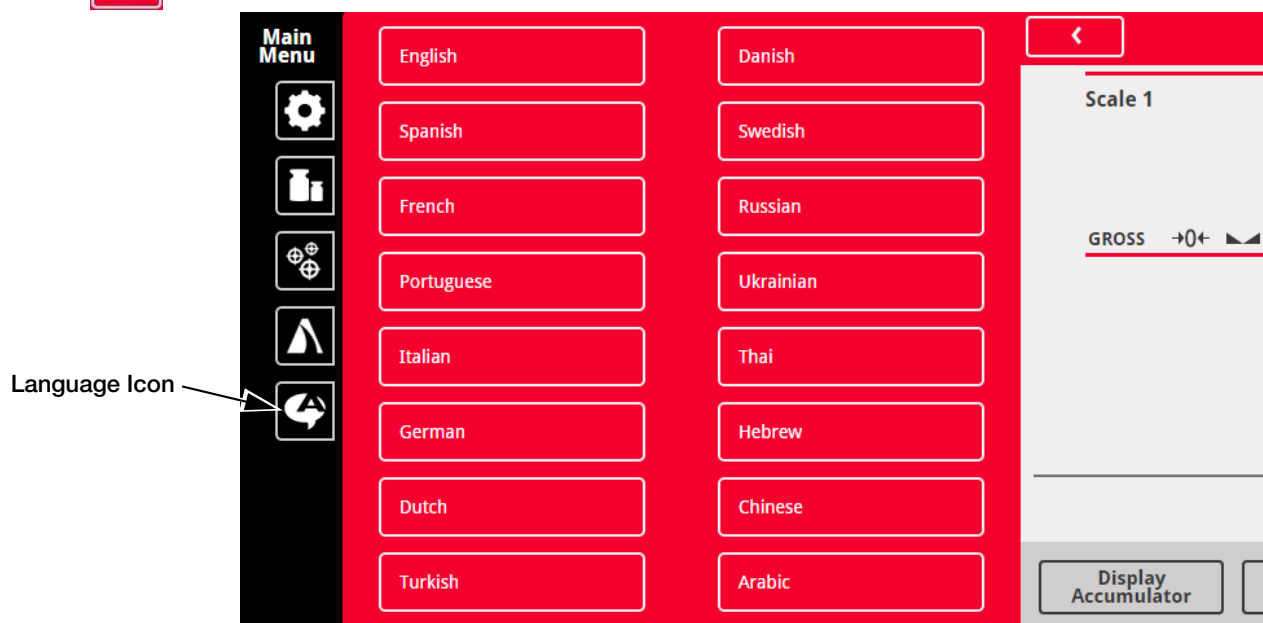


Figure 1-7. Language Selection Screen

## 1.6 Alibi Storage

Alibi storage is a database of past transactions listed by date. This allows previous print transactions to be recalled and reprinted. Alibi storage is enabled using the **Features** menu in configuration mode. Print transactions can be recalled by assigning a softkey to Alibi.

1. Press the **Alibi** softkey.
2. Use the arrows to scroll to the record needed.
3. To print the currently selected record, press **Reprint**.
4. Repeat steps 1-3 until all records required have been printed.
5. When all records required have been printed, press **Done**.




For more information, see Section 6.7 on page 72.

## 1.7 Peak Hold

Peak hold is used to determine, display and print the greatest weight reading during a weighing cycle.

There are three types of peak hold: automatic, manual and bi-directional. See Section 4.4 on page 57 for information on how to enable peak hold.

Use the following instructions to use the peak hold function.

1. Tare the scale to put it into net mode.
2. Increase the weight. As the weight increases, the indicator will capture and hold the highest weight recorded.
3. Press  to see the real live weight (as opposed to the peak hold weight).
4. Press  or  to clear the peak hold (unless it is set to automatic mode in which case it clears automatically).

## 1.8 Rate Of Change

Rate of change is expressed in weight per time unit (weight/time).

*Example: lb/sec*

See Section 4.4 for information on how to enable rate of change.

To view the rate of change:

1. Press the **Display Rate of Change** softkey.
2. To return to the live weight, press **Display Rate of Change** again.

## 1.9 Setpoint Entry

Setpoints can be configured to perform actions or functions based on specified parameter conditions. For more information on setpoints, see Section 10.0 on page 85.

To change the setpoint value:

1. Press **Setup**.
2. Press the **Setpoint Values** key in the Main menu or from the black drop down list, or press the **Setpoint** softkey.
3. Press **Setpoint 1** to select the setpoint (1-100) for which the target value needs to be changed.
4. Press the red number of the setpoint in the table. It may be necessary to use the arrows at the bottom of the screen scroll through the setpoints.
5. Press **Value** to bring up the numeric entry keypad.
6. Enter the new target value and press **Done**.
7. Press **Settings** to toggle between enabled and disabled.
8. Press **Done** and **Save and Exit**.

## 1.10 Softkey Operations

Softkeys are configured to provide additional operator functions. Softkeys are displayed as digital buttons at the bottom of the touch screen display area. See Figure 1-1 on page 3.

See Section 6.1 on page 65 for softkey configuration.

| Softkey       | Description   |
|---------------|---|
| Blank         | Inserts a blank key between assigned softkeys.  |
| Time/Date     | Allows time and date change.  |
| Display Tare  | Displays a tare value for the current scale.  |
| Display Accum | Displays an accumulator value, if enabled, for the current scale.   |
| Display ROC   | Displays a rate-of-change value, if enabled, for the current scale.   |
| Setpoint      | Displays a list of configured setpoints; allows change to target and enable parameters.   |
| Batch Start   | Starts a configured batch.  |
| Batch Stop    | Stops a running batch and turns off all associated digital outputs. Requires a batch start to resume processing.  |
| Batch Pause   | Pauses a running batch, deactivating current batch digital outputs except those associated with concurrent and timer setpoints. A batch start is required to resume the batch.  |
| Batch Reset   | Stops a batch and resets it to the first batch step.  |
| Unit ID       | Displays the name given to the 1280.  |
| Scale Select  | Prompts for the scale number desired for multi-scale applications.  |
| Diagnostics   | Future sofkey   |
| Alibi         | Previous print transactions can be recalled and reprinted.  |
| Contrast      | Adjusts the screen's backlight if set to manual.  |
| Stop          | Sends AuxFmt13 out a configured port to prompt a red light on a LaserLight.   |
| Go            | Sends AuxFmt12 out a configured port to prompt a green light on a LaserLight.   |
| Off           | Sends AuxFmt14 out a configured port to turn a LaserLight red/green light off.  |
| Screen        | Allows multiple display screens without a user program.   |
| F1-F10        | These are user-programmable keys; defined by application.   |
| < or >        | For applications with more than five defined softkeys, the < or > softkeys are automatically assigned to the fifth softkey position. If there are more keys to the right the > softkey will appear, if there are more keys to the left, the < softkey will appear. Press < or > to toggle between groups of softkeys. |

Table 1-4. Configurable Softkeys



## 1.11 Applications

The 1280 can be used in a variety of applications, including checkweighing, counting, recipe batching and truck in/out. For these frequently used applications, the 1280 includes built-in programs that can be used as-is or customized for specific needs. See Section 13.0 for more information on importing and exporting built-in application programs.

### 1.11.1 Checkweigher Application

The checkweigher application is included with the 1280 standard firmware. This application is a static checkweigher with a stored low and high weight associated with an ID. A digital output is activated based on the status of the weight. The digital output stores the ID, weight, status (under, accept, or over) and time/date in a database. The print key can be pressed to print the last transaction's ID, weight, status and time/date. Two softkeys are available: **Item** and **Setup Menu**.

#### Select an Item

1. Press the **Item** softkey.
2. System prompts **Enter ID to Checkweigh**. Enter a stored ID with associated low and high weights.
3. The ID, low and high weights are displayed and the system waits for the threshold to be triggered.

#### Checkweigh

1. When the weight exceeds the threshold weight, the indicator checks that an ID was selected. If an ID has not been selected, the system does nothing. If an ID has been selected, the system waits for standstill and compares the gross or net weight (whichever mode Scale 1 is currently in) against the low and high weights.
  - If the weight is less than the low weight, the system displays **Under** and turns on the Under output.
  - If the weight is more than the high weight, the system displays **Over** and turns on the Over output.
  - If the weight is more than the low weight and less than the high weight, the system displays **Accept** and turns on the Accept output.
2. A record will be stored to the database with the ID, the weight, the status (under, accept or over) and time/date.

| Status | Output |
|--------|--------|
| Under  | 1      |
| Accept | 2      |
| Over   | 3      |

Table 1-5. Status Output

3. If the auto print feature is enabled (default is disabled), a ticket will print.

```
ID: 555
Gross: 0.25 lb
ACCEPTED

1/1/2015 01:00 PM
```

Figure 1-8. Checkweigher Ticket

4. When the weight goes under the threshold weight, the display status will clear; the ID, low and high values will remain; and all digital outputs will turn off.

## Application Setup & Configuration

The **Setup Menu** softkey is password-protected and offers access to the following:

- Display program name and version
- Display a weight widget

| Parameter           | Default  | Softkey                         | Description  |
|---------------------|----------|---------------------------------|--|
| System Password     | ""       | Setup Password                  | Allows an operator to change the password that is required for entry into the Setup Menu. If the password is set to nothing, the system will not prompt for a password when the <b>Setup Menu</b> softkey is pressed.  |
| Add/Edit Items      | -        | Database Setup-> Add/Edit Items | Allows an operator to add or edit stored IDs with associated low and high weight values.   |
| Delete Items        | -        | Database Setup-> Delete Items   | Allows an operator to delete stored IDs that are no longer used.   |
| Threshold Weight    | 100 lb   | Threshold Weight                | When the threshold weight is exceeded, the system checks if an ID has been selected. If an ID has been selected, the system will wait for standstill before reading the weight and categorizing it based on low or high weight. Additionally, if the weight goes below the threshold weight, the system will clear out the last weighment information and turn off the output. |
| Auto Print Feature  | Disabled | Auto Print                      | Allows an operator to enable/disable the auto print feature.   |
| Digital I/O Testing | -        | More-> I/O Test Screen          | Allows an operator to turn on or off digital outputs.  |

Table 1-6. Checkweigher Application Setup and Configuration

### 1.11.2 Counting Application

The *1280* counting application is included with the *1280* standard firmware. This application has two scales, one for sampling and one for counting. Upon startup, the softkeys **Sample Size**, **Scale Select**, **APW**, **Clear Tare** and **Setup Menu** are available.

#### Select Sample Size

1. Press the **Sample Size** softkey. The sample size will toggle to five pieces. If pressed again it will toggle to 10 pieces, then 20, then 50, then 100, then 200, then back to five.
2. Press **Sample Size** once to enter **Sample Size Mode**. Press a numeric key followed by the **Enter** key to enter any number as the sample size (instead of toggling to one of the choices listed above).
3. Once the correct sample size is displayed in the softkey, press **Enter** to calculate the APW based on the current weight, current scale and current sample size. The number of pieces will display. This number is continuously updated as the weight or scale selected changes.

#### Select Scale

1. Press the **Scale Select** softkey to switch between scales.
2. There are two scales available. Typically one is used for sampling (smaller capacity) and one is used for counting (larger capacity). This application works the same for both scales, or if only one scale is used for both sampling and counting. The piece count is always referencing the current scale that is displayed.

#### Enter APW

Press the **APW** softkey to enter a new known APW for the current part.

#### Counting Pieces

The number of pieces will display. This number is continuously updated as the weight, scale selected or mode selected changes. This includes adding pieces or removing pieces, as well as going to a negative net as pieces are removed from a net zero weight. For example, if a full box was placed on the scale, **Tare** was pressed to tare off the weight to net zero, and then the count pieces were removed, the scale would display a negative number.

```
Gross:  10.25 lb
APW:    .0055 lb
Pieces: 1864
```

```
1/1/2015 01:00 PM
```

Figure 1-9. Counting Printed Ticket Example

## Application Setup and Configuration

| Parameter            | Default | Softkey        | Description   |
|----------------------|---------|----------------|---|
| System Time and Date | Current | Time/Date      | Time and Date of that displays on the 1280.   |
| System Password      | ""      | Setup Password | Allows an operator to change the password that is required for entry into the Setup Menu. If the password is set to nothing, the system will not prompt for a password when the <b>Setup Menu</b> softkey is pressed. |
| Clear Transactions   | -       | Clear Trans    | Allows an operator to clear the transaction database.   |

Table 1-7. Counting Application Setup and Configuration

### 1.11.3 Recipe Batching Application

The 1280 formula batching application is included with the 1280 standard firmware. Upon startup, the softkeys **Recipe** and **Setup Menu** are available.

#### Recall a Recipe

1. Press the **Recipe** softkey. The system prompts *Enter Recipe ID*.
2. Enter the recipe ID and press **Enter**.
3. If the ID is not found, the system prompts *Recipe NOT Found - Retry*. If the ID is found, the system recalls all of the recipe information and updates the display.

#### Process a Batch

- The system will stop the batch if the **Emergency Stop** switch is turned off while running a batch. The system also turns off all outputs.



**Note** The **Emergency Stop Switch** is sold separately. See Section 10.3.1 for batching switch wiring instructions.

- To restart a batch at a paused step, turn the **Emergency Stop** switch on and use the **Abort-Run-Start** switch.
- To abort and exit the batching sequence during a paused batch, turn the **Emergency Stop** switch off and use the **Abort-Run-Start** switch.



**WARNING** To prevent personal injury and equipment damage, software-based interrupts must always be supplemented by emergency stop switches and other safety devices necessary for the application.

See Section 10.3 on page 96 for more information on batching operations.

1. Ensure the scale is empty and zeroed.
2. If the displayed recipe is incorrect, perform the recall a recipe procedure described above.
3. Pull out the **Emergency Stop** switch and use the **Abort-Run-Start** switch to start.
4. The system will do the following things:
  - Verify the weight is below the empty weight value
  - Tare the scale
  - Activate the output for the first ingredient until its target and preact weight value is met
  - Capture and record the stable weight of the just added ingredient
  - Activate the discharge scale output until the weight drops below the empty weight value. It will maintain the output for the discharge time. If the discharge time is set to zero, the system will not perform a discharge.
  - Print a ticket and return to step 1

|                              |        |        |
|------------------------------|--------|--------|
| Recipe ID: 1                 |        |        |
| Recipe Name: Fall Blend      |        |        |
| Ingredient                   | Target | Actual |
| -----                        |        |        |
| Corn                         | 200 lb | 192 lb |
| Winter Wheat                 | 300 lb | 323 lb |
| Chicory                      | 222 lb | 318 lb |
| Total                        | 722 lb | 833 lb |
| Printed @ 09:36AM 09/15/2014 |        |        |

Figure 1-10. Printed Ticket Example

## Application Setup and Configuration

The **Setup Menu** softkey is password-protected and offers access to the following:

- Display program name and version
- Display a weight widget

| Parameter            | Default | Softkey                                      | Description   |
|----------------------|---------|--|---|
| System Password      | ""      | Setup Password                               | Allows an operator to change the password that is required for entry into the Setup Menu. If the password is set to nothing, the system will not prompt for a password when the <b>Setup Menu</b> softkey is pressed. |
| Add/Edit Ingredients | -       | Database Setup<br>-> Add/Edit<br>Ingredients | Allows an operator to add/edit ingredients from the ingredient database table.  |
| Delete Ingredient    | -       | Database Setup<br>-> Delete Ingredients      | Allows an operator to delete ingredients from the ingredient database table.  |
| Add/Edit Recipes     | -       | Database Setup<br>-> Add/Edit Recipes        | Allows an operator to add/edit recipes from the recipe database table.  |
| Delete Recipe        | -       | Database Setup<br>-> Delete Recipes          | Allows an operator to delete recipes from the recipe database table.  |
| Empty Weight         | 5.0 lb  | Empty Weight                                 | Minimum amount of weight to recognize the scale is empty.   |
| Discharge Time       | 3.0 Sec | Discharge Time                               | Length of time the discharge output remains on after reaching the empty weight.   |
| Digital I/O Testing  | -       | More-> IO Test Screen                        | Allows an operator to turn on/off digital outputs.  |

Table 1-8. Recipe Batching Application Setup and Configuration

### 1.11.4 Truck In/Out Application

The 1280 truck in/out software application is included with the 1280 standard firmware.

When the traffic light turns green, the truck can pull onto the scale for a transaction. The traffic light will turn red when the threshold weight is exceeded. The softkeys **Weigh In**, **Weigh Out**, **Truck Register** and **Toggle Light** (requires Stop and Go Laserlight, sold separately) display on the indicator.

| Slot 0 | Output |
|--------|--------|
| Bit 1  | Green  |
| Bit 2  | Red    |

Table 1-9. LaserLight Output

#### Weigh In

1. Press the **Weigh In** softkey. **Enter Truck ID** displays.
2. Enter the Truck ID.
3. Press **Enter**.
  - If the ID is found, the indicator displays **Truck Already Weighed In**. Return to step 1.
  - If the ID is not found, the scale captures a gross weight, adds the inbound transaction to the truck register, prints a weigh ticket and displays **Weigh In Complete - Exit Scale**. Exit the scale when the light turns green.

|        |                   |
|--------|-------------------|
| ID:    | 555               |
| GROSS: | 6000 lb INBOUND   |
|        | 1/1/2015 01:00 PM |

Figure 1-11. Printed Ticket Sample

## Weigh Out

1. Press the **Weigh Out** softkey. **Enter Truck ID** displays.
2. Enter the truck ID and press **Enter**.
3. Proceed as follows depending on if an ID is found and whether or not there is a keyed tare in the system.
  - If the ID is not found and there is not a keyed tare, the indicator displays **Truck Not Weighed In**. Return to step 1.
  - If the ID is not found and there is a keyed tare, the system captures a stable net weight, prints a weigh ticket and displays **Weigh Out Complete-Exit Scale**. Exit the scale when the light turns green.
  - If the ID is found, the system captures a gross weight and prints a weigh out ticket. The system will also delete inbound weight if the stored tares parameter is disabled in the Setup menu, and will do value swapping if value swapping is enabled in the Setup menu. Exit the scale when the light turns green.

|                   |                  |
|-------------------|------------------|
| ID:               | 555              |
| GROSS:            | 100000 lb        |
| TARE:             | 6000 lb RECALLED |
| NET:              | 94000 lb         |
| 1/1/2015 01:05 PM |                  |

Figure 1-12. Printed Ticket Sample

## Inbound Trucks

1. Press the **Inbound Trucks** softkey. The system will prompt for a password if one has previously been set for Inbound Trucks. Enter the password.
2. Up to eight inbound weighments will display with ID, weight and time/date. The softkeys will switch to **Page Up**, **Page Down**, **Delete**, **Delete ALL** and **Exit**. The top weighment is selected.
3. Press the **Up** or **Down Navigation Arrows** to change the selection. Alternatively, use the **Page Up** or **Page Down** softkeys to scroll through stored inbound weighments (8 at a time).
4. Press the **Delete** softkey to delete the selected inbound weighment. The system will prompt **Are You Sure**. To delete, press the **Yes** softkey; to cancel, press the **No** softkey.
5. Press the **Delete All** softkey to delete all inbound weighments. The system will prompt **Are You Sure**. To delete, press the **Yes** softkey; to cancel, press the **No** softkey.

## Truck Register

Press the **Truck Register** softkey to display all the stored inbound tare weights, IDs and time/dates.

Page up/down, delete an individual inbound tare weight, delete all inbound tare weights, or exit back to the starting keys.

## Application Setup & Configuration

The **Setup Menu** softkey is password-protected and offers access to the following:

- Display program name and version
- Display a weight widget

| Parameter               | Default | Softkey          | Description  |
|-------------------------|---------|------------------|--|
| System Password         | ""      | Setup Password   | Allows an operator to change the password that is required for entry into the Setup menu. If the password is set to nothing, the system will not prompt for a password when the <b>Setup Menu</b> softkey is pressed.                |
| Stored Tares            | On      | Stored Tares     | When <b>Stored Tares</b> is on, the inbound weight is stored even after weighing out. When <b>Stored Tares</b> is off, the inbound record is deleted after weighing out.   |
| Inbound Trucks Password | ""      | Trucks Password  | Allows an operator to change the password that is required for entry into the inbound truck display. If the password is set to nothing, the system will not prompt for a password when the <b>Inbound Trucks</b> softkey is pressed. |
| Value Swapping          | On      | Value Swapping   | When <b>Value Swapping</b> is on, the gross weight is always the larger of the gross and tare values, whether the outbound weight was larger or smaller than the inbound weight.   |
| Threshold Weight        | 5000    | Threshold Weight | Enter the weight that triggers the optional traffic light. The weight must go above/below the threshold weight between weighments.   |

Table 1-10. Truck In/Out Application Setup and Configuration

## 2.0 Installation

This section describes procedures for connecting power, load cells, digital I/O and data communications cables to the 1280 indicator. Instructions for replacement of the circuit boards are also included, along with assembly drawings and replacement parts lists for the service technician.



- Use a wrist strap to ground yourself and protect components from electrostatic discharge (ESD) when working inside the indicator enclosure.
- Procedures requiring work inside the indicator must be performed by qualified service personnel only.
- In the 1280 Wall and Universal Mounts, the supply cord serves as the power disconnect. The power receptacle to the indicator must be easily accessible for these models.

### 2.1 Unpacking

Immediately after unpacking, visually inspect the 1280 to ensure all components are included and undamaged. The shipping carton should contain the controller, display, CD, parts kit, any options ordered with the unit and the appropriate manuals. If any parts were damaged in shipment, notify Rice Lake Weighing Systems and the shipper immediately.

### 2.2 Mounting/Assembly

There are three 1280 enclosure styles: a universal mount, wall mount and panel mount.

#### 2.2.1 Universal Mount Enclosure

##### Mount Universal Enclosure with Tilt Stand

The universal mount is shipped with a tilt stand and can be mounted on a wall, tabletop or any flat surface.

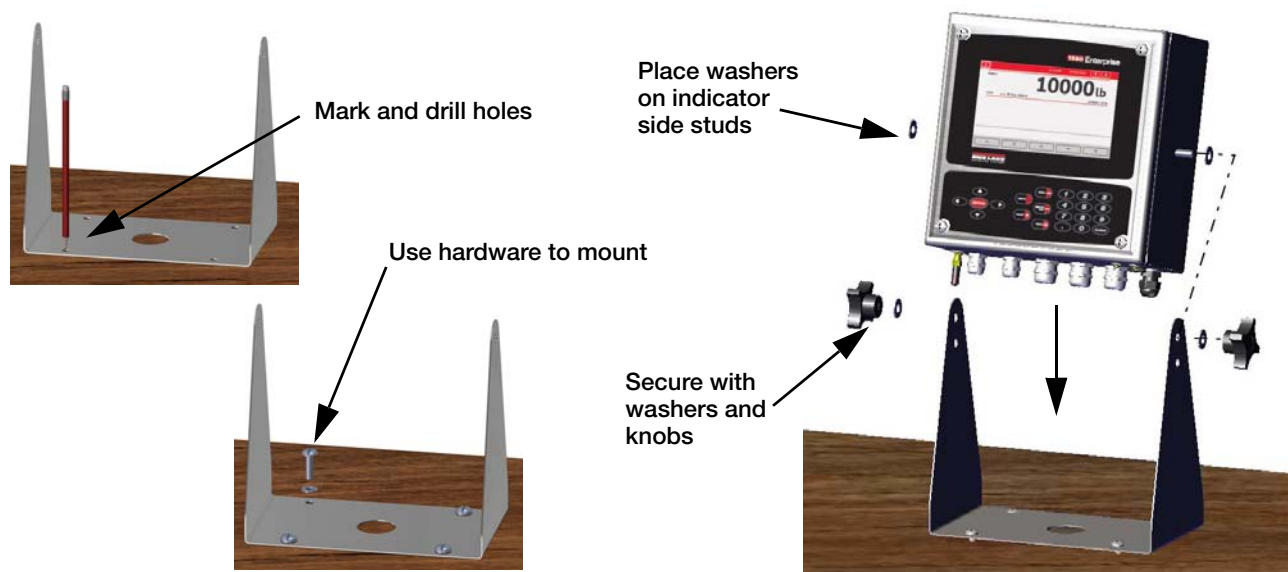


Figure 2-1. Mounting the 1280 – Universal Enclosure

1. Using the tilt stand as a template, mark the screw locations. See Figure 2-5 for dimensions.



**Note** The 1280 universal enclosure can mount to the same location where a 920i universal enclosure was mounted; the screw locations for the tilt stand are the same.

2. Drill holes for the screws.
3. Mount the tilt stand using the appropriate hardware (not included).
4. Place one washer on each side stud of the indicator enclosure.
5. Place the indicator side studs into the holes on the arms of the tilt stand.

6. Secure with remaining washers and hand knobs from the hardware kit.
7. Wire the indicator according to Section 2.4 on page 29.

### Remove Shipping Bracket

The universal mount is shipped with a shipping bracket inside the enclosure to stabilize it during shipping.

1. Loosen the four screws securing the front door.
2. Pull the door and fully extend the hinge to swing the door open. See Figure 2-3.
3. The bracket will be loose, remove it from the enclosure.

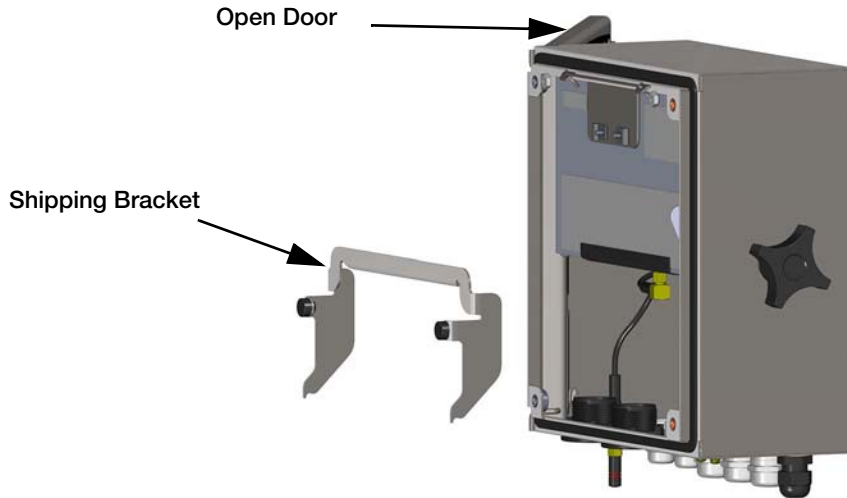


Figure 2-2. Remove Shipping Bracket



**Note** Retain shipping bracket for future shipping needs.

### Controller Disassembly



**Note** The controller can be tilted up with the locking tab or it can be completely removed from the enclosure by removing the retaining wire clip.

1. Remove the large fillister screw in the back of the indicator to tilt or remove the controller. The seal must be broken for this purpose.
2. Loosen the four screws securing the front door.
3. Pull the door and fully extend the hinge to swing the door open.
4. Pull the locking tab to the left to release the controller assembly.
5. Remove the wires connected to the controller assembly.
6. Remove the retaining wire clip connected to the controller assembly. This only needs to be removed if the controller is being removed from the enclosure.
7. Lift controller assembly from the enclosure.

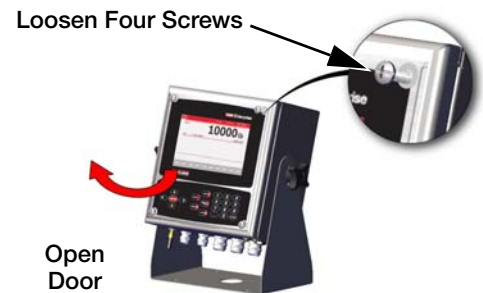


Figure 2-3. Open Cover – Universal

Reverse this procedure for reassembly. Upon reassembly, ensure display and keyboard wires are properly connected.



**Note** To close the door to the universal enclosure, push the bail in and down so that it does not get caught on the controller assembly.



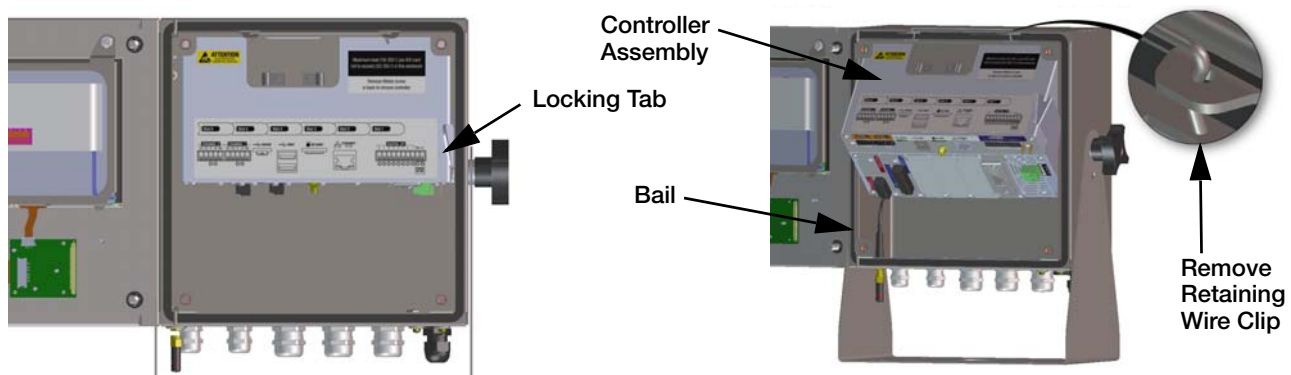


Figure 2-4. Remove CPU Assembly– Universal

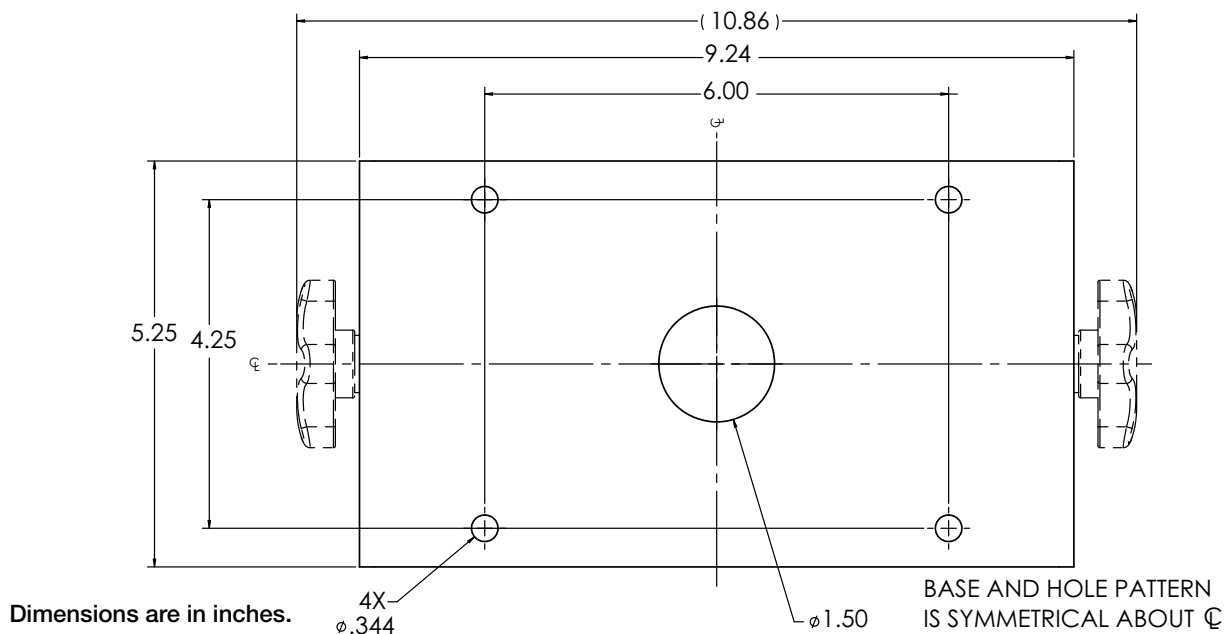


Figure 2-5. Universal Surface Mount Stand Dimensions



**Important**

*This illustration is not to scale. It is for illustration purposes only. Use the dimensions in Figure 2-5 to mark the holes for the universal mount, or use the bottom of the tilt stand as a template. Do NOT use Figure 2-5 as a template.*



## Sealing the Setup Switch

In certain Legal for Trade applications, it may be necessary to seal the indicator to restrict access from the setup switch. Use the following instructions to seal the universal enclosure.



### Important

*The audit trail jumper (JP1) needs to be disabled, in the off (right) position, in order to seal the setup switch with a lead seal wire. Access is not prevented simply by sealing the setup switch.*

1. Turn off (right position) the audit trail jumper (JP1). See Section 2.7 on page 34 for instructions on how to remove the CPU board (which is necessary to disable the audit trail jumper). This will restrict access from the configuration menu through the front panel.
2. If not previously installed, install the large fillister screw in the back of the indicator.
3. Wrap the lead wire seal through the large fillister screw and the two smaller fillister screws in order to seal the indicator. This will restrict access to the setup switch.

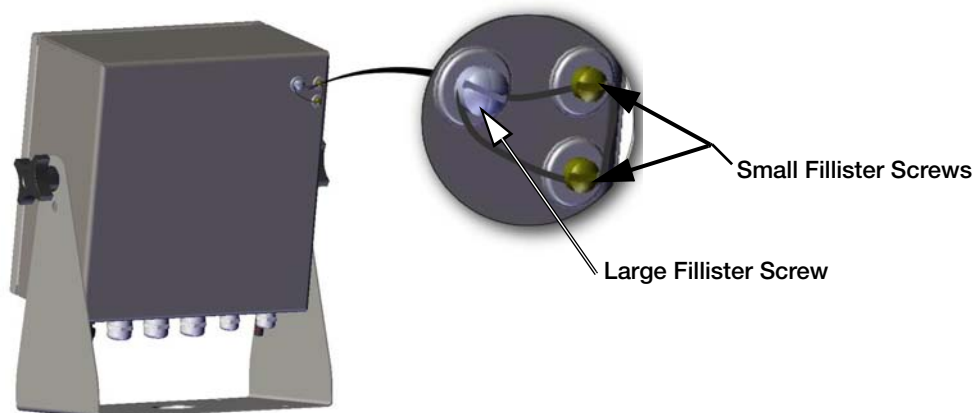


Figure 2-6. Seal the Setup Switch (Universal Mount)

## Sealing the Front Door

In certain Legal for Trade applications, it may be necessary to seal the indicator to restrict access from the internal hardware of the indicator. To seal the universal enclosure front door, wrap the lead wire seal through the large bottom right screw securing the front door and the two small fillister screws on the bottom of the enclosure. Alternatively, the A/D scale card includes fillister screws and a bracket that prevent the load cell cable from being disconnected.

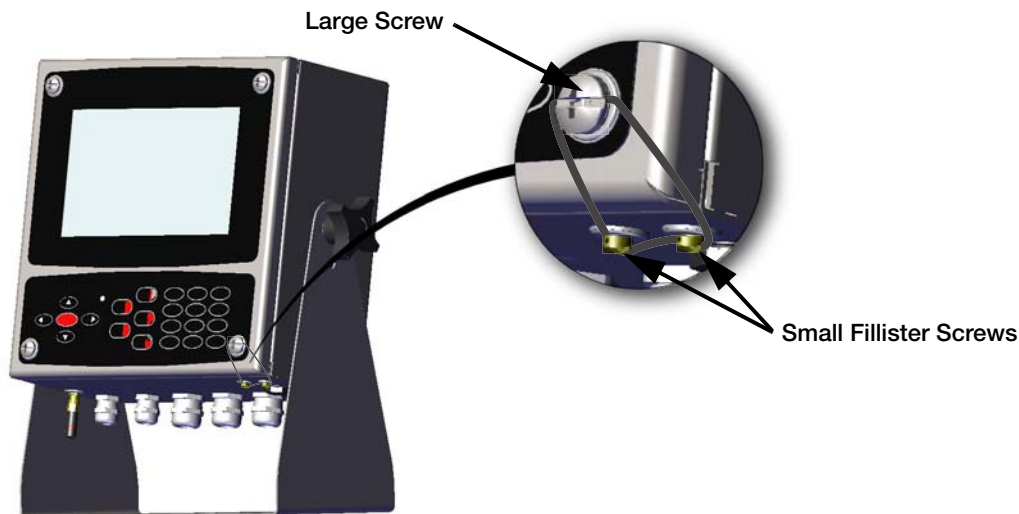


Figure 2-7. Seal the Front Door (Universal Mount)

## 2.2.2 Wall Mount Enclosure

1. Using the wall mount as a template, mark the screw locations. See Figure 2-14 for dimensions.



**Note** The 1280 wall enclosure can mount to the same location where a 920i was mounted; the screw locations are the same.

2. Drill the holes for the screws.
3. Mount the wall mount using the appropriate hardware (not included).



Figure 2-8. 1280 Wall Mount

### Remove Shipping Bracket

1. Loosen the four screws on the front door. See Figure 2-10.
2. Swing the door open.
3. Remove the four screws securing the bracket in place.
4. Remove bracket from the enclosure..

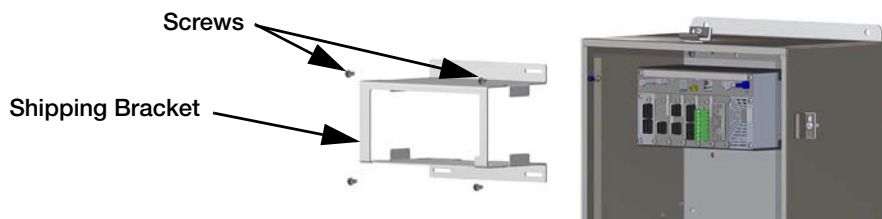


Figure 2-9. Remove Shipping Bracket – Wall Mount

### Controller Disassembly

1. Loosen the four screws on the front door.
2. Swing the door open.
3. Remove the wires connected to the controller assembly.
4. While supporting the controller assembly, use a screwdriver to slide the mounting plate down. See Figure 2-11.
5. Lift the controller assembly up to remove it from the DIN rail and pull it out of the enclosure.

Reverse this procedure for controller assembly installation.



**Note** When closing the door, tighten screws to 15 in-lb to ensure the enclosure is securely sealed.



Figure 2-10. Open Door – Wall Mount

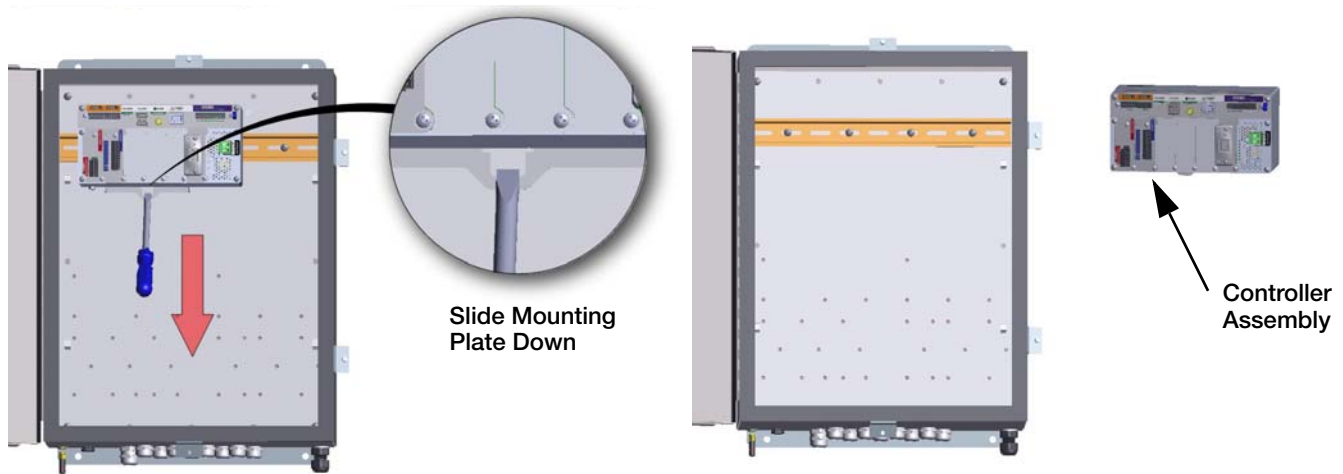


Figure 2-11. Remove Controller Assembly - Wall Mount

## Sealing the Setup Switch

In certain Legal for Trade applications, it may be necessary to seal the indicator to restrict access from the setup switch. Use the following instructions to seal the wall mount enclosure.



### Important

*The audit trail jumper (JP1) needs to be disabled, in the off (right) position, in order to seal the setup switch with a lead seal wire. Access is not prevented simply by sealing the setup switch.*

1. Turn off (right position) the audit trail jumper (JP1). See Section 2.7 on page 34 for instructions on how to remove the CPU board (which is necessary to disable the audit trail jumper). This will restrict access from the configuration menu through the front panel.
2. Wrap the lead wire seal through the large fillister screw and the bottom tab of the DIN rail clip to restrict access to the setup switch.

Enclosure hidden for illustration purposes only. Controller Assembly does not need to be removed from the enclosure to seal the setup switch.

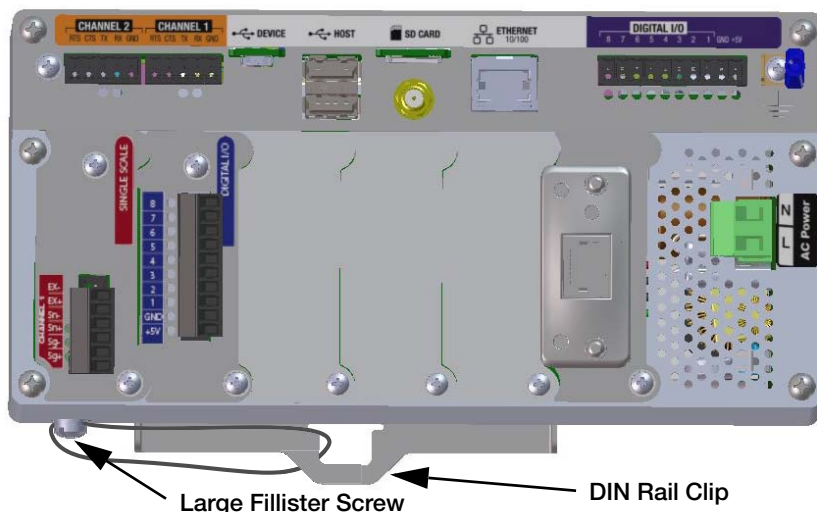
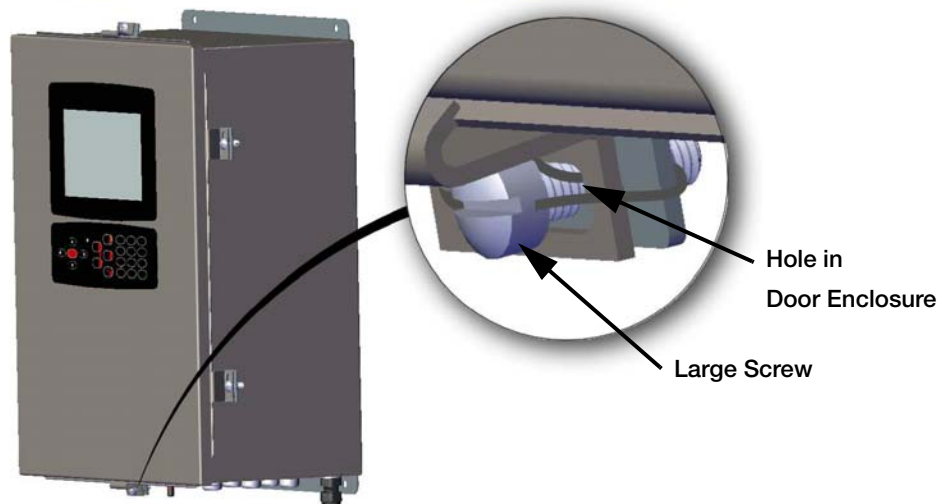


Figure 2-12. Seal the Setup Switch (Wall Mount)

## Sealing the Front Door

In certain Legal for Trade applications, it may be necessary to seal the indicator to restrict access from the internal hardware of the indicator. To seal the wall mount enclosure front door, wrap the lead wire seal through the large screw securing the front door and the hole in the edge of the door enclosure. Alternatively, the A/D scale card includes fillister screws and a bracket that prevent the load cell cable from being disconnected.



*Figure 2-13. Seal the Front Door (Wall Mount)*

Dimensions are in inches.

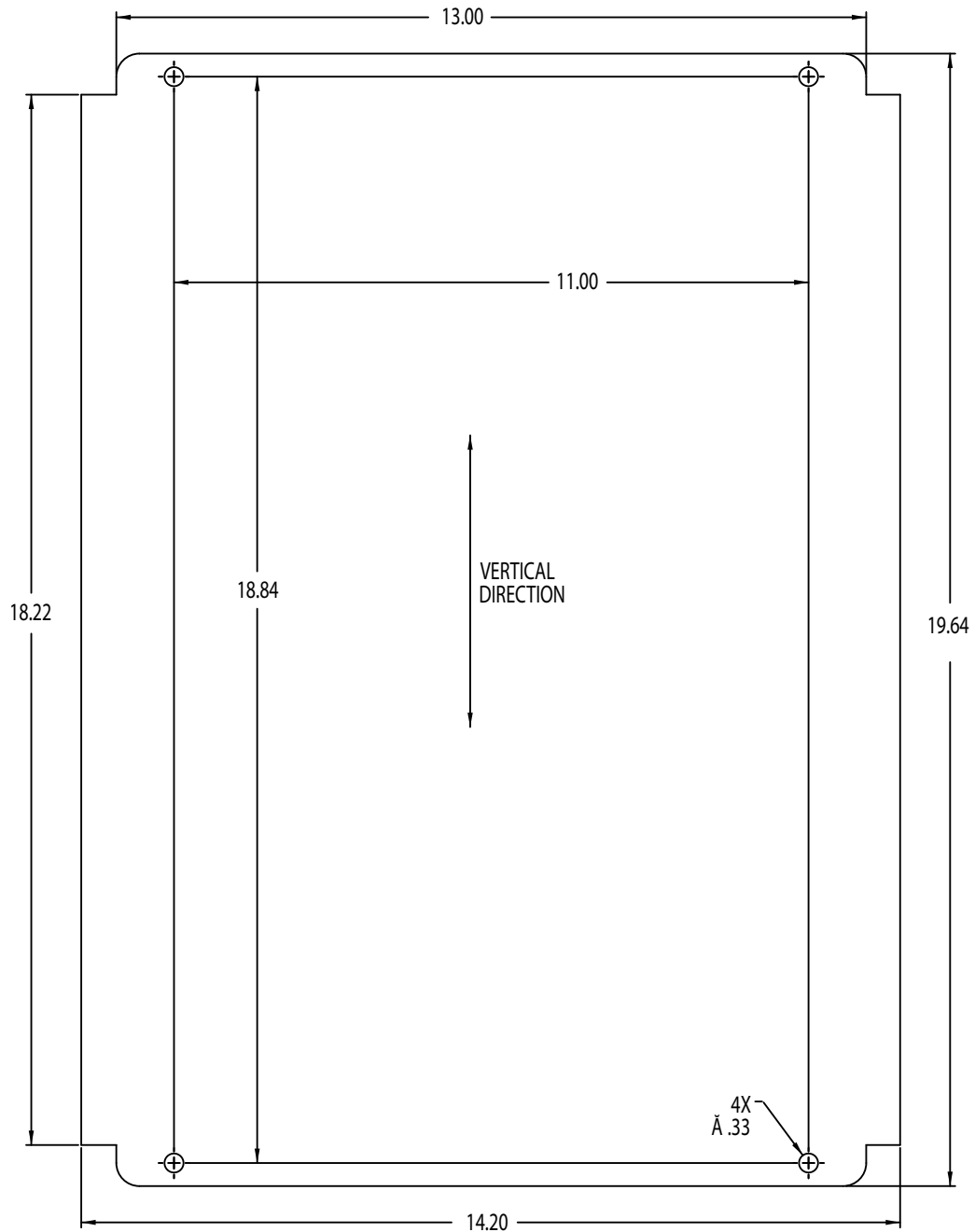


Figure 2-14. Wall Mount Dimensions



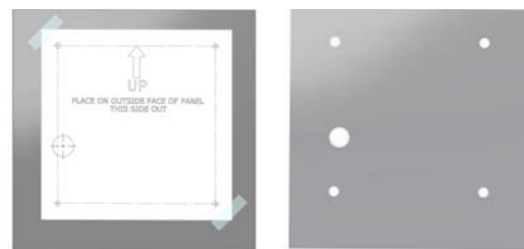
**Important**

*This illustration is not to scale. It is for illustration purposes only. Use the dimensions in Figure 2-14 to mark the holes for the wall mount. Do Not use Figure 2-14 as a template.*

### 2.2.3 Panel Mount Enclosure

The 1280 panel mount will ship partially assembled. The display assembly must be removed from the backing plate to allow installation on the existing panel.

