

# Vilter™ Motor Starter

## Refrigeration HMI Operation Manual



Vilter

  
**EMERSON**  
Climate Technologies



# Table of Contents

---

Section Title	Section Number
<b>Section 1 • General Information</b>	
History .....	1-1
Vilter Engineered Motor Starters.....	1-1
Safety Features .....	1-1
Hardware Components - Exterior .....	1-2
Main Breaker Enclosure .....	1-3
Control Circuit and Components Enclosure .....	1-4
Permanent Electrical Safety Devices.....	1-5
Door Interlocks .....	1-8
Human Machine Interface (HMI) Touch Screen.....	1-9
<b>Section 2 • HMI Power Up</b>	
Splash Screen.....	2-1
<b>Section 3 • Main Menu/Architecture Screen</b>	
Main Menu/Architecture Screen.....	3-1
Show Menu Button .....	3-1
Component Navigation Touch Screen .....	3-1
Previous Panel Button .....	3-1
Lengua Button (Optional) .....	3-1
Menu Popup Window .....	3-2
<b>Section 4 • Log In/Out Screen</b>	
Log In/Out Screen .....	4-1
<b>Section 5 • HMI Configuration Screen</b>	
HMI Configuration Screen.....	5-1
<b>Section 6 • HMI Information Screen</b>	
HMI Information Screen .....	6-1
XBTGT HMI Information Button.....	6-1
<b>Section 7 • Network Interface/Advantys STB Screen</b>	
Network Interface / Advantys STB Screen.....	7-1
Advantys STB Button .....	7-1
Advantys STB Technical Data Screen .....	7-2
<b>Section 8 • Soft Starter Screen</b>	
Soft Starter (RVSS) Screen.....	8-1
RVSS Configuration Button .....	8-1
Last Fault Display .....	8-1
Fault Code Button .....	8-2
Reset Faults Button .....	8-2
RVSS Information Button .....	8-2

# Table of Contents

---

Section Title	Section Number
---------------	----------------

## Section 8 • Soft Starter Screen (Continued)

State of Logic I/O Indicators .....	8-2
RVSS Configuration Screen .....	8-3
Ready Indicator.....	8-3
Enable / Run / Stop / Off Buttons .....	8-3
Parameters .....	8-4
Save Changes Button .....	8-4
Change Class Button .....	8-5
Change Signal Button .....	8-6

## Section 9 • Oil Pump Starter Screen

Oil Pump Motor Starter Screen.....	9-1
Oil Pump Motor Starter (TeSys U) Configuration Button .....	9-1
Last Fault Display .....	9-1
Fault Code Button .....	9-1
Reset Faults Button .....	9-1
TeSys U Information Button .....	9-1
State of Logic I/O Indicators .....	9-2
Warning (Last Fault) Display.....	9-2
Reset Warnings Button .....	9-2
Oil Pump Motor Starter (TeSys U) Configuration Screen .....	9-3
Run / Stop Buttons .....	9-3
Control Mode Local/Remote - Change Mode Button.....	9-3
Parameters .....	9-4
Disable Phase Fault Button.....	9-4
Setting the %FLA Value .....	9-4

## Section 10 • Power Monitor Screen

Power Monitor Screen.....	10-1
Power Monitor (TeSys T) Configuration Button.....	10-2
Power Monitor (TeSys T) Configuration Screen.....	10-2
Parameters .....	10-3
Thermal Overload / Phase Loss / Under Power / Over Current / Under Voltage Fault Buttons .....	10-3

## Section 11 • Power Monitor Trend Screen

Power Monitor Trend Screen .....	11-1
Calendar Window .....	11-1
Time Span.....	11-1
Range Span.....	11-1
Forward and Reverse Buttons.....	11-2
Play and Pause Buttons .....	11-2