1. Tape the panel mount template to the outside of the panel. See Figure 2-15 and Figure 2-17.
2. Mark and drill holes according to the template.
3. Place the display assembly and the DIN rail bracket on either side of the panel. Ensure that the DIN rail bracket is horizontal, as shown in Figure 2-16.
4. Use studs, nuts and washers to secure the display assembly to the DIN rail bracket.



Tape to outside of panel

Figure 2-15. Mark and Drill Holes for Panel



Figure 2-16. Mounting the 1280 – Panel Enclosure

Dimensions are in inches.

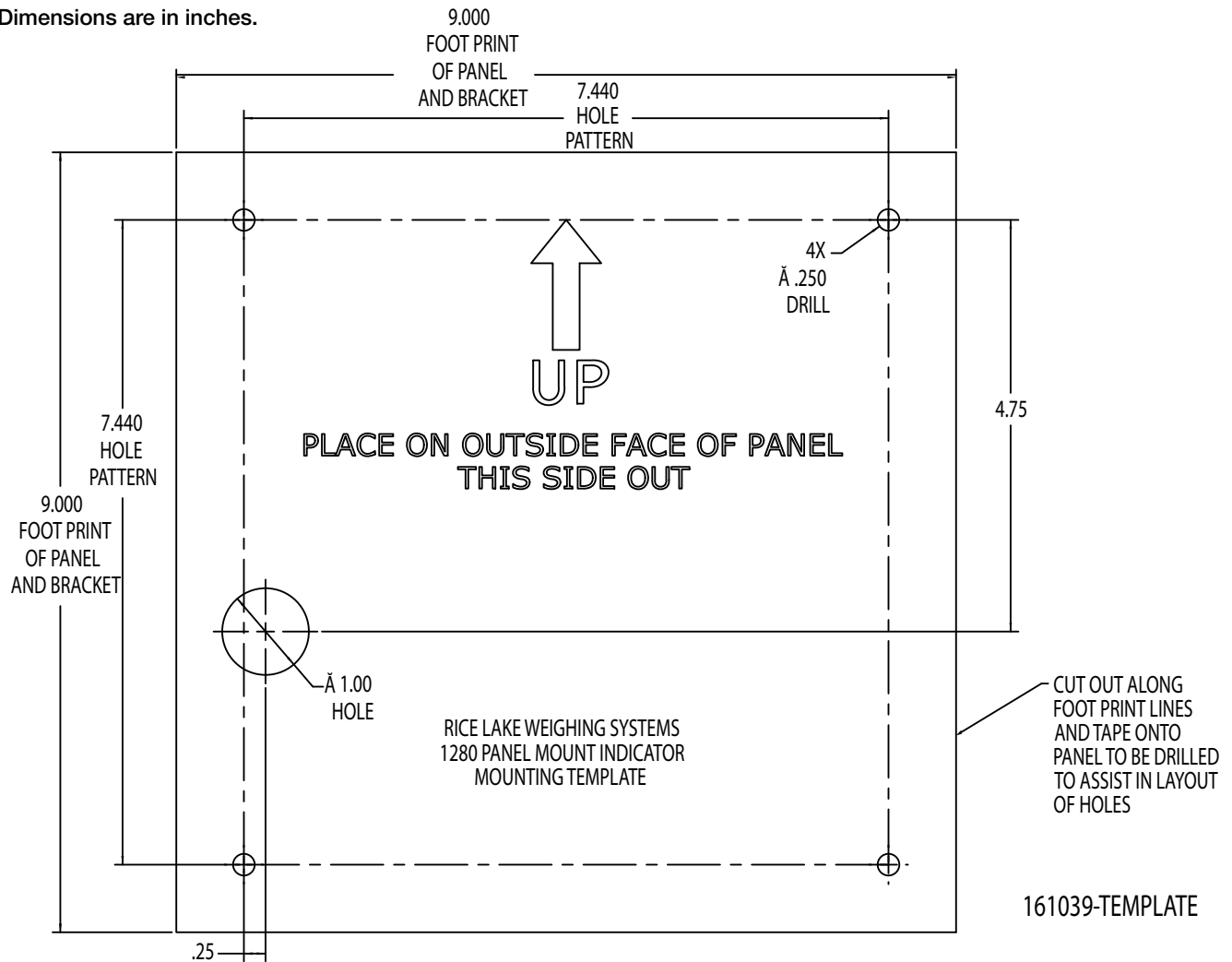


Figure 2-17. Panel Mount Dimensions



**Important**

*This illustration is not to scale. It is for illustration purposes only. Use the dimensions in Figure 2-17 to mark the holes for the panel mount, or use the template provided with the indicator. Do NOT use Figure 2-17 as a template.*

### Installing Grounding Bus Bar

The grounding bus bar is installed on the controller assembly for grounding purposes on the 1280 panel mount enclosure.

1. Remove the four corner screws from the controller assembly.
2. Secure grounding bus bar onto controller assembly using screws from step 1.

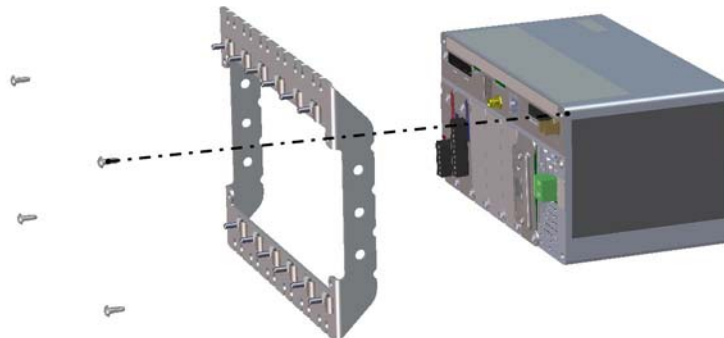


Figure 2-18. Grounding Bus Bar Installation

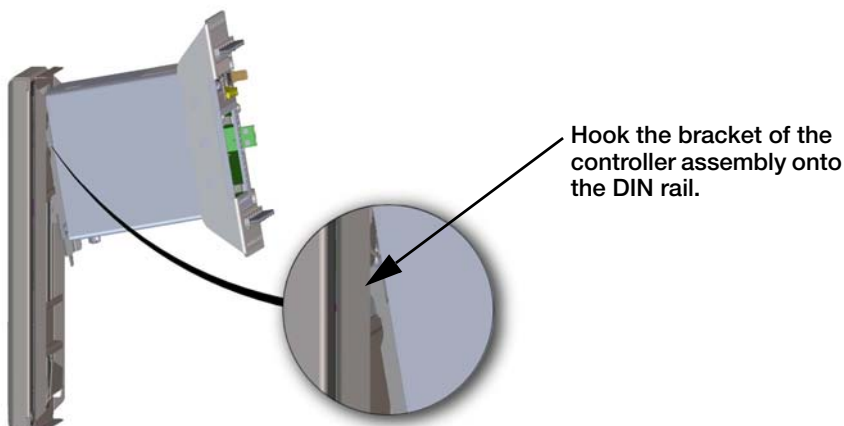
## Installing the Controller Assembly

The controller assembly can be mounted to a standard DIN rail.

1. Hook the bracket on the back of the controller assembly onto the DIN rail.



**Note** The controller assembly can be installed up to 30 inches from the display of the panel mount enclosure.

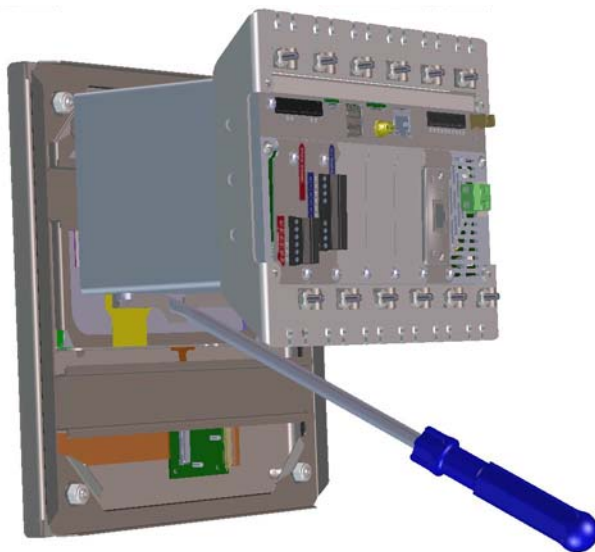


*Figure 2-19. Hook Bracket on DIN Rail*

2. Push controller assembly against the DIN rail in order to engage the spring clip. The controller assembly will lock onto the DIN rail bracket.
3. Connect wiring. See Section 2.4 on page 29.

## Removing Controller Assembly

1. Disconnect wiring.
2. While supporting the controller assembly, use a screwdriver to slide the mounting plate down.
3. Unhook the controller assembly from the DIN rail bracket.
4. Carefully remove the controller assembly from the DIN rail bracket and release the mounting plate.



*Figure 2-20. Remove Controller Assembly from DIN rail*



## Sealing the Setup Switch

In certain Legal for Trade applications, it may be necessary to seal the indicator to restrict access from the setup switch. Use the following instructions to seal the panel mount enclosure.



**Important** *The audit trail jumper (JP1) needs to be disabled, in the off (right) position, in order to seal the setup switch with a lead seal wire. Access is not prevented simply by sealing the setup switch.*

Wrap the lead wire seal through the large fillister screw and through the bottom tab of the DIN rail clip to restrict access to the setup switch. Alternatively, the A/D scale card includes fillister screws and a bracket that prevent the load cell cable from being disconnected.

Enclosure and grounding bus bar hidden for illustration purposes only. Controller Assembly does not need to be removed from the enclosure to seal the setup switch. Similarly, the grounding bus bar may remain attached if previously installed.

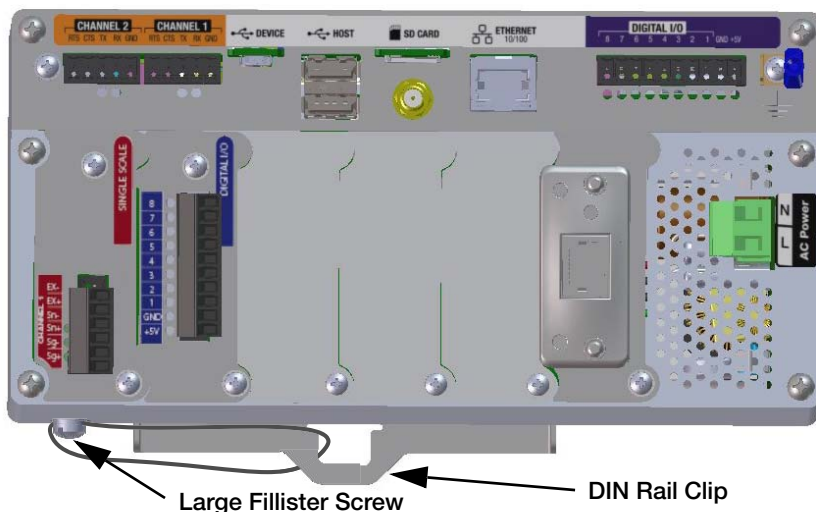


Figure 2-21. Seal the Setup Switch (Panel Mount Enclosure)

## 2.3 Option Card Installation

Use the following instructions to install option cards in the 1280. There are two SPI communication buses for the six option card slots: one for slots 1, 2 and 3 and a second for slots 4, 5 and 6. Communication is faster with less traffic on an SPI bus. For optimal performance, populate slots 1 and 4 first in order to keep cards on their own SPI bus.



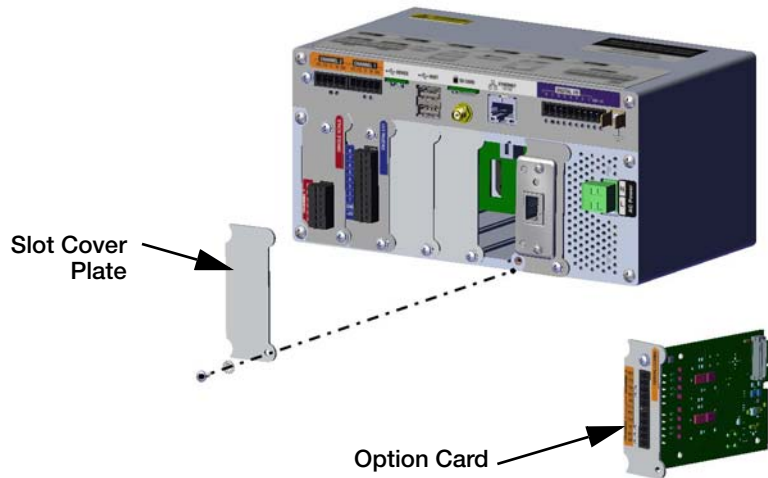
- Option cards are not hot-swappable. Disconnect power to the 1280 before installing option cards.
- Use a wrist strap to ground yourself and protect components from electrostatic discharge (ESD) when working inside the indicator enclosure.
- Procedures requiring work inside the indicator must be performed by qualified service personnel only.
- In the 1280 wall and universal enclosures, the supply cord serves as the power disconnect. The power receptacle to the indicator must be easily accessible for these models.



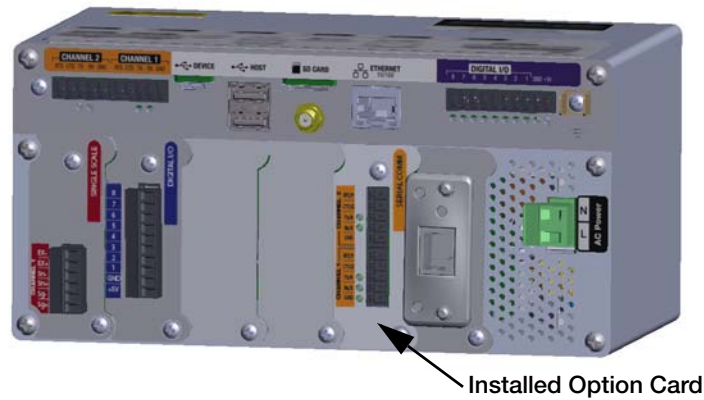
**Note** *It may be easier to install option cards in the universal enclosure if the controller assembly is removed from the enclosure. See Section 2.2.1 on page 16.*

1. Remove the hardware securing the slot cover plate.
2. Remove the slot cover plate.
3. Slide the option card into place.
4. Secure the card using the hardware that secured the slot cover plate.

5. Attach cables. See Section 2.4 on page 29.



*Figure 2-22. Option Card Installation*



*Figure 2-23. Installed Option Card*

### **Seal an Option Card**

Once an option card has been put into place and cable connections have been made, a seal can be placed over the card and connections to restrict access and keep them from being removed.

1. Align the sealing bracket over the connectors on the option card.
2. Secure with two large fillister screws.
3. Insert the lead wire seal through the holes in the sealing bracket and the large fillister screws as shown in Figure 2-24.



*Figure 2-24.  
Option Card Seal*

## 2.4 Cable Connections

The 1280 universal and wall enclosures provide cord grips for cabling into the indicator; one is for the power cord and the rest are to accommodate interface cables. Install plugs in all unused cord grips to prevent moisture from entering the enclosure. Secure wires after cabling is complete to avoid low voltage circuits contacting high voltage circuits.

### 2.4.1 Grounding Through Cord Grips

To ground cables to the universal or wall enclosures, route the cable through one of the metal cord grips. Ensure the exposed shielding makes contact with the tabs of the grounding washer inside the cord grip. See Figure 2-25.

Ensure contact between the exposed shielding and the tabs of the grounding washer.

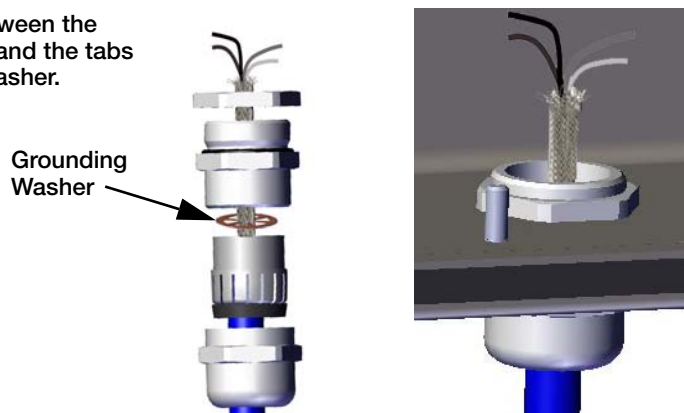


Figure 2-25. Universal and Wall Enclosure Grounding

### 2.4.2 Panel Enclosure Grounding

To ground cables to the panel enclosure, place the shield wire on the grounding clip on the controller assembly. See Figure 2-26.

Place the shield wire on the grounding clip on the Controller Assembly.

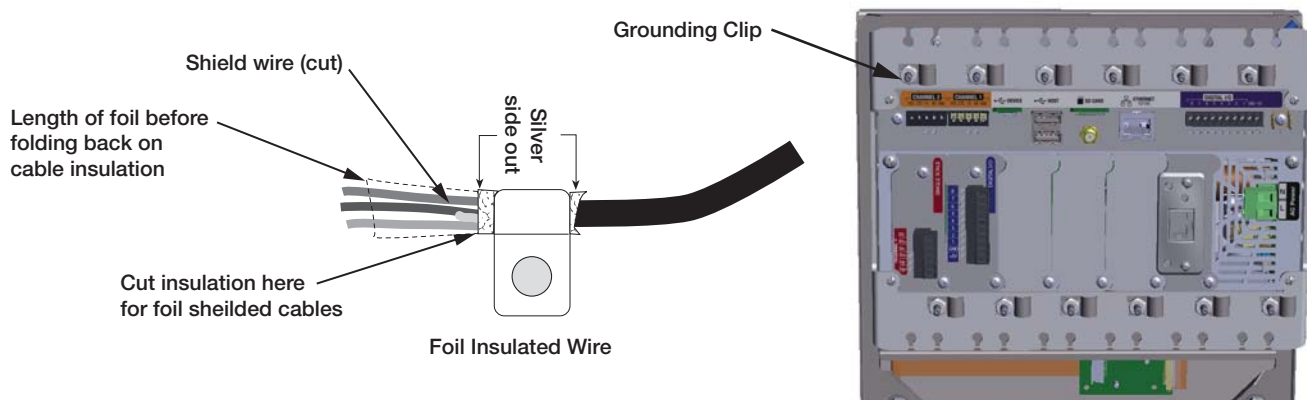


Figure 2-26. 1280 Panel Enclosure Grounding



**Note** The controller assembly must be grounded to the stud and nut that hold the panel enclosure to the backing plate per national electrical code (NEC).

### 2.4.3 Load Cells

Use the following instructions to attach the cable from a load cell or junction box to an installed A/D scale card channel.

1. Route the cables. See Section 2.4.
2. Remove connector J1 from the parts kit and wire the load cell cables to it.
3. Plug the connector into the appropriate channel of the A/D scale card (see Figure 2-27).
4. Wire the load cell cable from the load cell or junction box to connector J1 and/or J2 if using a dual A/D scale card as shown in Table 2-1.

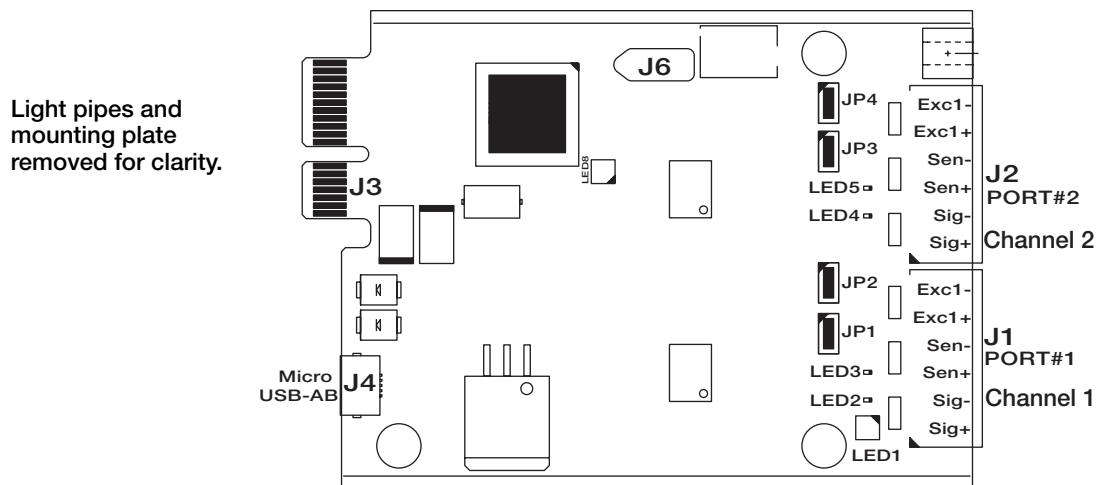


Figure 2-27. Single and Dual A/D Scale Cards

- If using a 6-wire load cell cable (with sense wires), remove jumpers JP1 and JP2 before reinstalling connector J1. On dual-channel A/D scale cards, remove jumpers JP3 and JP4 for connections to J2.
- For 4-wire installation, leave jumpers JP1 and JP2 on (or JP3 and JP4 depending on the channel).

| Scale Card Connector Pin | Function |
|--------------------------|----------|
| 1                        | +SIG     |
| 2                        | -SIG     |
| 3                        | +SENSE   |
| 4                        | -SENSE   |
| 5                        | +EXC     |
| 6                        | -EXC     |

Table 2-1. Scale Card Pin Assignments

**Important** The A/D scale card must be removed from the controller prior to configuring the sense line jumpers.

**Note** The hardware of J2 will not be populated on a single A/D scale card.

## 2.4.4 Serial Communications

The two communication ports on the 1280 CPU board support full duplex RS-232, RS-422 or RS-485 communications at up to 115200 bps.

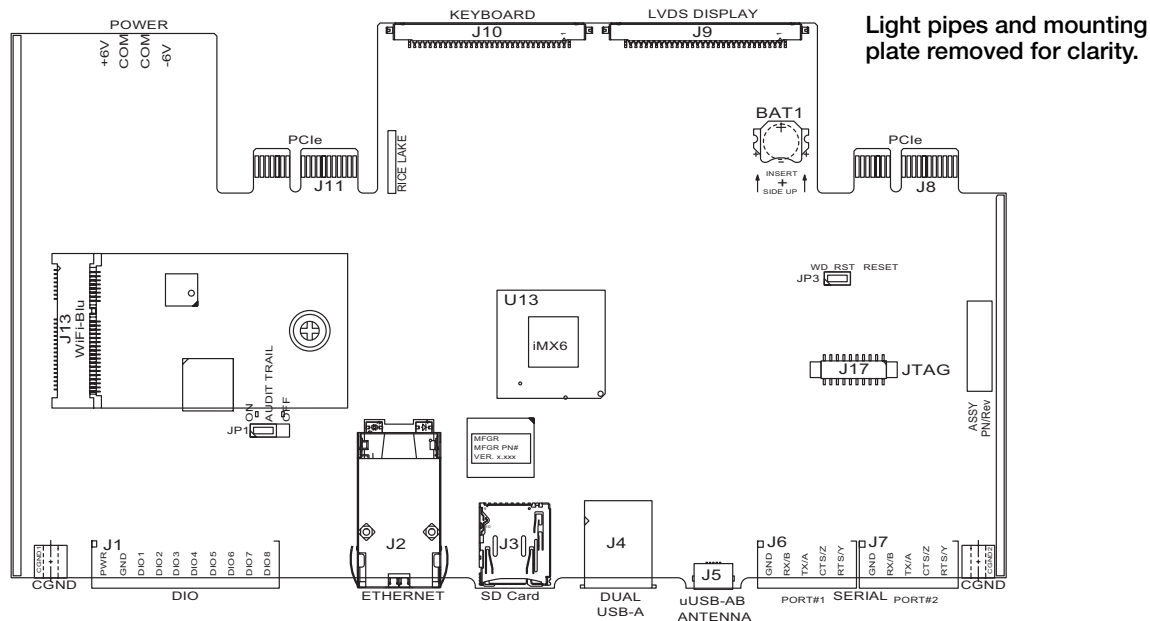


Figure 2-28. CPU Board (Top View)

Use the following instructions to attach serial communication cables.

1. Route the cable through the cord grip and ground the shield wire. See Section 2.4.
2. Remove the screw holding the face plate.
3. Use clip to ground the front plate.
4. Wire the cables to the connector (included in the parts kit).
5. Plug the connector into J6 and J7 on the board.

Table 2-2 shows the pin assignments for communication ports.

| Connector | Pin | Signal              | Port |
|-----------|-----|---------------------|------|
| J6        | 1   | GND                 | 1    |
|           | 2   | RS-232 RX/RS-485 B  |      |
|           | 3   | RS-232 TX/RS-485 A  |      |
|           | 4   | RS-232 CTS/RS-485 Z |      |
|           | 5   | RS-232 RTS/RS-485 Y |      |
| J7        | 1   | GND                 | 2    |
|           | 2   | RS-232 RX/RS-485 B  |      |
|           | 3   | RS-232 TX/RS-485 A  |      |
|           | 4   | RS-232 CTS/RS-485 Z |      |
|           | 5   | RS-232 RTS/RS-485 Y |      |

Table 2-2. Serial Port Pin Assignments

Serial ports are configured using the **Serial** menu. See Section 5.1 on page 61 for configuration information.

An optional dual-channel serial communications card, Kit PN 164685, is also available. Each serial option card provides two additional serial ports. Both ports on the option card can support RS-232, RS-422 or RS-485.



**Note** All wiring must conform to the NEC or local ordinances.

## 2.4.5 CPU Digital I/O Wiring

Digital I/O pins are configured using the Digital I/O menu. See Section 8.0 on page 81 for configuration information.

An optional 24 I/O bit card (PN 164684) is also available. Each Digital I/O option card provides an additional 24 configurable I/O bits. Alternatively, a 4 channel Relay card (PN 164689) is also available.

Use the following instructions to wire to the CPU board DIO connector.

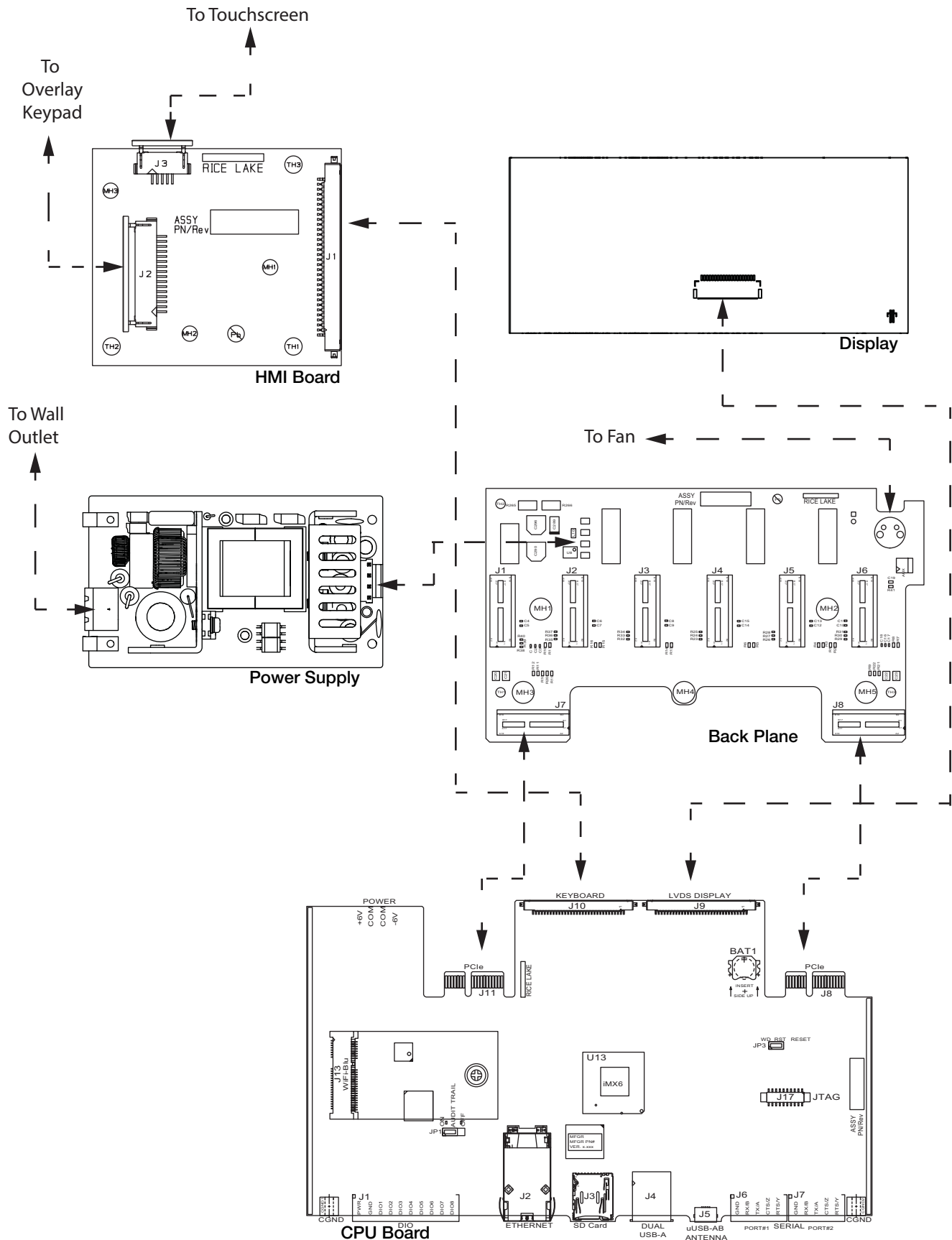
1. Route the cables through the cord grip and ground the shield wire. See Section 2.4 on page 29. For a wall mount enclosure, route wires to a Relay Rack if so equipped (skip steps 2 and 3).
2. Remove the screw holding the face plate.
3. Use clip to ground the front plate.
4. Wire the cables to the connector (included in the parts kit).
5. Plug the connector into J1 on the board.

Table 2-3 shows the pin assignments for the Digital I/O connector

| Connector | Pin | Signal |
|-----------|-----|--------|
| J1        | 1   | +5 VDC |
|           | 2   | GND    |
|           | 3   | DIO 1  |
|           | 4   | DIO 2  |
|           | 5   | DIO 3  |
|           | 6   | DIO 4  |
|           | 7   | DIO 5  |
|           | 8   | DIO 6  |
|           | 9   | DIO 7  |
|           | 10  | DIO 8  |

*Table 2-3. CPU Digital I/O Pin Assignments*

## 2.5 Wiring Schematics



*Figure 2-29. Wiring Diagram*

## 2.6 Configuration Methods

The 1280 indicator can be configured using:

- Front panel keys to navigate through a series of configuration menus (see Section 3.0 on page 44)
- Revolution® configuration utility (see Section 13.0 on page 102)
- EDP command configuration (see Section 15.0 on page 117)



**Note**

*Some configuration parameters, such as those used to configure the 1280 display and widgets, cannot be accessed through the configuration menus. Revolution provides the most complete and efficient configuration interface for the 1280. See Section 14.0 on page 109.*

## 2.7 CPU Board Replacement



- Use a wrist strap to ground yourself and protect components from electrostatic discharge (ESD) when working inside the indicator enclosure.
  - Procedures requiring work inside the indicator must be performed by qualified service personnel only.
  - In the 1280 wall and universal enclosures, the supply cord serves as the power disconnect. The power receptacle to the indicator must be easily accessible for these models.
1. Disconnect all cables from the controller assembly.
  2. Remove the two screws securing the face plate to the controller assembly.
  3. Remove the face plate from the controller assembly. The CPU board will remain attached to the face plate.



**CAUTION**

*Handle with care. The boards are fragile.*

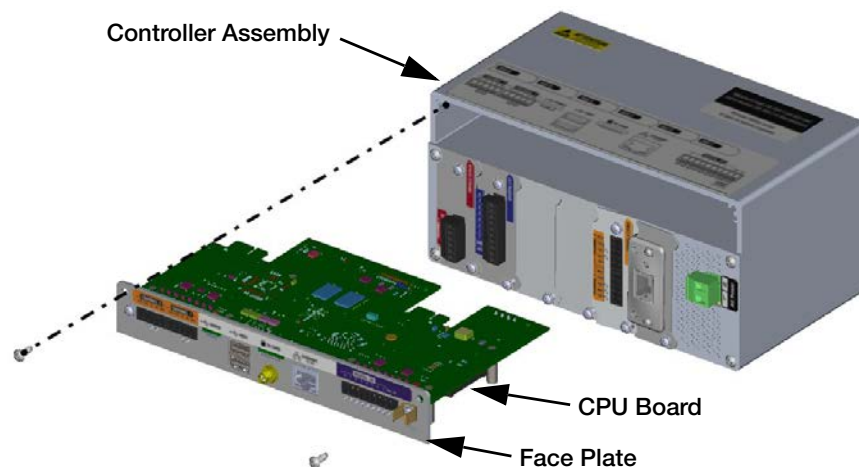


Figure 2-30. Remove CPU Board

4. Remove the nut for the antenna and the two screws securing the CPU board to the face plate.
5. Remove the CPU board.



**Important** Only remove the CPU board from the face plate if it is being replaced.

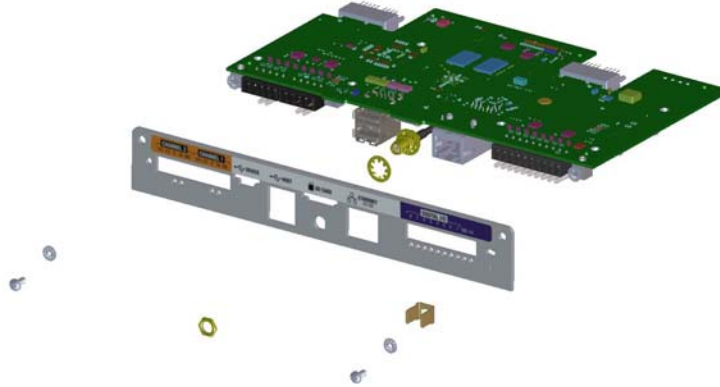


Figure 2-31. Remove CPU Board from the Face Plate

Reverse procedure for reassembly.

## 2.8 Power Supply Replacement



- Use a wrist strap to ground yourself and protect components from electrostatic discharge (ESD) when working inside the indicator enclosure.
- Procedures requiring work inside the indicator must be performed by qualified service personnel only.
- In the 1280 wall and universal enclosures, the supply cord serves as the power disconnect. The power receptacle to the indicator must be easily accessible for these models.

Use the following instructions to replace the power supply.

1. Disconnect all cables from the controller assembly.
2. Remove the four screws from the fan plate.
3. Carefully remove the fan plate/back plane assembly from the enclosure. Be sure to support the power supply as it is removed from the enclosure; it is only connected to the fan plate/back plane assembly by a connector.

**Important** Handle with care. The boards are fragile.



**Note** The mounting bracket has been removed for illustration purposes only. It does not need to be removed for disassembly.

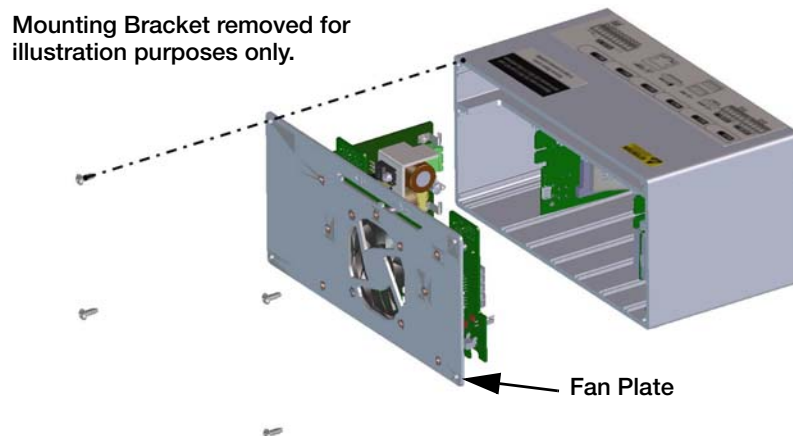


Figure 2-32. Remove the Fan Plane

4. Disconnect the power supply from the connector.

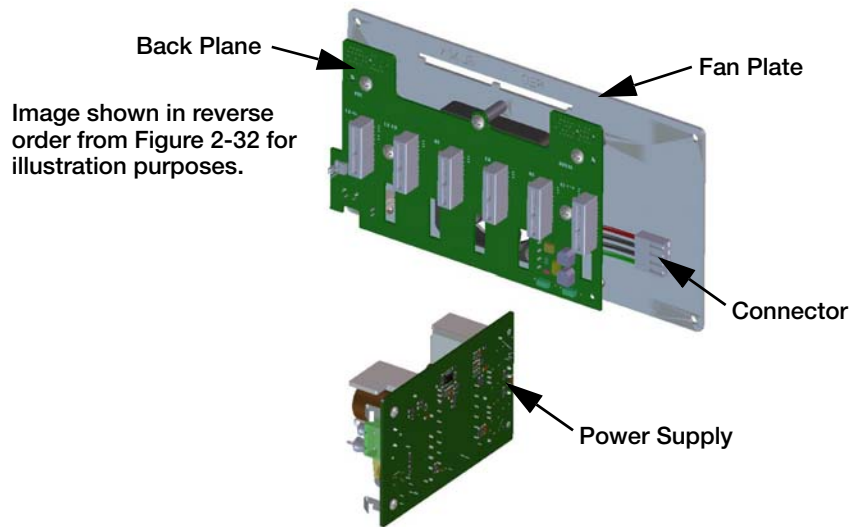


Figure 2-33. Disconnect the Power Supply

Reverse procedure for reassembly.

## 2.9 Replace Fan Plate and Back Plane



- Use a wrist strap to ground yourself and protect components from electrostatic discharge (ESD) when working inside the indicator enclosure.
- Procedures requiring work inside the indicator must be performed by qualified service personnel only.
- In the 1280 wall and universal enclosures, the supply cord serves as the power disconnect. The power receptacle to the indicator must be easily accessible for these models.

Use the following instructions to replace the fan plate and back plane.

1. Disconnect the power supply. See Section 2.8.
2. Remove the five screws securing the back plane to the fan plate.
3. Remove the back plane.

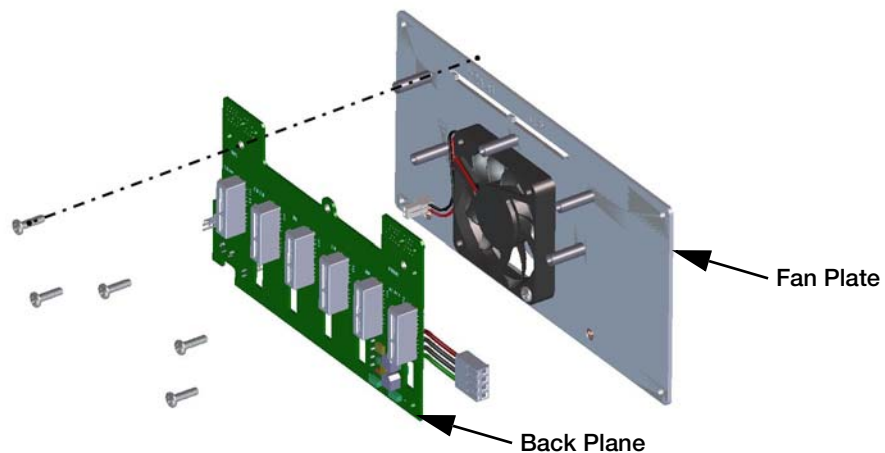


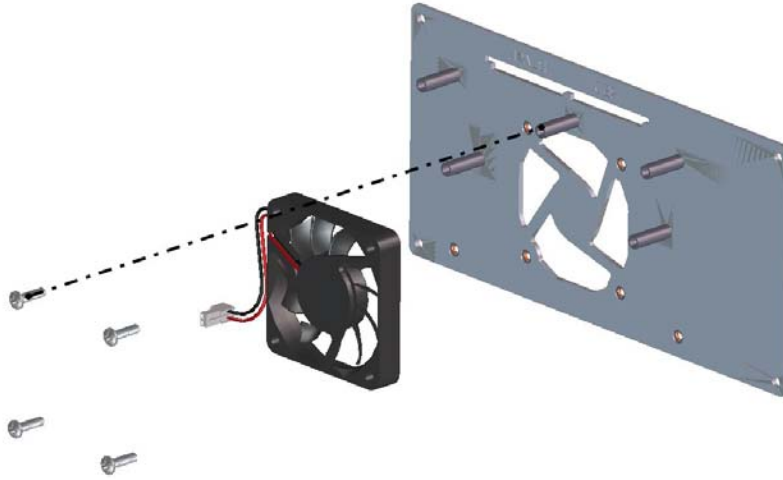
Figure 2-34. Remove Backplate from Controller Assembly



**Note**

Ensure to note the orientation of the fan prior to removal. It is important that the fan is reinstalled in the correct orientation.

4. Remove the four screws securing the fan to the fan plate.



*Figure 2-35. Remove Four Screws and Fan from Fan Plate*

5. Remove the fan.
- Reverse this procedure for reassembly.

## 2.10 Replacement Parts

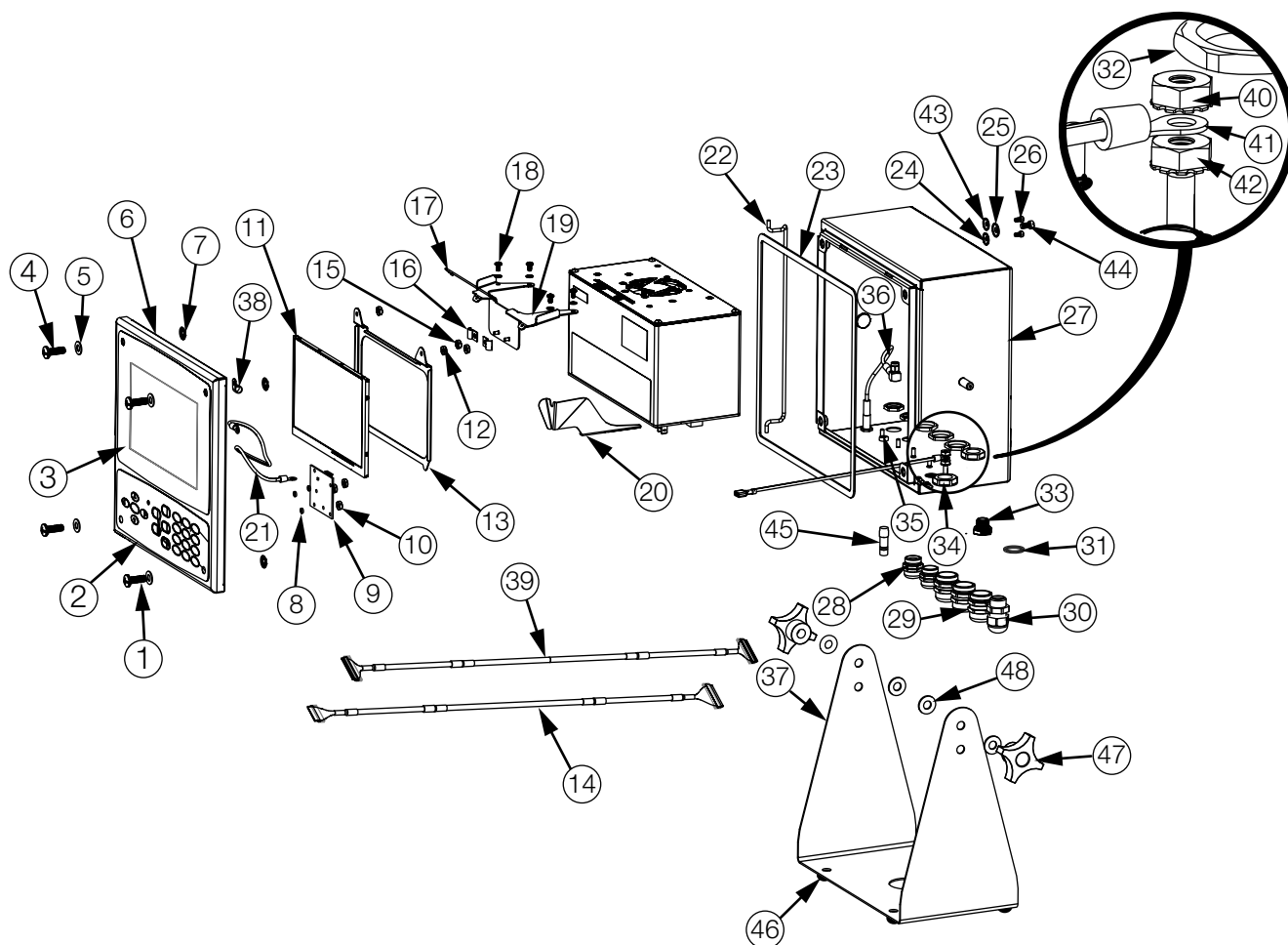


Figure 2-36. Replacement Parts Drawing - Universal Enclosure

| Item No. | Part No. | Description                                 |
|----------|----------|---|
|          | 169926   | Universal Front Door Enclosure (Inc. 1-11)  |
| 1        | 165970   | Screw, 1/4-20NC X 3/4                       |
| 2        | 161731   | Overlay, Keypad 1280                        |
| 3        | 161730   | Overlay, Touchscreen 1280                   |
| 4        | 166631   | Screw, 1/4-20NC X 3/4                       |
| 5        | 166634   | Washer, Sealing BarTite                     |
| 6        | 169450   | 1280 Universal Front Door                   |
| 7        | 166653   | Retainer, Pushnut Bolt 1/4                  |
| 8        | 69898    | Washer, Nylon #4 ID= .112                   |
| 9        | 160759   | Board Assembly, 1280 HMI_Int                |
| 10       | 159280   | Nut, Lock Nylon Insert                      |
|          | 160383   | Universal Display, 500 NIT                  |
|          | 160385   | Universal Display, 1000 NITS                |
| 11       | 163400   | 500 Nit Display, 7-in LCD Ampire            |
|          | 163399   | 1000 Nit Display, 7-in LCD Keyocera         |
| 12       | 58248    | Nut, Lock 6-32 NC HEX Nylon                 |
| 13       | 162272   | Mounting Bracket Ampire (500 Nit Display)   |
|          | 162271   | Mounting Bracket Kyocera (1000 Nit Display) |

Table 2-4. Universal Parts List

| Item No. | Part No. | Description                                   |
|----------|----------|---|
| 14       | 163467   | Cable, CPU to Display (500 Nit display)       |
|          | 163444   | Cable, CPU to Display (1000 Nit display)      |
|          | 169461   | Universal Controller Bracket (Includes 15-20) |
| 15       | 159280   | Nut, Lock Nylon Insert                        |
| 16       | 53075    | Clamp, Ground Cable Shield                    |
| 17       | 168545   | Bail, 1280 Controller Retainer Wire           |
| 18       | 14839    | Screw, Machine 6-32NC X 1/4                   |
| 19       | 169462   | Bracket Assembly, 1280 Controller             |
| 20       | 168937   | Snap Tap, 1280 Universal Controller Support   |
|          | 169927   | Universal Cabinet Assembly (Includes 21-36)   |
| 21       | 40672    | Wire Assembly, Ground 9 Inch                  |
| 22       | 169410   | Hinge Link                                    |
| 23       | 160379   | Gasket, Front Panel                           |
| 24       | 166634   | Washer, Sealing BarTite 1/4 Inch              |
| 25       | 167537   | Washer, Sealing BarTite #6                    |
| 26       | 158207   | Screw, Machine 6-32 X 1/4 Fillister Head      |
| 27       | 169452   | Enclosure Shell Assembly, Universal           |
| 28       | 169875   | Cord Grip, PG 9 With Nut                      |
| 29       | 169876   | Cord Grip, PG 13.5 With Nut                   |
| 30       | 15626    | Cord Grip, Black PG 9                         |
| 31       | 15627    | Locknut, Black PCN9                           |
| 32       | 30375    | Seal Ring, Nylon PG9                          |
| 33       | 164598   | Vent, Breather Sealed                         |
| 34       | 88734    | Nut, Breather Vent                            |
| 35       | 58248    | Nut, Lock 6-32 NC HEX Nylon                   |
| 36       | 166240   | Cable, Antenna Extension                      |
|          | 161035   | Universal Enclosure (Includes 38-44)          |
| 38       | 67550    | Clamp, Ground Cable Shield                    |
| 39       | 166693   | Cable, CPU to HMI 1280                        |
| 40       | 14626    | Nut, Kep 8-32 NC HEX                          |
| 41       | 167700   | Wire, Ground 9 Inch                           |
| 42       | 15134    | Washer, Lock NO 8 Type A                      |
| 43       | 167527   | Washer, Sealing BarTite #10                   |
| 44       | 14877    | Screw, Machine 10-32 NF X 3/8                 |
|          | 163785   | Universal Parts Kit (Includes 45-48 and Plug) |
| 45       | 168098   | Antenna, RP-SMA                               |
| 46       | 42149    | Bumper, Rubber Grommet                        |
| 47       | 164064   | Hand Knob, 4-Arm 5/16-18                      |
| 48       | 79024    | Washer, Plain 5/16 Nylon                      |
| NS       | 19538    | Post Plug, Slotted Black                      |

*Table 2-4. Universal Parts List*

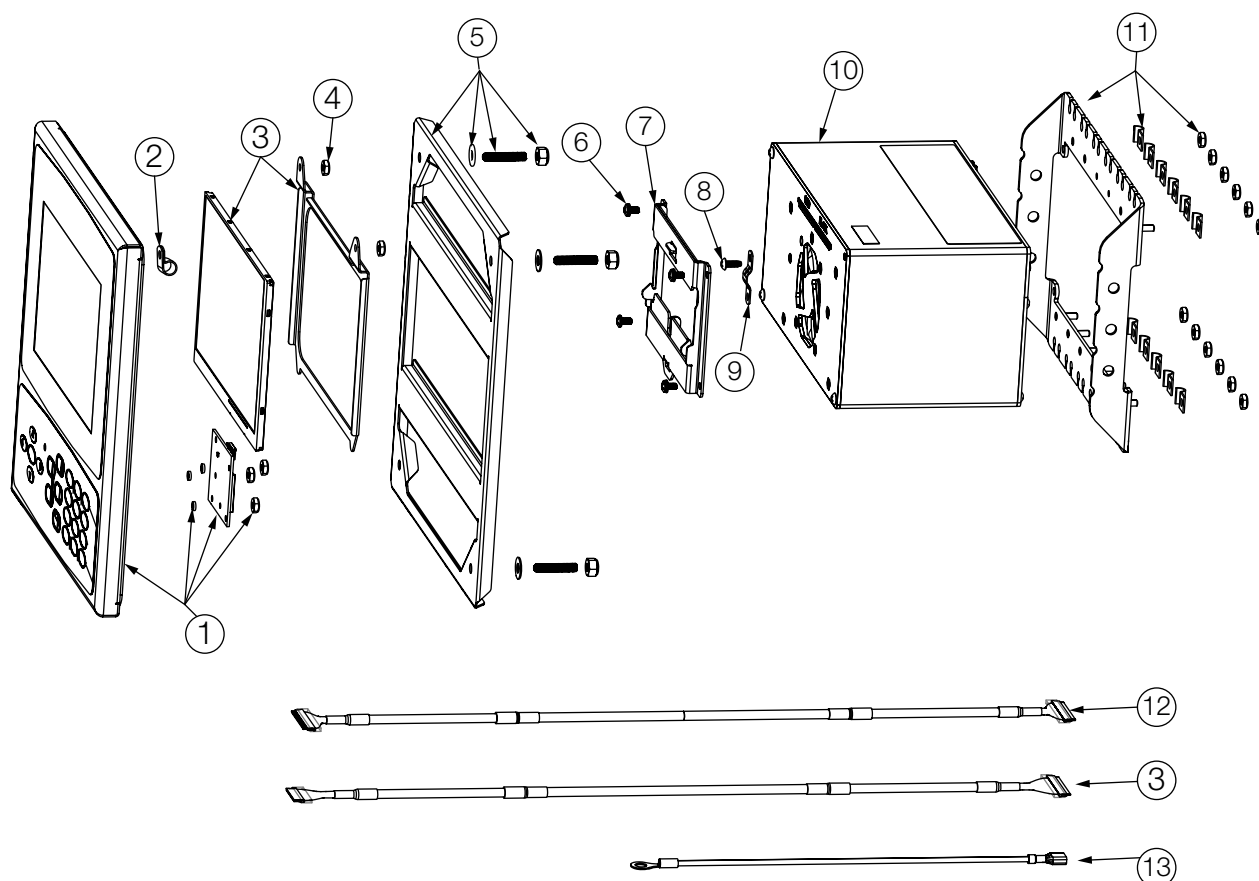


Figure 2-37. Replacement Parts Drawing - Panel Enclosure

| Item No. | Part No. | Description  |
|----------|----------|--|
| 1        | 169930   | 1280 Panel Enclosure Face Plate Assembly   |
| 2        | 170151   | Clamp, Cable .312 Inch Dia   |
| 3        | 166725   | 1280 Panel Enclosure and Wall Enclosure, 500 NIT Display, Bracket and 30 Inch Cable  |
|          | 166726   | 1280 Panel Enclosure and Wall Enclosure, 1000 NIT Display. Bracket and 30 Inch Cable |
| 4        | 58248    | Nut, Lock 6-32NC HEX Nylon   |
| 5        | 165542   | Panel Mount Kit  |
| 6        | 14839    | Screw, MACH 6-32NCx1/4   |
| 7        | 166838   | Bracket Assembly, DIN Rail   |
| 8        | 163327   | Screw, MACH 6-32NCx3/8   |
| 9        | 168629   | Ground Strap, 1280 CPU   |
| 10       | 161519   | Controller Assembly  |
| 11       | 170221   | Option, Ground Assembly Panel Mount  |
| 12       | 166693   | Cable, CPU to HMI 1280   |
| 13       | 168872   | Wire, 9 Inch Ground, 1/4 Inch Eye  |
| NS       | 170828   | Stylus   |

Table 2-5. Replacement Parts - Panel Enclosure



**Note** If controller is not connected to the panel, ground per NEC.

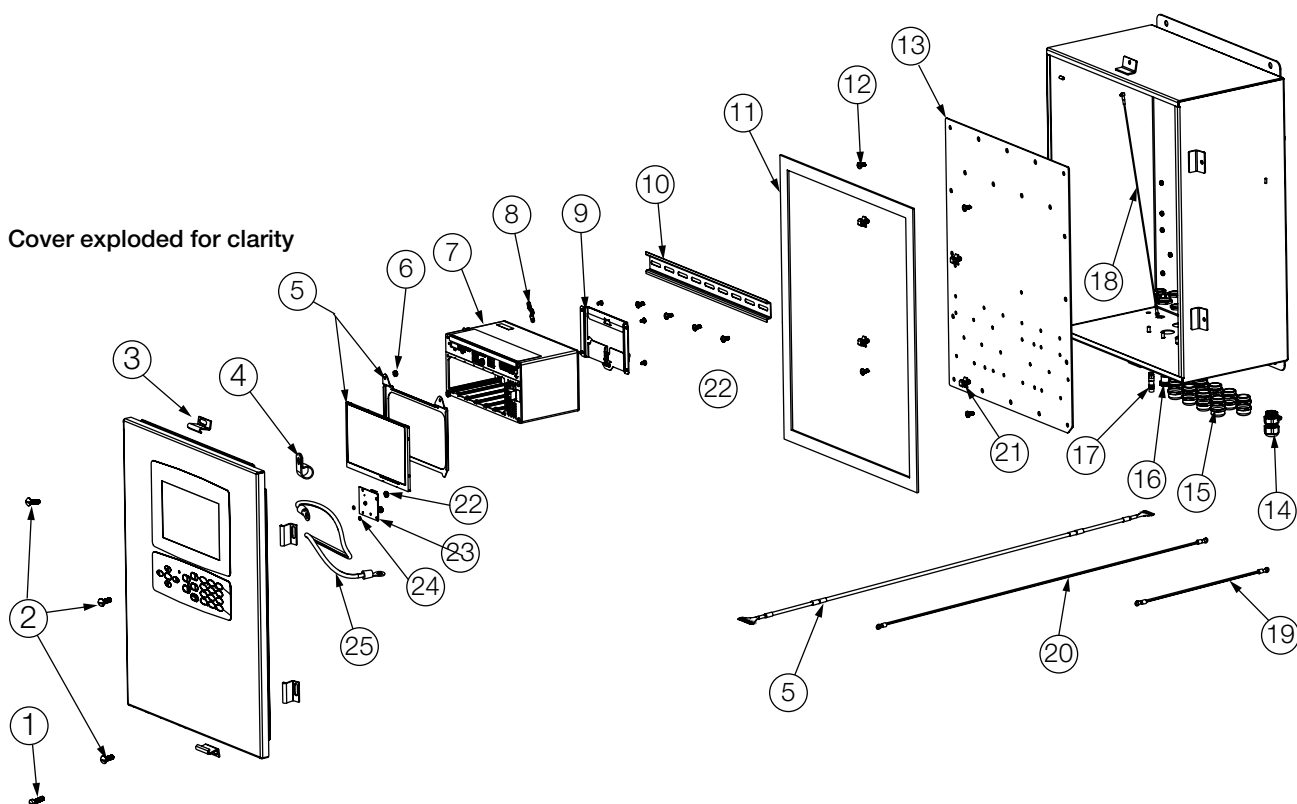


Figure 2-38. Replacement Parts Drawing - Wall Enclosure

| Item No. | Part No. | Description  |
|----------|----------|--|
| 1        | 71455    | Screw, MACH 1/4 - 28NFX.75   |
| 2        | 71447    | Screw, MACH 1/4 - 28NFX3/4   |
| 3        | 71739    | Clip, Clinching Enclosure  |
| 4        | 170151   | Clamp, Cable .312 Inch Diameter  |
| 5        | 166725   | 1280 Panel Enclosure and Wall Enclosure, 500 NIT Display, Bracket and 30 Inch Cable  |
|          | 166726   | 1280 Panel Enclosure and Wall Enclosure, 1000 NIT Display. Bracket and 30 Inch Cable |
| 6        | 58248    | Nut, Lock 6-32NC HEX Nylon   |
| 7        | 161519   | Controller Assembly  |
| 8        | 168629   | Ground Strap, 1280 CPU   |
| 9        | 166838   | Bracket Assembly, DIN Rail   |
| 10       | 43383    | Rail, DIN 12.75 Inch Length  |
| 11       | 68724    | Gasket   |
| 12       | 14875    | Screw, MACH 10-32NFX3/8  |
| 13       | 164898   | Back Plane Panel, 1280 Wall Enclosure  |
| 14       | 68600    | Cord Grip, PG11  |
| 15       | 169876   | Cord Grip, PG13.5 With Nut   |
| 16       | 88733    | Vent, Breather Sealed  |
| 17       | 168098   | Antenna, RP-SMA  |
| 18       | 166241   | Cable, Antenna Extension   |
| 19       | 15694    | CONN, Eye Crimp No. 8  |
| 20       | 15472    | Wire, 16 AWG Green/Yellow  |
| 21       | 80590    | Mount, Cable tie Arrowhead   |
| 22       | 159280   | Nut, Lock Nylon Insert   |
| 23       | 160759   | Board Assembly, 1280 HMI Interface   |
| 24       | 69898    | Washer, Nylon #4 ID=.112   |
| 25       | 40672    | Wire Assembly, Ground 9 Inch   |

Table 2-6. Replacement Parts - Wall Enclosure

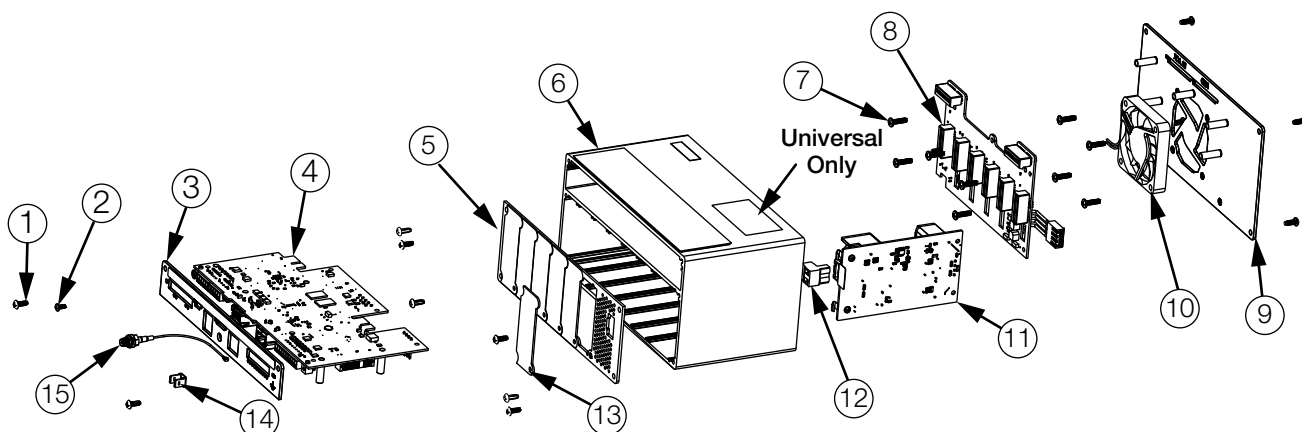


Figure 2-39. Replacement Parts Drawing - Controller Assembly

| Item No. | Part No. | Description                    |
|----------|----------|--------------------------------|
| 1        | 163327   | Screw, MACH 6-32NC x 3/8       |
| 2        | 14822    | Screw, MACH 4-40NCx 1/4        |
| 3        | 169357   | Face Plate, CPU PCB            |
| 4        | 160757   | Board Assembly, CPU 1280 Ind   |
| 5        | 169354   | Face Plate Assembly            |
| 6        | 169159   | Extrusion Assembly             |
| 7        | 44341    | Screw, MACH 6-32 NC x 1/2 lg   |
| 8        | 160758   | Board Assembly, 1280 Backplate |
| 9        | 169350   | Fan Mount Plate ASM            |
| 10       | 166745   | Fan Assembly, 60 mm x 10 mm DC |
| 11       | 162693   | Power Supply, +/- 6 V 60 W     |
| 12       | 162677   | CONN, 2 Pos Screw Terminal     |
| 13       | 164086   | Spirit Level Assembly, 150     |
| 14       | 168830   | Terminal, Tab .250 Inch Push   |
| 15       | 163336   | Cable, Antenna Bulkhead        |

Table 2-7. Replacement Parts - Controller Assembly



## 2.11 Label Legend

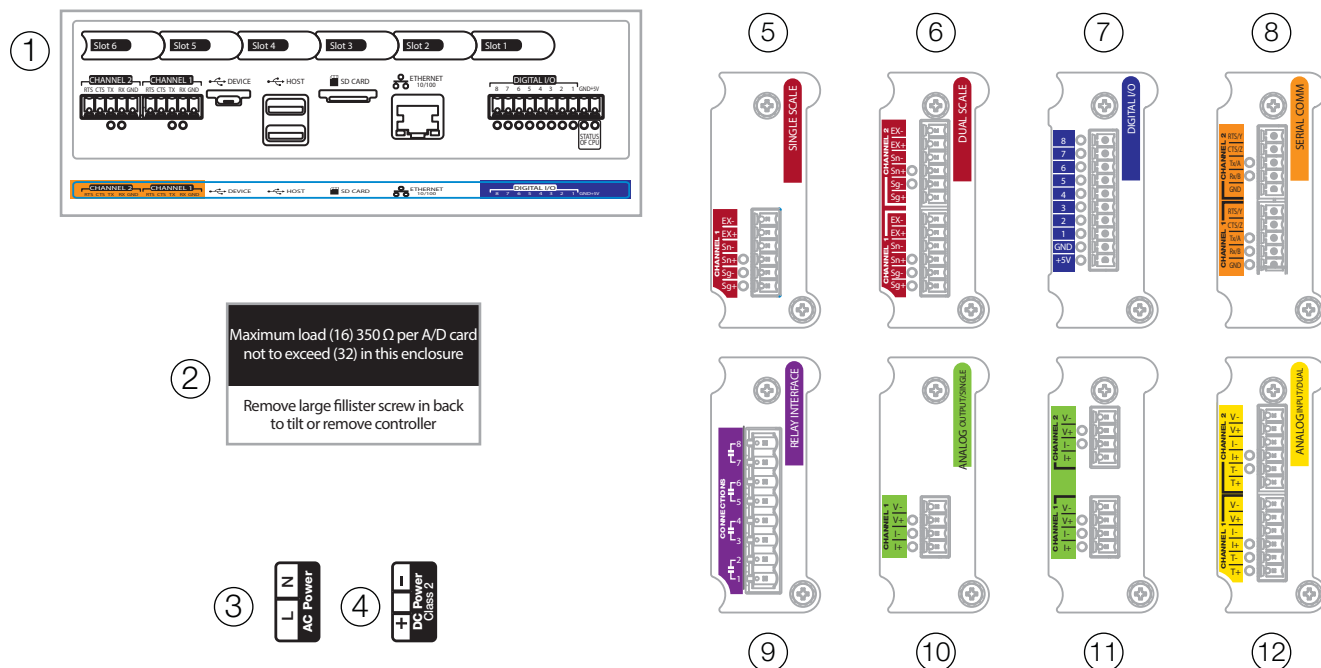


Figure 2-40. Replacement Parts - Labels



**Note** Numbers 5-12 show position of labels on the option plate.

| Item No. | Part No. | Description                          |
|----------|----------|--------------------------------------|
| 1        | 167190   | Label, 1280 Controller               |
| 2        | 168592   | Label, Max Load (Universal Only)     |
| 3        | 167476   | Label, AC Power 1280                 |
| 4        | 167477   | Label, DC Power 1280                 |
| 5        | 167191   | Label, Single Scale Option           |
| 6        | 167192   | Label, Dual Scale Option             |
| 7        | 167193   | Label, Digital IO Option             |
| 8        | 167194   | Label, Serial Option                 |
| 9        | 167195   | Label, Relay Option                  |
| 10       | 167196   | Label, Analog Output (Single) Option |
| 11       | 167197   | Label, Analog Output (Dual) Option   |
| 12       | 167198   | Label, Analog Input Option           |

Table 2-8. Replacement Parts - Labels

## 3.0 Configuration Menu



Configuration has a series of menus that allow the parameters of the indicator to be set up. Detailed descriptions of the Scale Configuration, Communications, Features, Formats, Digital I/O, Analog Output, Setpoints and Diagnostics menus are provided in Section 4.0 through Section 11.0.



**Important**

*The audit trail jumper ( JP1) needs to be disabled, in the off (right) position, in order to seal the setup switch with a lead wire seal. Access is not prevented simply by sealing the setup switch.*


### 3.1 Access Setup Parameters

1. Press  on the weigh mode screen. The **Main Menu** will display.
2. Press  for access to the Configuration menu. If the Configuration menu does not appear, see the following note.



**Note**

*In order to access Configuration through the front panel (by pressing the button on the touchscreen), jumper JP1 needs to be in the on (left) position. In order to restrict access to Configuration using the front panel, JP1 needs to be in the off (right) position, requiring the setup switch to access Configuration. See Figure 3-3 on page 45.*

3. Access to the Configuration menu may be restricted with a password. If prompted, enter the password, then press . The Configuration menu will display. See Figure 3-4 on page 46.

See Section 6.4 on page 71 for more information on passwords.

### 3.2 Access Configuration Menu – Sealed Indicator

If the indicator has been sealed, there is a jumper in place (JP1) that will not allow access to the configuration menu on the touchscreen. Use the following instructions to enter configuration on a sealed indicator.

1. Break the wire seal.
2. Remove the large fillister screw.
3. Use a non-conductive tool to press the setup switch inside the indicator.

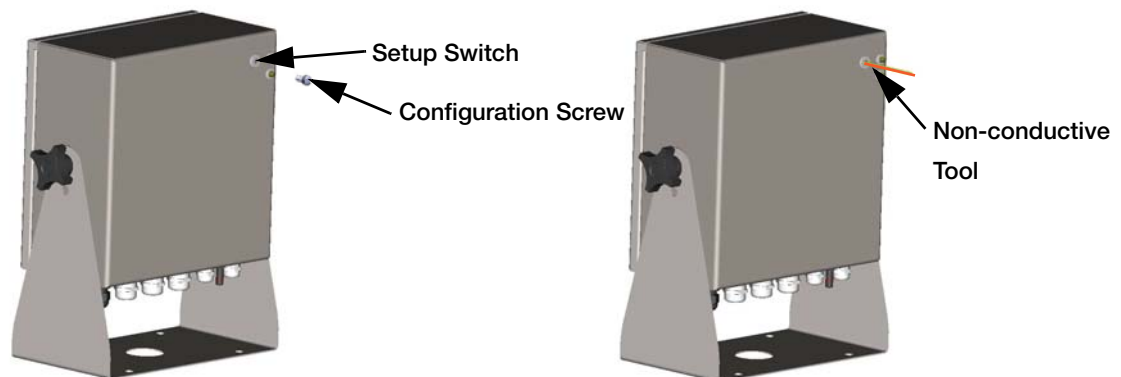
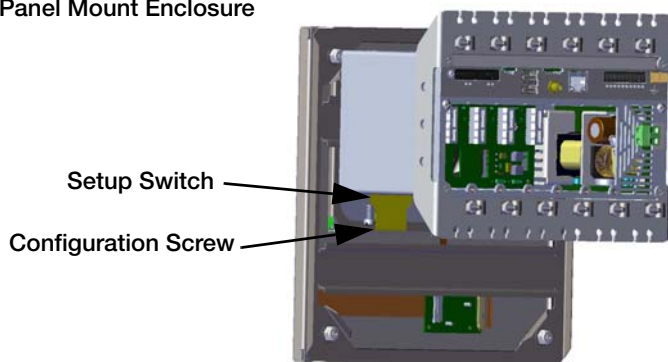


Figure 3-1. Access Configuration Menu (Universal Enclosure Shown)

Panel Mount Enclosure



Wall Mount Enclosure

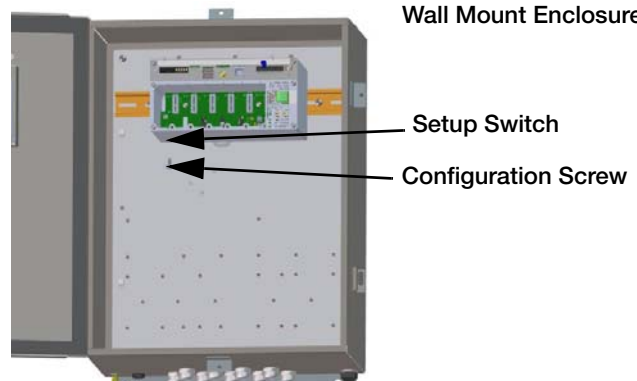


Figure 3-2. Setup Switch Locations for Panel and Wall Mount Enclosures

- Access to the Configuration menu may be restricted with a password. If prompted, enter the password, then press **DONE**. The Configuration menu will display, see Figure 3-4 on page 46.

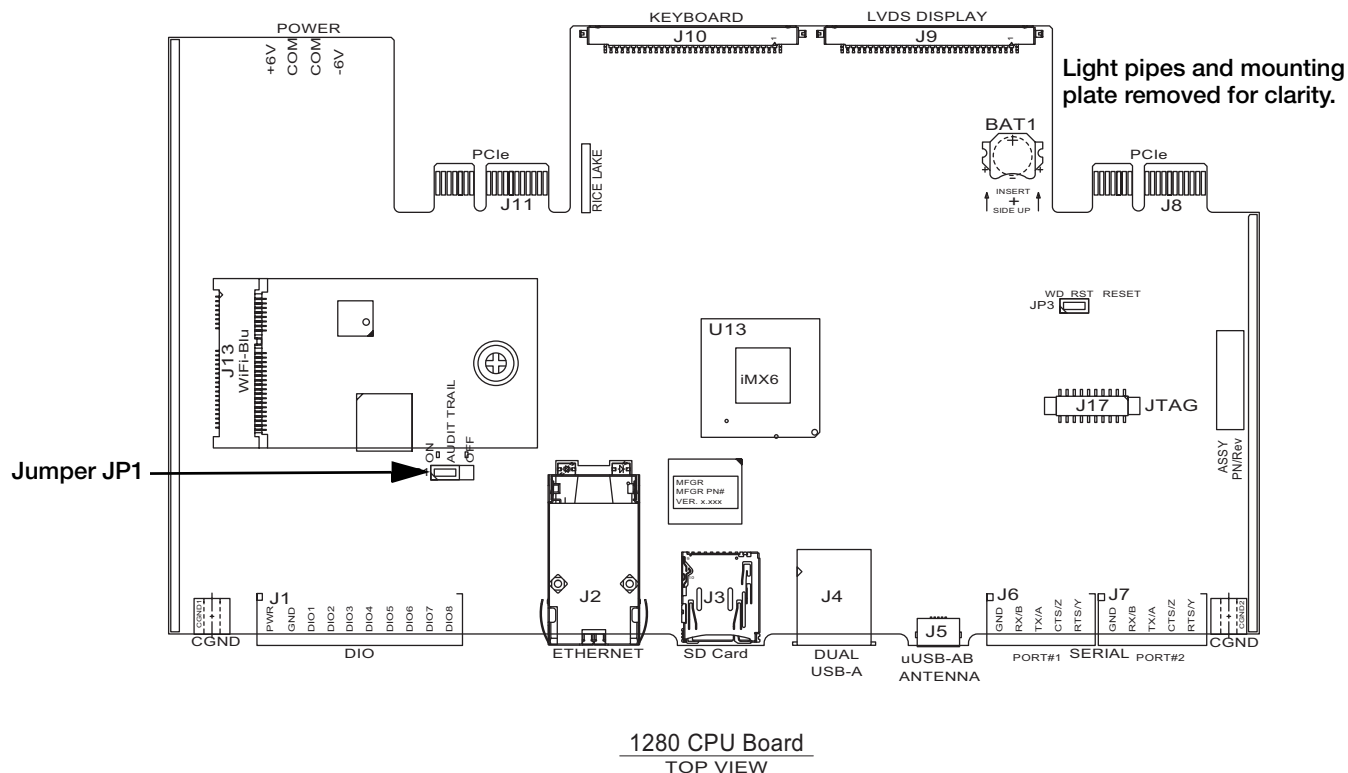


Figure 3-3. Jumper Locations



**Note**

The front door to the indicator may also be sealed to prevent access to the hardware. This may be required in some Legal for Trade applications.

### 3.3 Configuration Menu

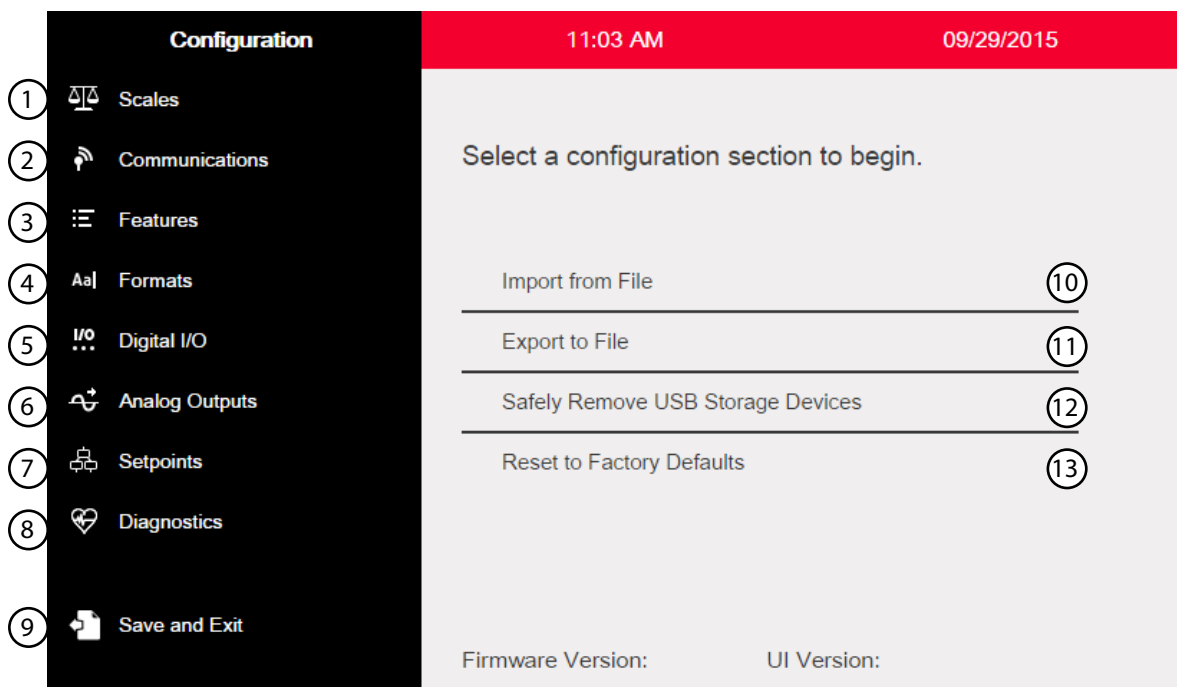


Figure 3-4. Configuration Menu

| Item No. | Selection                         | Description  |
|----------|-----------------------------------|--|
| 1        | Scales Menu                       | Set the scale parameters. See Section 4.0 on page 48.  |
| 2        | Communications Menu               | Set the communication parameters. See Section 5.0 on page 60.  |
| 3        | Features Menu                     | Set features parameters. See Section 6.0 on page 65.   |
| 4        | Formats Menu                      | Set the print and stream format parameters. See Section 7.0 on page 74.  |
| 5        | Digital I/O Menu                  | Assign functions to digital inputs and outputs. See Section 8.0 on page 81.  |
| 6        | Analog Outputs Menu               | Used to configure the analog output. See Section 9.0 on page 83.   |
| 7        | Setpoints Menu                    | Used to configure setpoints. See Section 10.0 on page 85.  |
| 8        | Diagnostics Menu                  | Recalibrate touchscreen and set the backlight. See Section 11.0 on page 98.  |
| 9        | Save and Exit Button              | Press to save settings and return to weigh mode.   |
| 10       | Import From File                  | Press to import an existing file. See Section 13.0 on page 102.  |
| 11       | Export to File                    | Press to export files. See Section 13.0 on page 102.   |
| 12       | Safely Remove USB Storage Devices | Press to release the USB connection before removing the flash drive or USB cable to ensure the drive continues to work properly and does not become corrupt. |
| 13       | Reset to Factory Defaults         | Press to restore all settings to factory defaults.   |

Table 3-1. Configuration Main Menus

### 3.3.1 Configuration Menu Map

Figure 3-5 illustrates the menu structure in the configuration menu selections.

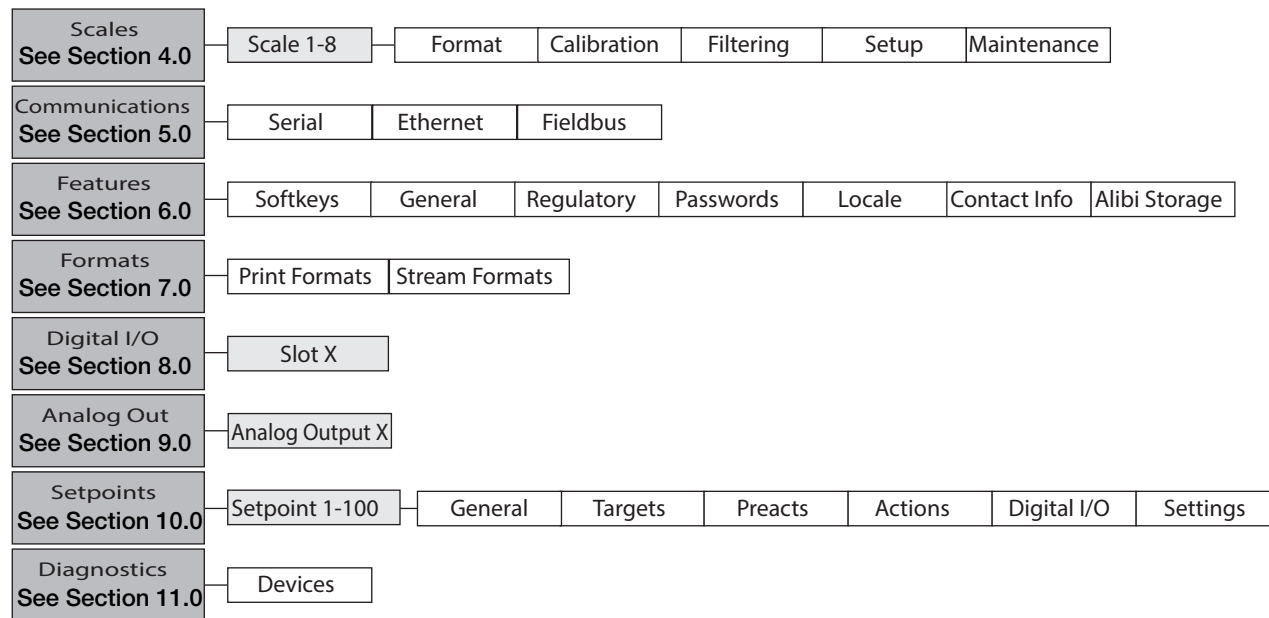


Figure 3-5. Configuration Menu Map

## 3.4 Loading Updated Firmware



Prior to loading updated firmware, save existing configuration and/or databases by using the instructions in Section 13.4.1.

1. Using a PC, download the firmware from [www.ricelake.com](http://www.ricelake.com).
2. Extract the zipped folder containing the firmware update.
3. Copy the update folder to a flash drive.
4. Disconnect power to the *I280*.
5. Connect the flash drive to either one of the USB host ports.
6. Reconnect power, while pressing and holding the setup switch for about five seconds.
7. When the *I280* prompts for the updating method, press the **USB** softkey on the screen.
8. The firmware will now update. This can take a few minutes.

After the update is complete, the *I280* will reboot automatically.

## 4.0 Scale Configuration

The Scales menu allows the setup of parameters for the type of scale to be set up.

From the **Configuration** menu, select the **Scales** icon  (circled in Figure 4.1) to enter the **Scales** menu. Once all parameters have been set, press  to return to weigh mode.

### 4.1 Scale Kind

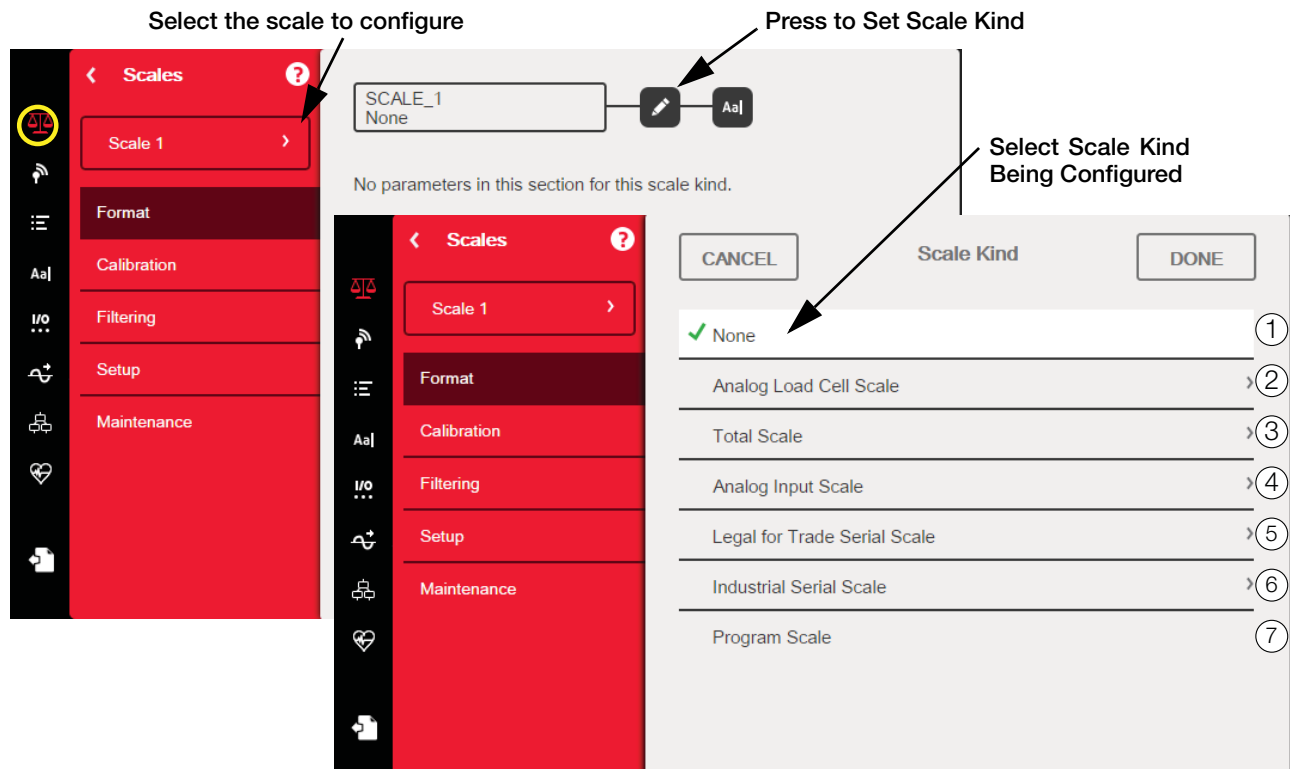


Figure 4-1. Select Scale Kind (Type)


| Item No. | Parameter                    | Description   |
|----------|------------------------------|---|
| 1        | None                         | A scale kind will not be assigned to the scale number.  |
| 2        | Analog Load Cell Scale       | An A/D scale card channel will be used for this scale (single or dual channel).   |
| 3        | Total Scale                  | The output of two or more scales can be configured to function as a Total Scale.<br> <b>Note</b> <i>The scale kind of a source scale cannot be changed once it is associated with a total scale.</i> |
| 4        | Analog Input Scale           | An analog input card 0-10 V, 0-20 mA, 4-20 mA or thermocouple will be used for this scale.  |
| 5        | Legal for Trade Serial Scale | A scale receiving a stream of legal for trade weight data over a serial or Ethernet connection.   |
| 6        | Industrial Serial Scale      | A scale receiving a stream of weight data over a serial or Ethernet connection. Parameter values are configurable. Scale functions zero and tare can be used.   |
| 7        | Program Scale                | iRite program provides the scale data.  |

Table 4-1. Scale Kinds

## Setup a Scale




1. Select the scale (1-8) to be configured from the drop-down menu in Figure 4-1.
2. Press  to select the scale kind.
3. If applicable, a screen will open showing available hardware to associate with the selected scale kind (for example, an analog load cell scale will have hardware identified as slot and channel). Select the scale hardware to associate with the scale.
4. Press . The **Scale Kind** menu displays and the associated hardware is listed to the right of the scale kind selected.



Figure 4-2. Scale Kind and Associated Hardware

5. Press .
6. Enter an alias name (optional). See Section 4.1.1.

### 4.1.1 Scale Alias

An alias (name) can be entered for use in an *iRite* program or to identify the scale.

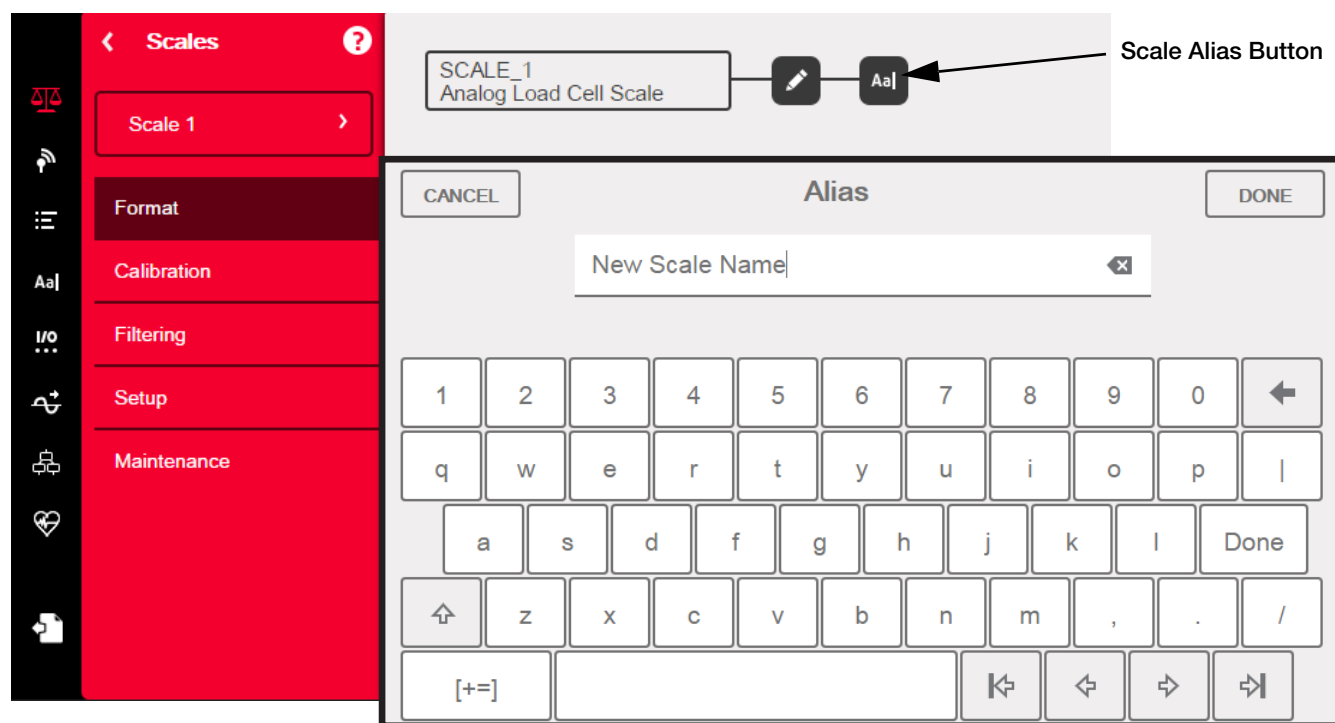




Figure 4-3. Scales Alias Setup Screen

1. Press . The keyboard will display on the screen.
2. Use the keyboard to enter the desired alias (up to 16 characters).
3. Press  when scale alias is correct.

## 4.1.2 Scale Format

The **Scale Format** menu will vary depending on which scale kind is being used. Only settings available for the selected scale kind will display on the screen. Options specific to the scale feature chosen will show in blue font on the screen.

| Parameter                                | Default        | Description   |
|--|----------------|---|
| Analog Input Type                        | 0-10 VDC       | (Only Available in Analog Input Scale) Choose electrical signal type.   |
| Full Scale Capacity                      | 10,000         | Capacity of the scale in primary units.   |
| Primary Units Enabled                    | On             | The 1280 is calibrated in Primary Units. When set to <b>Off</b> , primary units will not be displayed, but are still being evaluated in the background for all conversion functions.  |
| Primary Units                            | Pounds (lb)    | Sets the units displayed or printed along with the scale weight.  |
| Primary Decimal Position                 | 8888888        | Number of decimal places or dummy zeros to show for primary units. The default is 8888888 (no decimal places).  |
| Primary Display Divisions                | 1              | The division the scale counts by as the load changes. This setting is associated with the Primary Decimal Position.<br><i>Example: If the Decimal Position is set to 88888.8 and the Display Divisions are set to 5, it will count by 0.5 units.</i>      |
| Secondary Units Enabled                  | OFF            | When set to <b>Off</b> , the <b>Units</b> key will not select this unit of measure to perform a weight conversion.  |
| Secondary Units                          | Kilograms (kg) | Sets the units displayed or printed along with the scale weight.  |
| Secondary Decimal Position               | 888888.8       | Number of decimal places or dummy zeros to show for secondary units.  |
| Secondary Display Divisions              | 5              | The division the scale counts by as the load changes. This setting is associated with the secondary decimal position.<br><i>Example: If the Decimal Position is set to 88888.8 and the Display Divisions are set to 5, it will count by 0.5 units.</i>    |
| Secondary Multiplier (Custom Units Only) | 1              | Use with custom units. It is the conversion factor applied to the primary units to convert weight for custom units.   |
| Tertiary Units Enabled                   | Off            | When set to <b>Off</b> , the <b>Units</b> key will not select this unit of measure to perform a weight conversion.  |
| Tertiary Units                           | Kilograms (kg) | Sets the units displayed or printed along with the scale weight.  |
| Tertiary Decimal Position                | 888888.8       | Number of decimal places or dummy zeros to show for tertiary units.   |
| Tertiary Display Divisions               | 5              | The division the scale counts by as the load changes. This setting is associated with the tertiary Decimal Position.<br><i>Example: If the Decimal Position is set to 88888.8 and the Display Divisions are set to 5, it will count by 0.5 units.</i>     |
| Tertiary Multiplier (Custom Units Only)  | 1              | Use with custom units. It is the conversion factor applied to the primary units to convert weight for custom units.   |
| Custom Units One                         | —              | Available to enter a name for custom units. Maximum length is 8.<br><i>Example: If primary units were lb and secondary custom units were gallons, there would be a secondary multiplier of 8 entered to show the relationship between lb and gallons.</i> |
| Custom Units Two                         | —              |   |
| Custom Units Three                       | —              |   |
| Split Mode                               | Off            | Multi-Range, Multi-Interval Settings; see Section 4.1.3 for more information.   |

Table 4-2. Scale Format



**Note** Defaults are shown for NTEP mode.



### 4.1.3 Split Mode

The 1280 supports multi-range and multi-interval scales of either two or three ranges or intervals. To set up Multi-Range or Multi-Interval, select **Split Mode** from the **Scales Format** menu. Select **Off**, **Multi-Range** or **Multi-Interval** from the **Split Mode** menu. Press **Done**.

| Parameter      | Description   |
|----------------|---|
| Multi-Range    | Provides two or three ranges, each extending to the maximum capacity specified for each range. The scale display division changes as the applied weight increases, but does not reset to lower display divisions until the scale returns to center of zero.       |
| Multi-Interval | Divides the scale capacity into two or three partial weighing intervals, each with different display divisions. The intervals extend to the maximum capacity specified for each interval. The display divisions change with both increasing and decreasing loads. |

Table 4-3. Split Mode Parameters

**Low Range Capacity (MRMI)** will display once **Split Mode** is set to either **Multi-Range** or **Multi-Interval**.

| Parameter                  | Default | Description  |
|----------------------------|---------|--|
| Low Range Capacity (MRMI)  | 0       | Low range capacity of the scale in primary units. This parameter must be set before the indicator will display <b>Low Range Decimal Position</b> , <b>Low Range Display Division</b> or <b>Mid Range Capacity (MRMI)</b> .                                     |
| Low Range Decimal Position | 8888888 | Number of decimal places or dummy zeros to show for low range.   |
| Low Range Display Division | 1       | The division the scale counts by as the load changes. This setting is associated with the <b>Low Range Decimal Position</b> .<br><i>Example: If the decimal position is set to 88888.8 and the display divisions are set to 5, it will count by 0.5 units.</i> |
| Mid Range Capacity (MRMI)  | 0       | Mid range capacity of the scale in primary units. This parameter must be set before the indicator will display <b>Mid Range Decimal Position</b> or <b>Mid Range Display Division</b> .  |
| Mid Range Decimal Position | 8888888 | Number of decimal places or dummy zeros to show for mid range.   |
| Mid Range Display Division | 1       | The division the scale counts by as the load changes. This setting is associated with the <b>Mid Range Decimal Position</b> .<br><i>Example: If the decimal position is set to 88888.8 and the display divisions are set to 5, it will count by 0.5 units.</i> |

Table 4-4. Split Mode Sub-menus

If two ranges are used, then:

- Low Range Capacity is set for range 1 capacity
- Full Scale capacity is set for range 2 capacity

If three ranges are used, then:

- Low Range Capacity is set for range 1 capacity
- Mid Range Capacity is set for range 2 capacity
- Full Scale Capacity is set for range 3 capacity

#### Configure a Multi-Range or Multi-Interval Scale

1. Select **Multi-Range** or **Multi-Interval**.
2. Press **DONE**. The **Low Range Capacity (MRMI)** parameter will appear in blue text under Split Mode.
3. Press **Low Range Capacity (MRMI)** to set a low range capacity. Setting a low range capacity is the only way to access the **Low Range Decimal Position**, **Low Range Display Division** and **Mid Range Capacity (MRMI)** parameters. These parameters will appear in blue text under **Low Range Capacity (MRMI)** after a low range capacity has been set.



**Note** A Low Range Capacity must be set in order for further parameters to display. The Full Scale Capacity is either the second or third range.

4. Set the **Low Range Decimal Position** and **Low Range Display Divisions** as desired.
5. (Optional) If desired, the **Mid Range Capacity (MRMI)** can be set at this point. A mid range capacity must be set to access the **Mid Range Decimal Position** and **Mid Range Display Division** parameters. These parameters will appear in blue text under **Mid Range Capacity (MRMI)** after a mid range capacity has been set.
6. Calibrate scale. See Section 4.2 on page 52.

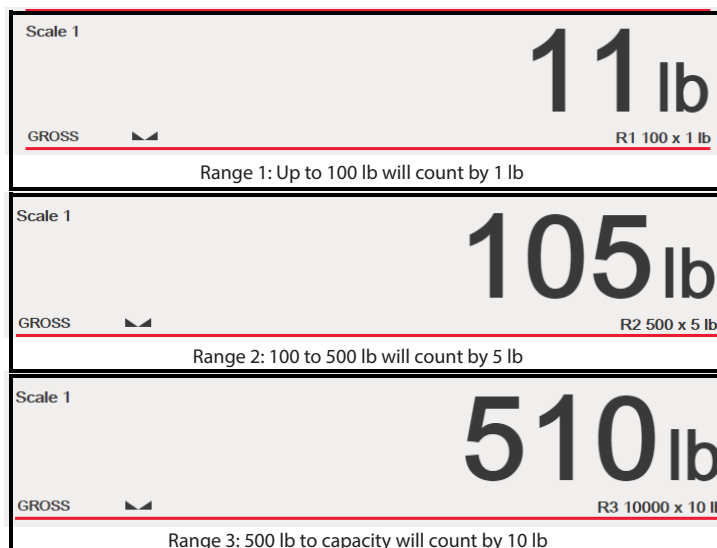


Figure 4-4. Multi-Range Example



**Note** When using Multi-Range, the last count-by reached is held until returning to zero, even when descending through other ranges. When using Multi-Interval, count-bys change both when ascending and descending through other intervals.