# Table of Contents

---

Section Title	Section Number
<b>Section 12 • Compressor Motor Trend Screen</b>	
Compressor Motor Trend Screen.....	12-1
Calendar Window .....	12-1
Time Span.....	12-1
Data Limit.....	12-1
Normal Run Current.....	12-2
Run Current Warning .....	12-2
<b>Section 13 • Oil Pump Motor Trend Screen</b>	
Oil Pump Motor Trend Screen .....	13-1
Calendar Window .....	13-1
Time Span.....	13-1
Data Limit.....	13-1
<b>Section 14 • Alarm &amp; Event Log Screen</b>	
Alarm & Event Log Screen.....	14-2
Acknowledge All.....	14-3
Acknowledge .....	14-3
Scroll Buttons .....	14-3
Page Buttons .....	14-3
<b>Section 15 • Motor Starter Drawings Screen</b>	
Motor Starter Drawings Screen .....	15-1

# List of Figures

Figures	Section Number
Figure 1-1. Hardware Components - Exterior.....	1-2
Figure 1-2. Main Breaker Enclosure - Interior View.....	1-3
Figure 1-3. Control Circuit and Components Enclosure - Interior View.....	1-4
Figure 1-4. Permanent Electrical Safety Devices.....	1-5
Figure 1-5. Permanent Electrical Safety Devices (Continued).....	1-6
Figure 1-6. Permanent Electrical Safety Devices (Continued).....	1-7
Figure 1-7. Door Interlock.....	1-8
Figure 1-8. HMI Touch Screen.....	1-9
Figure 2-1. Splash Screen.....	2-1
Figure 3-1. Main Menu/Architecture Screen.....	3-1
Figure 3-2. Main Menu/Architecture Screen - Menu Popup Window.....	3-2
Figure 4-1. Menu Popup Window.....	4-1
Figure 4-2. Log In Screen.....	4-1
Figure 4-3. Log In Screen - On-Screen Keyboard.....	4-2
Figure 5-1. HMI Configuration Button.....	5-1
Figure 5-2. HMI Configuration Screen.....	5-1
Figure 6-1. HMI Information Screen.....	6-1
Figure 7-1. Network Interface / Advantys STB.....	7-1
Figure 7-2. Advantys STB Technical Data Screen.....	7-2
Figure 8-1. Soft Starter (RVSS) Screen.....	8-1
Figure 8-2. RVSS Configuration Button.....	8-1
Figure 8-3. Soft Starter (RVSS) Screen - Fault Code Popup List.....	8-2
Figure 8-4. RVSS Configuration Screen.....	8-3
Figure 8-5. RVSS Configuration Screen - Nominal Motor Current Numeric Entry Keypad.....	8-4
Figure 8-6. RVSS Configuration Screen - Change Class Popup Window.....	8-5
Figure 8-7. RVSS Configuration Screen - Change Signal Popup Window.....	8-6
Figure 9-1. Oil Pump Motor Starter Screen.....	9-1
Figure 9-2. Oil Pump Motor Starter Screen - Warning Fault Code Popup List.....	9-2
Figure 9-3. Oil Pump Motor Starter Configuration Screen.....	9-3
Figure 9-4. Oil Pump Motor Starter Configuration Screen - Numeric Entry Keypad.....	9-4
Figure 10-1. Power Monitor Screen.....	10-1
Figure 10-2. Power Monitor Configuration Screen.....	10-2
Figure 10-3. Power Monitor Configuration Screen - Numeric Entry Keypad.....	10-3
Figure 11-1. Power Monitor Trend Screen.....	11-1
Figure 11-2. Power Monitor Trend Screen - Reverse/Pause/Play/Forward Buttons.....	11-2
Figure 11-3. Power Monitor Trend Screen - Calendar Window (Enlarged).....	11-2
Figure 12-1. Compressor Motor Trend Screen.....	12-1
Figure 12-2. Compressor Motor Trend Screen - Normal Run Current & Run Current Warning.....	12-2
Figure 13-1. Oil Pump Motor Trend Screen.....	13-1
Figure 14-1. Alarm & Event Log Screen.....	14-2
Figure 14-2. Alarm & Event Log Screen - Push Buttons.....	14-3
Figure 15-1. Motor Starter Drawings Screen.....	15-1
Figure 15-2. Drawing Menu.....	15-2
Figure 15-3. Zoom In/Out Buttons.....	15-2

### History

Vilter Manufacturing - providing innovative solutions to industrial applications since 1867.