## 4.2 Scale Calibration

To enter Scale Calibration, press the **Scales** icon . From the **Scales** menu, select **Calibration**. The following parameters are available.


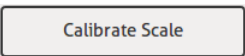
| Parameters                  | Defaults | Description  |
|-----------------------------|----------|--|
| Zero Calibration Counts     | 8386509  | Calculated during calibration, it is the number of A/D counts after the zero calibration.  |
| Span Calibration Weight     | 10,000   | Display and edit the test weight value. Press <b>Calibrate</b> to calibrate the <b>Span Calibration Point</b> . See Section 4.2.1 on page 53 for more information on Span Calibration.   |
| Span Calibration Counts     | 2186044  | Calculated during calibration, this is the A/D count captured at the span/WVAL weight.   |
| Capacity Calibration Counts | 2186044  | Calculated during calibration, this is the A/D count at full scale capacity.<br> <b>Note</b> If the scale is calibrated at full capacity, then Span Calibration Counts = Capacity Calibration Counts. |
| Linear Point Weight 1-4     | 0        | The test weight value for the linear calibration point. Press <b>Calibrate</b> to calibrate the <b>Linear Calibration Point</b> , or <b>Remove</b> to remove it.   |
| Linear Point Counts 1-4     | 0        | The A/D count captured at the linear point weight.   |

Table 4-5. Calibration Menu



**Note** Linear calibration points provide increased scale accuracy by calibrating the indicator at up to four additional points between the zero and span calibrations.

The  button begins a step-by step procedure for calibration. See Section 4.2.1.

## 4.2.1 Calibrate Scale

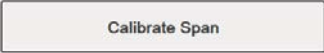



Follow these steps to calibrate a scale.

1. Select the scale to be calibrated and enter the calibration menu.
2. Press **Calibrate Scale**.
3. Select the method of calibration. These instructions follow standard calibration. For descriptions of the other methods see: Section 4.2.2 for multi-point calibration, Section 4.2.3 for last zero calibration and Section 4.2.4 for temporary zero calibration.
4. Press **Next**.
5. Select whether or not chains, hooks or other items used for applying weights will be used during calibration.
6. Press **Next**.
7. Remove all weight from the scale except for chains and hooks (if used).
8. Press **Calibrate Zero**. The current weight will display.
9. Press **Next**.
10. Enter Span weight for the value of the calibration test weights that will be used to calibrate the scale. This is required prior to running the span calibration.

Figure 4-5. Calibrate Span

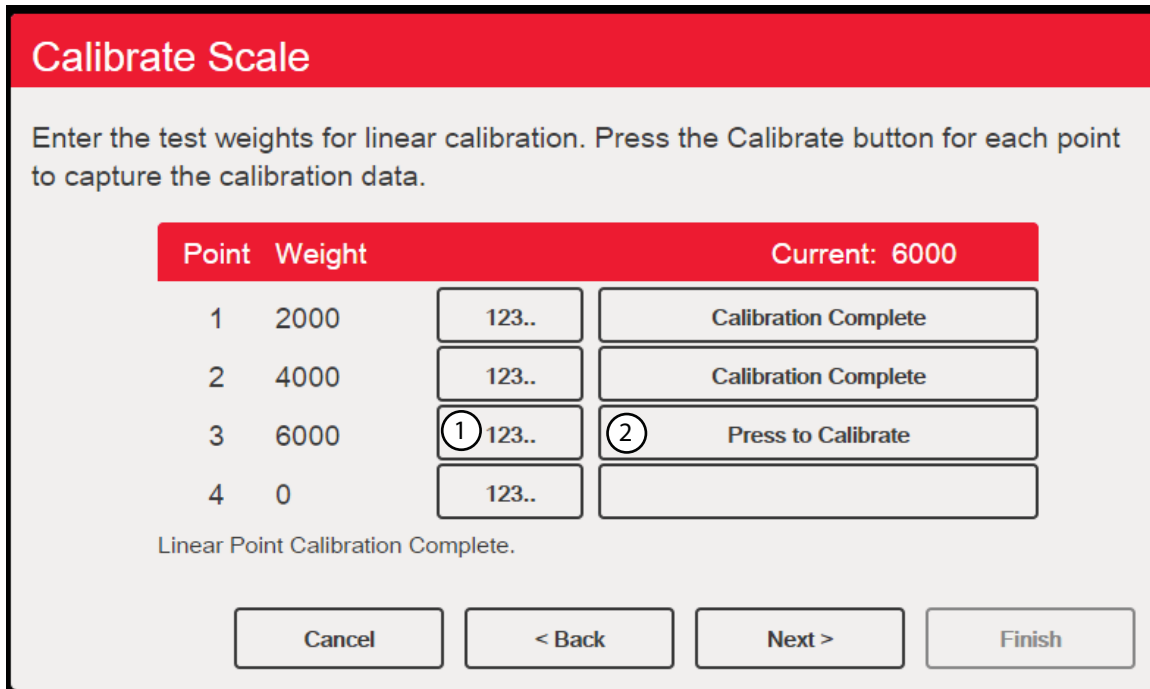
| Item No. | Description   |
|----------|---|
| 1        | Calibration Weight Window – Displays calibration weight value.  |
| 2        | 123... – Press to enter or edit the calibration weight value. Increments based on scale division size or the expanded resolution.   |
| 3        | Calibrate Span – Press to calibrate span.   |
| 4        | Up – Calibration can be adjusted by changing the calibration weight while viewing the expanded resolution. Press <b>Up</b> to adjust the calibration weight value up by one display division.       |
| 5        | Down – Calibration can be adjusted by changing the calibration weight while viewing the expanded resolution. Press <b>Down</b> to adjust the calibration weight value down by one display division. |
| 6        | Expanded Resolution – Increases the resolution by a factor of 10.   |

Table 4-6. Calibrate Span

11. With the test weight on the scale platform and the test weight value entered into the calibration weight window, the corresponding scale span value is ready to be calibrated.
12. Press . The current span weight will display.
13. Press . Calibration results are displayed.
14. Press . Display returns to the Calibration menu.
15. The rezero function is used to remove a calibration offset when hooks or chains are used to hang the test weights during both zero and span calibration. If hooks or chains were used during calibration, remove these and the test weights from the scale. With all weight removed, press .

## 4.2.2 Multi-Point Calibration

A multi-point calibration is performed by entering up to four additional calibration points.



| Point | Weight | Current: 6000                |
|-------|--------|------------------------------|
| 1     | 2000   | 123.. Calibration Complete   |
| 2     | 4000   | 123.. Calibration Complete   |
| 3     | 6000   | ① 123.. ② Press to Calibrate |
| 4     | 0      | 123..                        |

Linear Point Calibration Complete.

Buttons: Cancel, < Back, Next >, Finish

Figure 4-6. Multi-Point Calibration

| Item No. | Description  |
|----------|--|
| 1        | 123... – Press to enter the test weight value.   |
| 2        | Press to Calibrate – Captures the calibration value for each point. Only available after a test weight value has been entered. Displays <b>Calibration Complete</b> after the calibration is finished. |

Table 4-7. Multi-Point Calibration

## Multi-Point Calibration

- If multi-point values have previously been entered, values are reset to zero when the initial zero calibration is performed.
- **Zero Calibration** and **Span Calibration** need to be performed before adding linearization points.
- Linear values must not duplicate **Zero Calibration**, **Span Calibration** or previous linear points.

## 4.2.3 Last Zero Calibration

This takes the last pushbutton zero in the system (from weigh mode) and uses it as the new zero reference point, after which a new span calibration must be performed. This calibration cannot be performed when calibrating a scale for the first time.

A last zero calibration is typically used on truck scales to allow a scale verification to become a calibration without having to remove the test weights.

#### 4.2.4 Temporary Zero Calibration

Temporary zero calibration temporarily zeros the displayed weight of a non-empty scale. After span calibration, the difference between the temporary zero and the previously calibrated zero value is used as an offset.

A temporary zero calibration is typically used on hopper scales to calibrate the span without losing the original zero calibration.

### 4.3 Scale Filtering

Digital filtering can be used to create a stable scale reading by removing environmental influences. The 1280 has two filtering methods that can be selected; Adaptive Digital and Three Stage Filtering. Three Stage Filtering is selected by default. In addition, the A/D sample rate and damping time constant can be set in this menu.

To enter scale filtering, press the **Scales** icon . From the **Scales** menu, select **Filtering**. The following parameters are available.

| Parameter                       | Default            | Description   |
|---------------------------------|--------------------|---|
| Sample Rate                     | 30 Hz              | Selects measurement rate, in samples per second, of the analog-to-digital converter.<br>The sample rate refers to how many times per second the analog signal is converted to digital. It should be set first. Better stability is achieved with a lower sample rate setting, so 7.5 Hz is more stable than 960 Hz. |
| Digital Filter Type             | Three Stage Filter | Sets the filter type to be used. See Section 4.3.1 for more information on the adaptive digital filter. See Section 4.3.2 for more information on the three stage filter.   |
| Damping Time Constant (seconds) | 0.0                | Used for flow control to get a smooth increase in weight. It takes two-thirds of the difference in weight change in each time period specified.   |

Table 4-8. Filtering Menu Descriptions

#### 4.3.1 Adaptive Digital Filter

The adaptive digital filter has two parameters to set the response time and observe noise (instability): **Filter Sensitivity** and **Filter Threshold (Display Divisions)**. These parameters display in blue text after the **Digital Filter Type** is set to **Adaptive Digital Filter**.

| Parameter          | Default | Description   |
|--------------------|---------|---|
| Filter Sensitivity | Light   | Controls the stability and response time of the scale. <ul style="list-style-type: none"><li>• Heavy – results in an output that is more stable but will settle slowly. Small changes in weight data (a few grads) on the scale base will not be seen quickly.</li><li>• Medium – has a quicker response time than heavy, but more stability than light.</li><li>• Light – fastest response to small weight changes, but less stable.</li></ul> |
| Filter Threshold   | 10      | Digital filter cutout threshold (in display divisions). A weight change exceeding the threshold will reset the filtered values. Must be set above the noise disturbances in the system. If set to zero, the filter is disabled.   |

Table 4-9. Adaptive Digital Filter Menu Descriptions

## Filtering Threshold

Digital filtering threshold should be set for the amount of observed noise in the system. This parameter can be set in the range of 0 to 99999 display divisions. When a new sampled weight value is acquired, the adaptive digital filter compares the new value to the previous (filtered) output value. If the difference between the new value and the previous output value is greater than the **Threshold** parameter (displayed division), the adaptive digital filter output is reset. The newly acquired sample value replaces the filtered output. If the difference between the new value and the previous output value is less than the **Threshold** parameter, the two values are averaged together using a weighed average. The weighed average is based on the time the system has been stable and the selected sensitivity setting.

The filter can be set to **Off** by entering 0 in the **Threshold** parameter.

1. To determine the initial setting for the threshold, first set the value to 0.

*Example: If a heavy-capacity scale (10000 x 5 lb) produces vibration-related readings of up to 50 lb, with occasional spikes to 75 lb, record 50 lb as the threshold weight value.*

2. In weigh mode, determine the amount of instability that is present. Convert this instability to display divisions.
3. Set the threshold to the number of display divisions of instability.

*threshold\_weight\_value / display\_divisions*

*In the example in Step 2, with a threshold weight value of 50 lb and a display divisions value of 5 lb:  $50 / 5 = 10$ . **Threshold** should be set to 10D for this example.*

4. Further tweak this value, along with the sensitivity, to achieve the desired results. Set sensitivity for the desired response for weight changes; light for less stable but quicker responses, heavy for more stable but slower responses.

### 4.3.2 Three Stage Filter

The Three Stage Digital filter is a simple rolling average filter with three successive stages. The values assigned to each of the three stages determines the number of A/D readings averaged by that stage. The output value of each stage is passed on to the next stage at each A/D update. The overall filtering effect can be expressed by adding the values assigned to the filter stages and subtracting two.

*Example: If the filter stages were set to 16, 4 and 4, the overall filtering effect is 22 ( $(16+4+4)-2=22$ ). With this configuration, a step change on the input would be fully realized on the display in 22 A/D samples. Setting the filters to 1 ( $((1+1+1)-2=1)$ ) effectively disables the Three Stage Filter.*

| Parameter                | Default              | Description   |
|--------------------------|----------------------|---|
| Filter Sensitivity       | 2 Consecutive Values | Specifies the number of consecutive A/D readings that must fall outside the Filter Threshold before filtering is suspended.   |
| Filter Threshold         | None                 | Sets a threshold value, in display divisions. When a number of consecutive A/D readings (Filter Sensitivity) falls outside of this threshold value (when compared to the output of the filter), filtering is suspended and the A/D value is sent straight through the filter. Filtering will not be suspended if the threshold is set to <b>None</b> .  |
| Stage One Filter Value   | 4                    | Selects the digital filtering rate used to reduce the effects of environmental influences from the immediate area of the scale. Choices indicate the number of A/D conversions per update that are averages to obtain the displayed reading. A higher number gives a more accurate display by minimizing the effect of a few noisy readings, but slows down the response time of the indicator. |
| Stage Two Filter Value   | 4                    |   |
| Stage Three Filter Value | 4                    |   |
| RattleTrap               | Off                  | Enables RattleTrap filtering.   |

Table 4-10. Three Stage Digital Filter

## Filter Sensitivity and Threshold

The Three Stage Digital filter can be used by itself to eliminate vibration effects, but heavy filtering also increases response time. **Filter Sensitivity** and **Threshold** can be used to temporarily override filter averaging to improve response time.

## Setting the Digital Filter Parameters

Use the following procedure to determine vibration effects on the scale and optimize the digital filtering configuration.

1. In setup mode, set the digital filter parameters to 1. Set **Filter Threshold** to **None**. Return indicator to weigh mode.
2. Remove all weight from the scale. Watch the indicator display to determine the amount of stability of the scale. Record the weight below which all but a few readings fall. This value is used to calculate the **Threshold** parameter value in Step 4.  
*Example, if a heavy-capacity scale (10000 x 5 lb) produces vibration-related readings of up to 50 lb, with occasional spikes to 75 lb, record 50 lb as the threshold weight value.*
3. Place the indicator in setup mode and set the **Stage Filter Value** parameters to eliminate the vibration effects on the scale. (Leave **Threshold** set to NONE.) Find the lowest effective value for the **Stage Filter Value** parameters.
4. Calculate the **Threshold** parameter value by converting the weight value recorded in Step 2 to display divisions:  
$$\text{threshold\_weight\_value} / \text{display\_divisions}$$
  
*In the example in Step 2, with a threshold weight value of 50 lb and a display divisions value of 5 lb:  $50 / 5 = 10$ . Threshold should be set to 10D for this example.*
5. Set the **Sensitivity** parameter high enough to ignore transient peaks. Longer transients (typically caused by lower vibration frequencies) will cause more consecutive out-of-band readings, so **Sensitivity** should be set higher to counter low frequency transients. Reconfigure as necessary to find the lowest effective value for the **Sensitivity** parameter.

## RattleTrap

RattleTrap filtering uses a vibration-dampening algorithm to automatically provide the best features of digital filtering. It is particularly effective for eliminating vibration effects or mechanical interference from nearby machinery. Using RattleTrap filtering can automatically eliminate environmental influences, but will usually increase response time over standard digital filtering. If RattleTrap is set to on, sensitivity and threshold parameter settings are ignored.

## 4.4 Scales Setup

To enter the Scales Setup menu, press the **Scales** icon . From the **Scales** menu, select **Setup**. The following parameters are available.

| Parameter            | Default         | Description   |
|----------------------|-----------------|---|
| Tare Function        | Both            | Enables or disables push-button and keyed tares.*   |
| Motion Band          | 1               | Sets the level at which scale motion is detected. If motion is not detected for the standstill time or longer, the standstill icon displays.* <ul style="list-style-type: none"><li>• It is shown in display divisions between 1-100.</li><li>• If set to 0, the standstill icon is on at all times and operations including zero, print, and tare will be performed regardless of scale motion. If set to 0, it will not be Legal for Trade certified.</li></ul> |
| Overload Range       | Full Scale + 2% | Determines the value, in a percentage/display division above capacity, in which the display blanks and the out-of-range error message is displayed.*  |
| Initial Zero Range   | 0               | When the indicator is turned on and the weight value is between the $\pm$ percent range specified in Calibrated Zero, the indicator will automatically zero off that weight.*   |
| Zero Track Band      | 0               | For small weight changes around zero, the zero track band is the value that can automatically be tracked off to return the scale to zero. It is entered in display divisions.*  |
| Zero Range           | 1.9             | Zero range specifies the percent of capacity at which the scale can be zeroed.*   |
| Minimum Print Weight | 0               | The minimum print weight is the weight value that the scale must be above to allow a print. When set to zero, it is disabled.   |
| Standstill Time      | 1.0             | Specifies the time (in seconds) that the scale must be out of motion before it is considered to be at standstill.*  |
| Accumulator          | Off             | Accumulation can be toggled On/Off. If on, accumulation occurs on print operation; if off, an accumulation does not occur.  |

Table 4-11. Scales General Descriptions



| Parameter  | Default | Description  |
|--|---------|--|
| Peak Hold  | Off     | Used to determine, display and print the greatest weight read during a weighing cycle. The weighing cycle ends when a print command is executed (AUTO setting) or when the peak weight is cleared by pressing <b>Zero</b> or <b>Print</b> . Press <b>Gross/Net</b> to display gross weight data when using the peak hold function. <ul style="list-style-type: none"> <li>• Off - Peak hold function is off.</li> <li>• Normal - Positive peak, manual reset. Greatest net weight is held in memory until the weight is removed from the scale when either the <b>Zero</b> or <b>Print</b> key is pressed.</li> <li>• Bi-directional - Bi-directional peak, manual reset. Same as Normal, but peak value can be either positive or negative, determined by absolute value.</li> <li>• Automatic - Positive peak, auto print, auto reset. Automatic print occurs when the scale load is <math>0 \pm 10</math> display divisions and at standstill. Following the print command, the peak value is cleared and reset automatically.</li> </ul> |
| Rate of Change Decimal Point   | 8888888 | Set decimal position for rate of change. The default is 8888888 (no decimal point).  |
| Rate of Change Time Unit   | Seconds | Time unit to be used in rate of change.  |
| ROC Capture Window   | 1.0     | The time over which the rate of change is calculated.  |
| Powerup Mode   | Go      | When the indicator is turned on, it performs a display test, then enters a warm up period. <ul style="list-style-type: none"> <li>• If no motion is detected during the warm up period, the indicator will become operational when the warm up period ends.</li> <li>• If motion is detected, the delay timer is reset and the warm up period is repeated.</li> </ul>  |
| Visible  | On      | Specifies whether scale data is displayed.   |
| * Maximum legal value of these parameters varies depending on local regulations. |         |  |

Table 4-11. Scales General Descriptions

## 4.5 Maintenance

To enter the **Scales Maintenance** menu, press the **Scales** icon . From the **Scales** menu, select **Maintenance**. The following parameters are available.

| Parameter                 | Default | Description  |
|---------------------------|---------|--|
| Weighment Threshold       | 100     | The amount of weight that, when exceeded, increments the Number of Weighments. |
| Number of Weighments      | 0       | Displays the total number of weighments (read only).                           |
| Maximum Weighment         | 0       | Displays the maximum weighments allowed (read only).                           |
| Date of Maximum Weighment | —       | Displays the date the maximum weighment occurred (read only).                  |

Table 4-12. Scales Maintenance Menu

## 4.6 Serial Scale Type

The Serial Scale type allows other scale indicators to send gross or net weight data to the *1280* using a continuous stream of data through a communications port.

### 4.6.1 Legal for Trade

For a Legal for Trade serial scale, the data must contain the unit of measure, mode of operation and status (in addition to the weight). The configuration of a Legal for Trade serial scale is very limited as it acts similarly to a remote display. For this reason, the scale cannot be tared or zeroed on the *1280* but must be done on the host indicator.

If the data packet for a Legal for Trade serial scale does not contain all the necessary information, or the information is incorrect, the scale will show an error.



## 4.6.2 Industrial Scales

For industrial scales, the only data needed is the gross weight. The data can (but does not need to) include the unit of measure, mode or status. If the unit of measure is included, it can be used to change the capacity label on the 1280 display. If not, the 1280 will always assume it is primary units.

If the mode is included, the scale will display an error if anything other than the gross mode is indicated. If the mode is not included, the weight is assumed to be gross.

If status is included, it is ignored with the exception of the center of zero indicator. The serial scale cannot determine if the reading is within the center of zero band. The only way to show the center of zero band is to have the host indicator include that information (using the status token) in the data.

Though the 1280 cannot zero an industrial serial scale (zeroing must take place on the host indicator), it is possible to take a tare and display the resulting net weight.



**Note**

*Digital filtering is available with the use of an industrial serial scale. If digital filtering is enabled and the display division size of the incoming weight data is greater than the display division size of the industrial serial scale configuration, the displayed weight will count by the smaller division size, due to the averaging nature of the filters.*

## 4.6.3 Configuration

The 1280 supports serial scale data input on any of the RS-232/RS-485 ports, as well as the Ethernet TCP/IP.

1. In the **Communications** menu, select the desired port.
2. Set the **Input Type** to either **Legal for Trade** or **Industrial Serial Scale**. Set the remaining parameters as necessary to match the parameters of the incoming serial data.
3. In the **Scales menu**, set the scale kind of the scale to either **Legal for Trade Serial Scale** or **Industrial Serial Scale**.
4. Select the communication port to link to the selected scale. Only communications ports that have been configured as serial scales will be displayed.
5. Set the capacity, decimal point, count-by and units to match that of the incoming data. This is done so the capacity label (shown on the display near the weight) is correct. To configure the actual format of the data, go to the **Scales/General** tab and select a stream format (1-4).
6. Navigate to the **Formats** menu, and select **Stream Formats**.
7. Select the format (1-4) in the left pane. The current stream format will be shown. Either select one of the pre-defined built-in formats, or create a custom format to match the input data format. If necessary, set the token values. See Section 7.2 on page 78 for more information about configuring the stream format.

If using a Legal for Trade serial scale, there are additional settings under the **Scales/General** tab; these include enabling the accumulator and visibility. If using an industrial serial scale, there are additional general settings for the tare function, overload and motion determination, as well as filter settings under the **Scales/Filtering** tab.





**Note**

*The flow of data into the indicator must be continuous – if the flow is interrupted for more than a second, the scale will show an error.*

*No matter the type, if the data received does not match exactly that which is expected (as defined by the stream format configuration), the data is thrown out and the scale will show an error.*

## 5.0 Communications

This menu is used for the setup of communication parameters for the 1280.

From the Configuration menu, select the **Communications** icon  (circled in Figure 5-1) to enter the Communications menu. Once all parameters have been set, press  to return to weigh mode.

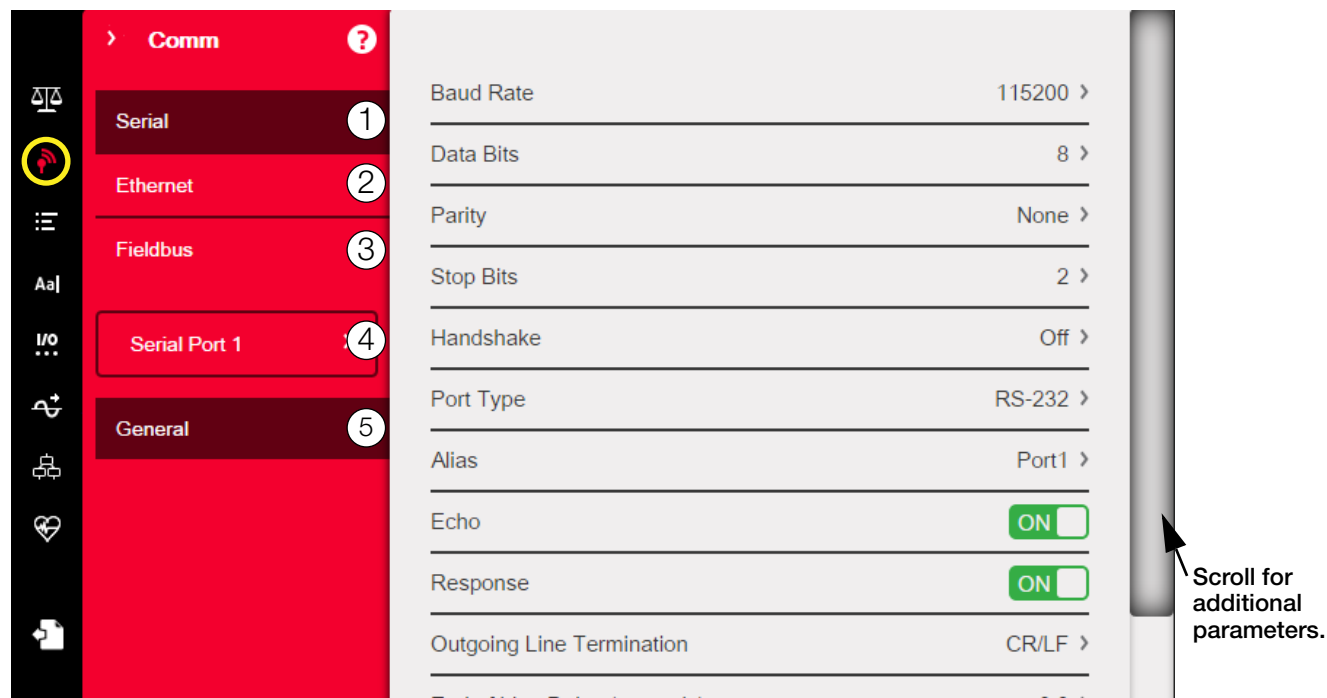


Figure 5-1. Communications Menu

| Item No. | Parameter       | Description   |
|----------|-----------------|---|
| 1        | Serial          | To set Serial parameters, see Section 5.1.                    |
| 2        | Ethernet        | To set Ethernet parameters, see Section 5.2.                  |
| 3        | Fieldbus        | To set Fieldbus parameters, see Section 5.3                   |
| 4        | Selection Field | Allows selection of port, server or slot for items 1, 2 or 3. |
| 5        | General         | General parameters for items 1, 2 or 3.                       |

Table 5-1. Communication Menu Parameters

## 5.1 Serial Menu

The Serial menu is used for the setup of communication ports.

To enter the **Serial** menu, press the **Communications** icon . From the **Communications** menu, select **Serial**. The following parameters are available.

Press the Selection Field arrow (number 4 in Figure 5-1) to expand available ports. Select the desired port.

| Parameter               | Description   |
|-------------------------|---|
| Serial Port 1           | Communications port support RS-232, RS-422 and RS-485 (connector J6).                             |
| Serial Port 2           | Communications port support RS-232, RS-422 and RS-485 (connector J7).                             |
| USB Port (Port 3)       | Micro USB device port that can be used as a communications port via a micro USB type B connector. |
| Bluetooth®Port (Port 4) | Bluetooth® wireless communication port supporting the Serial Port Protocol (SPP) only.            |
| Serial Port 5-16        | Dual serial option card ports (if installed). Supports RS-232, RS-422 and RS-485.                 |

Table 5-2. Available Ports

The **General** parameters associated with the port will display in the gray area of the screen. See Table 5-3 for parameter descriptions of the ports.



| Parameter                 | Default           | Description   |
|---------------------------|-------------------|---|
| Baud Rate                 | 115200            | Selects the transmission speed for the port.  |
| Data Bits                 | 8                 | Selects number of data bits transmitted or received by the port.  |
| Parity                    | None              | Sets parity bit to odd, even or none.   |
| Stop Bits                 | 1                 | Selects the number of stop bits transmitted or received by the port.  |
| Handshake                 | Off               | Specifies if XON/XOFF flow control characters are used.   |
| Port Type                 | RS-232            | Designates what Serial Port type is used (RS-232, RS-485, or RS-422).<br> <b>Note</b> If RS-485 is selected, prompts are shown to select Duplex (half or full) and RS-485 Network Address. |
| Alias                     | —                 | Allows the serial port to be renamed.   |
| Echo                      | On                | Specifies whether characters received by the port are echoed back to the sending unit.  |
| Response                  | On                | Specifies whether the port transmits replies to serial commands.  |
| Outgoing Line Termination | CR/LF             | Selects termination character for data sent from the port.  |
| End of Line Delay         | 0.0               | Sets the delay period from when a formatted line is terminated to the beginning of the next formatted serial output. Range acceptable is 0.0-25.5 seconds.  |
| Input Type                | Command Processor | Sets the input type.  |

Table 5-3. Serial Port Parameters

## 5.2 Ethernet Menu

The **Ethernet** menu is used for the setup of wired and Wi-Fi Ethernet connections. These are used to connect the 1280 to local area networks (WLAN and LAN). Network information can be found in weigh mode by pressing the Wi-Fi symbol or in the **Ethernet** menu in Configuration Mode.

To enter the **Ethernet** menu, press the **Communications** icon . From the **Communications** menu, select **Ethernet**.

1. Select the Selection Field arrow (number 4 in Figure 5-1) to expand the Ethernet selections.
2. Select the desired Ethernet option (see Table 5-4).

| Parameter          | Description                                   |
|--------------------|---|
| Wired Adapter      | General wired Ethernet settings.              |
| Wi-Fi® Adapter     | General Wi-Fi settings.                       |
| TCP Command Server | Specific settings for the TCP Command Server. |
| Stream Server      | Specific settings for the Stream Server.      |
| TCP Client 1       | Specific settings for TCP Client #1.          |
| TCP Client 2       | Specific settings for TCP Client #2.          |

Table 5-4. Ethernet Selections

The **General** parameters associated with the choice will display in the gray area of the screen. See the following tables for parameters and their descriptions.



**Note** Contact your IT department if unsure about the required Ethernet settings for a specific network.

### Using an Internet Browser as a Remote Display

A virtual display can be viewed on a computer or mobile device using an Internet browser that supports HTML 5 and Javascript, such as Internet Explorer v10 and newer, Chrome v30 and newer or Firefox v32 and newer. In addition to viewing, touchscreen elements can be activated by clicking on them in the browser window.

To use this feature, the 1280 and computer/mobile device must be connected to the same network. In the browser's address bar (URL), type the 1280's IP address using TCP port 3000.

*Example: If the 1280's IP address is 192.168.0.1, then navigate the browser to <http://192.168.0.1:3000>.*

## Wired Adapter

| Parameter            | Default       | Description  |
|----------------------|---------------|--|
| Enabled              | On            | Enable wired Ethernet communications. This speeds up the booting process and configuration mode to weigh mode transitions.             |
| DHCP                 | On            | Dynamic Host Configuration Protocol:<br><b>On – Dynamic allocation of IP address.</b><br><b>Off – Static allocation of IP address.</b> |
| IP Address           | 0.0.0.0       | Enter a four field value. The range of each field is 0-255.  |
| Subnet Mask          | 255.255.255.0 | Specifies the subnet mask.   |
| Primary DNS Server   | 0.0.0.0       | IP address for the server.   |
| Secondary DNS Server | 0.0.0.0       | IP address for the server.   |
| Gateway Address      | 0.0.0.0       | Default gateway.   |
| MAC Address          | —             | View the MAC Address, in hexadecimal base (read only).   |

Table 5-5. Wired Adapter Parameters

## Wi-Fi Adapter

| Parameter             | Default        | Description  |
|-----------------------|----------------|--|
| Enable                | Off            | Enable Wi-Fi Ethernet communications. This speeds up the booting process and configuration mode to weigh mode transitions. |
| Service Set ID (SSID) | —              | Name of the wireless local area network (WLAN).  |
| Network Type          | Infrastructure | Type of wireless network. Choose infrastructure for connections to wireless networks.                                      |
| Security Type         | WPA-Personal   | Wireless security protocol.  |
| Encryption Type       | TKIP           | Wireless encryption protocol.  |
| Security Key          | —              | Password to access a local area network.   |
| DHCP                  | On             | Dynamic Host Configuration Protocol<br>On – Dynamic allocation of IP address<br>Off – Static allocation of IP address      |
| IP Address            | 0.0.0.0        | Four field value, the range of each field is 0-255.  |
| Subnet Mask           | 255.255.255.0  | Specifies the subnet mask.   |
| Primary DNS Server    | 0.0.0.0        | IP address for the server.   |
| Secondary DNS Server  | 0.0.0.0        | IP address for the server.   |
| Gateway Address       | 0.0.0.0        | Default gateway.   |
| MAC Address           | —              | View the MAC Address, in hexadecimal base (read only).   |

Table 5-6. Wi-Fi Adapter Parameters

## TCP Command Server

| Parameter                 | Default           | Description  |
|---------------------------|-------------------|--|
| Server Port Number        | 10001             | TCP/IP port number.  |
| Alias                     | —                 | Allows the server to be renamed.   |
| Echo                      | On                | Specifies whether characters received by the port are echoed back to the sending unit. |
| Response                  | On                | Specifies whether the port transmits replies to serial commands.                       |
| Outgoing Line Termination | CR/LF             | Selects the termination character for data sent from the port.                         |
| Input Type                | Command Processor | Sets the input type.   |

Table 5-7. TCP Command Server Parameters

## Stream Server

| Parameter                 | Default | Description  |
|---------------------------|---------|--|
| Server Port Number        | 20001   | Stream server port number.                                 |
| Alias                     | —       | Allows the server to be renamed.                           |
| Outgoing Line Termination | CR/LF   | Selects termination character for data sent from the port. |

Table 5-8. Stream Server Parameters

## TCP Client 1 & 2

| Parameter                   | Default           | Description  |
|-----------------------------|-------------------|--|
| Remote Address              | 0.0.0.0           | IP address of the remote unit that will connect to the 1280.   |
| Remote Port Number          | 10001             | TCP port number on the remote unit that will connect to the 1280.  |
| Alias                       | —                 | Allows the server to be renamed.   |
| Outgoing Line Termination   | CR/LF             | Selects termination character for data sent from the port.   |
| End of Line Delay (seconds) | 0.0               | Sets the delay period, in 0.1 second intervals, from when a formatted line is terminated to the beginning of the next formatted serial output. |
| Echo                        | On                | Specifies whether characters received by the port are echoed back to the sending unit.   |
| Response                    | On                | Specifies whether the port transmits replies to serial commands.   |
| Input Type                  | Command Processor | Sets the input type.   |
| Disconnect Time             | 0                 | The amount of time an active connection is held before it is dropped.  |

Table 5-9. TCP Client 1 & 2 Parameters

## 5.3 Fieldbus Menu

The Fieldbus menu allows the selection of the slot (1-6) to be used for one of the CompactComm Options.

To enter the *Fieldbus* menu, press the **Communications** icon . From the *Communications* menu, select *Fieldbus*.

Press the arrow next to Slot 1 and select the slot required.

| Parameter                                     | Default | Description  |
|---|---------|--|
| Data Swap                                     | None    | Specifies Byte, Word, Both or none of the data sent and received by the fieldbus card. |
| iRite Fieldbus Data Size (Bytes) (0=disabled) | 0       | Specifies the data size, in bytes, that the iRite Fieldbus command handler transfers.  |
| DeviceNet Address                             | 63      | Enter DeviceNet option address 1-64.   |
| Profibus Address                              | 126     | Enter Profibus option address 1-126.   |

Table 5-10. Fieldbus Menu Descriptions

### 5.3.1 Data Swap

If the values returned from the 1280 do not appear to be correct, change the Data Swap parameter to Byte, Word or Both. These parameters change the order of the data so that it is compatible with the way the device handles the data in its memory. It is best to change the data order in the device being used, but if that is not possible, Data Swap is the best alternative.

# 6.0 Features

The Features menu allows the setup of parameters for the menu items listed inTable 6-1.

From the Configuration menu, select the **Features** icon  (circled in Figure 6-1) to enter the Features menu.


Once all parameters have been set, press  to return to weigh mode.



Figure 6-1. Features Menu

| Item No. | Parameter          | Description   |
|----------|--------------------|---|
| 1        | Softkeys           | Softkeys setup. See Section 6.1 on page 65.   |
| 2        | General            | Setup general indicator settings. See Section 6.2 on page 67.                                       |
| 3        | Regulatory         | Allows for the selection of the regulatory mode required for the scale. See Section 6.3 on page 68. |
| 4        | Passwords          | Allows passwords to be set to secure menus. See Section 6.4 on page 71.                             |
| 5        | Locale             | Allows the local language, time/date and decimal format to be setup. See Section 6.5 on page 71.    |
| 6        | Contact Info       | Allows the input of company information. See Section 6.6 on page 72.                                |
| 7        | View Alibi Storage | Shows past transactions and allows them to be reprinted. See Section 6.7 on page 72.                |



Table 6-1. Features Menu Parameters

## 6.1 Softkeys

Softkeys are set up to provide additional operator functions for specific applications. They are displayed as digital buttons at the bottom of the display in weigh mode. Press a softkey to use the assigned functions.

To enter the **Softkey** menu, press the **Features** icon . From the **Features** menu, select **Softkeys**.

### 6.1.1 Enable/Disable Softkeys

1. In the Softkey menu, press  to bring up the list of predefined softkeys. See Section 6.1.2.
2. Select from the list of predefined softkeys or one of the user defined options.
3. Select  to enable the softkey or press cancel to quit.

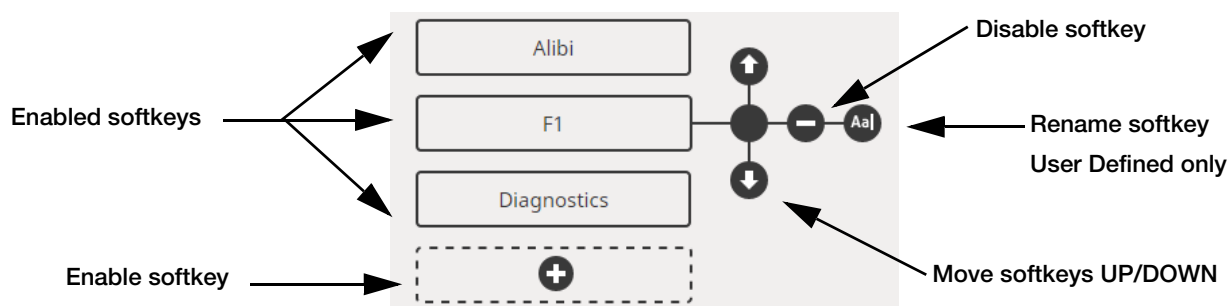


Figure 6-2. Enable/Disable Softkeys

## 6.1.2 Predefined Softkeys



Figure 6-3. Example Softkeys

| Softkey                | Description   |
|------------------------|---|
| Blank                  | No softkey available.   |
| User Defined 1-10      | Up to 10 softkeys can be created using one of the user defined options (22 characters or less available).   |
| Time/Date              | Displays current time and date; allows time and date change.  |
| Display Tare           | Displays tare value in the entry prompt.  |
| Display Accumulator    | Displays accumulator value, if enabled, for the current scale.  |
| Display Rate of Change | Displays rate-of-change value, if enabled, for the current scale.   |
| Setpoint               | Displays a menu of configured setpoints; allows display and change of some setpoint parameters.   |
| Batch Start            | Starts a batch from the current step if a Batch Run digital input is either active or not defined. If a Batch Run digital input is defined and inactive, Batch Start resets the batch to the first step.  |
| Batch Stop             | Stops an active batch and turns off all associated digital outputs. Requires a Batch Start to resume processing.  |
| Batch Pause            | Pauses an active batch and turns off all digital outputs except those associated with Concurrent and Timer setpoints. Processing is suspended until the indicator receives a Batch Start signal. Pressing the BATSTRT digital input, BATSTART serial command, Batch Start softkey or the StartBatch function (in iRite) resumes the batch and re-energizes all digital outputs turned off by the Batch Pause. |
| Batch Reset            | Stops an active batch and resets the current step to the first batch step. All digital outputs associated with batch setpoints are deactivated. If a batch is stopped or paused, Batch Reset will reset the current step to the first step.   |
| Select Scale           | Enter the scale number (using the numeric keypad) to be displayed for multi-scale applications, followed by the select scale softkey.   |
| Diagnostics            | Not available in version 1.00.  |
| Alibi                  | Allows previous print transactions to be recalled and reprinted.  |
| Contrast               | Adjusts the screen backlight intensity.   |
| Test                   | Not available in version 1.00.  |
| Stop                   | Sends AuxFmt13 out its configured port to display a red light on a LaserLight.  |
| Go                     | Sends AuxFmt12 out its configured port to display a green light on a LaserLight.  |
| Off                    | Sends AuxFmt14 out its configured port to turn a LaserLight red/green light off.  |

Table 6-2. Configurable Softkeys



## LaserLight Example:



Figure 6-4. LaserLight Softkey Example




**Note** User must configure 1280 softkeys to use Stop/Go. See Table 6-3 to view the pre-populated commands in the print formats..


Table 6-3 lists commands to display the Stop, Go (circle or arrow) and Off elements on a LaserLight. The command information can be changed. The softkey is coded to send the associated AuxFmt.

| Traffic Light State | Aux Fmt  | Serial Command |
|---------------------|----------|----------------|
| Stop                | AuxFmt13 | 00DO3!         |
| Green Circle        | AuxFmt12 | 00DO2!         |
| Green Arrow         | AuxFmt12 | 00DO1!         |
| Off                 | AuxFmt14 | 00DO0!         |

Table 6-3. LaserLight Commands

## 6.2 General Parameters

Set the parameters in the General Parameters menu. To enter the **General** menu, press the **Features** icon . From the **Features** menu, select **General**. The following parameters are available.

1. Select **General** from the Features menu.
2. Press the parameter to be set.
3. If the setting needs data entry, a keypad will appear. Enter data and press .

| Parameter                    | Default   | Description   |
|------------------------------|-----------|---|
| Unit Id                      | 1         | Specifies the unit identification number with an alphanumeric value (up to eight characters).   |
| Consecutive Number           | 0         | Value is incremented following each print operation that includes <CN> in the ticket format. When reset, it is set to a value specified in the Consecutive Numbering Start parameter (up to seven characters).  |
| Consecutive Number Start     | 0         | Start value of the next print when it is reset. Range is from 0 to 9999999 (up to seven characters).<br><i>Example: If set to 0, the next print will be 1. If set to 47, the next print will be 48.</i>   |
| Full Keyboard Lock           | Off       | Locks entire keyboard if turned on.   |
| Zero Enabled Keyboard Lock   | Off       | Locks keyboard except zero key if turned on.  |
| Locale/Remote Server Address | 127.0.0.1 | Specifies the IP address of the remote indicator to show on the display. To display the local indicator, set to the localhost address of 127.0.0.1. If a local/remote application, set this parameter, on the remote indicator only, to the IP address of the local indicator to use its display. |

Table 6-4. General Parameters Menu

## 6.2.1 Local/Remote Operation

Local/remote support provides a function equivalent to that of an indicator via web server with network access. The display on the local indicator is also displayed at the remote unit, and keypad input from the remote unit is treated the same as keypad input on the local indicator.

1. Connect both indicators to the same Ethernet TCP/IP or Wi-Fi network.
2. Look up the local indicator's IP address by pressing the Wi-Fi symbol in Weigh mode (to bring up the Network Information screen), or look it up under the **Communications** menu in Configuration mode.
3. On the remote indicator, use the **Features/General** menu to change the Local/Remote Server Address to the IP address of the local indicator.
4. When in weigh mode, the remote will display a copy of the local indicator's display. Key presses on the remote indicator are passed back to the local to perform their intended function.



- For an indicator to show its own display, the Local/Remote Server Address must be set to 127.0.0.1. The display is treated as a remote if any other IP address is entered.
- If the configuration switch is pressed on the remote indicator, the remotes configuration menu is shown on the remote only. If the configuration switch is pressed on the local indicator, the locals configuration menu is shown on both indicators.
- If the local indicator goes off-line, the remote indicator's display is blank, or has dashes for the weight.
- The remote indicator can only display the local's display, and return key/touchscreen presses. Weight data is not available at the remote indicator for functions such as printing, serial data streaming or setpoints.

## Using an Internet Browser as a Remote Display

A virtual display can be viewed on a computer or mobile device using an Internet browser that supports HTML 5 and Javascript, such as Internet Explorer v10 and newer, Chrome v30 and newer or Firefox v32 and newer. In addition to viewing, touchscreen elements can be activated by clicking on them in the browser window.


To use this feature, the 1280 and computer/mobile device must be connected to the same network. In the browser's address bar (URL), type the 1280's IP address, using TCP port 3000.


*Example: If the 1280's IP address is 192.168.0.1, then navigate the browser to <http://192.168.0.1:3000>.*

## 6.3 Regulatory

Specifies the regulatory agency having jurisdiction over the scale site. Regulatory agencies regulate legal metrology procedures for each country's scale performance.

The selection made for this parameter affects the function of the front panel **Tare** and **Zero** keys. **Tare** and **Zero** key functions are also configurable when the **Regulatory** mode is set to Industrial to accommodate operations that may not be covered specifically by the general regulatory selections.

To enter the **Regulatory** menu, press the **Features** icon . From the **Features** menu, select **Regulatory**.