Vilter Manufacturing, a business line of Emerson Climate Technologies, provides a complete line of compressors for industrial refrigeration, industrial heat pumps and hydrocarbon gas processing including reciprocating, single screw, twin screw, and scroll compressors.

Vilter's single screw compressors provide the lowest life-cycle costs, and highest reliability of all industrial refrigeration and gas compressors. Its balanced design provides quiet and reliable operation. Dependable performance, well beyond 100,000 hours, is typical in closed loop refrigeration systems without the need for special oil filtration or vibration monitoring and analysis. Periodic compressor rebuilds and overhauls are relatively unheard of with the Vilter single screw compressor.

### Vilter Engineered Motor Starters

The principle behind our Vilter Engineered Motor Starters is to build safe and smart equipment in the spirit of the NFPA 70E Standard for Electrical Safety in the Workplace. The goal is to provide operators with troubleshooting and configuration tools on the outside of the motor starter, away from electrical hazards, as well as to eliminate and/or reduce the risk of an Arc Flash Hazard and electrocution.

We build our Vilter Engineered Motor Starters according to UL 508A, NFPA 79 and NFPA 70 NEC. We incorporate the latest proven technology for internal power and control components.

We also custom engineer our Vilter Engineered Motor Starters to meet your specific application and load requirements – starter enclosures can be customized to fit within existing structures.

All Vilter Engineered Motor Starters are pre-assembled and shipped ready for installation.

### Safety Features

- The Main Breaker and incoming voltage are sequestered from the main enclosure.
- HMI provides monitoring and configuration of internal starter components.
- Electrical and Mechanical interlocks to prevent entry while enclosure is energized.
- Non-contact voltage indicators to verify power present inside enclosure.
- External power disconnect devices are provided for main and control voltages.
- Remote monitoring and control with password protection.
- Thermal and Magnetic protection of the loads being fed from the starter.

This manual covers typical motor starter applications. The form and function of the HMI screens will be the same if additional screens are added for your particular project.

## Section 1 • General Information

### Hardware Components - Exterior

Vilter Motor Starters may differ depending on application. Below are typical components that can be found in each motor starter. For specific motor starter layout, refer to supplied electrical drawings.

1\* - Human Machine Interface (HMI) Touch Screen

2\*\* - Control Circuit and Components Enclosure

3 - Electromechanical Door Interlock

4\*\* - Main Breaker Enclosure - Incoming Feeder

5 - Main Motor Starter Enclosure

6 - Permanent Electrical Safety Devices (Voltage Indicator and Non-Contact Voltage Detector)