1. Press the Regulatory Mode arrow. The **Regulatory Mode Options Screen** displays.
1. Select the required mode.
2. Press .

| Parameter  | Description  |
|--|--|
| National Type Evaluation Program (NTEP)              | NTEP is a regulatory agency that serves most of the United States.   |
| International Organization of Legal Metrology (OIML) | OIML is a global intergovernmental organization that publishes legal metrology recommendations for the regulatory agencies of its members. |
| Measurement Canada                                   | Measurement Canada is a regulatory agency that serves Canada.  |
| Industrial Mode                                      | Industrial Mode is used for non-Legal for Trade applications. See Table 6-8.   |
| None   | A regulatory mode has not been chosen.   |

Table 6-5. Regulatory Mode Options Menu

### 6.3.1 Parameters Available in all Regulatory Modes

| Parameters                     | Default | Description   |
|--------------------------------|---------|---|
| Alibi Storage                  | Off     | Allows previous print transactions to be recalled and reprinted if enabled.   |
| Gravity Compensation           | Off     | Scales must be re-calibrated after changing from Off to On. Specifying the latitude and elevation of the calibration and scale sites provides compensation for gravitational effects. To calibrate with gravity compensation, Origin Latitude and Elevation and Destination Latitude and Elevation must be set. |
| Origin Latitude                | 45      | Origin latitude of the scale site in degrees, range 0-90 (only available with Gravity Compensation set to on).  |
| Origin Elevation (meters)      | 345     | Origin Elevation of the scale site in meters, range -9999 to 9999 (only available with Gravity Compensation set to on).   |
| Destination Latitude           | 45      | Destination latitude of the scale site in degrees, range 0-90 (only available with Gravity Compensation set to on).   |
| Destination Elevation (meters) | 345     | Destination Elevation of the scale site in meters, range -9999 to 9999 (only available with Gravity Compensation set to on).  |
| Monorail Mode                  | Off     | Allows preset (keyed) tare values to be of higher precision than the display division size in Monorail applications. Available in future release.   |
| Enable Screen Saver            | Off     | Enables screen saver functionality. Screen saver can be triggered by the Screen Saver Weight Threshold or the Screen Saver Activation Time. When the screen saver is triggered, the backlight dims to 10%.  |
| Screen Saver Weight Threshold  | 0       | The screen saver activates when the weight dips below the Screen Saver Weight Threshold (only available when Enable Screen Saver is set to on).   |
| Screen Saver Activation Time   | 30      | Time at standstill at which the screensaver activates (only available when Enable Screen Saver is set to on).   |

Table 6-6. Regulatory Mode Parameters – All Modes

Table 6-7 describes the function of **TARE** and **ZERO** for the NTEP, CANADA, OIML, and NONE regulatory modes.

| Regulatory<br>Parameter Value | Weight on Scale  | Tare in<br>System | Front Panel Key Function |   |
|-------------------------------|------------------|-------------------|--------------------------|---|
|                               |                  |                   | Tare                     | Zero  |
| NTEP                          | zero or negative | no                | <i>no action</i>         | Zero  |
|                               |                  | yes               | Clear Tare               |   |
|                               | positive         | no                | Tare                     |   |
|                               |                  | yes               | Tare                     |   |
| OIML                          | zero or negative | no                | <i>no action</i>         | Zero  |
|                               |                  | yes               | Clear Tare               | Zero <i>and</i> Clear Tare  |
|                               | positive         | no                | Tare                     | Zero  |
|                               |                  | yes               | Tare                     | Zero <i>and</i> Clear Tare if weight is within ZRANGE.<br><i>No action</i> if weight is outside of ZRANGE |
| Measurement Canada            | zero or negative | no                | <i>no action</i>         | Zero  |
|                               |                  | yes               | Clear Tare               |   |
|                               | positive         | no                | Tare                     |   |
|                               |                  | yes               | <i>no action</i>         |   |
| Industrial Mode               | See Table 6-8    |                   |                          |   |
| NONE                          | zero or negative | no                | Tare                     | Zero  |
|                               |                  | yes               | Clear Tare               |   |
|                               | positive         | no                | Tare                     |   |
|                               |                  | yes               | Clear Tare               |   |

Table 6-7. Tare and Zero Key Functions for Regulatory Parameter Settings

## Industrial Mode Parameters



Industrial mode provides a set of sub-parameters to allow customization of tare, clear and print functions in non-Legal for Trade scale installations.

| Parameter                                      | Default                 | Description  |
|--|-------------------------|--|
| Audit Agency                                   | NTEP                    | Defines how the Audit Trail data is displayed/printed, depending on the requirements for the various regulatory agencies.  |
| Weight Source for Print                        | Synchronized to Display | Synchronized to the displayed value or the scale internal value.   |
| Allow Tare in Display Hold                     | Off                     | A semiautomatic (push-button) tare that can be taken while the scale display is being held.  |
| Allow Print in Display Hold                    | Off                     | A demand print may be performed while the scale display is being held.   |
| Remove Tare on Zero                            | Off                     | A tare will be removed if a semiautomatic (push-button) zero is performed on the scale.  |
| Always Allow Keyed Tare                        | On                      | Preset (keyed) tares will be allowed at any weight, not just at zero gross.  |
| Multiple Tare Action                           | Replace                 | Defines the resulting action if a semiautomatic (push-button) tare is attempted while there is already a tare for the scale. <ul style="list-style-type: none"> <li>• <b>Replace</b> - replaces the current tare with the new one.</li> <li>• <b>Remove</b> - clears the current tare.</li> <li>• <b>No Action</b> - rejects the new tare attempt (the current tare must be cleared before a new tare can be acquired).</li> </ul> |
| Allow Negative Tare                            | Off                     | Allows a semiautomatic (push-button) tare to be taken at a negative gross weight, resulting in a negative tare weight.   |
| Allow CLR Key To Clear Tare/Accumulator        | On                      | Allows the <b>Clear</b> key to clear the tare or accumulator while the tare or accumulator is being displayed.   |
| Clear Source Scales Individually               | Off                     | Allows the clearing of tare values from source scales individually when a total scale is involved.   |
| Allow Total Scale to Display Negative          | Off                     | Allows the total scale to display a negative value, otherwise the total scale will display an error whenever any source scale is displaying a negative value.  |
| Allow Print in Motion                          | Off                     | Allows a demand print to be performed while the scale is in motion.  |
| Allow PT to Keyed Tare Print                   | Off                     | The letters <b>PT</b> will appear on printed output if the tare value is a preset or keyed tare.   |
| Zero Base for Overload                         | Calibrated Zero         | Used to determine the point at which the scale will display overload, either (calibrated zero + capacity + overload setting), or (current captured zero + capacity + overload setting).  |
| Use Fine Push-Button Tare                      | Off                     | When a semiautomatic (push-button) tare is taken, use internal counts instead of the rounded display value.  |
| Use Fine Keyed Tare                            | Off                     | When a preset, or keyed tare is entered, use the exact value entered instead of rounding the value to the current display division.  |
| Tare in Motion                                 | Off                     | Allow a semiautomatic (push-button) tare to be taken while the scale is in motion.   |
| Zero in Motion                                 | Off                     | Allow a semiautomatic (push-button) zero to be performed while the scale is in motion.   |
| Underload Limit (Display Divisions)            | 9999999                 | Defines the number of display divisions below gross zero that will be displayed before the scale shows an underload condition.   |
| Allow Manual Clear Tare                        | On                      | Allows the clearing of the tare value manually at any gross weight.  |
| Auto-Zero Tracking on Net Zero                 | Off                     | Allows the scale zero to be automatically adjusted, within the specified zero range, to track a net zero display.  |
| Total Scale Requires Identical Source Count-By | Off                     | Allows source scales, when a total scale is involved, to have different display division sizes.  |

Table 6-8. Industrial Mode Parameters

## 6.4 Passwords

Passwords can be set to secure the Configuration, Setpoints and Calibration menus.

1. Ensure the audit jumper (JP1) is in the on position in order to turn on the passwords. See Figure 3-3 on page 45.
2. To enter the Passwords menu, press the **Features** icon . From the **Features** menu, select **Passwords**.
3. Select which menu (Configuration, Setpoints or Calibration) that a password needs to be set. The keyboard will display.
4. Enter the password, then press .


| Parameters             | Parameter  |
|------------------------|--|
| Configuration Password | Allows the configuration parameters to be accessed without the need to press the configuration button.             |
| Setpoints Password     | Allows the Enable and Value setpoint parameters to be accessed without the need to press the configuration button. |
| Calibration Password   | Allows the calibration parameters to be accessed without the need to press the configuration button.               |

Table 6-9. Menu Passwords

## 6.5 Locale

Select this parameter to set the desired language, date and time formats, and decimal format.

To enter the Locale menu, press the **Features** icon . From the **Features** menu, select **Locale**.

1. Press the parameter to set.
2. Select the setting desired.
3. Press .

| Parameter                   | Default                | Description   |
|-----------------------------|------------------------|---|
| Default Weigh Mode Language | English                | Select from 16 languages available for the indicator weigh mode. See Section 6.5.1. |
| Date Format                 | MMDDYYYY               | Select one of the four formats available: MMDDYYYY, DDDMMYYYY, YYYYMMDD, YYYYDDMM.  |
| Date Separator              | Slash (/)              | Select one of three date separators available, Slash (/), Dash (-), Semi-colon (;). |
| Time Format                 | 12 Hour                | Select 12 hour or 24 hour time format.  |
| Time Separator              | Colon (:) or Comma (,) | Select Colon (:) or Comma (,) as the time separator.                                |
| Decimal Format              | Dot (.)                | Select Dot (.) or Comma (,) as the format for the decimal.                          |

Table 6-10. Locale Parameters Menu

### 6.5.1 Default Weigh Mode Languages


There are 16 languages available for the indicator weigh mode.

- English
- Spanish
- French
- Portuguese
- Italian
- German
- Dutch
- Danish
- Swedish
- Russian
- Ukrainian
- Hebrew
- Arabic
- Thai
- Chinese
- Turkish

## 6.6 Contact Info

Use the Contact Info menu to setup company information.

To enter the Contact Info menu, press the **Features** icon . From the **Features** menu, select **Contact Info**.

1. Press the parameter to be set. A keyboard will display.
2. Enter the information and press .
3. Repeat steps 1 and 2 until all desired entries have been made.


| Parameter             | Description   |
|-----------------------|---|
| Company Name          | Enter the company name (up to 30 characters).                                   |
| Address Line 1-3      | Enter the address, three lines available (up to 30 characters per line).        |
| Contact Name 1-3      | Enter up to three contact names (up to 20 characters per contact).              |
| Contact Phone 1-3     | Enter up to three contact phone Numbers (up to 20 characters per phone number). |
| Email Address         | Enter an email address (up to 30 characters).                                   |
| Next Calibration Date | Specify the next calibration date.  |
| Last Calibration Date | Specify the last calibration date.  |

Table 6-11. Contact Info Parameters

## 6.7 View Alibi Storage

Allows previous print transactions to be recalled and reprinted. Approximately 500,000 alibi messages can be stored.

Alibi storage needs to be enabled in the **Features** menu, select **Regulatory** and set the parameter to **ON**.

1. Press the **Alibi** softkey in the weigh mode or from the Features menu, select **Alibi**.
2. Use the arrows to scroll to the record needed. Alternatively, enter the date range to search for the record.
3. Select the desired record.
4. To print the currently selected record, press **Reprint**.
5. Repeat steps 1-4 until all records required have been printed.
6. When all records required have been printed, press .

A demand print string is stored in Alibi memory and is assigned an ID number. The token <AN> for the Alibi ID number should be added to the print strings for reference. The print string is stored with a Checksum to ensure data integrity.

Some data is dependent upon the ticket format, see Section 7.0 on page 74 to format a ticket to contain the tokens for weight, date and time, scale number, alibi ID.

### Checksum

The checksum is calculated when the weightment is stored in alibi storage. When the data is retrieved, the checksum is re-calibrated and compared to the initial value. If the values match, the data is transmitted. If they do not match, the 1280 will send an **Invalid Record** response.

The checksum is for internal use only and not retrievable, since all data is stored internally. External Alibi storage is not supported.

Alibi Storage

| Id | Date                | Contents        |
|----|---------------------|-----------------|
| 1  | 02:35 PM 04/10/2015 | GROSS 60000 lb  |
| 2  | 02:36 PM 04/10/2015 | GROSS 250000 lb |
| 3  | 02:36 PM 04/10/2015 | GROSS 90.00 lb  |
| 4  | 02:36 PM 04/10/2015 | GROSS 40.00 lb  |
| 5  | 02:36 PM 04/10/2015 | GROSS 50.00 lb  |
| 6  | 02:36 PM 04/10/2015 | GROSS 159980 lb |

1

Records: 24

2

⏮

3

⏪

4

⏩

5

🔍

Selected Id: None

6

7

Reprint

8

Done

Figure 6-5. Alibi Storage Screen


| Item No | Parameter                                |
|---------|--|
| 1       | Records – number of records.             |
| 2       | Page to beginning.                       |
| 3       | Page left or right.                      |
| 4       | Page to the end.                         |
| 5       | Search by date.                          |
| 6       | Selected Id for current record.          |
| 7       | Reprint current record.                  |
| 8       | Done – press to return to previous menu. |

Table 6-12. Alibi Storage

## 7.0 Formats

The Format menu allows the setup of print and stream formats.

From the Configuration menu, select the **Formats** icon  (circled in Figure 7-1) to enter the Formats menu.

Once all parameters have been set, press  to return to weigh mode.

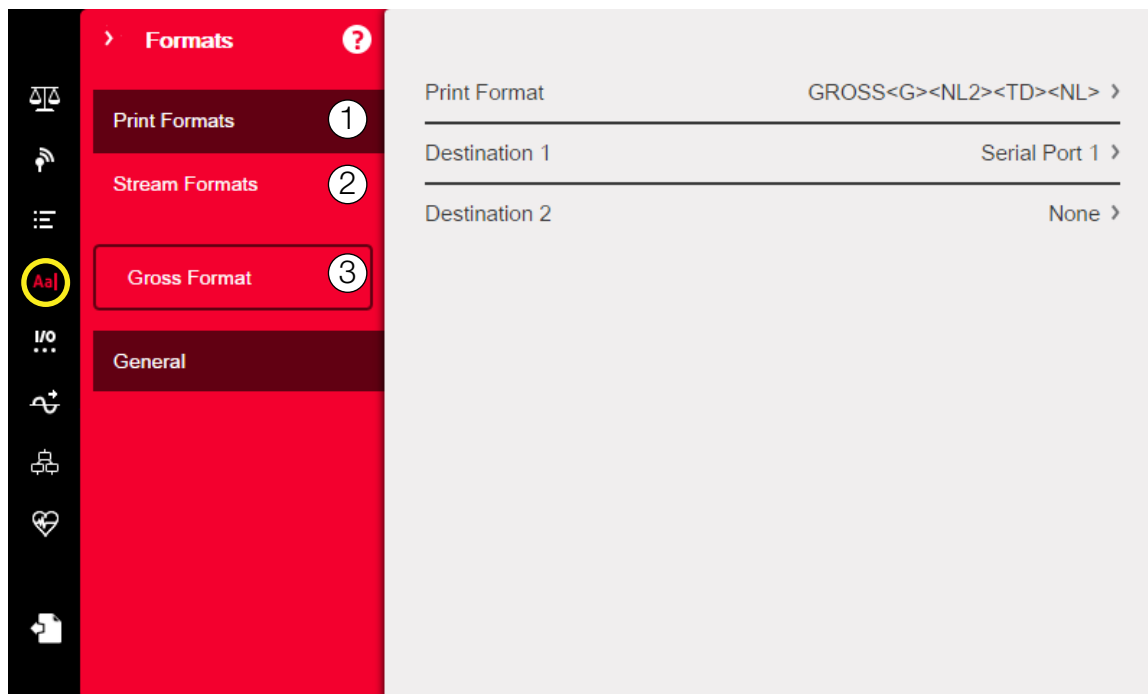


Figure 7-1. Format Menu

| Item No. | Parameter       | Description   |
|----------|-----------------|---|
| 1        | Print Formats   | Used to set the printed output when the <b>Print</b> key is pressed, a KPRINT command is received or when the setpoint push-print or truck weigh-in/weigh-out operations are performed. See Section 7.1.      |
| 2        | Stream Formats  | The 1280 supports four configurable data streaming formats that can be set to output data frames in one of nine pre-configured formats (see Table 7-2), or the data frame can be customized. See Section 7.2. |
| 3        | Selection Field | Allows selection of print or stream formats.  |


Table 7-1. Format Menu Parameters




## 7.1 Print Format

The print format used for a given print operation depends on the indicator configuration and the operation performed. Each print format can be customized to include up to 1000 characters of information, such as company name and address, on printed tickets.

Use the Revolution configuration utility, serial commands or the indicator front panel to customize the print formats.

To access the Print Format menu from the front panel, select the Formats icon .

From the **Formats** menu, select **Print Format**.

1. Press the selection field arrow (circled in Figure 7-2) to select the print format to be configured. The current settings for that format will appear to the right.
2. To edit the Format, select the format or the arrow on the right of the format. The format editor displays. Table 7-4 lists print tokens, which are always enclosed in < >. Characters not enclosed in < > will be printed as displayed.
3. When finished editing the print format, press .
4. Set the communications port destination parameters as needed. See Section 7.1.2. Up to two communication ports can be defined to allow the same format to be sent out simultaneously.

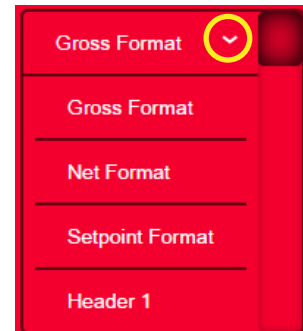


Figure 7-2. Select Format

### 7.1.1 Default Print Formats

Table 7-2 lists all of the default print formats. These are the formats used when the indicator's configuration is reset.


| Print Format  | Default Format   |
|---|--|
| Gross Format  | GROSS<G><NL2><TD><NL>  |
| Net Format  | GROSS<G><NL>TARE<SP><T><NL>NET<SP2><N><NL2><TD><NL>  |
| Setpoint Format   | <SCV><SP><SPM><NL>   |
| Header 1  | COMPANY NAME<NL>STREET ADDRESS<NL>CITY, ST ZIP<NL2>  |
| Header 2  | COMPANY NAME<NL>STREET ADDRESS<NL>CITY, ST ZIP<NL2>  |
| Accumulator Format  | ACCUM <A><NL><DA> <TI><NL>   |
| Alert Format  | <COMP><NL><COAR1><NL><COAR2><NL><COAR3><NL><CONM1><COPH1><NL><CONM2><COPH2><NL> <CONM3> <COPH3><NL><COML><NL><ERR><NL> |
| Audit Trail Format  | Not Available  |
| Auxiliary Format 1-20   | GROSS<G><NL2><TD><NL>  |
|  <b>Note</b> <i>AuxFmt12, AuxFmt13 and AuxFmt14 are specified for the LaserLight only. See Figure 6-2 on page 66 for more information.</i> |  |

Table 7-2. Default Print Formats

### 7.1.2 Set Destination 1 and 2 Print Format

1. Press **Destination 1** and select the serial port to be used.
2. Repeat for **Destination 2** (optional).

| Parameter           | Description   |
|---------------------|---|
| None                | A destination has not been set for the print format.                            |
| Serial Port 1       | Communications port support RS-232, RS-422 and RS-485 (connector J6).           |
| Serial Port 2       | Communications port support RS-232, RS-422 and RS-485 (connector J7).           |
| USB Port (Port 3)   | Micro USB device port that can be used as a communications port (connector J5). |
| Bluetooth® (Port 4) | A wireless communications port using the Bluetooth® standard.                   |
| TCP Client 1        | Specific settings for TCP Client 1.   |
| TCP Client 2        | Specific settings for TCP Client 2.   |

Table 7-3. Destination Options



**Note** Base destination list will grow with serial ports 5-16 depending on installed option cards.

## 7.1.3 Print Format Tokens



| Token   | Description  | Supported Ticket Formats                           |
|---|--|--|
| General Weight Data Tokens  |  |  |
| <G>   | Gross weight, current scale  | GFMT, NFMT, TRWIN. TRWOUT, ACCFMT, AUXFMTxx, ALERT |
| <G#n>   | Gross weight, scale <i>n</i>   |  |
| <N>   | Net weight, current scale  |  |
| <N#n>   | Net weight, scale <i>n</i>   |  |
| <T>   | Tare weight, current scale   |  |
| <T#n>   | Tare weight, scale <i>n</i>  |  |
| <S>   | Current scale number   |  |
|  <b>Note</b>   | <p><b>Gross, net, tare, accumulator, truck and setpoint weights can be printed in any configured weight unit by adding the following modifiers to the gross, net, and tare weight tokens: /P (primary units), /D (displayed units), /S (secondary units) or /T (tertiary units). If not specified, the currently displayed unit (/D) is assumed. Example: To format a ticket to show net weight for Scale 3 in secondary units, use the following token: &lt;N#3/S&gt;</b></p> <p><b>Formatted weight strings contain a 10-digit weight field (including sign and decimal point, with leading zeros suppressed), followed by a space and a two-digit unit identifier. Total field length with units identifier is 13 characters.</b></p> |  |
| Accumulator Tokens  |  |  |
| <A>   | Accumulated weight, current scale  | GFMT, NFMT, ACCFMT, AUXFMTxx                       |
| <A#n>   | Accumulated weight, scale <i>n</i>   |  |
| <AA>  | Average accumulation, current scale  |  |
| <AA#n>  | Average accumulation, scale <i>n</i>   |  |
| <AC>  | Number of accumulations, current scale   |  |
| <AC#n>  | Number of accumulations, scale <i>n</i>  |  |
| <AT>  | Time of last accumulation, current scale   |  |
| <AT#n>  | Time of last accumulation, scale <i>n</i>  |  |
| <AD>  | Date of last accumulation, current scale   |  |
| <AD#n>  | Date of last accumulation, scale <i>n</i>  |  |
| Setpoint Tokens   |  |  |
| <SCV>   | Setpoint captured value  | SPFMT  |
| <SN>  | Setpoint number  |  |
| <SNA>   | Setpoint name  |  |
| <SPM>   | Setpoint mode (gross or net label)   |  |
| <SPV>   | Setpoint preact value  |  |
| <STV>   | Setpoint target value  |  |
| Auditing Tokens   |  |  |
| <CD>  | Last calibration date  | All  |
| <NOC>   | Number of calibrations   |  |
| <NOW>   | Number of weighments since last calibration  |  |
|  <b>Note</b> | <p><b>Last calibration date (&lt;CD&gt;) and number of calibrations (&lt;NOC&gt;) are updated anytime a calibration is performed on any of the scales. Number of weighments (&lt;NOW&gt; token) is incremented whenever the scale weight exceeds 10% of scale capacity. Scale must return to gross or net zero before the value can be incremented again.</b></p>  |  |

Table 7-4. Print Format Tokens


| Token  | Description   | Supported Ticket Formats |       |
|--|---|--------------------------|-------|
| Formatting and General-Purpose Tokens  |   |                          |       |
| <nnn>  | ASCII character ( <i>nnn</i> = decimal value of ASCII character). Used for inserting control characters (STX, for example) in the print stream. | All                      |       |
| <TI>   | Time  |                          |       |
| <DA>   | Date  |                          |       |
| <TD>   | Time and date   |                          |       |
| <UID>  | Unit ID number (up to 8 alphanumeric characters)  |                          |       |
| <CN>   | Consecutive number (up to 7 digits)   |                          |       |
| <H1>   | Insert header format 1 (HDRFMT1); see Table 7-2 on page 75  |                          |       |
| <H2>   | Insert header format 2 (HDRFMT2); see Table 7-2 on page 75  |                          |       |
| <CR>   | Carriage return character   |                          |       |
| <LF>   | Line feed character   |                          |       |
| <NL <i>nn</i> >  | New line ( <i>nn</i> = number of termination (<CR/LF> or <CR>) characters)*   |                          |       |
| <SP <i>nn</i> >  | Space ( <i>nn</i> = number of spaces)*  |                          |       |
| <SU>   | Toggle weight data format (formatted/unformatted)   |                          |       |
| <div> <b>Note</b> If <i>nn</i> is not specified, 1 is assumed. Value must be in the range 1–99.</div> |   |                          |       |
| User Program-dependent Tokens  |   |                          |       |
| <US <i>nn</i> >  | Insert user print text string (from user program, SetPrintText API)   | All                      |       |
| <EV <i>x</i> >   | Invoke user program print handler <i>x</i> (PrintFmt <i>x</i> )   | AUXFMT <i>x</i>          |       |
| <AN>   | Enables the addition of an Allibi ticket number.  | All                      |       |
| Alert Format Tokens  |   |                          |       |
| <COMP>   | Company name (up to 30 characters)  | All                      |       |
| <COAR1><br><COAR2><br><COAR3>  | Contact company address, lines 1–3 (up to 30 characters)  |                          |       |
| <CONM1><br><CONM2><br><CONM3>  | Contact names (up to 20 characters)   |                          |       |
| <COPH1><br><COPH2><br><COPH3>  | Contact phone numbers (up to 20 characters)   |                          |       |
| <COML>   | Contact e-mail address (up to 30 characters)  |                          |       |
| <ERR>  | Alert error message (system-generated)  |                          | ALERT |

Table 7-4. Print Format Tokens (Continued)

## 7.2 Stream Format Menu



The four stream formats can each be sent out of one or more of the indicator's communications ports.

| Parameters                          | Default              | Description   |
|-------------------------------------|----------------------|---|
| Output Stream Type                  | Off                  | Select Legal for Trade (stream data updates at the display update rate), Industrial (stream data updates at up to the scale sample rate) or Off (disables the stream format). If Legal for Trade or Industrial is selected, the parameters <a href="#">Stream Source</a> and <a href="#">Stream Destinations</a> display. |
| <a href="#">Stream Source</a>       | None                 | The scale the weight data will be taken from.   |
| <a href="#">Stream Destinations</a> | None                 | Defines the communication ports the stream data will be sent to (more than one can be selected).  |
| Stream Format                       | RLWS/Condec          | Specifies the format of the stream frame. Select one of the four available default formats, or select custom and use the Custom Format parameter to build a stream frame. If Custom is selected, the following parameters (in blue) display.  |
| <a href="#">Custom Format</a>       | <2><P><W7.><U><M><S> | Used to define a custom stream frame format, if the stream format parameter is set to custom.   |
| <a href="#">Gross Token</a>         | G                    | Defines what will be sent in the data frame for the Mode Token when in Gross mode (up to eight characters).   |
| <a href="#">Tare Token</a>          | T                    | Defines what will be sent in the data frame for the Mode Token when in Tare mode (up to eight characters).  |
| <a href="#">Net Token</a>           | N                    | Defines what will be sent in the data frame for the Mode Token when in Net mode (up to eight characters).   |
| <a href="#">Positive Token</a>      | Space                | From a list, select the character that will be sent in the data frame for the Polarity Token when displaying a positive weight. The default is a blank space.   |
| <a href="#">Negative Token</a>      | Minus                | Defines the character that will be sent in the data frame for the Polarity Token when displaying a negative weight.   |
| <a href="#">Primary Token</a>       | L                    | Defines what will be sent in the data frame for the Units Token when displaying Primary units (up to eight characters).   |
| <a href="#">Secondary Token</a>     | K                    | Defines what will be sent in the data frame for the Units Token when displaying Secondary units (up to eight characters).   |
| <a href="#">Tertiary Token</a>      | K                    | Defines what will be sent in the data frame for the Units Token when displaying Tertiary units (up to eight characters).  |
| <a href="#">Zero Token</a>          | Z                    | Defines what will be sent in the data frame for the Status Token when weight is at Center of Zero (up to two characters).   |
| <a href="#">Motion Token</a>        | M                    | Defines what will be sent in the data frame for the Status Token when weight is in Motion (up to two characters).   |
| <a href="#">Range Token</a>         | O                    | Defines what will be sent in the data frame for the Status Token when weight is Out of Range (up to two characters).  |
| <a href="#">OK Token</a>            | [blank entry]        | Defines what will be sent in the data frame for the Status Token when weight is OK (or not in one of the other states)(up to two characters). The default is a blank space.   |
| <a href="#">Invalid Token</a>       | I                    | Defines what will be sent in the data frame for the Status Token when weight is Invalid (up to two characters).   |

Table 7-5. Stream Format Parameters

### Stream Format

To set up the stream formats using the indicator front panel:

1. From the Formats menu, select **Stream Formats**. See Figure 7-1.
2. Select  to set the format to be configured.
3. Set the **Stream Type** to Industrial or Legal for Trade.
4. Press .
5. Select **Stream Source** to set one of the eight scales for the format.

6. Select **Stream Format** to choose the format to be used and press  or select **Custom Format** and use the keypad to create a format.
7. If **Custom Format** was selected in step 6, then select **Custom Format**. The Custom Format Editor will display. Stream tokens are listed in Table 7-6. Press .
8. Select **Stream Destinations** to indicate where to stream.
9. Press .
10. Set the values for the Stream Tokens (See Table 7-5) as needed.

## 7.2.1 Stream Format Tokens

| Format Identifier     | Defined By   | Description   |
|-----------------------|--|---|
| <P[G   N   T]>        | STR.POS# <i>n</i><br>STR.NEG# <i>n</i>   | Polarity. Specifies positive or negative polarity for the current or specified (Gross/Net/Tare) weight on the source scale. Possible values are SPACE, NONE, + (for STR.POS# <i>n</i> ) or – (for STR.NEG# <i>n</i> )                         |
| <U[P   S   T]>        | STR.PRI# <i>n</i><br>STR.SEC# <i>n</i><br>STR.TER# <i>n</i>  | Units. Specifies primary, secondary or tertiary units for the current or specified weight on the source scale.  |
| <M[G   N   T]>        | STR.GROSS# <i>n</i><br>STR.NET# <i>n</i><br>STR.TARE# <i>n</i>   | Mode. Specifies gross, net or tare weight for the current or specified weight on the source scale.  |
| <S>                   | STR.MOTION# <i>n</i><br>STR.RANGE# <i>n</i><br>STR.OK# <i>n</i><br>STR.INVALID# <i>n</i><br>STR.ZERO# <i>n</i> | Status for the source scale. Default values and meanings for each status:<br>STR.MOTION# <i>n</i> MIn motion<br>STR.RANGE# <i>n</i> OOOut of range<br>STR.OK# <i>n</i> <space>OK<br>STR.INVALID# <i>n</i> IInvalid<br>STR.ZERO# <i>n</i> ZCOZ |
| <B [-] <i>n</i> ,...> | See descriptions below   | Bit fields. Comma-separated sequence of bit field specifiers. Must be exactly 8 bits. Minus sign ([–]) inverts the bit.   |
| B0                    | —  | Always 0  |
| B1                    | —  | Always 1  |
| B2                    | Configuration  | =1 if even parity   |
| B3                    | Dynamic  | =1 if MODE=NET  |
| B4                    | Dynamic  | =1 if COZ   |
| B5                    | Dynamic  | =1 if standstill  |
| B6                    | Dynamic  | =1 if gross negative  |
| B7                    | Dynamic  | =1 if out of range  |
| B8                    | Dynamic  | =1 if secondary/tertiary  |
| B9                    | Dynamic  | =1 if tare in system  |
| B10                   | Dynamic  | =1 if tare is keyed   |
| B11                   | Dynamic  | =00 if MODE=GROSS<br>=01 if MODE=NET<br>=10 if MODE=TARE<br>=11 ( <i>not used</i> )   |
| B12                   | Dynamic  | =00 if UNITS=PRIMARY<br>=01 if UNITS=SECONDARY<br>=10 if UNITS=TERTIARY<br>=11 ( <i>not used</i> )  |
| B13                   | Configuration  | =00 ( <i>not used</i> )<br>=01 if current DSPDIV=1<br>=10 if current DSPDIV=2<br>=11 if current DSPDIV=5  |
| B14                   | Configuration  | =00 ( <i>not used</i> )<br>=01 if primary DSPDIV=1<br>=10 if primary DSPDIV=2<br>=11 if primary DSPDIV=5  |

Table 7-6. Stream Format Tokens


| Format Identifier                | Defined By    | Description   |
|----------------------------------|---------------|---|
| B15                              | Configuration | =00 (not used)<br>=01 if secondary DSPDIV=1<br>=10 if secondary DSPDIV=2<br>=11 if secondary DSPDIV=5   |
| B16                              | Configuration | =00 (not used)<br>=01 if tertiary DSPDIV=1<br>=10 if tertiary DSPDIV=2<br>=11 if tertiary DSPDIV=5  |
| B17                              | Configuration | =000 if current DECPNT=8888800<br>=001 if current DECPNT=8888880<br>=010 if current DECPNT=8888888<br>=011 if current DECPNT=888888.8<br>=100 if current DECPNT=88888.88<br>=101 if current DECPNT=8888.888<br>=110 if current DECPNT=888.8888<br>=111 if current DECPNT=88.88888   |
| B18                              | Configuration | =000 if primary DECPNT=8888800<br>=001 if primary DECPNT=8888880<br>=010 if primary DECPNT=8888888<br>=011 if primary DECPNT=888888.8<br>=100 if primary DECPNT=88888.88<br>=101 if primary DECPNT=8888.888<br>=110 if primary DECPNT=888.8888<br>=111 if primary DECPNT=88.88888   |
| B19                              | Configuration | =000 if secondary DECPNT=8888800<br>=001 if secondary DECPNT=8888880<br>=010 if secondary DECPNT=8888888<br>=011 if secondary DECPNT=888888.8<br>=100 if secondary DECPNT=88888.88<br>=101 if secondary DECPNT=8888.888<br>=110 if secondary DECPNT=888.8888<br>=111 if secondary DECPNT=88.88888   |
| B20                              | Configuration | =000 if tertiary DECPNT=8888800<br>=001 if tertiary DECPNT=8888880<br>=010 if tertiary DECPNT=8888888<br>=011 if tertiary DECPNT=888888.8<br>=100 if tertiary DECPNT=88888.88<br>=101 if tertiary DECPNT=8888.888<br>=110 if tertiary DECPNT=888.8888<br>=111 if tertiary DECPNT=88.88888   |
| <wspec [-] [0] digit[.][.digit]> | Scale weight  | Weight for the source scale. <i>wspec</i> is defined as follows:<br><i>wspec</i> indicates whether the weight is the current displayed weight (W, w), gross (G, g), net (N, n) or tare (T, t) weight. Upper-case letters specify right-justified weights, lower-case are left-justified.<br>Optional /P, /S or /T suffixes can be added before the ending delimiter (>) to specify weight display in primary (/P), secondary (/S) or tertiary (/T) units.<br>[-]Enter a minus sign (-) to include sign for negative values.<br>[0]Enter a zero (0) to display leading zeroes.<br><i>digit[.][.digit]</i><br>The first digit indicates the field width in characters. The decimal point only indicates a floating decimal. A decimal point with a following digit indicates fixed decimal with <i>n</i> digits to the right of the decimal. Two consecutive decimals send the decimal point even if it falls at the end of the transmitted weight field. |
| <CR>                             | —             | Carriage return   |
| <LF>                             | —             | Line feed   |


Table 7-6. Stream Format Tokens (Continued)

## 8.0 Digital I/O

Digital inputs can be set to provide indicator functions, including all keypad functions. Digital inputs are active low (0 VDC) and inactive high (5 VDC).

Digital outputs are typically used to control relays that drive other equipment. Outputs are designed to sink, rather than source, switching current. Each output is normally an open collector circuit, capable of sinking 20 mA when active. Digital outputs are used to change a relay state when the digital output is active (low, 0 VDC) with reference to a 5 VDC supply.

From the Configuration menu, select the **Digital I/O** icon  (circled in Figure 8-1) to enter the *Digital I/O* menu.

Once all parameters have been set, press  to return to weigh mode.

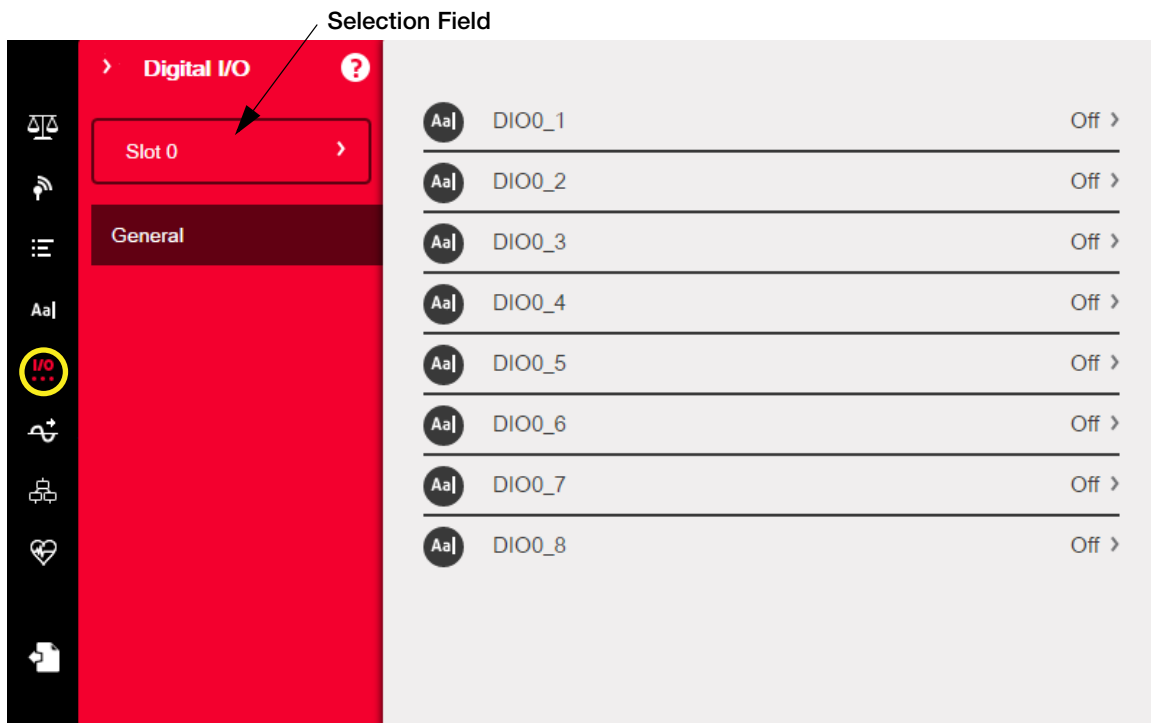


Figure 8-1. Digital I/O Menu

The Digital I/O menu is used to assign functions to digital inputs and outputs.

Slot 0 – eight I/O bits available on the CPU board (connector J1).

Slot 1-6 – up to 24 I/O bits are available per Digital I/O expansion card, if installed.

1. If using an optional Digital I/O card, press the selection field arrow next to Slot 0 in order to select the slot containing the card.



**Note** Slot 0 is always available.

2. Select the desired Digital I/O from the list displayed. The following functions display.


| Function                  | Description  |
|---------------------------|--|
| Off                       | Indicates the bit is not configured.   |
| Output                    | Assigns the bit as a digital output for setpoint or iRite program use.   |
| Input                     | Assigns the bit as a digital input used for Digital Input setpoints.   |
| Programmability           | Assigns the bit as a digital input used to generate a iRite program event.   |
| Zero                      | Provides the same function as the front panel Zero key.  |
| Gross/Net                 | Provides the same function as the front panel Gross/Net key.   |
| Tare                      | Provides the same function as the front panel Tare key.  |
| Units                     | Provides the same function as the front panel Units key.   |
| Print                     | Provides the same function as the front panel Print key.   |
| Accumulate                | Adds the current scale weight to the accumulator, if enabled.  |
| Clear Accumulator         | Clears the accumulated value for the current scale, if enabled.  |
| Setpoint                  | Provides the same function as the Setpoint softkey.  |
| Time/Date                 | Provides the same function as the Time/Date softkey.   |
| Display Tare              | Displays the current scale tare, same function as the the Display Tare softkey.  |
| Clear Key                 | Provides the same function as the front panel Clear key.   |
| Cancel Key                | Provides the same function as the Cancel softkey.  |
| Numeric Keys 0-9          | Provides the same functions as the front panel numeric keys.   |
| Decimal Point Key         | Provides the same function as the front panel Decimal Point key.   |
| Enter Key                 | Provides the same function as the front panel Enter key.   |
| Navigate Up               | Provides the same function as the front panel Up Arrow key.  |
| Navigate Down             | Provides the same function as the front panel Down Arrow key.  |
| Navigate Left             | Provides the same function as the front panel Left Arrow key.  |
| Navigate Right            | Provides the same function as the front panel Right Arrow key.   |
| Keyboard Lock             | Locks the front panel keyboard while the input is active.  |
| Hold                      | Holds the current scale weight display while this input is active.   |
| Batch Run                 | Batch Run must be held active for a batch to start or run. If made inactive while a batch is running, the batch will stop and remain at the current step. If it is not defined, a batch will start anytime the Batch Start softkey is pressed, the Batch Start digital input is activated or a Batch Start serial command is received. |
| Batch Start               | Starts a batch from the current step if a Batch Run digital input is either active or not defined. If a Batch Run digital input is defined and inactive, Batch Start resets the batch to the first step.   |
| Batch Pause               | Pauses a batch while the input is held active and turns off all digital outputs except those associated with Concurrent and Timer setpoints. Processing is suspended until the BatchPause input is made inactive.  |
| Batch Reset               | Stops an active batch and resets the current step to the first batch step. All digital outputs associated with batch setpoints are deactivated. If a batch is stopped or paused, Batch Reset will reset the current step to the first step.  |
| Batch Stop                | Stops an active batch and turns off all associated digital outputs. Requires a Batch Start to resume processing.   |
| Clear Consecutive Number  | Resets the consecutive numbering to the value specified in Consecutive Number Start.   |
| Gross Weight Display      | Set current scale to display gross weight.   |
| Net Weight Display        | Set current scale to display net weight.   |
| Primary Units Displayed   | Set current scale to display in primary Units.   |
| Secondary Units Displayed | Set current scale to display in secondary Units.   |
| Tertiary Units Displayed  | Set current scale to display in tertiary Units.  |
| Clear Tare                | Clears the tare value of the current scale.  |
| Pulse Input               | Allows ability to count pulses using a custom iRite application (for example, to measure water being metered into a tank).   |

*Table 8-1. Digital I/O Types*



## 9.0 Analog Output

The Analog Output menu is shown 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.

From the Configuration menu, select the **Analog Output** icon  (circled in Figure 9-1) to enter the Analog Output menu.

Once all settings are correct, press  to return to weigh mode.

Whether using Single Analog Output cards or Dual Analog Output cards, the actual analog outputs are identified by a number. Two output ID numbers can be applied per slot, i.e. the output in slot 1 channel 2 is number 2. Select the analog output number that needs to be configured.

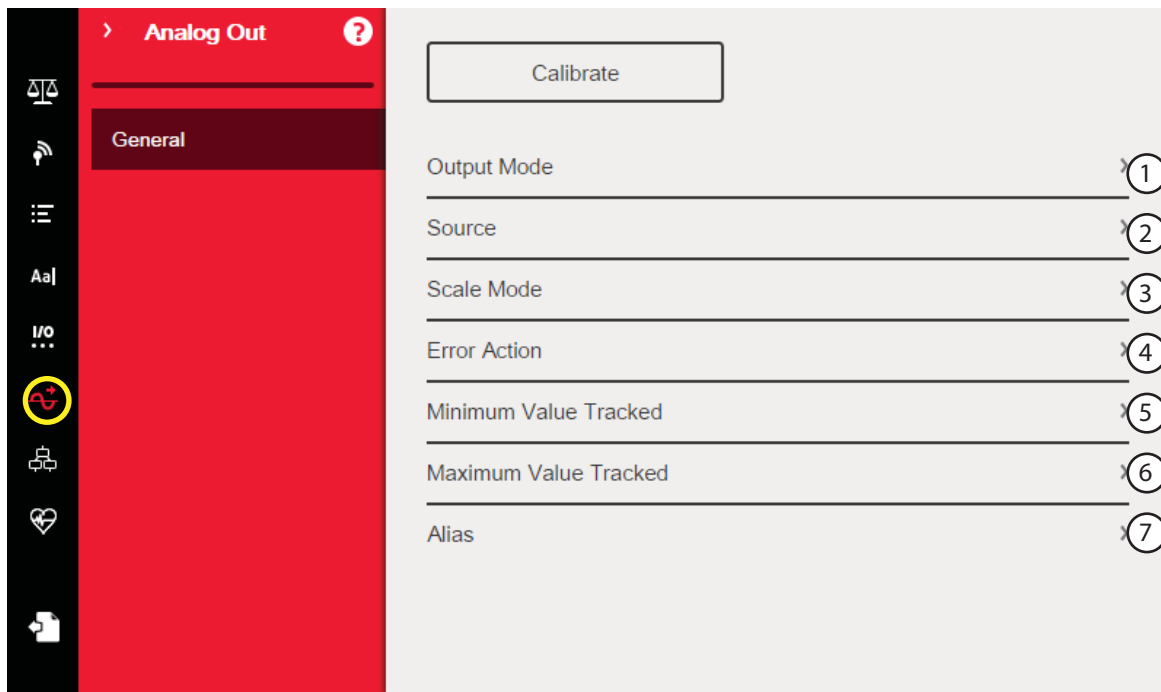


Figure 9-1. Analog Output Menu Screen

| Item No. | Parameter             | Default    | Description  |
|----------|-----------------------|------------|--|
| 1        | Output Mode           | 0-10 V     | Specifies the voltage or current that will be tracked by the analog output. Choices are 0-10V, 4-20 mA or 0-20 mA.   |
| 2        | Source                | 1          | Scale 1-8 specifies the scale tracked by the analog output. Programmability indicates that the analog output is under iRite program control.   |
| 3        | Scale Mode            | Gross      | Specifies the weight data, gross or net, tracked by the analog output when source is assigned to a scale.  |
| 4        | Error Action          | Full Scale | Specifies how the analog output responds to system error conditions <ul style="list-style-type: none"> <li>Full Scale – set to full scale (10 V or 20 mA)</li> <li>Hold – holds current value</li> <li>Zero Scale – set to zero value (0 V, 0 mA or 4 mA)</li> </ul> |
| 5        | Minimum Value Tracked | 0          | Specifies the minimum weight value tracked by the analog output, range of -9999999 to 9999999.   |
| 6        | Maximum Value Tracked | 10,000     | Specifies the maximum weight value tracked by the analog output, range of -9999999 to 9999999.   |
| 7        | Alias                 | —          | Enter an alias name for the analog output.   |


Table 9-1. Analog Output Parameters



## 9.1 Analog Output Calibration

The following calibration procedure requires a multimeter to measure voltage or current output from the analog output module.



**Note** *The analog output must be calibrated after the indicator itself has been configured and calibrated.*

To enter the Analog Output menu, select the **Analog Output**  icon.


1. Select the analog output number.
2. Connect the multimeter to connector J1 to calibrate channel 1 on the analog output card. Connect to J2 for channel 2 for the dual analog output card.
  - For voltage output, connect the voltmeter leads to pins 3 (-) and 4 (+)
  - For current output, connect the ammeter leads to pins 1 (-) and 2 (+)
3. Select **Calibrate**.
4. Select the desired output mode.
5. Select **Next**.
6. Select 123... and enter the observed milliamp or voltage reading. The minimum calibration occurs at 0.5 V for a 0-10 V output and at 1 mA for a 0-20 mA output.
7. Press .
8. Press **Calibrate Minimum**.
9. Press **Next**.
10. Press **Set to Maximum**.
11. Select 123... and enter the observed milliamp or voltage reading.
12. Press .
13. Press **Calibrate Maximum**.
14. Press **Next**.
15. Press **Set to Minimum** and **Set to Maximum** to check calibration results.
16. Repeat steps 6-15 until calibration results are satisfactory.
17. Press **Finish**. The display returns to the **Analog Output** menu.
18. Press **Save and Exit** to save the calibration parameters.

## 10.0 Setpoints

The *1280* indicator provides 100 configurable setpoints for control of the indicator and external equipment functions. Setpoints can be configured to perform actions or functions based on specified parameter conditions. Parameters associated with various setpoint kinds can be configured to:

- Perform functions such as print, tare, or accumulate
- Change the state of a digital output
- Make conditional decisions

From the Configuration menu, select the **Setpoints** icon  (circled in Figure 10-1) to enter the **Setpoints** menu.

Once all settings are correct, press  to return to weigh mode.

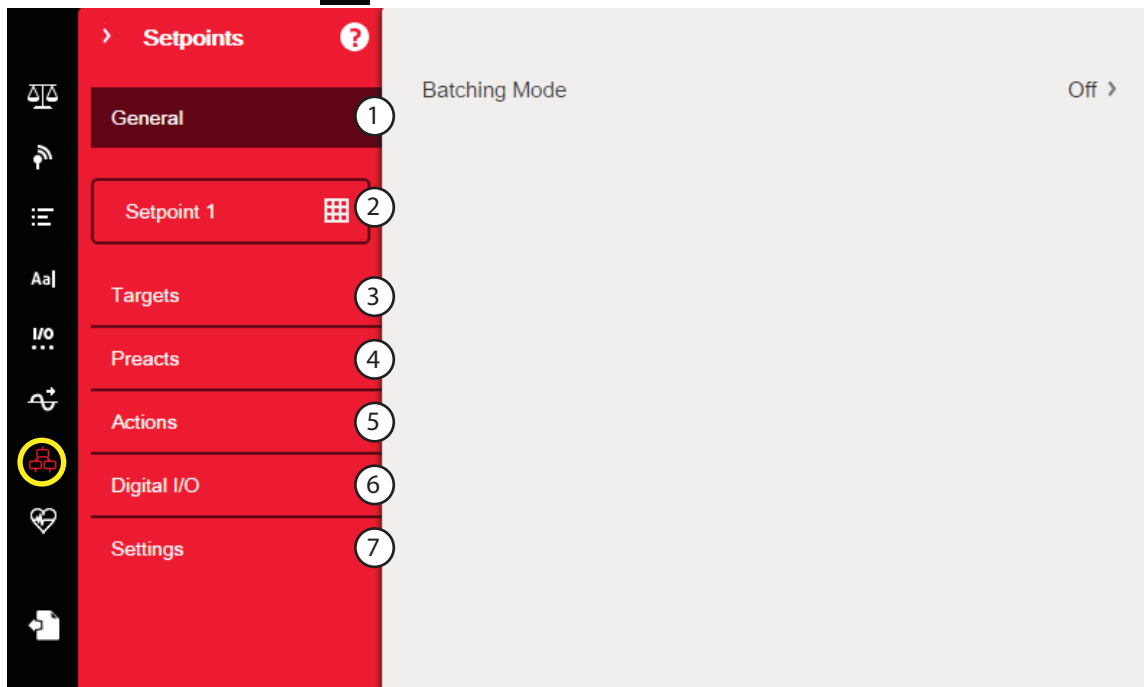


Figure 10-1. Setpoints Menu

| Item No. | Description  |
|----------|--|
| 1        | General – select if Batching is enabled or disabled. If set to enabled, additional parameters display; select <b>Automatic Restart</b> or <b>Manual Restart</b> to allow a batch sequence to run. <b>Manual</b> requires a Batch Start signal (a Batch Start digital input, BATSTART serial command, Batch Start softkey, or the StartBatch function in an iRite program) before the batch sequence can run. <b>Automatic</b> allows the batch sequence to restart automatically once it has been started. |
| 2        | Setpoint # – select Setpoint Kind. See Section 10.1 on page 86 to configure parameters available for setpoint kind selected.   |
| 3        | Targets – sets the value at which the setpoint will trip. See Table 10-3 on page 94.   |
| 4        | Preacts – select parameters that allow a setpoint to become satisfied before its target value is reached. This allows for material in suspension. See Table 10-4 on page 95.   |
| 5        | Actions – selects functions that are performed when the setpoint is satisfied. See Table 10-5 on page 95.  |
| 6        | Digital I/O – selects a digital output that is controlled by the setpoint. See Section 10-6 on page 95.  |
| 7        | Settings – selects the mode of the setpoint (batch or freerunning). If enabled, it can be accessed by softkey, for defining a name and optional prompt. See Table 10-7 on page 95.   |

Table 10-1. Setpoint Menu Parameters

## 10.1 Select Setpoint for Configuration

1. Press **Setpoint 1** to select the setpoint (1-100) for which the target value needs to be changed.
2. Press the red number of the setpoint in the table (it may be necessary to use the arrows at the bottom of the screen scroll through the setpoints).
3. Refer to Figure 10-2 for selecting the Setpoint Kind and renaming the setpoint.



Figure 10-2. Select Kind

4. Press **Value** to bring up the numeric entry keyboard.
5. Enter the new target value and press **Done**.
6. Press **Settings** to toggle between enabled and disabled.