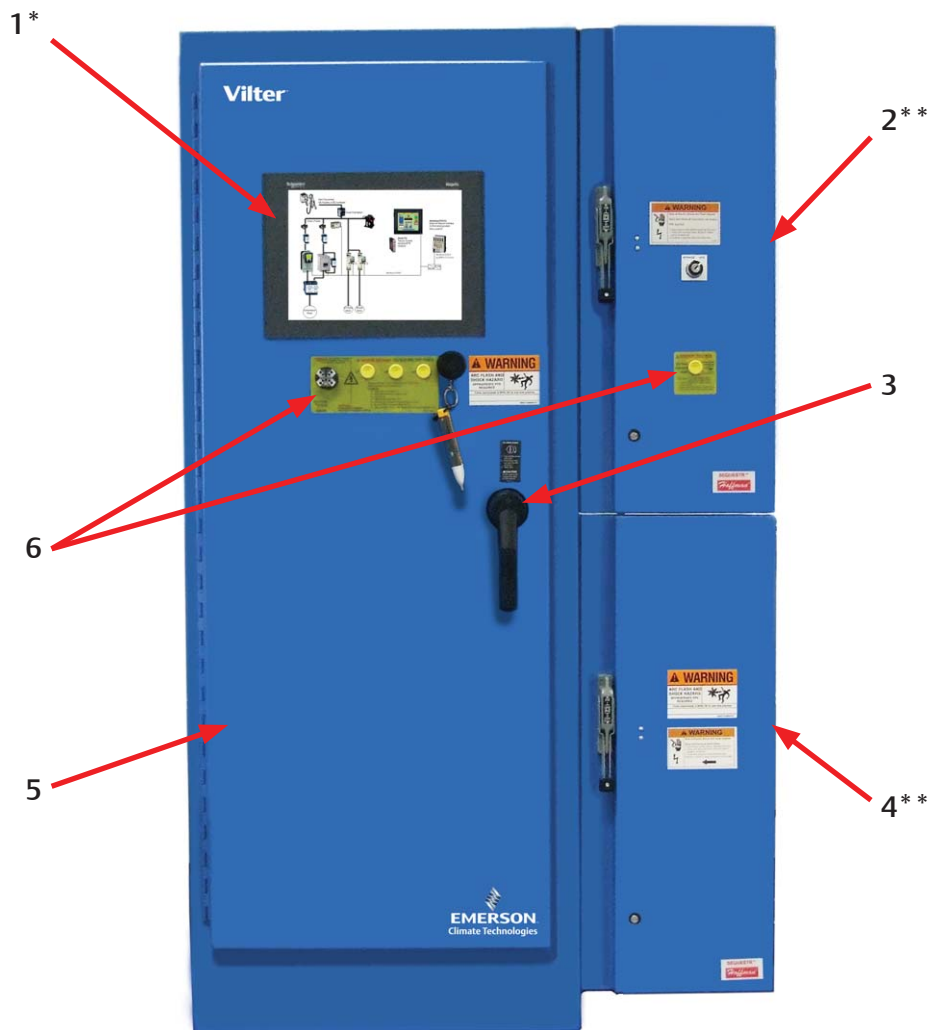


Figure 1-1. Hardware Components - Exterior

\* Navigating through screens will not start or stop the compressor. Loss of communication between the HMI and components will not impact functionality of the motor starter - it will still protect and start all compressor loads.

\*\* Main Breaker Enclosure and Control Enclosure can be mounted either top or bottom depending on the incoming feeder – in some applications the Main Breaker is mounted in the main enclosure.



## Main Breaker Enclosure

### CAUTION

Main breaker should only be turned to the off position when the compressor is not running. Failure to comply may result in damage to equipment.

### NOTICE

Always follow your employer's electrical safety program and NFPA 70E when working around and in energized equipment – this manual is not a substitute for NFPA 70E.

The Main Breaker is mounted in a separate enclosure; therefore, removing the line side voltage from the Main Motor Starter Enclosure when the Main Breaker is in the off position. Now, a technician can enter the Main Motor Starter Enclosure without exposure to any voltage once it is placed in an electrically safe work condition per NFPA 70E.

Only the Main Breaker and feeder ground lug reside in the Main Breaker Enclosure – a shunt trip is standard on all Main Breakers and is wired to terminal blocks in the Control Circuit and Components Enclosure for customer use.