**Note** Setpoint values can be configured in Weigh Mode. See Section 1.9 on page 10.

| Parameter         | Description   | Batch | Continuous |
|-------------------|---|-------|------------|
| Off               | Setpoint turned off/ignored.  |       |            |
| Gross             | Performs functions based on the gross weight.<br>The target weight entered is considered a positive gross weight.   | X     | X          |
| Net               | Performs functions based on the net weight.<br>The target weight entered is considered a positive net weight value.   | X     | X          |
| Negative Gross    | Negative gross weight. Performs functions based on the gross weight.<br>The target weight entered is considered a negative gross weight.  | X     | X          |
| Negative Net      | Negative net weight. Performs functions based on the net weight.<br>The target weight entered is considered a negative net weight value.  | X     | X          |
| Accumulate        | Compares the value of the setpoint to the source scale accumulator.<br>The accumulator setpoint is satisfied when the value of the source scale accumulator meets the value and conditions of the accumulator setpoint.   | X     | X          |
| Positive Relative | Performs functions based on a specified value above a referenced setpoint, using the same weight mode as the referenced setpoint.   | X     | X          |
| Negative Relative | Performs functions based on a specified value below a referenced setpoint, using the same weight mode as the referenced setpoint.   | X     | X          |
| Percent Relative  | Performs functions based on a specified percentage of the target value of a referenced setpoint, using the same weight mode as the referenced setpoint.<br>The actual target value of the Percent Relative setpoint is calculated as a percentage of the target value of the referenced setpoint. | X     | X          |
| Pause             | Pauses the batch sequence indefinitely. A Batch Start signal must be initiated to continue the batch process.   | X     |            |
| Delay             | Delays the batch sequence for a specified time.<br>The length of the delay (in tenths of a second) is specified on the Value parameter.   | X     |            |
| Wait Standstill   | Suspends the batch sequence until the scale is at standstill.   | X     |            |
| Counter           | Specifies the number of consecutive batch sequences to perform. Counter setpoints should be placed at the beginning of a batch routine.   | X     |            |

Table 10-2. Setpoint Kinds


| Parameter           | Description   | Batch | Continuous |
|---------------------|---|-------|------------|
| Auto-Jog            | <p>Automatically checks the previous weight-based setpoint to verify that the setpoint weight value is satisfied in a standstill condition.</p> <ul style="list-style-type: none"> <li>• If the previous setpoint is not satisfied when at standstill, the <b>AUTOJOG</b> setpoint activates the digital output of the previous weight-based setpoint for a period of time, specified on the Value parameter (in tenths of a second).</li> <li>• The autojog process repeats until the previous weight-based setpoint is satisfied when the scale is at standstill.</li> </ul> <p> <b>Note</b> <i>The AUTOJOG digital output is typically used to signify that an AUTOJOG operation is being performed.</i></p> <p><i>AUTOJOG uses the digital output of the previous weight-based setpoint, and should not be assigned to the same digital output as the related weight-based setpoint.</i></p> | X     |            |
| Center of Zero      | <p>Monitors for a gross center of zero condition.</p> <ul style="list-style-type: none"> <li>• The digital output associated with this setpoint kind is activated when the referenced scale is at center of zero.</li> <li>• No value is required for this setpoint.</li> </ul>   |       | X          |
| In-Motion           | <p>Monitors for an in-motion condition.</p> <ul style="list-style-type: none"> <li>• The digital output associated with this setpoint is activated when the scale is not at standstill.</li> <li>• No value is required for this setpoint.</li> </ul>   |       | X          |
| In-Range            | <p>Monitors for an in-range condition.</p> <ul style="list-style-type: none"> <li>• The digital output associated with this setpoint is activated when the scale is within capacity range.</li> <li>• No value is required for this setpoint.</li> </ul>  |       | X          |
| Batch in Process    | <p>Batch processing signal.</p> <ul style="list-style-type: none"> <li>• The digital output associated with this setpoint is activated whenever a batch sequence is in progress.</li> <li>• No value is required for this setpoint.</li> </ul>  |       | X          |
| Timer               | <p>Tracks the progress of a batch sequence based on a timer.</p> <ul style="list-style-type: none"> <li>• The timer value, in tenths of a second, determines the length of time allowed between start and end setpoints.</li> <li>• Start and End parameters are used to specify the start and end setpoints.</li> <li>• If the End setpoint is not reached before the timer expires, the digital output associated with this setpoint is activated.</li> </ul>   |       | X          |
| Concurrent          | <p>Allows a digital output to remain active over a specified portion of the batch sequence.</p> <ul style="list-style-type: none"> <li>• <b>Type 1 (VALUE=0):</b> The digital output associated with this setpoint becomes active when the Start setpoint becomes the current batch step and remains active until the End setpoint becomes the current batch step.</li> <li>• <b>Type 2 (VALUE &gt; 0):</b> If a non-zero value is specified for the Value parameter, that value represents the timer, in tenths of a second, for this setpoint. The digital output associated with this setpoint becomes active when the Start setpoint becomes the current batch step and remains active until the timer expires.</li> </ul>  |       | X          |
| Digital Input       | <p>Requires a specific group of digital inputs to be in a low (0 VDC) state to satisfy the setpoint.</p> <p>The digital output associated with this setpoint is held in a low (0 VDC) state until the inputs selected for the digital input mask are all in a low state.</p>  | X     | X          |
| Time of Day         | <p>Performs functions when the internal clock time of the indicator matches the specified setpoint time.</p>  | X     | X          |
| Always              | <p>This setpoint is always satisfied.</p> <ul style="list-style-type: none"> <li>• It is typically used to provide an endpoint for true/false branching batch routines.</li> </ul>  | X     |            |
| Never               | <p>This setpoint is never satisfied.</p> <ul style="list-style-type: none"> <li>• It is used to branch to a designated setpoint in true/false branching batch routines in which the batch will not continue through the normal sequence of batch setpoints.</li> </ul>  | X     |            |
| Digital Input Count | <p>Counts pulses received at the specified digital input.</p>   | X     | X          |

Table 10-2. Setpoint Kinds (Continued)

## 10.2 Setpoint Configuration

Setpoint kinds have different parameters that can be configured. The following charts illustrate the parameters available based on the setpoint kind selected.

### Gross/Net/Negative Gross/Negative Net

| Target      |           |              |                |  |  |
|-------------|-----------|--------------|----------------|--|--|
| Value       | Source    | Trip         |                |  |  |
| Enter Value | Scale 1-8 | Higher/Lower | Inband/Outband |  |  |
|             |           | Hysteresis   | Band Value     |  |  |

Parameters in blue display on the same screen when the setting above is selected.

| Preact |              |                  |                  |
|--------|--------------|------------------|------------------|
| Preact |              |                  |                  |
| Off    | On           | Learn            | Flow             |
|        | Preact Value | Preact Value     | Preact Value     |
|        |              | Preact Adjust    | Preact Adjust    |
|        |              | Preact Stability | Preact Stability |
|        |              | Preact Count     | Preact Count     |

| Actions |              |            |             |                 |           |
|---------|--------------|------------|-------------|-----------------|-----------|
| Alarm   | Clear Accum. | Clear Tare | Push Accum. | Push Print      | Push Tare |
| OFF     | OFF          | OFF        | Off         | Off             | OFF       |
| ON      | ON           | ON         | On          | On              | ON        |
|         |              |            | Quiet       | Wait Standstill |           |

| Digital I/O |          |
|-------------|----------|
| Sense       | Slot     |
| Normal      | None     |
| Invert      | Slot 1-6 |

| Settings |        |        |       |        |
|----------|--------|--------|-------|--------|
| Batch    | Access | Enable | Alias | Prompt |
| OFF      | On     | OFF    | Enter | Enter  |
| ON       | Off    | ON     | Value | Value  |
| Branch   | Hide   |        |       |        |

Figure 10-3. Gross/Net/Negative Gross/Negative Net Setpoint Parameters

## Accumulate

| Target                   |                        |                            |                            |                 |
|--------------------------|------------------------|----------------------------|----------------------------|-----------------|
| Value                    | Source                 | Trip                       |                            |                 |
| Enter Value              | Scale 1-8              | Higher/Lower               | Inband/Outband             |                 |
|                          |                        | <a href="#">Hysteresis</a> | <a href="#">Band Value</a> |                 |
| Preact                   |                        |                            |                            |                 |
| No parameters to be set. |                        |                            |                            |                 |
| Actions                  |                        |                            |                            |                 |
| Alarm                    | Clear Accum.           | Clear Tare                 | Push Accum.                | Push Print      |
| OFF                      | OFF                    | OFF                        | Off                        | Off             |
| ON                       | ON                     | ON                         | On                         | On              |
|                          |                        |                            | Quiet                      | Wait Standstill |
| Digital I/O              |                        |                            |                            |                 |
| Sense                    | Slot                   |                            |                            |                 |
| Normal                   | None                   |                            |                            |                 |
| Invert                   | Slot 1-6               |                            |                            |                 |
| Settings                 |                        |                            |                            |                 |
| Batch                    | Access                 | Enable                     | Alias                      | Prompt          |
| OFF                      | On                     | OFF                        | Enter                      | Enter           |
| ON                       | Off                    | ON                         | Value                      | Value           |
|                          | <a href="#">Branch</a> | Hide                       |                            |                 |

Parameters in blue display on the same screen when the setting above is selected.

Figure 10-4. Accumulate Setpoint Parameters

## Positive Relative/Negative Relative/Percent Relative

| Target      |                                  |                                  |                                  |                          |
|-------------|----------------------------------|----------------------------------|----------------------------------|--------------------------|
| Value       | Source                           | Trip                             |                                  | Relative Setpoint Number |
| Enter Value | Scale 1-8                        | Higher or Lower                  | Inband or Outband                | Enter Value              |
|             |                                  | <a href="#">Hysteresis</a>       | <a href="#">Band Value</a>       |                          |
| Preact      |                                  |                                  |                                  |                          |
| Off         | On                               | Learn                            | Flow                             |                          |
|             | <a href="#">Preact Value</a>     | <a href="#">Preact Value</a>     | <a href="#">Preact Value</a>     |                          |
|             | <a href="#">Preact Adjust</a>    | <a href="#">Preact Adjust</a>    | <a href="#">Preact Adjust</a>    |                          |
|             | <a href="#">Preact Stability</a> | <a href="#">Preact Stability</a> | <a href="#">Preact Stability</a> |                          |
|             | <a href="#">Preact Count</a>     | <a href="#">Preact Count</a>     | <a href="#">Preact Count</a>     |                          |
| Actions     |                                  |                                  |                                  |                          |
| Alarm       | Clear Accum.                     | Clear Tare                       | Push Accum.                      | Push Print               |
| OFF         | OFF                              | OFF                              | Off                              | Off                      |
| ON          | ON                               | ON                               | On                               | On                       |
|             |                                  |                                  | Quiet                            | Wait Standstill          |
| Digital I/O |                                  |                                  |                                  |                          |
| Sense       | Slot                             |                                  |                                  |                          |
| Normal      | None                             |                                  |                                  |                          |
| Invert      | Slot 1-6                         |                                  |                                  |                          |
| Settings    |                                  |                                  |                                  |                          |
| Batch       | Access                           | Enable                           | Alias                            | Prompt                   |
| OFF         | On                               | OFF                              | Enter                            | Enter                    |
| ON          | Off                              | ON                               | Value                            | Value                    |
|             | <a href="#">Branch</a>           | Hide                             |                                  |                          |

Parameters in blue display on the same screen when the setting above is selected.

Figure 10-5. Positive Relative/Negative Relative/Percent Relative Setpoint Parameters

## Pause

|                          |          |        |
|--------------------------|----------|--------|
| <b>Target</b>            |          |        |
| No parameters to be set. |          |        |
| <b>Preact</b>            |          |        |
| No parameters to be set. |          |        |
| <b>Actions</b>           |          |        |
| No parameters to be set. |          |        |
| <b>Digital I/O</b>       |          |        |
| Sense                    | Slot     |        |
| Normal                   | None     |        |
| Invert                   | Slot 1-6 |        |
| <b>Settings</b>          |          |        |
| Access                   | Alias    | Prompt |
| On                       | Enter    | Enter  |
| Off                      | Value    | Value  |
| Hide                     |          |        |

## Delay

|                          |            |             |                 |           |
|--------------------------|------------|-------------|-----------------|-----------|
| <b>Target</b>            |            |             |                 |           |
| Value                    | Source     |             |                 |           |
| Enter                    | Scale 1-8  |             |                 |           |
| Value                    |            |             |                 |           |
| <b>Preact</b>            |            |             |                 |           |
| No parameters to be set. |            |             |                 |           |
| <b>Actions</b>           |            |             |                 |           |
| Clear Accum.             | Clear Tare | Push Accum. | Push Print      | Push Tare |
| OFF                      | OFF        | Off         | Off             | OFF       |
| ON                       | ON         | On          | On              | ON        |
|                          |            | Quiet       | Wait Standstill |           |
| <b>Digital I/O</b>       |            |             |                 |           |
| Sense                    | Slot       |             |                 |           |
| Normal                   | None       |             |                 |           |
| Invert                   | Slot 1-6   |             |                 |           |
| <b>Settings</b>          |            |             |                 |           |
| Access                   | Alias      | Prompt      |                 |           |
| On                       | Enter      | Enter       |                 |           |
| Off                      | Value      | Value       |                 |           |
| Hide                     |            |             |                 |           |

Figure 10-6. Pause and Delay Setpoint Parameters

## Wait Standstill

|                          |              |            |             |                 |           |
|--------------------------|--------------|------------|-------------|-----------------|-----------|
| <b>Target</b>            |              |            |             |                 |           |
| Source                   |              |            |             |                 |           |
| Scale 1-8                |              |            |             |                 |           |
| <b>Preact</b>            |              |            |             |                 |           |
| No parameters to be set. |              |            |             |                 |           |
| <b>Actions</b>           |              |            |             |                 |           |
| Alarm                    | Clear Accum. | Clear Tare | Push Accum. | Push Print      | Push Tare |
| OFF                      | OFF          | OFF        | Off         | Off             | OFF       |
| ON                       | ON           | ON         | On          | On              | ON        |
|                          |              |            | Quiet       | Wait Standstill |           |
| <b>Digital I/O</b>       |              |            |             |                 |           |
| Sense                    | Slot         |            |             |                 |           |
| Normal                   | None         |            |             |                 |           |
| Invert                   | Slot 1-6     |            |             |                 |           |
| <b>Settings</b>          |              |            |             |                 |           |
| Access                   | Alias        | Prompt     |             |                 |           |
| On                       | Enter        | Enter      |             |                 |           |
| Off                      | Value        | Value      |             |                 |           |
| Hide                     |              |            |             |                 |           |

## Counter

|                          |          |       |        |
|--------------------------|----------|-------|--------|
| <b>Target</b>            |          |       |        |
| Value                    |          |       |        |
| Enter Value              |          |       |        |
| <b>Preact</b>            |          |       |        |
| No parameters to be set. |          |       |        |
| <b>Actions</b>           |          |       |        |
| No parameters to be set. |          |       |        |
| <b>Digital I/O</b>       |          |       |        |
| Sense                    | Slot     |       |        |
| Normal                   | None     |       |        |
| Invert                   | Slot 1-6 |       |        |
| <b>Settings</b>          |          |       |        |
| Branch                   | Access   | Alias | Prompt |
| Enter                    | On       | Enter | Enter  |
| Value                    | Off      | Value | Value  |
|                          | Hide     |       |        |

Parameters in blue display on the same screen when the setting above is selected.

Figure 10-7. Wait Standstill and Counter Setpoint Parameters



## Auto-Jog

|                          |            |                 |
|--------------------------|------------|-----------------|
| <b>Target</b>            |            |                 |
| Source                   |            |                 |
| Scale 1-8                |            |                 |
| <b>Preact</b>            |            |                 |
| No parameters to be set. |            |                 |
| <b>Actions</b>           |            |                 |
| Clear Accum.             | Clear Tare | Push Accum.     |
| OFF                      | OFF        | Off             |
| ON                       | ON         | On              |
|                          |            | Quiet           |
|                          |            | Push Print      |
|                          |            | Off             |
|                          |            | On              |
|                          |            | Wait Standstill |
|                          |            | Push Tare       |
|                          |            | OFF             |
|                          |            | ON              |
| <b>Digital I/O</b>       |            |                 |
| Sense                    | Slot       |                 |
| Normal                   | None       |                 |
| Invert                   | Slot 1-6   |                 |
| <b>Settings</b>          |            |                 |
| Access                   | Alias      | Prompt          |
| On                       | Enter      | Enter           |
| Off                      | Value      | Value           |
| Hide                     |            |                 |

## Center Of Zero/In-Motion/In-Range

|                          |          |
|--------------------------|----------|
| <b>Target</b>            |          |
| Source                   |          |
| Scale 1-8                |          |
| <b>Preact</b>            |          |
| No parameters to be set. |          |
| <b>Actions</b>           |          |
| No parameters to be set. |          |
| <b>Digital I/O</b>       |          |
| Sense                    | Slot     |
| Normal                   | None     |
| Invert                   | Slot 1-6 |
| <b>Settings</b>          |          |
| Access                   |          |
| On                       |          |
| Off                      |          |
| Hide                     |          |

Figure 10-8. Auto-Jog and Center of Zero/In-Motion/In-Range Setpoint Parameters

## Batch in Process

|                          |          |
|--------------------------|----------|
| <b>Target</b>            |          |
| No parameters to be set. |          |
| <b>Preact</b>            |          |
| No parameters to be set. |          |
| <b>Actions</b>           |          |
| No parameters to be set. |          |
| <b>Digital I/O</b>       |          |
| Sense                    | Slot     |
| Normal                   | None     |
| Invert                   | Slot 1-6 |
| <b>Settings</b>          |          |
| Access                   |          |
| On                       |          |
| Off                      |          |
| Hide                     |          |

## Timer, Concurrent

|                          |                       |                     |
|--------------------------|-----------------------|---------------------|
| <b>Target</b>            |                       |                     |
| Value                    | Start Setpoint Number | End Setpoint Number |
| Enter Value              | Enter Value           | Enter Value         |
| <b>Preact</b>            |                       |                     |
| No parameters to be set. |                       |                     |
| <b>Actions</b>           |                       |                     |
| No parameters to be set. |                       |                     |
| <b>Digital I/O</b>       |                       |                     |
| Sense                    | Slot                  |                     |
| Normal                   | None                  |                     |
| Invert                   | Slot 1-6              |                     |
| <b>Settings</b>          |                       |                     |
| Access                   |                       |                     |
| On                       |                       |                     |
| Off                      |                       |                     |
| Hide                     |                       |                     |

Figure 10-9. Batch in Process and Timer/Concurrent Setpoint Parameters

## Digital Input

|                          |              |             |             |   |           |
|--------------------------|--------------|-------------|-------------|---|-----------|
| <b>Target</b>            |              |             |             |   |           |
| Digital Input Slot       |              | Mask        |             |   |           |
| Enter Value              |              | Enter Value |             |   |           |
| <b>Preact</b>            |              |             |             |   |           |
| No parameters to be set. |              |             |             |   |           |
| <b>Actions</b>           |              |             |             |   |           |
| Alarm                    | Clear Accum. | Clear Tare  | Push Accum. | Push Print  | Push Tare |
| OFF                      | OFF          | OFF         | Off         | Off   | OFF       |
| ON                       | ON           | ON          | On          | On  | ON        |
|                          |              |             | Quiet       | Wait Standstill   |           |
| <b>Digital I/O</b>       |              |             |             |   |           |
| Sense                    |              | Slot        |             |   |           |
| Normal                   |              | None        |             |   |           |
| Invert                   |              | Slot 1-6    |             |   |           |
| <b>Settings</b>          |              |             |             |   |           |
| Batch                    | Access       | Alias       | Prompt      | Parameters in blue display on the same screen when the setting above is selected. |           |
| OFF                      | On           | Enter Value | Enter Value |   |           |
| ON                       | Off          | Value       | Value       |   |           |
| Branch                   | Hide         |             |             |   |           |

Figure 10-10. Digital Input Setpoint Parameters

## Time of Day

|                          |                   |             |                 |
|--------------------------|-------------------|-------------|-----------------|
| <b>Target</b>            |                   |             |                 |
| Time (HHMM)              | Duration (HHMMSS) | Source      |                 |
| Enter Value              | Enter Value       | Scale 1-8   |                 |
| <b>Preact</b>            |                   |             |                 |
| No parameters to be set. |                   |             |                 |
| <b>Actions</b>           |                   |             |                 |
| Clear Accum.             | Clear Tare        | Push Accum. | Push Print      |
| OFF                      | OFF               | Off         | Off             |
| ON                       | ON                | On          | On              |
|                          |                   | Quiet       | Wait Standstill |
| <b>Digital I/O</b>       |                   |             |                 |
| Sense                    |                   | Slot        |                 |
| Normal                   |                   | None        |                 |
| Invert                   |                   | Slot 1-6    |                 |
| <b>Settings</b>          |                   |             |                 |
| Batch                    | Access            | Alias       | Prompt          |
| OFF                      | On                | Enter Value | Enter Value     |
| ON                       | Off               | Value       | Value           |
|                          | Hide              |             |                 |

## Always, Never

|  |  |
|--|--|
| <b>Target</b>                          |  |
| No parameters to be set.               |  |
| <b>Preact</b>                          |  |
| No parameters to be set.               |  |
| <b>Actions</b>                         |  |
| No parameters to be set.               |  |
| <b>Digital I/O</b>                     |  |
| No parameters to be set.               |  |
| <b>Settings</b>                        |  |
| Branch (Never only)                    |  |
| Enter Value                            |  |
| No parameters to be set (Always only). |  |

Parameters in blue display on the same screen when the setting above is selected.

Figure 10-11. Time of Day and Always/Never Setpoint Parameters

## Digital Input Count

| Target                   |             |             |             |  |
|--------------------------|-------------|-------------|-------------|--|
| Digital Input Slot       | Mask        | Value       | Pre-Count   |  |
| Enter Slot               | Enter Value | Enter Value | Enter Value |  |
| Preact                   |             |             |             |  |
| No parameters to be set. |             |             |             |  |
| Actions                  |             |             |             |  |
| No parameters to be set. |             |             |             |  |
| Digital I/O              |             |             |             |  |
| Sense                    | Slot        |             |             |  |
| Normal                   | None        |             |             |  |
| Invert                   | Slot 1-6    |             |             |  |
| Settings                 |             |             |             |  |
| Batch                    | Access      | Alias       | Prompt      |  |
| OFF                      | On          | Enter       | Enter       |  |
| ON                       | Off         | Value       | Value       |  |
|                          | Hide        |             |             |  |

Figure 10-12. Digital Input Count Setpoint Parameters

## 10.2.1 Targets

| Parameter                | Default | Description   |
|--------------------------|---------|---|
| Value                    | 0       | Setpoint Value: <ul style="list-style-type: none"> <li>• <b>Weight-based</b> – specifies the target weight value, 0–99999999</li> <li>• <b>Time-based</b> – specifies time in 0.1 second intervals, range 0–65535</li> <li>• <b>Counter</b> – specifies the number of consecutive batches to run, range 0–65535</li> </ul>  |
| Source                   | Scale 1 | Select Scale 1-8.   |
| Trip                     | Higher  | Specifies if the setpoint is satisfied when the weight is higher or lower than the setpoint value, within a band established around the value, or outside of that band. In a batch sequence with: <ul style="list-style-type: none"> <li>• <b>Trip = Higher</b> – the associated digital output is active until the setpoint value is exceeded.</li> <li>• <b>Trip = Lower</b> – the output is active until the weight goes below the setpoint value.</li> <li>• <b>Trip = Inband</b> – the setpoint is satisfied when the weight is within a band established around the value.</li> <li>• <b>Trip = Outband</b> – the setpoint is satisfied when the weight is outside a band established around the value, excluding the value.</li> </ul> |
| Hysteresis               | 0       | When <b>Trip</b> is set to <b>Higher/Lower</b> , specifies a band around the setpoint value that must be exceeded before a setpoint that is off can trip on again.  |
| Band Value               | 0       | When <b>Trip</b> is set to <b>Inband/Outband</b> , this specifies a weight equal to half the band width. The band established around the setpoint value is <b>Value ± Band Value</b> .  |
| Relative Setpoint Number | 1       | For relative setpoints, specifies the number of the relative setpoint. The target weight for this setpoint is determined as follows: <ul style="list-style-type: none"> <li>• Positive Relative setpoints – value of the relative setpoint plus the value of the Positive Relative setpoint</li> <li>• Negative Relative setpoints – value of the relative setpoint minus the value of the Negative Relative setpoint</li> <li>• Percent Relative setpoints – percentage (specified on the Value parameter of the Percent Relative setpoint) of the target value of the relative setpoint</li> </ul>  |
| Digital Input Slot       | Slot 0  | Lists all available digital I/O slots. Specifies the slot number of the digital I/O card referenced by the Digital Input Slot parameter.  |
| Mask                     | 0       | The digital input bits that are associated with a digital input or digital input count setpoint. All defined digital inputs have to go active for the setpoint to be satisfied.   |
| Pre-Count                | 0       | Value at which the digital input counter setpoint starts to increment.  |
| Start Setpoint Number    | 1       | Specifies the starting setpoint number (when timer or concurrent setpoints turn on). Do not specify the start number of the timer or concurrent setpoint, they begin when the starting setpoint begins.   |
| End Setpoint Number      | 1       | Specifies the ending setpoint number (when the timer or concurrent setpoints turn off). Do not specify the end number of the timer or concurrent setpoint, they stop when the ending setpoint begins.   |
| Time                     | 0000    | Specifies the time of day the setpoint becomes active. Sets hours and minutes – HHMM  |
| Duration                 | 000000  | Specifies the length of time that the digital output associated with this setpoint changes state. All other operations associated with this setpoint (print, tare or accumulate) are performed at the end of the specified duration.<br>Set duration format – HHMMSS  |

Table 10-3. Target Parameters

## 10.2.2 Preacts

| Parameter        | Default | Description  |
|------------------|---------|--|
| Preact           | Off     | Preact helps compensate for material in a freefall state to ensure targets are met.  |
| Preact Value     | 0       | Specifies the preact value for setpoints with Preact Type set to On, Learn, or Flow. Depending on the Trip setting specified for the setpoint, it is adjusted up or down by the Preact Adjust value. The range is +/- 0-999999.  |
| Preact Adjust    | 0       | For setpoints with Preact Type set to Learn, Preact Adjust specifies a decimal number of the percentage of error correction applied (0.5 = 50%, 1.0 = 100%), each time an adjustment is made. The range is 0-100.  |
| Preact Stability | 0.0     | For setpoints with Preact Type set to Learn, Preact Stability specifies the time (0.1 second), to wait for standstill before adjusting the Preact Value. Setting this parameter to a value greater than zero disables the learn process if standstill is not achieved in the specified interval. The range is 0-65535. |
| Preact Count     | 1       | For setpoints with Preact Type set to Learn, Preact Count specifies the number of batches before the Preact Value is recalculated.<br>The default value (1) recalculates the Preact Value after every batch cycle. The range is 0-65535.   |

Table 10-4. Preact Parameters

## 10.2.3 Actions


| Parameter         | Default | Description   |
|-------------------|---------|---|
| Alarm             | Off     | Displays the word <i>Alarm</i> on the primary display while the setpoint is active (batch setpoints) or while the setpoint is not tripped (continuous setpoints).   |
| Clear Accumulator | Off     | Clears the accumulator when the setpoint is satisfied.  |
| Clear Tare        | Off     | Clears the tare when the setpoint is satisfied.   |
| Push Accumulate   | Off     | <b>On</b> updates the accumulator and performs a print operation when the setpoint is satisfied. <b>Quiet</b> updates the accumulator without printing.   |
| Push Print        | Off     | <b>On</b> performs a print operation when the setpoint is satisfied.<br><b>Wait for Standstill</b> waits until no motion is detected, after the setpoint is satisfied, before printing.   |
| Push Tare         | Off     | Performs an acquire tare operation when the setpoint is satisfied.<br> <b>Note</b> <i>Push Tare acquires the tare regardless of the value specified for the Regulatory parameter on the Feature menu (see Section 6.3 on page 68).</i> |

Table 10-5. Actions Parameters

## 10.2.4 Digital I/O

| Parameter      | Default | Description  |
|----------------|---------|--|
| Sense          | Normal  | Specifies whether the digital output is active low (Normal) or active high (Invert). |
| Slot           | None    | Slot number (1-8) from which digital inputs will be read.                            |
| Digital Output | 0       | The Digital I/O bit associated with the setpoint, after a slot is selected.          |

Table 10-6. Digital I/O Parameters

## 10.2.5 Settings

| Parameter | Default | Description  |
|-----------|---------|--|
| Batch     | Off     | Specifies whether the setpoint is used as a batch (On) or continuous (Off) setpoint.   |
| Branch    | 0       | If Batch is set to on, specifies the setpoint number to which the batch sequence is to branch if the current setpoint is not satisfied upon initial evaluation. The special value zero indicates that no branch is taken.    |
| Access    | On      | Specifies the access allowed to setpoint parameters shown by pressing the <b>Setpoint</b> softkey in weigh mode. If set to <b>Off</b> , values can be displayed but not changed. If set to <b>Hide</b> , values do not show. |
| Enable    | On      | Turns the setpoint on or off.  |
| Alias     | —       | Enter a name for the setpoint.   |
| Prompt    | —       | Alphanumeric message or prompt that can be displayed in a label widget.  |

Table 10-7. Settings Parameters

## 10.3 Batch Operations

Softkeys can be configured to allow operator control of batch operations from the 1280 front panel, or they can be configured using *Revolution*, serial commands or the **Features** menu (see Section 6.1 on page 65).

|                    |   |
|--------------------|---|
| <b>Setpoint</b>    | Display or change assigned setpoints.   |
| <b>Batch Start</b> | Starts a batch from the current step if a Batch Run digital input is either active or not defined. If a Batch Run digital input is defined and inactive, Batch Start resets the batch to the first step.  |
| <b>Batch Pause</b> | Pauses an active batch and turns off all digital outputs except those associated with concurrent and timer setpoints. Processing is suspended until the indicator receives a batch start signal. Pressing the BATSTRT digital input, BATSTART serial command, Batch Start softkey or the StartBatch function (in iRite) resumes the batch and re-energizes all digital outputs turned off by the <b>Batch Pause</b> . |
| <b>Batch Reset</b> | Stops an active batch and resets the current step to the first batch step. All digital outputs associated with batch setpoints are deactivated. If a batch is stopped or paused, Batch Reset will reset the current step to the first step.   |
| <b>Batch Stop</b>  | Stops an active batch and turns off all associated digital outputs. Requires a Batch Start to resume processing.  |



**WARNING** To prevent personal injury and equipment damage, software-based interruptions must always be supplemented by emergency stop switches and other safety devices necessary for the application.

### 10.3.1 Batching Switch

The batching switch option, PN 19369, comes as a complete unit in an FRP enclosure, with legend plate, emergency stop switch and a run/start/abort 3-way switch.

Both switches are wired into the indicator's digital I/O terminal strip as shown in Figure 10-14.

Once cables and switches have been connected to the indicator, use the setup switch to place the indicator in setup mode. Use the **DIG I/O** menu (see Section 8.0 on page 81) to configure digital input and output functions.

When configuration is complete, exit setup mode. Initialize the batch by turning the 3-way switch to **Abort**, then unlock the **Stop** button (the **Stop** button must be in the **Out** position to allow the batch process to run). The batching switch is now ready to use.



**WARNING** If no digital input is assigned to **BATRUN**, batching proceeds as if **BATRUN** were always on: the batch will start when the 3-way switch is turned to **Run**, but the **Stop** button will not function.

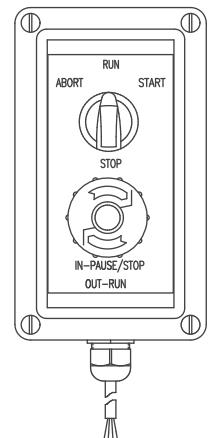


Figure 10-13.  
Batching Switch

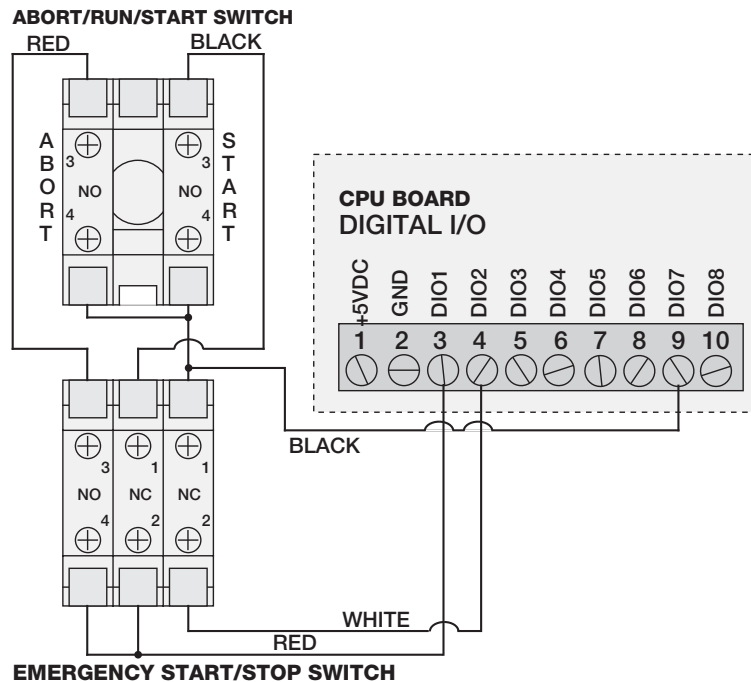


Figure 10-14. Batching Switch Wiring Diagram Example

To begin a batch process, turn the 3-way switch to **Start** momentarily. If the **Stop** button is pushed during the batch process, the process halts and the button locks in the **In** position.

The **Start** switch is ignored while the **Stop** button is locked in the **In** position. The **Stop** button must be turned counterclockwise to unlock it, then released into the **Out** position to enable the 3-way switch.

To restart an interrupted batch from the step where it left off, do the following:

1. Unlock the **Stop** button (**Out** position).
2. Turn the 3-way switch to **Start**.

To restart an interrupted batch from the first batch step, do the following:

1. Turn the 3-way switch to **Abort**.
2. Unlock the **Stop** button (**Out** position).
3. Turn the 3-way switch to **Start**.

Use this procedure (or the BATRESET serial command) to initialize the new batch routine following any change to the setpoint configuration.

# 11.0   Diagnostics

From the Configuration menu, select the **Diagnostics** icon  (circled in Figure 11-1) to enter the Diagnostics menu.

Once all settings are correct, press  to return to weigh mode.

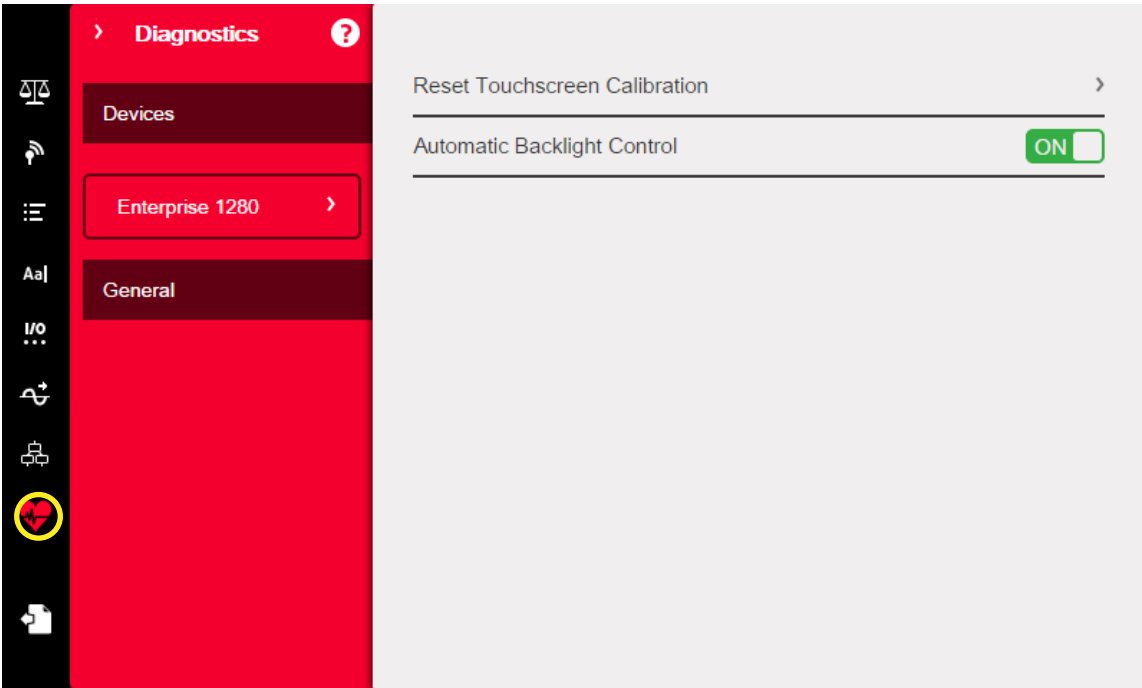



Figure 11-1. Diagnostics Menu

## 11.1   Devices

The Devices menu allows the recalibration of the touch screen. Additionally, the backlight can be set to come on automatically, or it can be set manually.

1. Enter the *Diagnostics* menu. *Devices* will display.
2. To recalibrate the touchscreen, press the arrow next to the parameter. See Section 11.1.1.
3. Set the *Automatic Backlight Control* to On or Off. When set to Off, the *Manual Backlight Value* is displayed in blue font.
4. Select Off, Low, Medium or High.
5. Press .

| Parameter                     | Description  |
|-------------------------------|--|
| Reset Touchscreen Calibration | Select <b>On</b> to enable Reset Touchscreen Calibration on the next indicator restart. See Section 11.1.1.  |
| Automatic Backlight Control   | Select <b>On</b> to enable the Automatic Backlight Control. If set to Off, a <i>Manual Backlight Value</i> parameter displays, allowing a light value to be manually set to Low, Medium or High. |

Table 11-1. Devices Menu

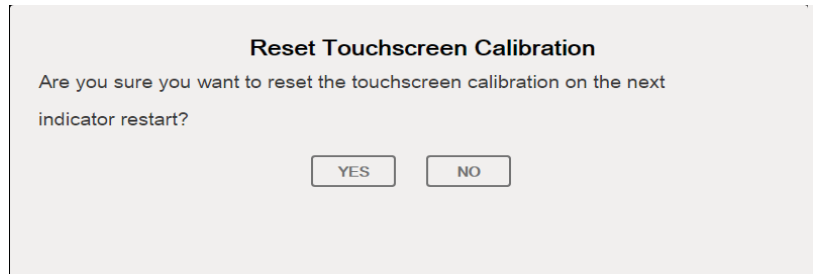


## 11.1.1 Touchscreen Calibration

*Touchscreen Calibration is required after a firmware update, or follow the directions below if the viewing angle requires a new calibration.*



1. Select **Reset Touchscreen Calibration**.
2. When prompted, select **Yes** to calibrate the touchscreen on the next indicator restart.



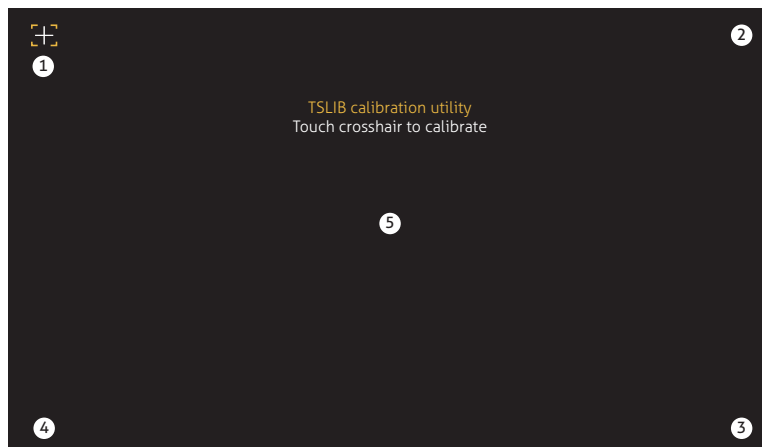
*Figure 11-2. Reset Touchscreen Calibration Prompt*

3. When prompted, select **Yes** to restart the indicator.



*Figure 11-3. Restart Indicator Prompt*

4. The indicator test will run. At 50 percent complete, the calibration utility screen will display.



*Figure 11-4. Calibration Screen*

5. Touch each cross hair (five total) with a stylus or similar object when prompted. When the center cross hair has been touched, allow the indicator test to continue until the main menu displays.



### Important

*Be very precise while calibrating the touchscreen. It is recommended to use a stylus or similar object to touch each cross hair, as this will provide the greatest accuracy. Do not use a finger to calibrate the touchscreen.*



### Note

*If the screen freezes or there is no access to the Devices menu, press the configuration button. Type the code 9171 on the numeric keypad and press Clear. Cycle power the indicator and follow steps 4 and 5 above. There will be no response from the screen until the power has been cycled.*

## 12.0 Option Cards

The 1280 can host up to six option cards. The option cards can be installed in any of the six available option slots. The cards cannot be installed or removed when power is applied to the indicator (cards cannot be hot swapped).



- *Use a wrist strap to ground yourself and protect components from electrostatic discharge (ESD) when working inside the indicator enclosure.*
- *Procedures requiring work inside the indicator must be performed by qualified service personnel only.*
- *In the 1280 wall and universal enclosures, the supply cord serves as the power disconnect. The power receptacle to the indicator must be easily accessible for these models.*

Detailed information about each option card is not included in this manual, but instead in an addendum included with each card. The available 1280 option card kit part numbers and their corresponding addendum part numbers, are as follows:

| Option Cards                            | Kit Part Number | Addendum Part Number |
|---|-----------------|----------------------|
| Single Channel Scale Card               | 164085          | 164652               |
| Dual Channel Scale Card                 | 164683          | 164653               |
| 24-Channel Digital I/O Card             | 164684          | 164654               |
| Dual Channel Serial Communications Card | 164685          | 164655               |
| Single Channel Analog Output Card       | 165366          | 164656               |
| Dual Channel Analog Output Card         | 164686          |                      |
| Dual Channel Analog Input Card          | 164687          | 164657               |
| Four Channel Relay Card                 | 164689          | 164659               |
| EtherNet/IP™ Interface                  | 165792          | 156861               |
| DeviceNet® Interface                    | 165793          | 156783               |
| ProfiNet® Interface                     | 165794          | 156781               |
| Profibus® Interface                     | 165795          | 156784               |
| Modbus TCP® Interface                   | 165796          | 156782               |

*Table 12-1. Available Option Cards*

## 12.1 Hardware Serial Command

The **HARDWARE** serial command can be used to verify that all installed option cards are recognized by the system. The **HARDWARE** command returns a string of card type codes representing the cards the system recognizes as being installed in slots 1 - 6. The format of the returned string is xx, xx, xx, xx, xx, xx where xx is one of the following codes:

FF = No card installed  
10 = Single Channel Scale card  
11 = Dual Channel Scale card  
20 = Digital I/O card  
55 = Relay card  
61 = Serial Communications card  
99 = Single Channel Analog Output card  
90 = Dual Channel Analog Output card  
B0 = Analog Input card  
AA = Fieldbus card (with any module)

## 12.2 Option Card Firmware

The **OPTVERSION#s** serial command, where **s** is the slot number, can be used to return the version of the firmware installed on the option cards. If the command returns **NO CARD**, then either there is not a card installed or the installed card in the slot specified is not recognized by the system.

## 12.3 Updating Option Card Firmware

Use the following instructions to update option card firmware.

1. Enter configuration mode.
2. Send the EDP command **ERASECARD#n**, where **n** is the slot (1-6), with the option card needing the firmware update) to the **I280** to erase the current firmware from the option card. The **I280** will respond: **Reenter command to verify card erase**.
3. Resend the same command a second time to verify. The **I280** will respond **OK**. If any other EDP commands are sent prior to the repeat command the action will be canceled.



**WARNING** This process cannot be reversed.

4. Power off the **I280** and remove the option card from the enclosure.
5. Connect a micro USB type B connector from the PC to the option card.
6. Verify that a red LED is blinking on the option card before proceeding. Windows will prompt that it has detected a USB mass storage device (MSD) named **UPLOAD\_DISK**.
7. Open the MSD in Windows Explorer.
8. In a separate Windows explorer, navigate to the location where the scale card firmware is saved.
9. Drag the .bin file to the **UPLOAD\_DISK** MSD window. Wait for the flash operation to complete.
10. If the update was successful, the option card will blink a green LED.
11. After the file is done transferring, disconnect the USB cable from the option card and reinstall the card back into the **I280**.
12. Power up the **I280** and reconfigure the option card.

## 13.0 Importing/Exporting

The Revolution® utility provides a suite of functions used to support configuration, calibration, customization and backup of the 1280 software. Hardware and software configuration, stream and ticket formatting, and database management are all supported by Revolution.

### Hardware and Software Requirements

- Minimum system requirements: 166 MHz, x86-compatible, with 32MB RAM (64MB for NT4/2000/XP), 40MB disk space
- Recommended system: 233 MHz, x86-compatible or greater, with 64MB RAM, 300 MB disk space

Revolution runs on most Windows® operating systems, including Windows Vista SP2, Windows 7 SP1, Windows 8.1 and Windows 10 (both 32 bit and 64 bit architectures are supported).

System requirements to run Revolution are as follows:

- 1 GHz CPU (x86-32 bit or x86-64 bit)
- 512 MB RAM
- 850 MB disk space (32 bit) or 2 GB disk space (64 bit)

Files that can be imported and exported to/from the 1280 indicator include:

- **Configuration** – .rev file extension, which are scale configuration, communication, setpoint, print format, database schemas or displayed widgets settings created in the Revolution configuration software.
- **iRite Programs** – .cod extension which is a compiled version of a source code file (.src extension). iRite is import only.
- **Database** – .db extension which are the actual data records that would populate a database schema.

### Definitions

**Export** – pulling information from the 1280 to a file system to save as one of the two types of files.

**Import** – sending information to the 1280 from a previously saved file system.

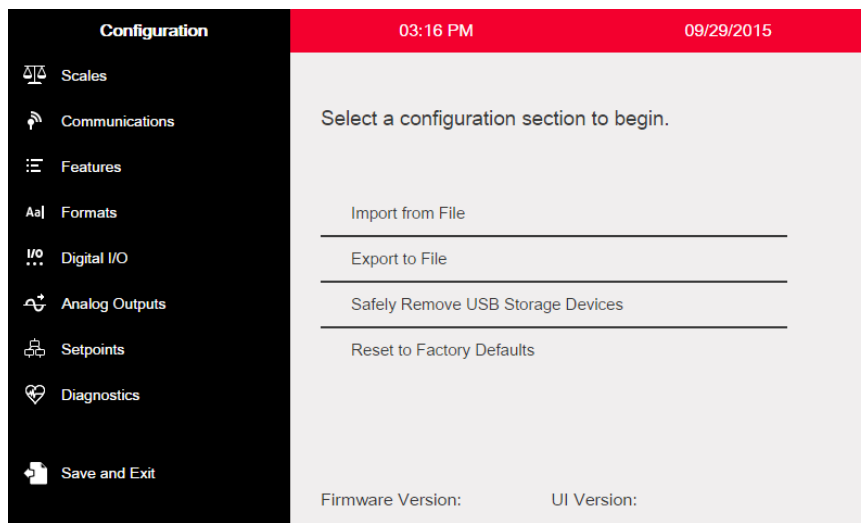



Figure 13-1. Configuration Main Menu

## 13.1 Importing Configuration

 **Important** Importing a configuration will overwrite the existing configuration.

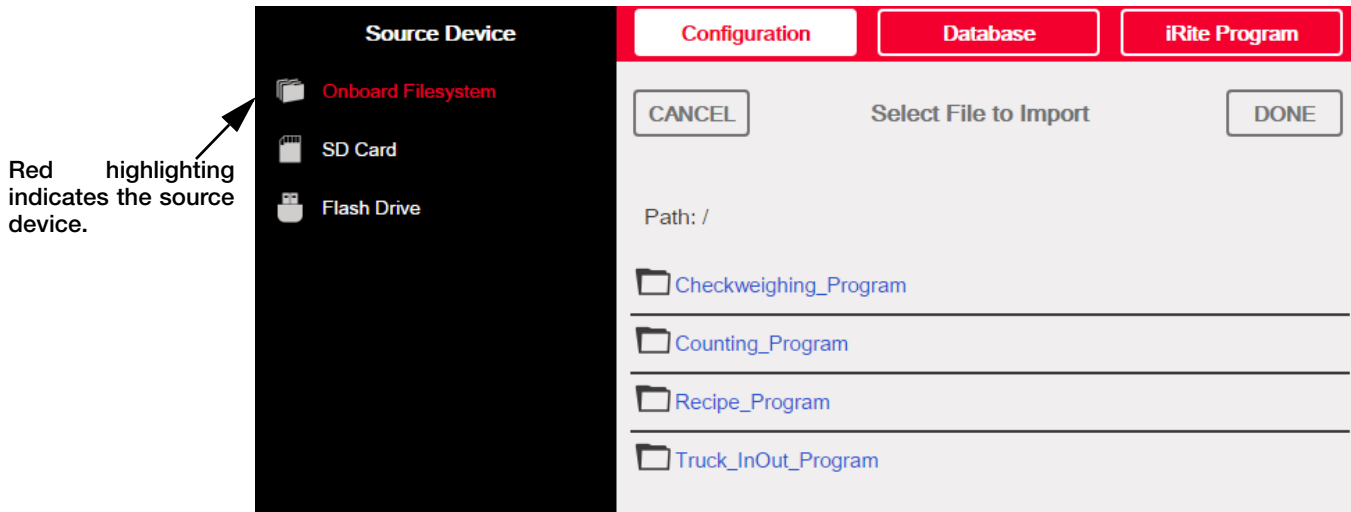





Figure 13-2. Import Configuration

 **Note** The Import Configuration screen looks the same whether importing from an Onboard Filesystem, an SD Card or a flash Drive. The only difference is that the source device will be highlighted in red on the left side of the screen. For an example, in Figure 13-2, a file is being imported from an Onboard Filesystem.

There are several ways to upload a Revolution file to the 1280:


- From the Onboard File System (included applications)
- Save the .rev file to a flash drive and import it into the 1280 from the USB port
- Save the .rev file to a micro SD Card and importing it into the 1280 from the SD Card Slot
- Connect to the 1280 from a PC that has Revolution open and is connected to any COM port (USB, Ethernet or Serial). See Section 13.6 on page 107



### 13.1.1 Importing Built-in iRite Configuration

1. Enter **Configuration**.
2. Press **Import from File**. See Figure 13-1. The Import Screen (Figure 13-2) will display. Load both the .rev and .cod files to use the built-in application programs.
3. Select **Onboard Filesystem**.
4. Select configuration file.
5. Select one of the programs.
6. Press  to import.
7. Press .

### 13.1.2 Importing Revolution Files from a Flash Drive or Micro SD Card

1. Save the Revolution file to the flash drive or micro SD Card.
2. Insert the flash drive into either USB port on the indicator, or the SD card into the 1280's designated SD Card slot.
3. Enter **Configuration** on the indicator.
4. Select **Import from File** (see Figure 13-1). The Import Screen (Figure 13-2) will display.

 **Important** *Importing a configuration will overwrite the existing configuration.*

5. Select **Flash Drive** or **SD Card** (depending on which one is being used). This will read the file system and display available folders.
6. Select **Configuration** to filter out the .rev files that are stored on the flash drive.
7. Navigate to the folder, then the .rev file. Press .
8. The Revolution file settings are now downloaded to the 1280. Press .



## 13.2 Importing iRite™ Programs

There are several ways to load an iRite user program into the 1280.



However, there is no way to upload/export an iRite user program to prevent fraud.

- Import one of the four built-in iRite applications (truck in/out, checkweighing, recipe batching, or counting) stored in the 1280's memory.
- Import the iRite program (.cod file) stored on a flash drive.
- Import the iRite program stored on a micro SD card.
- Connect to the 1280 from a PC that has Revolution open and is connected to any COM port (USB, Ethernet or Serial). See Section 13.6 on page 107.

### 13.2.1 Importing Built-in iRite Programs

1. Enter **Configuration**.
2. Press **Import from File**, see Figure 13-1. The Import Screen (Figure 13-2) will display.
3. Select **Onboard Filesystem**.
4. Select **iRite Program**.
5. Select one of the programs.
6. Press  to import.
7. Press .

### 13.2.2 Importing iRite from a Flash Drive or Micro SD Card

1. Save the iRite file to the flash drive or SD card.
2. Press **Import from File** from above diagram, see Figure 13-1. The Import Screen (Figure 13-2) will display.
3. Enter **Configuration**.
4. Select **Flash Drive** or **SD Card** on the left of the display.
5. Select **iRite Program** on the top of the display.
6. Navigate to the folder where the desired .cod file is stored and select the file.
7. Press  to import.
8. Press .

### 13.2.3 Downloading from Revolution



**Note** If RS-485 Network or TCT/IP Network are selected as the default communication mode, a prompt to select an address will appear before it will try to connect to the 1280. See Section 13.6 on page 107 for Revolution connection instructions.


1. Press the **Connect** icon in the tool bar. See Section 13.6 on page 107. If communications need to be adjusted, select Options from the Tools menu.
2. Enter **Configuration** on the indicator.
3. In Revolution, from the **Communications menu**, select **Download Configuration**. A menu box will appear, see Figure 13-3.
4. Mark the checkboxes corresponding to sections to be downloaded.
5. If the iRite Program is to be downloaded, press the **Browse** button to bring up the PC file system. If not, skip to step 7.
6. Navigate to the saved .cod file. The selected path should be displayed in the white text box.
7. Press **Begin** and wait for the download to complete.
8. The settings from the Revolution file are now populated in the 1280. Press .





Figure 13-3. Import Configuration

### 13.3 Importing Database Data

To load many records of data quickly (transaction data, product or customer data) all rows can be loaded into the 1280 database schema at once. The database schema is part of the Configuration (see Section 13.1) and must be downloaded before actual data is sent. There are three ways to import data.

- Download a previously saved or exported .db file stored on a flash drive.
- Download a previously saved or exported .db stored on a micro SD card.
- Connect to the 1280 from a PC that has Revolution open and is connected to any COM port (USB, Ethernet or Serial).

#### 13.3.1 Importing Databases from a Flash Drive or Micro SD Card

1. Insert a flash drive or a Micro SD Card into the 1280 with a saved .db file (a text file with a special extension, that was previously exported pipe-delimited file of records).
2. Enter **Configuration**.
3. Press **Import from File**.
4. Select **Flash Drive** or **SD Card**.
5. Select **Database** on the top of the display.
6. Navigate to the folder where the desired .db file is stored and select the file.
7. Press  to import.
8. Press .

### 13.3.2 Downloading Databases to the 1280

1. Open the Revolution file with the desired (previously downloaded) database schemas.
2. Press the **Connect** icon in the tool bar. If communications need to be adjusted, select **Options** from the **Tools** menu.
3. Navigate to the **Database Editor** in Revolution and click on the database name (in the middle) that is about to be populated.
4. A grid as many columns wide as there are fields, and as many rows down as there are records will appear.  
Options to populate this grid are:
  - Import a previously saved .db file stored on the PC to the Database Editor by pressing on the **Import** icon.
  - Type all the data in the Database Editor.
5. Click on the **Download** icon.

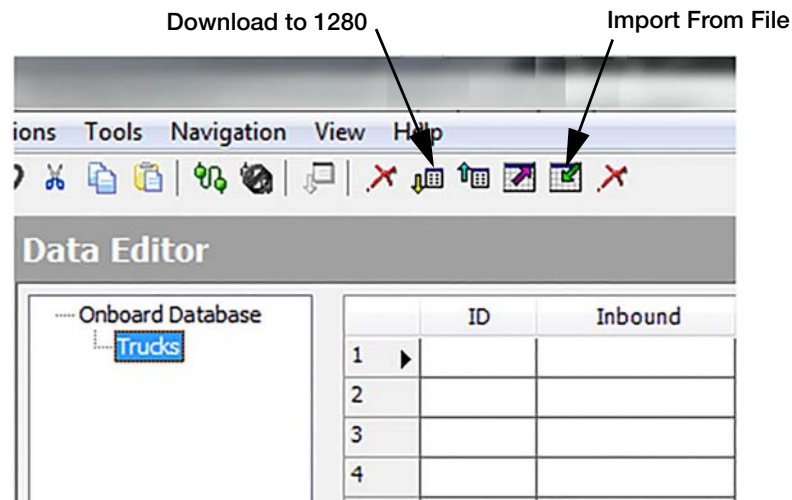


Figure 13-4. Database Commands in Revolution

The data shown in the Data Editor will be sent one at a time to the 1280. This data is appended to any existing data in the 1280.

### 13.4 Exporting Configuration

It is important to save a copy of the file to create a backup version of the Configuration. There are three ways this can be done.

- Upload the configuration to be saved as a .rev file on a flash drive.
- Upload the configuration to be saved as a .rev file on a micro SD card.
- Connect to the 1280 from a PC that has Revolution open and is connected to any COM port (USB, Ethernet or Serial).



**Note** Changes to configuration parameters (made in the same configuration session) must be saved prior to exporting the configuration.

#### 13.4.1 Exporting to Flash Drive or Micro SD Card

1. Insert the flash drive or the Micro SD Card into the indicator.
2. Enter **Configuration**.
3. Press **Export to File**. See Figure 13-1. The Export Screen will display.
4. Select **Flash Drive** or **SD Card**, which will read the file system and display folders.
5. Select **Configuration** to indicate the configuration should be saved as a .rev file.
6. Navigate to the folder where the file is to be stored. Press **DONE**.

#### 13.4.2 Uploading to Revolution

1. Open Revolution software on the PC.
2. Press the **Connect** icon in the tool bar. See Section 13.6 on page 107.
3. Enter **Configuration** on the indicator.
4. In Revolution, select **Communications**, then **Upload Configuration**.
5. A menu box will display. Navigate to the folder on the PC where the configuration file is to be stored.



## 13.5 Exporting Database Data

To keep a backup version of the databases (transaction data, product or customer data) it is important to save a copy of the database file. There are three ways this can be done.

- Upload the database to be saved as a .db file on a flash drive.
- Upload the database to be saved as a .db file on a Micro SD Card.
- Connect to the *1280* from a PC that has Revolution open and is connected to any COM port (USB, Ethernet or Serial).

### 13.5.1 Exporting Database to Flash Drive or Micro SD Card

1. Once the data has been saved on the *1280* (through iRite during run mode, or after a previous download of data), insert a flash drive or micro SD card into the indicator.
2. Enter **Configuration**.
3. Press **Export to File**.
4. Select **Flash Drive** or **SD Card**, which reads the file system and displays available folders.
5. Select **Database** to indicate the database data is to be stored as a pipe-delimited .db file.
6. Navigate to the folder location where the .db file is to be stored.
7. Press  to select and export.

### 13.5.2 Saving Databases from the 1280 to a PC

1. Open Revolution on the PC.
2. Open the specific .rev file with the specified database schema's used in the *1280*.
3. Press the Connect icon in the tool bar. See Section 13.6 on page 107.
4. Navigate to the **Database Editor** in Revolution and click on the database name (in the middle) that is about to be populated.
5. A grid will display that is as many columns wide as there are fields, and as many rows down as there are records.
6. Click on the **Upload** icon.
7. The data displayed in the Data Editor is not saved. To save the database to the PC, click on the **Export** icon.
8. The file system box will pop up asking where to save it to the PC and what to name the file.

## 13.6 Connecting to the Indicator from Revolution

1. Connect the PC to any of the *1280* COM ports (USB, Ethernet or Serial).
2. Open Revolution on the PC.
3. Enter Configuration.
4. Click on the **Connect** icon in the tool bar. Revolution attempts to establish communications to the indicator.

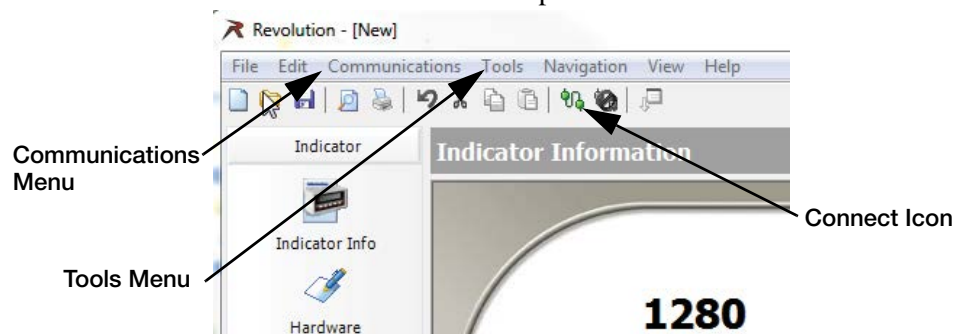


Figure 13-5. Connect to Computer

5. If communications settings need to be adjusted, select **Options...** from the Tools menu.

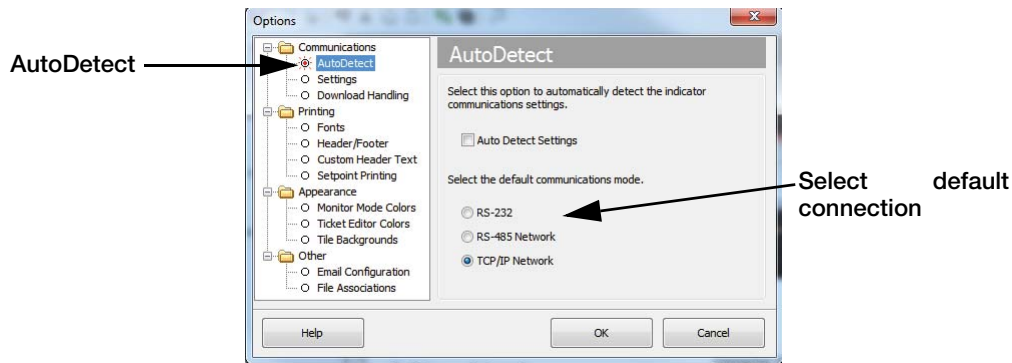


Figure 13-6. Set Connection Type

- From AutoDetect, select the type of connection to be made.



**Note** A comport must be selected from the settings screen if using RS-232; however, baud, parity and data bits are only selectable if the Auto Detect Settings check box remains unchecked on the AutoDetect screen.

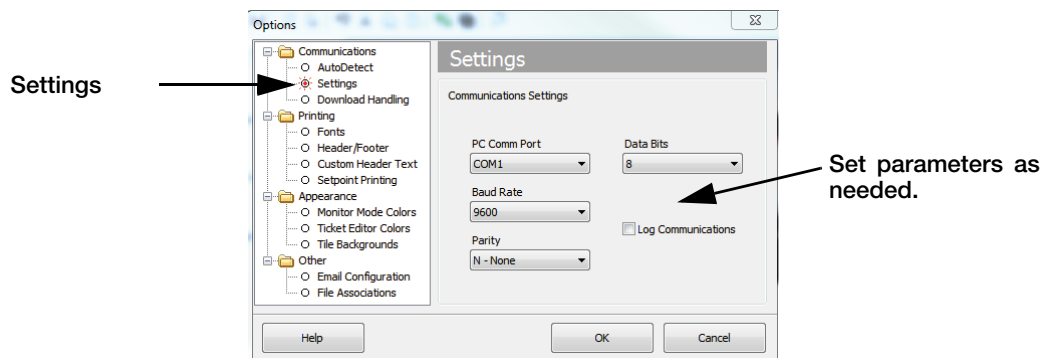


Figure 13-7. Set Communications Parameters

- From Settings, set the communication parameters as needed.

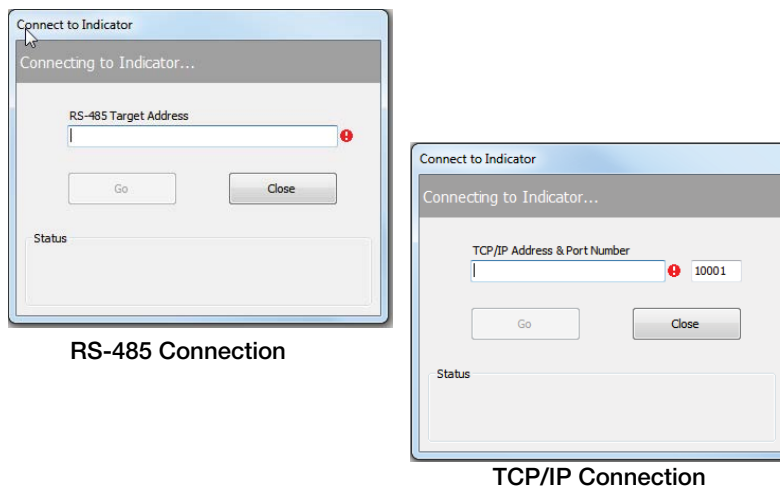


Figure 13-8. Connection Screens

- An address is required for connection to RS-485 or TCP/IP .

## 14.0 Display Editor

The Display Editor, in Revolution, is the only way to add widgets. Widgets can be added on up to 10 different screens.

### 14.1 Widgets

The type and location of elements shown on the Revolution display are easily specified using the drag and drop features of the Revolution utility. However, display widgets can also be programmed using serial commands while the 1280 is in setup mode, or through iRite programming. Up to ten different screens can be configured.

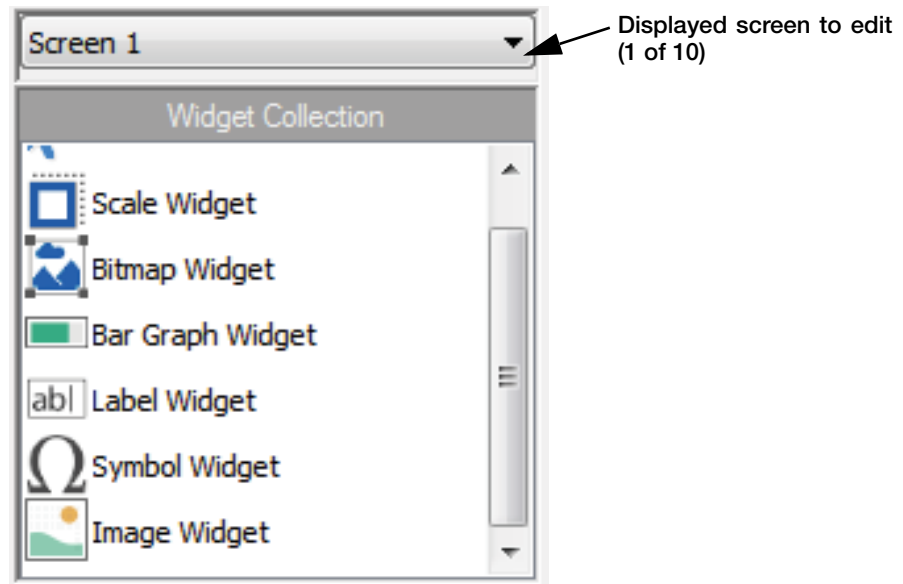


Figure 14-1. Widget Screen

- Scale Widgets are Legal for Trade representations of the configured scales in the system and include Center-of-Zero, Standstill, Tare and Units annunciators.
- Bitmap Widgets are images of tanks or hoppers to add aesthetic value.
- Bar graph Widgets are a representation of a percentage of whatever they are linked to.
- Label Widgets are text boxes populated with whatever they are linked to/captioned.
- Symbol Widgets are pictures with various states to show change, depending on what they are linked to.
- Image Widgets display images that are stored locally on a SD card or remotely at a specific URL address.

Some widget types require that the location or size of the widget be specified, in pixels. Figure 14-2 shows the pixel counts (133.33 pixels per inch) used to specify the pixel location on the display.

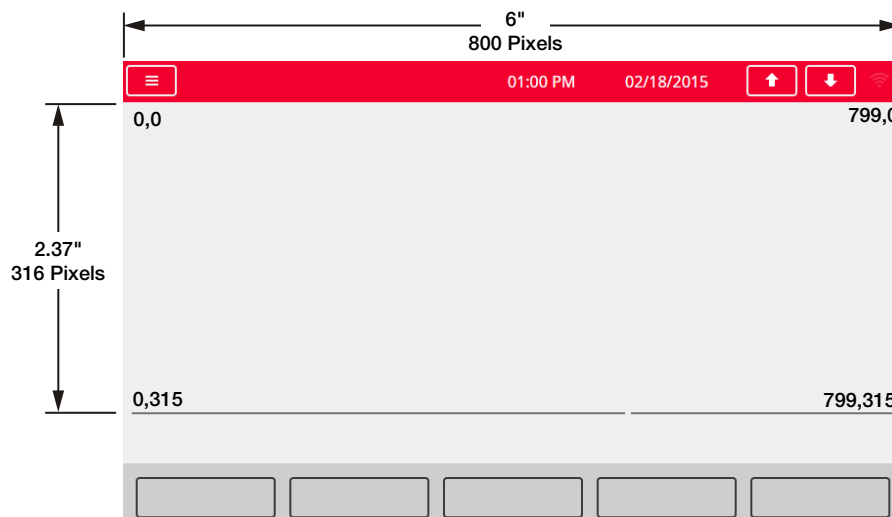


Figure 14-2. Screen Location Pixel Values

### 14.1.1 Scale Widgets

Scale widgets are used to present basic scale data from one or more configured scales. To add a scale widget to the display, verify which screen is currently displayed, click on the Scale Widget icon on the left of the Display Editor and drag it to anywhere on the display.

The following scale properties can be changed:

- **Size** – Seven size selections from small to large are available.
- **Foreground Color** – This is the default text color. Foreground color also be changed from iRite.
- **Background Color** – This is the default background color. Background color can also be changed from iRite.
- **Left/Top** – The number of pixels away from the left or top edge. Either drag and drop for approximate alignment, or enter a number for precise alignment.

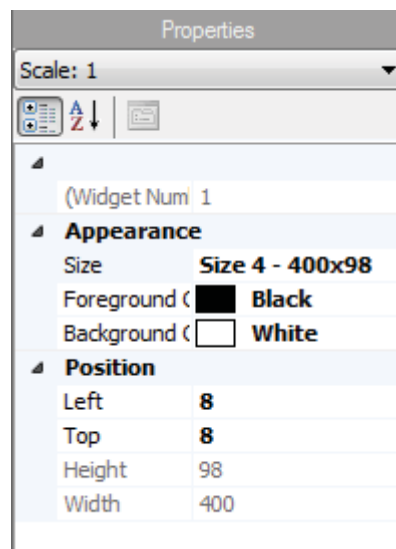


Figure 14-3. Scale Widgets

### 14.1.2 Bitmap Widgets

Bitmap widgets provide a representation of vertical or horizontal tanks or a hopper. To add a bitmap widget to the display, verify which screen is currently displayed, click on the Bitmap Widget icon on the left of the Display Editor and drag it to anywhere on the display.

Bitmap properties that can be changed:

- **Alias** – optional variable name to reference this widget from iRite.
- **Border Style** – default is **None**, when enabled creates a thin black border around the bitmap.
- **Style** – there are three choices (Figure 14-5), the vertical tank is default. Typically they are used with bar graphs placed overlaying them.



Figure 14-5. Bitmap Widget Style Options

- **Visible** – defaults to True, if false the widget disappears. This can be changed from iRite.
- **Height/Width** – height and width of the bitmap in pixels. This can be dragged/dropped (to resize the bitmap) or enter a number for either value.
- **Left/Top** – position away from the left/top edge in pixels. This can be dragged/dropped (to reposition the bitmap) or enter a number for either value.

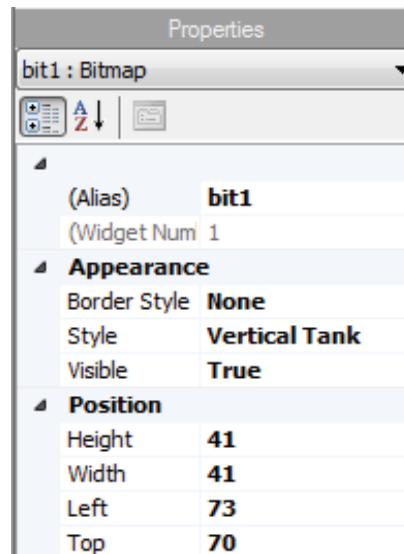


Figure 14-4. Bitmap Widgets

### 14.1.3 Bar Graph Widgets

Bar graph widgets allow display of vertical or horizontal graphs, either a normal bar graph style or a needle gauge, with or without graduations. The graph can be used to represent scale weight or progress toward a setpoint target value. To add a bar graph widget to the display, verify which screen is currently displayed, click on the **Bar graph Widget** icon on the left of the Display Editor and drag it to anywhere on the display.

Bar graph properties that can be changed:

- **Alias** – optional variable name to reference this widget from iRite.
- **Border Style** – when enabled, creates a thin black border around the bar graph, default is *None*.
- **Orientation** – there are three choices (Figure 14-7), default is *Horizontal*.



Figure 14-7. Bar Graph Widget Options

- **Color** – color that fills the bar graph, this can be changed from iRite.
- **Visible** – default is *True*, if set to false the widget disappears. This parameter can be changed from iRite.
- **Data Source** – source of information that the bar graph is representing. Choices Include:
  - Scale, meaning the bar graph is full at capacity (default).
  - Programmability (percentage set from iRite)
  - Setpoint (percentage based on how close to the setpoint tripping).
- **Data Field** – works with the data source.
  - If Data Source= Scale, then the Data Field specifies the configured scale number.
  - If Data Source= Setpoint, then the Data Field specifies the configured setpoint.
- **Data Subfield** – applies to a Data Source of Scale, the choices are Gross, Net or Displayed.
- **Height/Width** – size of the bar graph in pixels (height and width). It can be dragged/dropped (to resize the bitmap) or a number can be entered for either of these values.
- **Left/Top** – set distance from left/top edges in pixels. It can be dragged/dropped (to reposition the bar graph) or a number can be entered for either of these values.

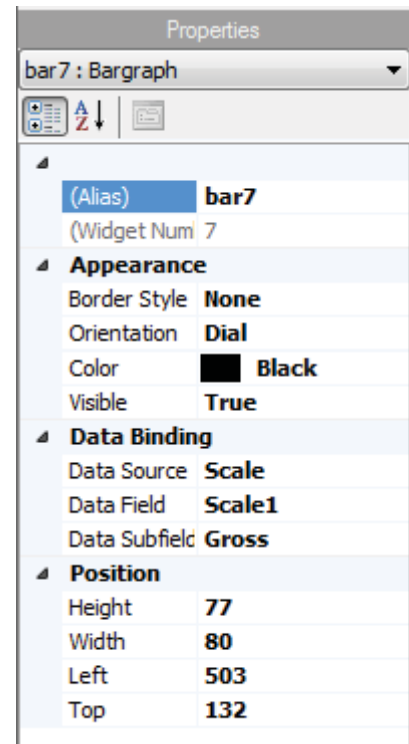


Figure 14-6. Bar Graph Widgets

## 14.1.4 Label Widgets

Label widgets are used to insert a text label in the display. To add a label widget to the display, verify which screen is currently displayed, click on the Label Widget icon on the left of the Display Editor and drag it to anywhere on the display.

The following properties can be changed:

- **Alias** – optional variable name to reference this widget from iRite.
- **Border Style** – when enabled, creates a thin black border around the bar graph, default is *Fixed Single*.
- **Caption** – this relates to the Data Source. If set to Self, the caption is the static text in the text box. Otherwise it is overwritten by whatever the Data Source is set to.
- **Justification** – position of text in the text box, left, center or right.
- **Font** – text size, default is 12.
- **Color** – color of the text and border, it can be changed from iRite. The background cannot be changed.
- **Visible** – default is *True*, if set to false the widget disappears. This parameter can be changed from iRite.
- **Data Source** – the source of the information displayed in the widget. Choices include:
  - Scale (weight is displayed)
  - Programmability (text from iRite)
  - Self (always displays the text from the Caption parameter)
  - Setpoint (displays the setpoint prompt).
- **Data Field** – available settings are dependent upon the Data Source. Only a Data Source of Scale or Setpoint requires a Data Field to be specified.
  - If Data Source= Scale, then the Data Field specifies the configured scale number.
  - If Data Source= Setpoint, then the Data Field specifies the configured setpoint.
- **Data Subfield** – available settings are dependent upon the Data Source. Only a Data Source of Scale or Setpoint requires a Data Subfield to be specified.
  - If Data Source= Scale, then the Data Subfield specifies the weight data that is to be displayed.
  - If Data Source= Setpoint, then the Data Subfield can be set to Setpoint Name, Setpoint Value, Preact Value or Tolerance Band Value.
- **Height/Width** – The height and width of the label widget in pixels. This can be dragged/dropped (to enlarge or shrink the widget) or for more precise sizes a number can be entered for any of these values.
- **Left/Top** – Set the distance from the left/top edges in pixels. This can be dragged/dropped (to position the label widget) or for more precise alignment a number can be entered for any of these values.

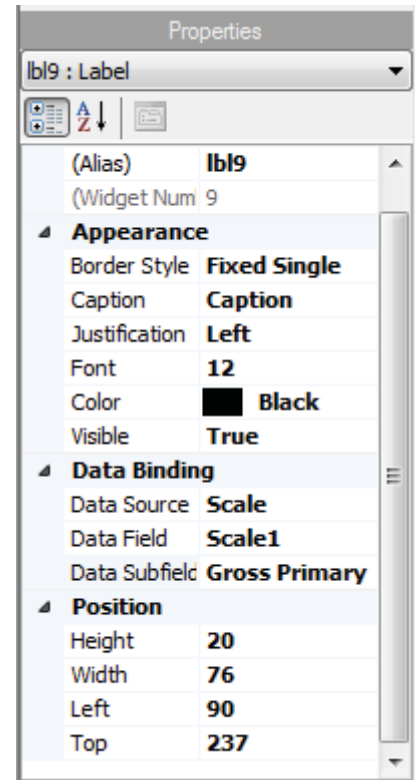


Figure 14-8. Label Widgets

## 14.1.5 Symbol Widgets

Symbol widgets provide icons to indicate a variety of alarms, conditions or device states. To add a symbol widget to the display, verify which screen is currently displayed, click on the **Symbol Widget** icon on the left of the Display Editor and drag it to anywhere on the display. The following properties can be changed:

- **Alias** – optional variable name to reference this widget from iRite.
- **Style** – defaulted to Tare. See Table 14-1.
- **Value** – this relates the states, which varies in number depending on the style selected.  
*Example, the Tare has three states: Tare, Blank/invisible, or Pushbutton Tare.*
- **Color** – color of the symbol. This parameter can be changed from iRite.
- **Visible** – default is **True**, if false the widget disappears. This parameter can be changed from iRite.
- **Data Source** – source of the data that causes symbol widgets to change states.
  - Choices are Scale, Programmability (symbol state set by iRite), Setpoint or Digital I/O.
- **Data Field** – available settings are dependent upon the Data Source.
  - If Data Source= Scale, then the Data Field specifies the configured scale number.
  - If Data Source= Digital I/O, then the Data Field specifies the slot number of the Digital I/O interface.
  - If Data Source= Setpoint, then the Data Field specifies the configured setpoint.
- **Data Subfield** – available settings are dependent upon the Data Source. Only a Data Source of Scale or Digital I/O require a Data Subfield to be specified.
  - If Data Source= Scale, then the Data Subfield specifies the scale condition that is to change the widget's state.
  - If Data Source= Digital I/O, then the Data Field specifies the bit number of the digital I/O interface.
- **Left/Top** – Set the distance from the left/top edges in pixels. Can be dragged/dropped (to reposition the label widget) or a number can be entered for any of these values.

| Properties          |           |
|---------------------|-----------|
| sym10 : Symbol      |           |
| (Alias)             | sym10     |
| (Widget Num)        | 10        |
| <b>Appearance</b>   |           |
| Style               | Tare      |
| Value               | State 1   |
| Color               | Dark Grey |
| Visible             | True      |
| <b>Data Binding</b> |           |
| Data Source         | Scale     |
| Data Field          | Scale 1   |
| Data Subfield       | Tare      |
| <b>Position</b>     |           |
| Left                | 124       |
| Top                 | 119       |
| Height              | 32        |
| Width               | 32        |

Figure 14-9. Symbol Widgets



## 14.1.6 Image Widgets

Image Widgets are used to insert images in the display. Images can be stored locally on an SD card, or externally at a specific URL address. Supported image formats are .jpeg/.jpg, .gif, .png, and .svg. (note that animated .gif files are not supported).

To add an image widget to the display, verify which screen is currently displayed, click on the **Symbol Widget** icon on the left of the Display Editor and drag it to anywhere on the display.

Image properties that can be changed:

- **Path/URL** – Specifies the file path or URL address of the image. If using an SD card, create a folder in the root folder of the SD card called *SDimages*. Place the image into that folder and enter the image file name (including extension) into the Path/URL field. Multiple images with different file names can be used in the same *SDimages* folder. If using an image located at a URL Address, simply enter that address here. The 1280 has to be connected to a network that can access the specified URL Address.
- **Refresh Time** – The interval (in seconds) that the image is refreshed from the location specified above.
- **Visible** – defaults to True, if false the widget disappears. This can be changed from iRite.
- **Height/Width** – height and width of the bitmap in pixels. This can be dragged/dropped (to resize the bitmap) or enter a number for either value.
- **Left/Top** – position away from the left/top edge in pixels. This can be dragged/dropped (to reposition the bitmap) or enter a number for either value.

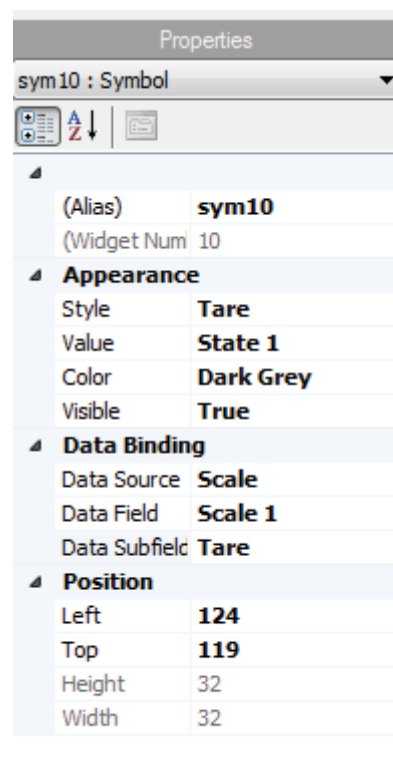


Figure 14-10. Image Widgets

## 14.1.7 Widget Colors

The 1280 display is capable of displaying 256 thousand colors. When defining the display widgets, the color of some of their elements can be specified. This ability varies by widget type.

- **Scale Widgets** – the color of both the foreground and background can be specified.
- **Bar Graph** – only a foreground color can be specified.
- **Label Widgets** – only a foreground color can be specified.
- **Symbol Widgets** – one of 16 fixed colors can be selected.
- **Bitmap Widgets** – cannot be colored, they are only a black outline with a clear background.

There are three custom colors that are available. These are used for the indicator display.



Figure 14-11. Widget Colors















































|    | Description           | Widget State 1  | Widget State 2  | Widget State 3  | Widget State 4 |
|----|-----------------------|---|---|---|----------------|
| 1  | Tare                  |    |   |    |                |
| 2  | Standstill            |    |   |   |                |
| 3  | Center of Zero        |    |   |   |                |
| 4  | Round Indicator       |    |    |   |                |
| 5  | Square Indicator      |    |    |   |                |
| 6  | Bell                  |    |   |   |                |
| 7  | Exclamation Symbol    |    |   |   |                |
| 8  | Light Bulb            |    |    |   |                |
| 9  | Divert Product        |    |   |   |                |
| 10 | Over / Under/In Range |    |    |    |                |
| 11 | Stoplight             |    |    |    |                |
| 12 | Left Arrow            |    |   |   |                |
| 13 | Right Arrow           |  |   |   |                |
| 14 | Up Arrow              |  |   |   |                |
| 15 | Down Arrow            |  |   |   |                |
| 16 | Speaker               |  |  |   |                |
| 17 | Serial Status         |  |  |   |                |
| 18 | Truck On Scale 1      |  |  |  |                |
| 19 | Truck On Scale 2      |  |   |   |                |
| 20 | Weight On Scale       |  |   |   |                |
| 21 | Overload              |  |   |   |                |
| 22 | Underload             |  |   |   |                |
| 23 | Stop Sign             |  |   |  |                |
| 24 | Yield Sign            |  |   |   |                |
| 25 | Skull & Crossbones    |  |   |   |                |
| 26 | Unbalanced            |  |   |  |                |
| 27 | Runner                |  |  |   |                |
| 28 | Walker                |  |  |   |                |

Table 14-1. Widget Table






























|    | Description       | Widget State 1  | Widget State 2   | Widget State 3   | Widget State 4 |
|----|-------------------|---|--|--|----------------|
| 29 | Printer           |    |  |  |                |
| 30 | Hourglass         |    |  |  |                |
| 31 | Gas Pump          |    |  |  |                |
| 32 | Conveyor          |    |   |   |                |
| 33 | Batch Auto/Manual |    |   |  |                |
| 34 | Valve             |    |   |  |                |
| 35 | Motor             |    |   |  |                |
| 36 | Checkmark         |    |  |  |                |
| 37 | Faucet            |    |   |  |                |
| 38 | Padlock           |    |   |  |                |
| 39 | Key               |    |  |  |                |
| 40 | Pipe              |    |   |  |                |
| 41 | Not               |    |  |  |                |
| 42 | Conveyor Full     |   |  |  |                |
| 43 | Info              |  |  |  |                |
| 44 | Power             |  |  |  |                |
| 45 | Folder            |  |  |  |                |
| 46 | Recipe            |  |  |  |                |
| 47 | Report            |  |  |  |                |
| 48 | Manual Mode       | <b>M</b>  |  |  |                |

Table 14-1. Widget Table

## 15.0 EDP Commands

The *1280* indicator can be controlled by a personal computer connected to one of the indicator communication ports. Control is provided by a set of commands that can simulate front panel key press functions, return and change setup parameters, and perform reporting functions. The commands provide the capability to print configuration data or to save that data to an attached personal computer. This section describes the EDP command set and procedures for saving and transferring data using the communication ports.

The EDP command set is divided into several groups as shown in this section.

When the indicator processes a command, it either responds with a value (for reporting commands, or when querying parameter settings), or with the message **OK**. The **OK** response verifies that the command was received and has been executed. If the command is unrecognized or cannot be executed, the indicator responds with **??**.

### 15.1 Key Press Commands

Key press serial commands simulate pressing the keys on the front panel of the indicator. These commands can be used in both setup and weigh mode. Several of the commands serve as pseudo keys, providing functions that are not represented by a key on the front panel.

*For example, to enter a 15-pound tare weight using serial commands:*

1. Type **K1** and press **Enter** (or **Return**).
2. Type **K5** and press **Enter**.
3. Type **KTARE** and press **Enter**.

| Command      | Function   |
|--------------|--|
| KSCALESELECT | Selects scale number. For example, to select scale number 2, type K2 and press <b>Enter</b> . Then, type KSCALESELECT and press <b>Enter</b> .   |
| KZERO        | In weighing mode, this command acts like pressing the <b>Zero</b> key.   |
| KGROSSNET    | In weighing mode, this command acts like pressing the <b>Gross/Net</b> key.  |
| KGROSS       | Sets currently selected scale to display Gross mode.   |
| KNET         | Sets currently selected scale to display Net mode.   |
| KTARE        | In weighing mode, this command acts like pressing the <b>Tare</b> key.   |
| KUNITS       | In weighing mode, this command acts like pressing the <b>Units</b> key.  |
| KPRIM        | Sets currently selected scale to display primary units.  |
| KSEC         | Sets currently selected scale to display secondary units.  |
| KTER         | Sets currently selected scale to display tertiary units.   |
| KPRINT       | In weighing mode, this command acts like pressing the <b>Print</b> key.  |
| KDISPACCUM   | Displays the accumulator value of the currently selected scale.  |
| KDISPTARE    | Displays the tare value of the currently selected scale.   |
| KCLR         | In weighing mode, this command acts like pressing the <b>Clear</b> key. This clears the last character entered, or can be used to clear the accumulator or tare value of the currently selected scale while either is displayed. |
| KCLRCN       | Resets consecutive number.   |
| KCLRTAR      | Clears the tare from the currently selected scale.   |
| KLEFT        | This command acts like pressing the <b>Left Arrow</b> key.   |
| KRIGHT       | This command acts like pressing the <b>Right Arrow</b> key.  |
| KUP          | This command acts like pressing the <b>Up Arrow</b> key.   |
| KDOWN        | This command acts like pressing the <b>Down Arrow</b> key.   |
| KSAVEEXIT    | This command acts like pressing the <b>Save and Exit</b> key. This saves the current configuration and returns to weigh mode.  |
| Kn           | This command acts like pressing numbers 0 (zero) through 9.  |
| KDOT         | This command acts like pressing the decimal point (.).   |
| KENTER       | This command acts like pressing the <b>Enter</b> key.  |
| KSOFTx       | This command acts like pressing the softkey number x.  |
| KLOCK        | Lock specified front panel key. For example, to lock the <b>Zero</b> key, enter KLOCK=KZERO.   |
| KUNLOCK      | Unlock specified front panel key. For example, to unlock the <b>Print</b> key, enter KUNLOCK=KPRINT.   |

Table 15-1. Key Press Commands

| Command   | Function   |
|-----------|--|
| KCOMMIT   | After changes are made to configuration parameters using EDP commands, use this command to commit the changes to memory before leaving configuration mode. |
| KSETPOINT | Display setpoint configuration   |
| KDATE     | Display date   |
| KTIME     | Display time   |
| KTIMEDATE | Display time and date  |

Table 15-1. Key Press Commands (Continued)

## 15.2 Reporting Commands

Reporting commands send specific information to the communications port. The commands listed in Table 15-2 can be used in either setup mode or weigh mode.

| Command        | Function   |
|----------------|--|
| DUMPALL        | Returns a list of all parameter values.  |
| SPDUMP         | Returns a list of only the setpoint parameter values.  |
| VERSION        | Returns the core firmware version number.  |
| HARDWARE       | Returns a list of option cards installed in slots 1–6. See Section 12.1 on page 101 for more information about using the HARDWARE command. |
| HWSUPPORT      | Returns the CPU board part number.   |
| OPTVERSION#s   | Returns the Firmware version of the option card installed in slot s.   |
| OPTHWVERSION#s | Returns the Hardware version of the option card installed in slot s.   |
| DUMPAUDIT      | Returns the Audit Trail information.   |
| DUMPVERSIONS   | Returns the versions of all files, software and installed option cards.  |

Table 15-2. Reporting Commands

## 15.3 Clear and Reset Commands

The following commands can be used to clear and reset the 1280:

**PCLR:** Program clear. Erases the loaded user program (setup mode only).

**RS:** Reset system. Reboots the indicator without resetting the configuration.

**RESETCONFIGURATION:** Restores all configuration parameters to their default values (setup mode only).



**Note** All scale calibration, iRite and database settings are lost when the RESETCONFIGURATION command is run.

## 15.4 Parameter Setting Commands

Parameter setting commands allows the current value for a configuration parameter to be displayed or changed (Tables 15-3 through 15-15).

Current configuration parameter settings can be displayed in configuration mode or weigh mode using the following syntax: *command*<ENTER>

Most parameter values can be changed in setup mode only; setpoint parameters listed in Table 15-9 on page 126 can be changed when in normal weighing mode.




**Note** The user must stop the current batch for new values to take effect.

Use the following command syntax when changing parameter values: *command=value*<ENTER>, where *value* is either a number or a parameter value. Use no spaces before or after the equal (=) sign. If an incorrect command is typed or an invalid value is specified, the indicator will return ??.

For example, to set the motion band parameter on Scale #1 to 5 divisions, type the following:

SC.MOTBAND#1=5<ENTER>

To return a list of the available values for parameters with specific values, enter the command and equal sign, followed by a questions mark (*command=?*<ENTER>). The indicator must be in setup mode to use this function.

After changes are made to configuration parameters using EDP commands, use the **KCOMMIT** command to commit the changes to memory prior to using the **KSAVEEXIT** command or pressing .

| Command   | Description  | Values   |
|---|--|--|
| SC.CAPACITY#n                                   | Scale capacity   | 0.000001 to 9999999  |
| SC.SPLIT#n                                      | Multi-range or multi-interval scale type   | OFF, MULTIRANGE, MULTIINTERVAL   |
| SC.ZTRKBD#n                                     | Zero track band  | 0.0-100 (in display divisions)   |
| SC.ZRANGE#n                                     | Zero range   | 0-10000 (in 0.01 % intervals - 100=1%)   |
| SC.MOTBAND#n                                    | Motion band  | 0-100 (in display divisions)   |
| SC.SSTIME#n                                     | Standstill time  | 1-600 (in 0.1 second intervals)  |
| SC.OVERLOAD#n                                   | Overload   | FS+2%, FS+1D, FS+9D, FS  |
| SC.WMTTHR#n                                     | Weighment threshold  | 0.0-9999999  |
| SC.DIGFLTR1#n<br>SC.DIGFLTR2#n<br>SC.DIGFLTR3#n | Number of A/D samples averaged for the individual stages (1-3) of the three stage digital filter.                    | 1, 2, 4, 8, 16, 32, 64, 128, 256   |
| SC.DFSENS#n                                     | The number of consecutive A/D readings outside the threshold setting before the three stage digital filter cuts out. | 2OUT, 4OUT, 8OUT, 16OUT, 32OUT, 64OUT, 128OUT  |
| SC.DFTHR#n                                      | Three stage digital filter cutout threshold in display divisions.  | NONE, 2D, 5D, 10D, 20D, 50D, 100D, 200D, 250D  |
| SC.RATLTRAP#n                                   | Enable the special Rattletrap filtering mode for the three stage digital filter.                                     | OFF, ON  |
| SC.SMPRAT#n                                     | Scale A/D sample rate.   | 6.25HZ, 7.5HZ, 12.5HZ, 15HZ, 25HZ, 30HZ, 50HZ, 60HZ, 100HZ, 120HZ, 200HZ, 240HZ, 400HZ, 480HZ, 800HZ, 960HZ  |
| SC.PWRUPMD#n                                    | Power up mode  | GO, DELAY  |
| SC.TAREFN#n                                     | Tare function  | BOTH, NOTARE, PBTARE, KEYED  |
| SC.PRI.FMT#n                                    | Primary units format (decimal point and display divisions)   | 8888100, 8888200, 8888500, 8888810, 8888820, 8888850, 8888881, 8888882, 8888885, 888888.1, 888888.2, 888888.5, 888888.81, 888888.82, 888888.85, 8888.881, 8888.882, 8888.885, 888.8881, 888.8882, 888.8885, 88.88881, 88.88882, 88.88885, 8.888881, 8.888882, 8.888885 |
| SC.PRI.UNITS#n                                  | Primary units  | LB, KG, G, OZ, TN, T, GR, TROYOZ, TROYLB, LT, CUSTOM1, CUSTOM2, CUSTOM3  |
| SC.SEC.FMT#n                                    | Secondary units format (decimal point and display divisions)   | 8888100, 8888200, 8888500, 8888810, 8888820, 8888850, 8888881, 8888882, 8888885, 888888.1, 888888.2, 888888.5, 888888.81, 888888.82, 888888.85, 8888.881, 8888.882, 8888.885, 888.8881, 888.8882, 888.8885, 88.88881, 88.88882, 88.88885, 8.888881, 8.888882, 8.888885 |
| SC.SEC.UNITS#n                                  | Secondary units  | LB, KG, G, OZ, TN, T, GR, TROYOZ, TROYLB, LT, CUSTOM1, CUSTOM2, CUSTOM3  |
| SC.SEC.MULT#n                                   | Secondary units multiplier   | 0.000001-9999999.9   |
| SC.TER.UNITS#n                                  | Tertiary units   | LB, KG, G, OZ, TN, T, GR, TROYOZ, TROYLB, LT, CUSTOM1, CUSTOM2, CUSTOM3  |
| SC.TER.FMT#n                                    | Tertiary units format (decimal point and display divisions)  | 8888100, 8888200, 8888500, 8888810, 8888820, 8888850, 8888881, 8888882, 8888885, 888888.1, 888888.2, 888888.5, 888888.81, 888888.82, 888888.85, 8888.881, 8888.882, 8888.885, 888.8881, 888.8882, 888.8885, 88.88881, 88.88882, 88.88885, 8.888881, 8.888882, 8.888885 |
| SC.TER.MULT#n                                   | Tertiary units multiplier  | 0.000001-9999999.9   |

Table 15-3. Scales Commands

| Command                       | Description  | Values   |
|-------------------------------|--|--|
| SC.ROC.FMT#n                  | Rate-of-Change format (decimal point and display divisions)  | 8888100, 8888200, 8888500, 8888810, 8888820, 8888850, 8888881, 8888882, 8888885, 888888.1, 888888.2, 888888.5, 888888.81, 888888.82, 888888.85, 8888.881, 8888.882, 8888.885, 888.8881, 888.8882, 888.8885, 88.88881, 88.88882, 88.88885, 8.888881, 8.888882, 8.888885 |
| SC.ROC.MULT#n                 | Rate-of-change units multiplier  | 0.000001-10000000  |
| SC.ROC.UNITS#n                | Rate-of-change units   | SEC, HOUR, MIN, DAY  |
| SC.ROC.INTERVL#n              | Rate-of-change interval  | 0.0-180000 (in 0.1 second intervals)   |
| SC.RANGE1#n                   | Weight maximum for first range or interval   | 0.0-9999999  |
| SC.RANGE2#n                   | Weight maximum for second range or interval  | 0-9999999  |
| SC.ACCUM#n                    | Accumulator enable   | OFF, ON  |
| SC.VISIBLE#n                  | Scale visibility   | OFF, ON  |
| SC.PEAKHOLD#n                 | Peak hold  | OFF, NORMAL, BI-DIR, AUTO  |
| SC.WZERO#n                    | Perform zero (deadload) calibration  | —  |
| SC.WVAL#n                     | Test weight value  | 0.000001-10000000  |
| SC.WSPAN#n                    | Perform span calibration   | —  |
| SC.WLIN.F1#n–<br>SC.WLIN.F4#n | Actual raw count value for linearization points 1–4  | 0–16777215   |
| SC.WLIN.V1#n–<br>SC.WLIN.V4#n | Test weight value for linearization points 1–4   | 0.0 - 9999999 (A setting of 0 indicates the linearization point is not used).  |
| SC.WLIN.C1#n–<br>SC.WLIN.C4#n | Perform linearization calibration on points 1–4  | —  |
| SC.LC.CD#n                    | Zero (deadload) raw count value  | 0-16777215   |
| SC.LC.CW#n                    | Span raw count value   | 0-16777215   |
| SC.LC.CZ#n                    | Temporary zero raw count value   | 0-16777215   |
| SC.REZERO#n                   | Perform the Rezero calibration function  | —  |
| SC.SLOT#n                     | The physical slot the scale card is installed in   | 1-6  |
| SC.CHANNEL#n                  | The channel on the scale card assigned to the scale  | 1-2  |
| SC.SOURCESCALES#n             | Defines the scales assigned to the total scale n   | comma-delimited string of scale numbers  |
| SC.CUNITS1#n                  | Defines the name for custom units 1  | up to 8 alpha-numeric characters   |
| SC.CUNITS2#n                  | Defines the name for custom units 2  | up to 8 alpha-numeric characters   |
| SC.CUNITS3#n                  | Defines the name for custom units 3  | up to 8 alpha-numeric characters   |
| SC.INITIALZERO#n              | The Initial Zero range in % of full scale  | 0-100  |
| SC.KIND#n                     | Defines the type of scale  | NONE, ANALOG, TOTAL, ANALOG-INPUT, LFT-SERIAL, IND-SERIAL, PROGRAM   |
| SC.ALGINTYPE#n                | Defines the type of input for an analog input option card  | 10V, 100MV, AMBIENT CURRENT, J, K, T, E, N   |
| SC.ALIAS#n                    | Defines a name for the scale   | Up to 8 alpha-numeric characters.  |
| SC.COMM#n                     | For Serial Input Scale Types, this tells the indicator which communications port the serial input data will be received on.          | Up to 8 alpha-numeric characters. The value must be a valid name of one of the communications ports.   |
| SC.INFORMAT#n                 | For Serial Input Scale types, this tells the indicator which of the four Stream Formats defines the format of the Serial Input Data. | 1-4  |
| SC.CALSTART.t#n               | Used to start a serial command calibration sequence  | t = Type: 1=Normal, 2=Last Zero, 3=Temp Zero   |
| SC.CALEND#n                   | Used to finish a serial command calibration sequence   | —  |
| SC.FILTERCHAIN#n              | Defines what filter to use   | RAW, ADAPTIVEONLY, AVERAGEONLY   |
| SC.DAMPINGVALUE#n             | Sets the damping time constant   | 0-2560 (in 0.1 second intervals)   |

Table 15-3. Scales Commands (Continued)

| Command   | Description   | Values  |
|---|---|---|
| SC.ABTHRESHHOLD#n   | Adaptive Filter weight threshold value  | 0-2000 (in display divisions)   |
| SC.ABSENSITIVITY#n  | Adaptive Filter sensitivity   | LIGHT, MEDIUM, HEAVY  |
| SC.MIN.WEIGHT#n   | Minimum weightment setting  | 0.0 - 9999.9  |
| SC.SMPRAT.10V#n   | Sample rate of an Analog Input option card                                    | 10HZ, 50HZ, 60HZ, 250HZ   |
| SC.PRI.ENABLED#n  | Enable the Primary Units  | OFF, ON   |
| SC.SEC.ENABLED#n  | Enable the Secondary Units  | OFF, ON   |
| SC.TER.ENABLED#n  | Enable the Tertiary Units   | OFF, ON   |
| SC.RANGE1.FMT#n   | Multi-Interval/Range range 1 format – decimal point and display divisions     | 8888100, 8888200, 8888500, 8888810, 8888820, 8888850, 8888881, 8888882, 8888885, 888888.1, 888888.2, 888888.5, 88888.81, 88888.82, 88888.85, 8888.881, 8888.882, 8888.885, 888.8881, 888.8882, 888.8885, 88.88881, 88.88882, 88.88885, 8.888881, 8.888882, 8.888885 |
| SC.RANGE2.FMT#n   | Multi-Interval/Range range 2 format – decimal point and display divisions     | 8888100, 8888200, 8888500, 8888810, 8888820, 8888850, 8888881, 8888882, 8888885, 888888.1, 888888.2, 888888.5, 88888.81, 88888.82, 88888.85, 8888.881, 8888.882, 8888.885, 888.8881, 888.8882, 888.8885, 88.88881, 88.88882, 88.88885, 8.888881, 8.888882, 8.888885 |
| SC.MAX_DATE#n   | Returns date and time of the maximum weightment.                              | --  |
| SC.MAX_WEIGHT#n   | Returns the value of the maximum weightment.                                  | --  |
| SC.NUMWEIGH#1   | Returns the number of weightments that exceeded the minimum weightment value. | --  |
| For commands ending with “#n”, n is the scale number (1-8). |   |   |

Table 15-3. Scales Commands (Continued)

## 15.5 1280 Calibration using Serial Commands

Use the following instructions to calibrate the 1280 using serial commands. For information on how to calibrate the 1280 using the front panel, see Section 4.2 on page 52.



**Note** The indicator must respond with OK after each step. If it does not, the calibration procedure will not work and may have to be done again.

1. Enter configuration mode (see Section 3.0 on page 44).
2. To start the calibration process, send the command **SC.CALSTART.n#s**. Replace “s” with the scale number, and “n” with 1 for a standard calibration, 2 to use the last calibrated zero or 3 to use the scale’s temporary zero.
3. For a standard calibration, remove all weight from the scale (except hooks or chains that will be needed to attach weights). For last or temporary zero, skip to step 5.
4. Send the command **SC.WZERO#s** to calibrate the zero point. Wait 10 seconds before proceeding.
5. Apply the span calibration weight to the scale.
6. Send the command **SC.WVAL#s=xxxxx**, where xxxxx is the exact value of the span calibration weight applied to the scale.
7. Send the command **SC.WSPAN#s** to calibrate the span point. Wait 10 seconds before proceeding. Continue on to step 8 to calibrate additional linearization points, or proceed to step 12.
8. Apply weight equal to the first linearization point to the scale.
9. Send the command **SC.WLINn#s=xxxxx**, where n is the linearization point number (1-4) and xxxxx is the exact value of the weight applied.
10. Send the command **SC.WLIN.Cn#s** to calibrate the linearization point. Wait 10 seconds before proceeding.
11. Repeat steps 9 through 11 for up to four total linearization points.
12. If hooks or chains were used to attach the weights, remove all weight, including the hooks and chains, and send the command **SC.REZERO#s** to remove the zero offset.

13. Send the command **SC.CALEND#s** to complete the calibration process. Save the calibration values. Wait 10 seconds before proceeding.
14. Send the command **KCOMMIT** to commit the new values to memory.
15. Send the command **KSAEXIT** to return to weigh mode (or press the **Save and Exit** icon on the display).

| Command   | Description                     | Values  |
|---|---------------------------------|---|
| EDP.INPUT# <i>p</i>   | Port serial input function      | PROGIN, CMD, SCALE, IND SC, UNKNOWN                           |
| EDP.BAUD# <i>p</i>  | Port baud rate                  | 300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200 |
| EDP.BITS# <i>p</i>  | Port data bits/parity           | 8NONE, 7EVEN, 7ODD, 8ODD, 8EVEN                               |
| EDP.TERMIN# <i>p</i>  | Port line termination character | CR/LF, CR, ETX, EOT, FF                                       |
| EDP.STOPBITS# <i>p</i>  | Port stop bits                  | 1, 2  |
| EDP.ECHO# <i>p</i>  | Port echo                       | OFF, ON   |
| EDP.RESPONSE# <i>p</i>  | Port response                   | OFF, ON   |
| EDP.EOLDLY# <i>p</i>  | Port end-of-line delay          | 0–255 (0.1-second intervals)                                  |
| EDP.HANDSHK# <i>p</i>   | Port handshaking                | OFF, XONXOFF, HRDWAR  |
| EDP.TYPE# <i>p</i>  | Port type                       | 232, 485, 422   |
| EDP.DUPLEX# <i>p</i>  | Port RS-485/RS-422 duplex       | HALF, FULL  |
| EDP.ADDRESS# <i>p</i>   | Port RS-485 address             | 0-255   |
| EDP.ALIAS# <i>p</i>   | Defines a name for the port     | Up to 8 Alpha-numeric characters                              |
| For commands including “# <i>p</i> ”, <i>p</i> is the port number (1-16). |                                 |   |

Table 15-4. Serial Port Commands

## CPU Ports

- Ports 1 and 2 are the two CPU board RS232/485/422 ports.
- Port 3 is the USB Device Port.
- Port 4 is the Bluetooth® SPP port on the Wi-Fi/Bluetooth® board.
- Ports 5 through 16 are assigned to dual serial option cards installed in slots 1-6.

*Example – a serial option card in slot 1 will have ports 5 and 6; if installed in slot 6, it will have ports 15 and 16.*

*For ports 3 (USB) and 4 (Bluetooth®), the only parameters that matter are INPUT, TERMIN, ECHO, RESPONSE, EOLDLY, and ALIAS. All other parameters are ignored.*

| Command         | Description                          | Values                            |
|-----------------|--------------------------------------|-----------------------------------|
| WIRED.MACID     | Ethernet hardware MAC ID (Read only) | xx:xx:xx:xx:xx:xx                 |
| WIRED.DHCP      | Enable Ethernet DHCP                 | ON, OFF                           |
| WIRED.IPADDR    | Ethernet IP address                  | Valid IP xxx.xxx.xxx.xxx*         |
| WIRED.SUBNET    | Ethernet subnet mask                 | Valid IP xxx.xxx.xxx.xxx*         |
| WIRED.GATEWAY   | Ethernet gateway                     | Valid IP xxx.xxx.xxx.xxx*         |
| WIRED.PRIDNS    | Ethernet primary DNS                 | Valid IP xxx.xxx.xxx.xxx*         |
| WIRED.SECDNS    | Ethernet secondary DNS               | Valid IP xxx.xxx.xxx.xxx*         |
| WIFI.MACID      | Wi-Fi hardware MAC ID (Read only)    | xx:xx:xx:xx:xx:xx                 |
| WIFI.DHCP       | Enable Wi-Fi DHCP                    | OFF, ON                           |
| WIFI.IPADDR     | Wi-Fi IP address                     | Valid IP xxx.xxx.xxx.xxx*         |
| WIFI.SUBNET     | Wi-Fi subnet mask                    | Valid IP xxx.xxx.xxx.xxx*         |
| WIFI.GATEWAY    | Wi-Fi gateway                        | Valid IP xxx.xxx.xxx.xxx*         |
| WIFI.PRIDNS     | Wi-Fi primary DNS                    | Valid IP xxx.xxx.xxx.xxx*         |
| WIFI.SECDNS     | Wi-Fi secondary DNS                  | Valid IP xxx.xxx.xxx.xxx*         |
| WIFI.NETWORK    | Wi-Fi network type                   | INFRASTRUCTURE                    |
| WIFI.SSID       | Wi-Fi SSID                           | Up to 32 Alpha-numeric characters |
| WIFI.SECURITY   | Wi-Fi security type                  | OPEN, SHARED, WPA, WPA2           |
| WIFI.ENCRIPTION | Wi-Fi encryption type                | TKIP, AES                         |
| WIFI.CRYPTO_KEY | Wi-Fi encryption key                 | Up to 15 Alpha-numeric characters |

Table 15-5. Ethernet TCP/IP and Wi-Fi Commands



| Command   | Description                               | Values                            |
|---|---|-----------------------------------|
| TCPC1.ECHO  | TCP Client 1 Echo                         | OFF, ON                           |
| TCPC1.EOLDLY  | TCP Client 1 End-of-line delay            | 0-255 (in 0.1 sec intervals)      |
| TCPC1.IPADDR  | TCP Client 1 remote server IP             | Valid IP xxx.xxx.xxx.xxx*         |
| TCPC1.LINETERM  | TCP Client 1 line termination             | CR/LF, CR, ETX, EOT, FF           |
| TCPC1.NAME  | TCP Client 1 name                         | Up to 16 Alpha-numeric characters |
| TCPC1.PORT  | TCP Client 1 remote server port           | 1025-65535                        |
| TCPC1.RESPONSE  | TCP Client 1 Response                     | OFF, ON                           |
| TCPC2.ECHO  | TCP Client 2 Echo                         | OFF, ON                           |
| TCPC2.EOLDLY  | TCP Client 2 End-of-line delay            | 0-255 (in 0.1 sec intervals)      |
| TCPC2.IPADDR  | TCP Client 2 remote server IP             | Valid IP xxx.xxx.xxx.xxx*         |
| TCPC2.LINETERM  | TCP Client 2 line termination             | CR/LF, CR, ETX, EOT, FF           |
| TCPC2.NAME  | TCP Client 2 name                         | Up to 16 Alpha-numeric characters |
| TCPC2.PORT  | TCP Client 2 remote server port           | 1025-65535                        |
| TCPC2.RESPONSE  | TCP Client 2 Response                     | OFF, ON                           |
| TCPS.ECHO   | TCP Server echo                           | OFF, ON                           |
| TCPS.INPUT  | TCP Server input type                     | CMD                               |
| TCPS.LINETERM   | TCP Server line termination               | CR/LF, CR, ETX, EOT, FF           |
| TCPS.NAME   | TCP Server name                           | Up to 16 Alpha-numeric characters |
| TCPS.PORT   | TCP Server port number                    | 1025-65535                        |
| TCPS.RESPONSE   | TCP Server response                       | OFF, ON                           |
| UDPS.LINETERM   | UDP Server line termination               | CR/LF, CR, ETX, EOT, FF           |
| UDPS.NAME   | UDP Server name                           | Up to 16 Alpha-numeric characters |
| UDPS.PORT   | UDP Server port number                    | 1025-65535                        |
| BT.MACID  | Bluetooth® Mac ID                         | xx.xx.xx.xx.xx.xx                 |
| TCPC1.DISCTIME  | TCP Client 1 Disconnect Time (in seconds) | 0-60 (0= do not disconnect)       |
| TCPC2.DISCTIME  | TCP Client 2 Disconnect Time (in seconds) | 0-60 (0= do not disconnect)       |
| TCPC1.INPUT   | TCP Client 1 Input Function               | CMD, PROGIN, SCALE, IND SC        |
| TCPC2.INPUT   | TCP Client 2 Input Function               | CMD, PROGIN, SCALE, IND SC        |
| * A valid IP consists of four numbers, in the range of 0 to 255, separated by a decimal point.<br>Example – "127.0.0.1" and "192.165.0.230" are valid IP addresses. |   |                                   |

*Table 15-5. Ethernet TCP/IP and Wi-Fi Commands (Continued)*

| Command   | Description   | Values   |
|---|---|--|
| STRM.FORMAT#n   | Stream format   | RLWS, CARDINAL, WEIGHTRONIX, TOLEDO, CUSTOM  |
| STRM.CUSTOM#n   | Custom stream definition  | Up to 200 alpha-numeric characters   |
| STRM.DESTINATION#n                                    | Stream destination port   | A comma delimited list of communications ports.<br>Values: NONE, PORT1 - PORT16, TCPC1, TCPC2, and UDPS.<br>Example - to stream format 1 to ports 1, 3, and TCPC2:<br>"STRM.DESTINATION#1=PORT1,PORT3,TCPC2" |
| STRM.SOURCE#n   | Source scale  | 0-8 (0 is a source of none)  |
| STRM.STREAM#n   | Stream frame update rate  | OFF, LFT, INDUST   |
| STRM.GROSS#n  | Mode token when streaming the Gross weight  | Up to 8 alpha-numeric characters   |
| STRM.NET#n  | Mode token when streaming the Net weight  | Up to 8 alpha-numeric characters   |
| STRM.PRI#n  | Units token when streaming Primary units  | Up to 8 alpha-numeric characters   |
| STRM.SEC#n  | Units token when streaming Secondary units  | Up to 8 alpha-numeric characters   |
| STRM.TER#n  | Units token when streaming Tertiary units   | Up to 8 alpha-numeric characters   |
| STRM.INVALID#n  | Status token when streaming an Invalid weight   | Up to 2 alpha-numeric characters   |
| STRM.MOTION#n   | Status token when the weight is in motion   | Up to 2 alpha-numeric characters   |
| STRM.POS#n  | Polarity token when the weight is positive  | SPACE, NONE, +   |
| STRM.NEG#n  | Polarity token when the weight is negative  | SPACE, NONE, -   |
| STRM.OK#n   | Status token when the weight is OK (not invalid, out of range, at zero, or in motion) | Up to 2 alpha-numeric characters   |
| STRM.TARE#n   | Mode token when streaming the tare weight   | Up to 8 alpha-numeric characters   |
| STRM.ZERO#n   | Status token when the weight is at Center of Zero                                     | Up to 2 alpha-numeric characters   |
| STRM.RANGE#n  | Status token when the weight is Out of Range  | Up to 2 alpha-numeric characters   |
| For commands with "#n", n is the Stream format (1-4). |   |  |

Table 15-6. Stream Formatting Commands

| Command  | Description                       | Values  |
|----------|-----------------------------------|---|
| DATEFMT  | Date format                       | MMDDYYYY, DDMMYYYY, YYYYMMDD, YYYYDDMM  |
| DATESEP  | Date separator                    | SLASH, DASH, SEMI   |
| TIMEFMT  | Time format                       | 12HOUR, 24HOUR  |
| TIMESEP  | Time separator                    | COLON, COMMA  |
| DECfmt   | Decimal format                    | DOT, COMMA  |
| CONSNUM  | Consecutive numbering             | 0-9999999   |
| CONSTUP  | Consecutive number start-up value | 0-9999999   |
| UID      | ID of the indicator               | Up to 8 alphanumeric characters   |
| ALIBI    | Alibi data storage                | OFF, ON   |
| CONTRAST | Adjusts the contrast level        | 0-255   |
| CFGPWD   | Configuration password            | Up to 12 alphanumeric characters. Set as nothing (no characters) in order to not have a password. 999999 is the rescue password, it will reset all parameters to factory defaults. Do not use it as a password. |
| SPPWD    | Setpoint password                 | Up to 12 alphanumeric characters. Set as nothing (no characters) in order to not have a password.   |
| CALPWD   | Calibration password              | Up to 12 alphanumeric characters. Set as nothing (no characters) in order to not have a password.   |

Table 15-7. Feature Commands


| Command  | Description   | Values  |
|--|---|---|
| SK.OP#1 = SK.OP#32                                 | Softkey assignment  | NONE, TIMEDATE, DSPTAR, DSPACC, DSPROC, SETPT, BATSTRT, BATSTOP, BATPAUSE, BATRST, UID, SCLSEL, SKUD1-SKUD10, BLANK, DIAG, ALIBI, CONTRAST, TEST, STOP, GO, OFF   |
| SKT.TEXT#1 - SKT.TEXT#10                           | User-defined (SKUD1-SKUD10) softkey text  | Up to 20 alpha-numeric characters   |
| KYBDLK   | Keyboard lock (disable keypad)  | OFF, ON   |
| ZERONLY  | Disable all keys except ZERO  | OFF, ON   |
| CONTACT.COMPANY                                    | Contact company name  | Up to 30 alphanumeric characters  |
| CONTACT.ADDR1<br>CONTACT.ADDR2<br>CONTACT.ADDR3    | Contact company address   | Up to 30 alphanumeric characters (for each line)  |
| CONTACT.NAME1<br>CONTACT.NAME2<br>CONTACT.NAME3    | Contact names   | Up to 20 alphanumeric characters (for each line)  |
| CONTACT.PHONE1<br>CONTACT.PHONE2<br>CONTACT.PHONE3 | Contact phone numbers   | Up to 20 alphanumeric characters (for each line)  |
| CONTACT.EMAIL                                      | Contact e-mail address  | Up to 30 alphanumeric characters.   |
| CONTACT.NEXTCAL                                    | Next calibration date   | Date MMDDYYYY as an 8-digit number.   |
| CONTACT.LASTCAL                                    | Last calibration date   | Date MMDDYYYY as an 8-digit number.   |
| LOCALE   | Enable gravity compensation   | OFF, ON   |
| LAT.LOC  | Origin Latitude (to nearest degree) for gravity compensation.   | 0-90  |
| ELEV.LOC   | Origin Elevation (in meters) for gravity compensation.  | ±0-9999   |
| DEST.LAT.LOC                                       | Destination Latitude (in degrees) for gravity compensation  | 0-90  |
| DEST.ELEV.LOC                                      | Destination Elevation (in meters) for gravity compensation  | +/- 9999  |
| AUTOBKLGHT   | Auto Backlight Control  | OFF, ON   |
| BKLGHT   | The brightness of the backlight   | OFF, LOW, MED, HIGH   |
| LOCALREMOTESERV<br>ERADDRESS                       | IP Address of the Local in a Local/Remote Application<br><br> <b>Note</b> <i>If not a Local/Remote application, the IP Address must be set to 127.0.0.1.</i> | Valid IP xxx.xxx.xxx.xxx*   |
| LANGUAGE   | Sets the default display language   | EN (English), ES (Spanish), FR (French), PT (Portuguese), IT (Italian), DE (German), NL (Dutch), DA (Danish), SV (Swedish), RU (Russian), UK (Ukrainian), HE (Hebrew), TH (Thai), ZH (Chinese), AR (Arabic), TR (Turkish) |

Table 15-7. Feature Commands (Continued)

| Command     | Description                    | Values   |
|-------------|--------------------------------|--|
| REGULAT     | Regulatory mode                | NONE, NTEP, CANADA, OIML, INDUST, INMETRO, NMI |
| AUDAGNCY    | Audit Agency (Industrial Mode) | NONE, OIML, NTEP, CANADA, INDUST, INMETRO, NMI |
| REG.SNPSHOT | Display or Scale weight source | DISPLAY, SCALE                                 |
| REG.HTARE   | Allow tare in display hold     | NO, YES  |
| REG.ZTARE   | Remove tare on ZERO            | NO, YES  |
| REG.KTARE   | Always allow keyed tare        | NO, YES  |

Table 15-8. Regulator Commands

|                           |  |                                  |
|---------------------------|--|----------------------------------|
| REG.MTARE                 | Multiple tare action   | REPLACE, REMOVE, NOTHING         |
| REG.NTARE                 | Allow negative tare  | NO, YES                          |
| REG.CTARE                 | Allow Clear key to clear tare/accumulator.                   | NO, YES                          |
| REG.SOURCEZT              | Clear Tare scales individually                               | NO, YES                          |
| REG.NEGTOTAL              | Allow total scale to display negative value                  | NO, YES                          |
| REG.PRTMOT                | Allow print while in motion                                  | NO, YES                          |
| REG.PRINTPT               | Add PT to keyed tare print                                   | NO, YES                          |
| REG.PRTHLD                | Print during display hold                                    | NO, YES                          |
| REG.HLDWGH                | Allow weighment during display hold                          | NO, YES                          |
| REG.MOTWGH                | Allow weighment in motion                                    | NO, YES                          |
| REG.OVRBASE               | Zero base for overload calculation                           | CALIB_ZERO, SCALE_ZERO           |
| REGWORD                   | Regulatory word  | GROSS, BRUTTO                    |
| REG.RTARE                 | Round the Pushbutton Tare                                    | STANDARDSSUMMING, HIGHRESOLUTION |
| REG.RKTARE                | Round the Keyed Tare   | STANDARDSSUMMING, HIGHRESOLUTION |
| REG.TOTAL.DP.MATCH.SOURCE | Does the total scale decimal have to match the source scales | NO, YES                          |
| REG.AZTNET                | Perform AZT on Net value                                     | NO, YES                          |
| REG.MANUALCLEARTARE       | Allow the manual clearing of the tare value                  | NO, YES                          |
| REG.MONORAIL              | Monorail mode  | NO, YES                          |
| REG.TAREINMOTION          | Allow Tare in Motion   | NO, YES                          |
| REG.UNDERLOAD             | The Underload weight value in display divisions              | 1-9999999                        |
| REG.ZEROINMOTION          | Allow scale to be zeroed while in motion                     | NO, YES                          |
| SCRN.SAVE                 | Enable screen saver  | ON, OFF                          |
| SCRN.THRESH               | Screen saver weight threshold                                | 0-1000                           |
| SCRN.TIME                 | Screen saver activation time (in seconds)                    | 10-120                           |

*Table 15-8. Regulator Commands (Continued)*

| Command      | Description                  | Values  |
|--------------|------------------------------|---|
| BATCHNG      | Batching mode                | OFF, AUTO, MANUAL   |
| SP.KIND#n    | Setpoint kind                | OFF, GROSS, NET, -GROSS, -NET, ACCUM, +REL, -REL, %REL, PAUSE, DELAY, WAITSS, COUNTER, AUTOJOG, COZ, INMOTON, INRANGE, BATCHPR, TIMER, CONCUR, DIGIN, TOD, ALWAYS, NEVER, DINCNT, DELTA |
| SP.VALUE#n   | Setpoint value               | 0.0-9999999   |
| SP.SOURCE#n  | Source scale                 | SCALEn (n=1-8)  |
| SP.TRIP#n    | Trip                         | HIGHER, LOWER, INBAND, OUTBAND  |
| SP.BANDVAL#n | Band value                   | 0.0-9999999   |
| SP.HYSTER#n  | Hysteresis                   | 0.0-9999999   |
| SP.PREACT#n  | Preact type                  | OFF, ON, LEARN, FLOW  |
| SP.PREVAL#n  | Preact value                 | 0-9999999   |
| SP.PREADJ#n  | Preact adjustment percentage | 0-100   |
| SP.PRESTAB#n | Preact learn stability       | 0-65535 (in tenths of a second, 15=1.5 seconds)   |
| SP.PCOUNT#n  | Preact learn interval        | 1-65535   |
| SP.TOLBAND#n | Target tolerance             | 0.0-9999999   |
| SP.TOLCNT#n  | Tolerance count              | 0-65535   |
| SP.BATCH#n   | Batch step enable            | OFF, ON   |

*Table 15-9. Setpoints Commands*

| Command   | Description              | Values                           |
|---|--------------------------|----------------------------------|
| SP.CLRACCM# <i>n</i>  | Clear accumulator enable | OFF, ON                          |
| SP.CLRTARE# <i>n</i>  | Clear tare enable        | OFF, ON                          |
| SP.PSHACCM# <i>n</i>  | Push accumulate          | OFF, ON, ONQUIET                 |
| SP.PSHPRINT# <i>n</i>   | Push print               | OFF, ON, WAITSS                  |
| SP.PSHTARE# <i>n</i>  | Push tare                | OFF, ON                          |
| SP.ALARM# <i>n</i>  | Alarm enable             | OFF, ON                          |
| SP.ALIAS# <i>n</i>  | Setpoint name            | Up to 8 Alpha-numeric characters |
| SP.ACCESS# <i>n</i>   | Setpoint access          | OFF, ON, HIDE                    |
| SP.DSLOT# <i>n</i>  | Digital output slot      | NONE, 0, 1, 2, 3, 4, 5, 6        |
| SP.DIGOUT# <i>n</i>   | Digital output           | 1 - 24                           |
| SP.SENSE# <i>n</i>  | Digital output sense     | NORMAL, INVERT                   |
| SP.BRANCH# <i>n</i>   | Branch destination       | 0-100 (0 = do not branch)        |
| SP.RELNUM# <i>n</i>   | Relative setpoint number | 1-100                            |
| SP.START# <i>n</i>  | Starting setpoint        | 1-100                            |
| SP.END# <i>n</i>  | Ending setpoint          | 1-100                            |
| SP.DISLOT# <i>n</i>   | Digital input slot       | NONE, 1, 2, 3, 4, 5, 6           |
| SP.MASK# <i>n</i>   | Digital input mask       | 0-16777216                       |
| SP.TIME# <i>n</i>   | Trip time                | hhmm                             |
| SP.DURATION# <i>n</i>   | Trip duration            | hhmmss                           |
| SP.ENABLE# <i>n</i>   | Setpoint enable          | OFF, ON                          |
| For setpoint commands ending with “# <i>n</i> ”, <i>n</i> is the setpoint number (1-100). |                          |                                  |

Table 15-9. Setpoints Commands

| Command  | Description                      | Values   |
|--|----------------------------------|--|
| GFMT.FMT<br>GFMT.PORT<br>GFMT.PORT2  | Gross demand print format string | <p>Each format can be sent out one or two ports. For the .PORT and .PORT2 commands, specify the port name as one of the following: PORT<i>n</i> (<i>n</i>=1-16), TCPC1 or TCPC2. Example: To send the Gross format out both RS-232 Port 2 and the TCPC1 Port at the same time, send:<br/>GFMT.PORT=PORT2<br/>GFMT.PORT2=TCPC1</p> <p>For AUXFMT.FMT and .PORT commands, specify the auxiliary format number (1 – 20) as .FMT#<i>n</i> or .PORT#<i>n</i>. Example: AUXFMT.FMT#8=GROSS&lt;G&gt;&lt;NL2&gt;...</p> <p>See Section 7.0 on page 74 for information about demand print format strings.</p> |
| NFMT.FMT<br>NFMT.PORT<br>NFMT.PORT2  | Net demand print format string   |  |
| ACC.FMT<br>ACC.PORT<br>ACC.PORT2   | Accumulator print format string  |  |
| SPFMT.FMT<br>SPFMT.PORT<br>SPFMT.PORT2                                     | Setpoint print format string     |  |
| ALERT.FMT<br>ALERT.PORT<br>ALERT.PORT2                                     | Alert format string              |  |
| HDRFMT1<br>HDRFMT2   | Ticket header format strings     |  |
| AUXFMT.FMT# <i>nn</i><br>AUXFMT.PORT# <i>nn</i><br>AUXFMT.PORT2# <i>nn</i> | Auxiliary ticket format          |  |
| AUD.PORT<br>AUD.PORT2  | Audit trail port                 |  |

Table 15-10. Print Format Commands

| Command  | Description                        | Values  |
|----------|------------------------------------|---|
| WDGT#n   | Defines a display widget (n=1-256) | <p><b>Example Scale Widget Command:</b> WDGT#A=1,B,C,D,E,F,G,H&lt;CR&gt; where – A: widget number; B: left; C: top; D: size 1-7;; E: displayed 1-4; F: which screen 1-10; G: foreground color; H: background color.</p> <p><b>Example Bitmap Widget Command:</b> WDGT#A=2,B,C,D,E,F,G,H,I,J&lt;CR&gt; where – A: widget number; B: left; C: top; D: width; E: height; F: border (1 or 2); Bitmap (1-3); G: alias; H: visible (1 or 2); I: which screen 1-10</p> <p><b>Example Bar Graph Widget Command:</b> WDGT#A=3,B,C,D,E,F,G,H,I,J,K,L,M,N,O,P&lt;CR&gt; where – A: widget number; B: left; C: top; D: width; E: height; F: border; G: style(1-3); H: graduation (1 or 2); I: orientation (1-3); J: Color; K: alias; L: source (1-3); M: field (1-3); N: subfield; O: visible (1 or 2); P: which screen 1-10</p> <p><b>Example Label Widget Command:</b> WDGT#A=4,B,C,D,E,F,G,H,I,J,K,L,M,N,O,P&lt;CR&gt; where – A: widget number; B: left; C: top; D: width; E: height; F: text caption; G: border (1 or 2); H: justification (1-3); I: font; J: color; K: alias; L: source; M: field; N: subfield; O: visible; P: which screen 1-10</p> <p><b>Example Symbol Widget Command:</b> WDGT#A=6,B,C,D,E,F,G,H,I,J,K,L,M,N,O where – A: widget number; B: left; C: top; D: style (1-48); E: State (1-4) F: Color (1-16) G: alias; H: source; I: field; J: subfield; K: visible (1 or 2); L: which screen 1-10</p> <p>See Section 14.0 on page 109 for widget programming information.</p> |
| WDGT.CLR | Clear widgets                      | Clears all display widgets.   |

Table 15-11. Display Widget Commands

| Command       | Description   | Values  |
|---------------|---|---|
| DON.b#s       | Set digital output on (active) at bit b, slot s.    | —   |
| DOFF.b#s      | Set digital output off (inactive) at bit b, slot s. | —   |
| DIO.b#s       | Digital input function                              | OFF, INPUT, OUTPUT, PROGIN, ZERO, NT/GRS, TARE, UNITS, PRINT, ACCUM, SETPNT, TIMDATE, CLEAR, DSPTAR, KEY1, KEY2, KEY3, KEY4, KEY5, KEY6, KEY7, KEY8, KEY9, KEYDP, KEY0, ENTER, NAVUP, NAVDN, NAVLFT, NAVRGT, KBDLOC, HOLD, BATRUN, BATSTRT, BATPAUS, BATRESET, CLRCN, GROSS, NET, PRIM, SEC, TER, CLRTRAR, CLRACC, BATSTOP, PULSEIN |
| DIO.ALIAS.b#s | Name for the DIO bit                                | Up to 16 Alpha-numeric characters   |

Valid bit values are 1-24. Valid slot values are 0 (onboard) to 6.

Table 15-12. Digital I/O Commands

| Command      | Description           | Values                           |
|--------------|-----------------------|----------------------------------|
| ALG.ALIAS#s  | Analog output alias   | Up to 8 Alpha-numeric characters |
| ALG.SOURCE#s | Analog output source  | PROG, SCALEn (n=1-8)             |
| ALG.MODE#s   | Mode                  | GROSS, NET                       |
| ALG.OUTPUT#s | Type of output        | 0-10V, 0-20MA, 4-20MA            |
| ALG.ERRACT#s | Error action          | FULLSC, HOLD, ZEROSC             |
| ALG.MIN#s    | Minimum value tracked | ±9999999                         |
| ALG.MAX#s    | Maximum value tracked | ±9999999                         |

For commands ending with “#s”, s is the analog output number. Analog outputs are numbered based on the slot in which they are installed. For an example, Slot 1 has output 1 (and 2 if dual), Slot 2 has output 3 (and 4 if dual).

Table 15-13. Analog Output Commands

| Command  | Description                 | Values                 |
|--|-----------------------------|------------------------|
| FB.BYTESWAP#s  | Swap data bytes             | NONE, BYTE, WORD, BOTH |
| FB.SIZE#s  | Number of bytes to transfer | 0–128 (0=disabled)     |
| FB.DVCNET#s  | DeviceNet Address           | 1-64                   |
| FB.PRFBUS#s  | Profibus Address            | 1-126                  |
| For commands ending with “#s”, s is the slot number (1-6). |                             |                        |

Table 15-14. Fieldbus Commands

## 15.6 Weigh Mode Commands

These commands will function in the weighing mode. Non weight related commands will also work in configuration modes.

| Command   | Description   | Values  |
|---|---|---|
| CONSNUM   | Set consecutive number  | 0-9999999   |
| UID   | Set unit ID   | Up to 8 Alpha-numeric characters  |
| SD  | Set or return the current system date   | MMDDYY, DDMMYY, YYMMDD, or YYDDMM. Enter six-digit date using the year-month-day order specified for the DATEFMT parameter, using only the last two digits of the year. The current system date is returned by only sending <b>SD</b> . |
| ST  | Set or return the current system time   | hhmm (enter using 24-hour format)<br>The current system time is returned by only sending <b>ST</b> .  |
| SX#n  | Start serial data stream n (n=1-4)  | OK or ??  |
| EX#n  | Stop serial data stream n (n=1-4)   | An EX command sent while in setup mode does not take effect until the indicator is returned to weigh mode.  |
| RS  | Reset system  | Soft reset. Used to reset the indicator without resetting the configuration to the factory defaults.  |
| SF#n  | Returns a single stream frame from scale n (n=1-8) using the standard Rice Lake format. | --  |
| XA#n  | Returns the accumulator value in displayed units  | nnnnnnnn UU   |
| XAP#n   | Returns the accumulator value in primary units  |   |
| XAS#n   | Returns the accumulator value in secondary units  |   |
| XAT#n   | Returns the accumulator value in tertiary units   |   |
| XG#n  | Returns the gross weight in displayed units   | nnnnnnnn UU   |
| XGP#n   | Returns the gross weight in primary units   |   |
| XGS#n   | Returns the gross weight in secondary units   |   |
| XGT#n   | Returns the gross weight in tertiary units  |   |
| XN#n  | Returns the net weight in displayed units   | nnnnnnnn UU   |
| XNP#n   | Returns the net weight in primary units   |   |
| XNS#n   | Returns the net weight in secondary units   |   |
| XNT#n   | Returns the net weight in tertiary units  |   |
| XT#n  | Returns the tare weight in displayed units  | nnnnnnnn UU   |
| XTP#n   | Returns the tare weight in primary units  |   |
| XTS#n   | Returns the tare weight in secondary units  |   |
| XTT#n   | Returns the tare weight in tertiary units   |   |
| XP#n  | Return probe temperature  | nnnnnnnn UU   |
| XPP#n   | Return probe primary temperature  |   |
| XPS#n   | Return probe secondary temperature  |   |
| XPT#n   | Return probe tertiary temperature   |   |
| XI#n  | Return 0–20 mA value  |   |
| XV#n  | Return 0–10 V value   |   |
| Unless otherwise specified, n= Scale Number, 1 through 8. If the scale number is omitted, the value returned is for the currently selected scale. |   |   |

Table 15-15. Weigh Mode Commands

## 15.7 Batching Control Commands

The commands listed in Table 15-16 provide batching control through a communications port.

| Command   | Description  | Values  |
|---|--------------|---|
| BATSTART  | Batch Start  | If the BATRUN digital input is active or not assigned, the BATSTART command can be used to start the batch program.   |
| BATSTOP   | Batch Stop   | Stops an active batch and turns off all associated digital outputs. Requires a Batch Start to resume processing.  |
| BATPAUSE  | Batch Pause  | Pauses an active batch and turns off all digital outputs except those associated with Concurrent and Timer setpoints. Processing is suspended until the indicator receives a Batch Start signal. Pressing the BATSTRT digital input, BATSTART serial command, Batch Start softkey or the StartBatch function (in iRite) resumes the batch and re-energizes all digital outputs turned off by the Batch Pause. |
| BATRESET  | Batch Reset  | Stops the program and resets the batch program to the first batch step. Use the BATRESET command after making changes to the batch configuration.   |
| BATSTATUS   | Batch Status | Returns YYYY where X is S (if the batch is stopped), P (if the batch is paused), R (if the batch is running); and YYY is the setpoint number the batch is currently on (1-100).   |
| Unless otherwise specified, n= Scale Number, 1 through 8. If the scale number is omitted, the value returned is for the currently selected scale. |              |   |

Table 15-16. Batching Control Commands

## 15.8 Database Commands

The commands listed in Table 15-17 can be used to create and maintain databases in the 1280. Except for the DB.DELALL command, all of the database commands require an extension to identify the number of the database within the memory.

| Command   | Description                                |
|---|--|
| DB.ALIAS#n  | Get or set database name                   |
| DB.CLEAR#n  | Clear database contents                    |
| DB.DATA#n   | Get or set database contents               |
| DB.SCHEMA#n   | Get or set database structure              |
| DB.DELALL   | Delete all databases and database contents |
| n represents the database number (n = 1-128).<br>Each command must be terminated with a carriage return character (<CR>, ASCII 13). |  |

Table 15-17. Database Commands

db.alias

The **DB.ALIAS** command is used to get or set the alias used by iRite programs to reference the specified database. Each database alias must be unique among all databases and adhere to the following rules: 8 character maximum; must begin with an alpha character or an underscore; can only contain A–Z, a–z, 0–9, or an underscore (\_).

*Example. The following command assigns an alias of TRUCKS\_2 to the first database:*

DB.ALIAS#1=TRUCKS\_2<CR>

Sending the **DB.ALIAS** command alone, without assigned data, returns the current database alias.

db.clear

To clear the contents of a database, send the following command:

DB.CLEAR#n

Where:

n is the database number

The 1280 responds with **OK** if the command is successful, **??** if unsuccessful.

db.data

The **DB.DATA** command can be used to send data to or retrieve data from the 1280.

Data can be sent to the indicator using the following command:

DB.DATA#n = data{ | }<CR>



Where:

*n* is the database number

*data* represents a single cell of a row of data

{ | } is a pipe character (ASCII 124), used to delimit cell data. If the data being sent is not the last cell of the row, append the pipe character to the data to indicate that more data is coming for that particular row. If the data being sent is the last cell of the row, do not append the pipe character.

If the command is accepted, the 1280 responds with **OK**; if not, it responds with **??**.

*Example. The following commands place the data shown in Table 15-18 into the first database:*

```
DB.DATA#1=this|<CR>
DB.DATA#1=is|<CR>
DB.DATA#1=a|<CR>
DB.DATA#1=test<CR>
DB.DATA#1=aaa|<CR>
DB.DATA#1=bbb|<CR>
DB.DATA#1=ccc|<CR>
DB.DATA#1=ddd<CR>
```

| Record | Cell |     |     |      |
|--------|------|-----|-----|------|
|        | 1    | 2   | 3   | 4    |
| first  | this | is  | a   | test |
| second | aaa  | bbb | ccc | ddd  |

*Table 15-18. Database Commands Example*

Sending the **DB.DATA** command alone, without assigned data, returns the database contents:

```
DB.DATA#n<CR>
```

The 1280 responds with the entire contents of the database. Returned data is cell-delimited with the pipe character (ASCII 124) and row-delimited with carriage returns (ASCII 13).

For example, the following command could be used to return the contents of database 1:

```
DB.DATA#1<CR>
```

If the database contents are the records shown in Table 15-18, the indicator responds with the following data, using pipe characters and carriage returns to delimit the database cells and rows, respectively:

```
this|is|a|test<CR>aaa|bbb|ccc|ddd<CR>
```



**Note** *There is no end of database notification at the end of the DB.DATA command transmission. Use a receive time-out to determine command completion. The time-out value will vary based on baud rate.*

Determine the number of records currently in the database both prior to and after sending the **db.data** command to verify that the correct number of records are received. The number of records can be determined with the **DB.SCHEMA** command.

```
db.schema
```

The **DB.SCHEMA** command is used to get or set the structure of a database.

```
DB.SCHEMA#n<CR>
```

The 1280 responds to the command above by returning the following:

```
<Max Records>,<Current Record Count>,
<Column Name>,<Data Type>,<Data Size>,...<CR>
```

The <Column Name>, <Data Type>, and <Data Size> elements repeat for each column in the database.

The <Column Name> follows the rules for alias names: 8 character maximum; must begin with an alpha character or an underscore; can only contain A–Z, a–z, 0–9, or an underscore (\_).

The <Data Type> is represented by a numeric field:

| Value | Type                   |
|-------|------------------------|
| 1     | Byte                   |
| 2     | Short (16-bit integer) |

*Table 15-19. Database Data Types*

| Value | Type                           |
|-------|--------------------------------|
| 3     | Long (32-bit integer)          |
| 4     | Single (32-bit floating point) |
| 5     | Double (64-bit floating point) |
| 6     | Fixed string                   |
| 7     | Variable string                |
| 8     | Date and time                  |

*Table 15-19. Database Data Types (Continued) (Continued)*

The *<Data Size>* value must match the data type. A range of data size values is allowed only for the string data types:

| Size            | Value |
|-----------------|-------|
| Byte            | 1     |
| Short           | 2     |
| Long            | 4     |
| Single          | 4     |
| Double          | 8     |
| Fixed string    | 1–255 |
| Variable string | 1–255 |
| Date and time   | 8     |

*Table 15-20. Database Data Sizes*

The **DB.SCHEMA** command can also be used to modify the schema, but only when the indicator is in setup mode and only if the database does not contain any data.

# 16.0 Specifications

## Power AC

|                   |             |
|-------------------|-------------|
| Line Voltages     | 85-265 VAC  |
| Frequency         | 50 or 60 Hz |
| Power Consumption | 60 Watts    |

## Power DC

|                   |          |
|-------------------|----------|
| Line Voltages     | 9-36 VDC |
| Power Consumption | 60 Watts |

## Scale Card Specifications

|                            |  |
|----------------------------|--|
| Excitation Voltage         | 10 ± 0.5 VDC bi-polar<br>16 x 350Ω or 32 x 700Ω load cells per scale card  |
| Analog Signal Input Range  | -10 mV to +40 mV   |
| Analog Signal Sensitivity  | 1.0 μV/graduation minimum at 7.5 Hz - 120 Hz<br>4.0 μV/graduation typical @ 960 Hz   |
| A/D Sample Rate            | 7.5-960 Hz, software selectable  |
| Input Impedance            | >35 MΩ typical   |
| Internal Resolution        | 8 000 000 counts   |
| Wt Display Resolution      | 9,999,999  |
| Input Sensitivity          | 10 mV per internal count   |
| System Linearity           | ±0.01% of full scale   |
| Input Voltage Differential | ±800 mV referenced to earth ground   |
| Input Overload             | Load cell signal lines ±10 V continuous, ESD protected   |
| RFI/EMI Protection         | Short circuit protection, 600W transient voltage suppression Protection for ESD, EFT (electrical fast transients), tertiary lightning, and system-generated transients per IEC 60001-4-2, 60001-4-4, and 60001-4-5; European Standards EN50082 and EN61000-4 |
| Digital Filter             | Software selectable: Three Stage, Adaptive or Damping  |

## Option Cards

|   |  |
|---|--|
| Six slots supporting following options and loads: |  |
| Fieldbus  | EtherNet I/P, ProfiNet, Modbus/TCP, DeviceNet, Profibus DP   |
| Single Analog Output                              | 16 bit, voltage output 0-10 VDC, current output 0-20mA, 4-20mA   |
| Dual Analog Output                                | 16 bit, voltage output 0-10 VDC, current output 0-20mA, 4-20mA   |
| Analog Input                                      | 2 channel, 16 bit, voltage input ±10 VDC, 0-100 mVDC, current input 0-20mA, Thermocouple E,N,J,K,T   |
| Serial  | 2 channel, full duplex RS-232 with CTS/RTS, RS-485 or RS-422, 1200-115,200 baud  |
| Digital I/O                                       | 24 channels, configurable as inputs or outputs<br>Inputs- 5 VDC max, active low<br>Outputs- 20 mA max per channel, active low<br>5 VDC source available - 500 mA max |
| Relay   | 4 channel, dry contact, max current 3A @ 30 VDC, 3A @250VAC  |

## Digital I/O

|            |  |
|------------|--|
| 8 channels | Configurable as inputs or outputs  |
| Inputs     | 5 VDC max, active low  |
| Outputs    | 20 mA max per channel, active low<br>5 VDC source available - 500 mA max |

## Communications

|                         |  |
|-------------------------|--|
| Port 1 & 2              | Full duplex RS-232 with CTS/RTS, RS-422/485 full and half duplex<br>1200, 2400, 4800, 9600, 19200, 38400, 57600 and 115200 |
| Baud Rate (Ports 1 & 2) | USB 2.0 Device (Micro)   |
| Port 3                  | Bluetooth® SPP 2.1+EDR   |
| Port 4                  | Standards 4Mbaud   |
| USB Host                | (2) Type A Connectors max 500 mA   |

## Networking

|                    |  |
|--------------------|--|
| Wired Ethernet     | 802.3 10/100 Auto – MDI/MDI-X                |
| Wi-Fi              | 802.11 b/g/n 2.4 GHz                         |
| Wi-Fi Network Type | Infrastructure                               |
| Security Types     | Open/Shared Key/ WPA-Personal/ WPA2-Personal |
| Encryption Types   | None/WEP/TKIP/AES                            |

## Operator Interface

|             |   |
|-------------|---|
| Display     | TFT WVGA Color<br>800 x 480 Resolution<br>White LED Backlight<br>500 NIT – Standard<br>1000 NIT – Viewable Outdoors |
| Keyboard    | 22-key membrane panel   |
| Touchscreen | 5-wire resistive, tactile feel  |

## Memory

|               |  |
|---------------|--|
| Onboard       | 8GB eMMC (system use), 1GB DDR3<br>485 MB onboard database storage |
| Micro SD Card | Up to 32 GB  |

## Environmental

|                       |   |
|-----------------------|---|
| Operating Temperature | Legal 14 to 104°F (-10 to +40°C)<br>Industrial -4 to 131°F (-20 to +55°C)<br>*Depending on enclosure and load |
| Storage Temperature   | -4 to 158°F (-20 to +70°C)  |
| Humidity              | 0-95% relative humidity   |

## Enclosure

|                 |
|-----------------|
| Universal Mount |
| Panel Mount     |
| Wall Mount      |

## Certifications and Approvals



NTEP  
CoC Number15-001  
Accuracy Class III/IIIL  $n_{max}$  : 10 000

Measurement Canada  
Approval AM-5980 C  
Accuracy Class III/IIHD  $n_{max}$  : 10 000







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