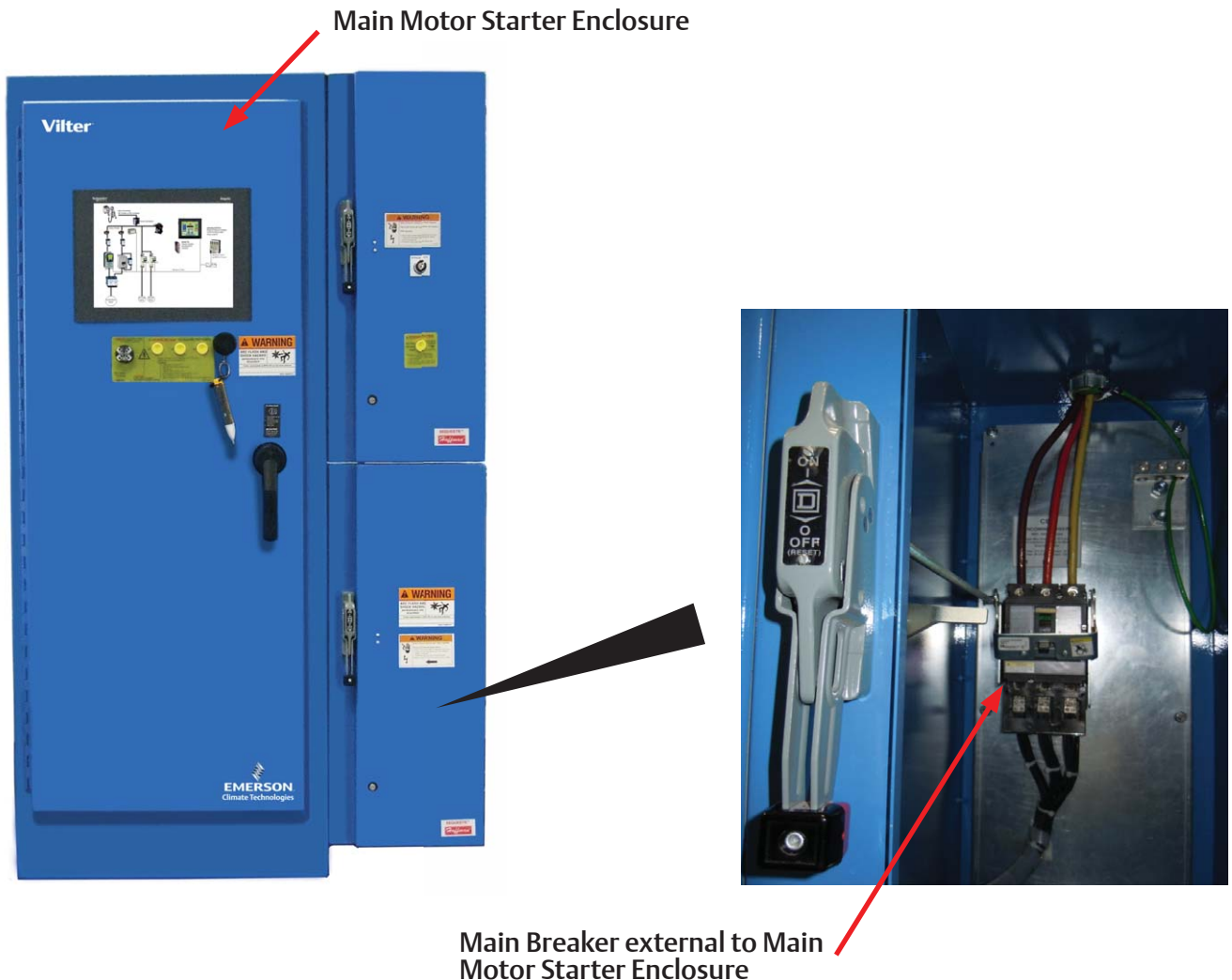


Figure 1-2. Main Breaker Enclosure - Interior View

## Control Circuit and Components Enclosure

The 120VAC and 24VDC control circuit and components are in a separate enclosure away from the 480V power circuit. This greatly reduces the Hazard/Risk category per NFPA 70E as well as the possibility of an Arc Flash Hazard.

Control components on the secondary of the control power transformer reside in the Control Circuit and Components Enclosure – in applications where the control power transformer is 2kVA or below, the 120VAC secondary fusing is mounted on the control power transformer.

### NOTICE

Always follow your employer’s electrical safety program and NFPA 70E when working around and in energized equipment – this manual is not a substitute for NFPA 70E.

Main Motor Starter Enclosure



Control Circuit and Components Enclosure



Figure 1-3. Control Circuit and Components Enclosure - Interior View

## Permanent Electrical Safety Devices

Permanently installed electrical safety devices will alert people if the motor starter has power in the Main Motor Starter Enclosure. Four separate electrical safety devices are hard wired to the load side of the Main Breaker. When the Main Breaker is in the on position, power flows through the Main Breaker and through the Permanent Electrical Safety Devices.

In some applications the Permanent Electrical Safety Devices are wired to the line side of the Main Breaker; therefore, forcing the technician to de-energize the feeder breaker to the motor starter and removing power from the Main Motor Starter Enclosure.

### NOTICE

Always follow your employer's electrical safety program and NFPA 70E when working around and in energized equipment – this manual is not a substitute for NFPA 70E.

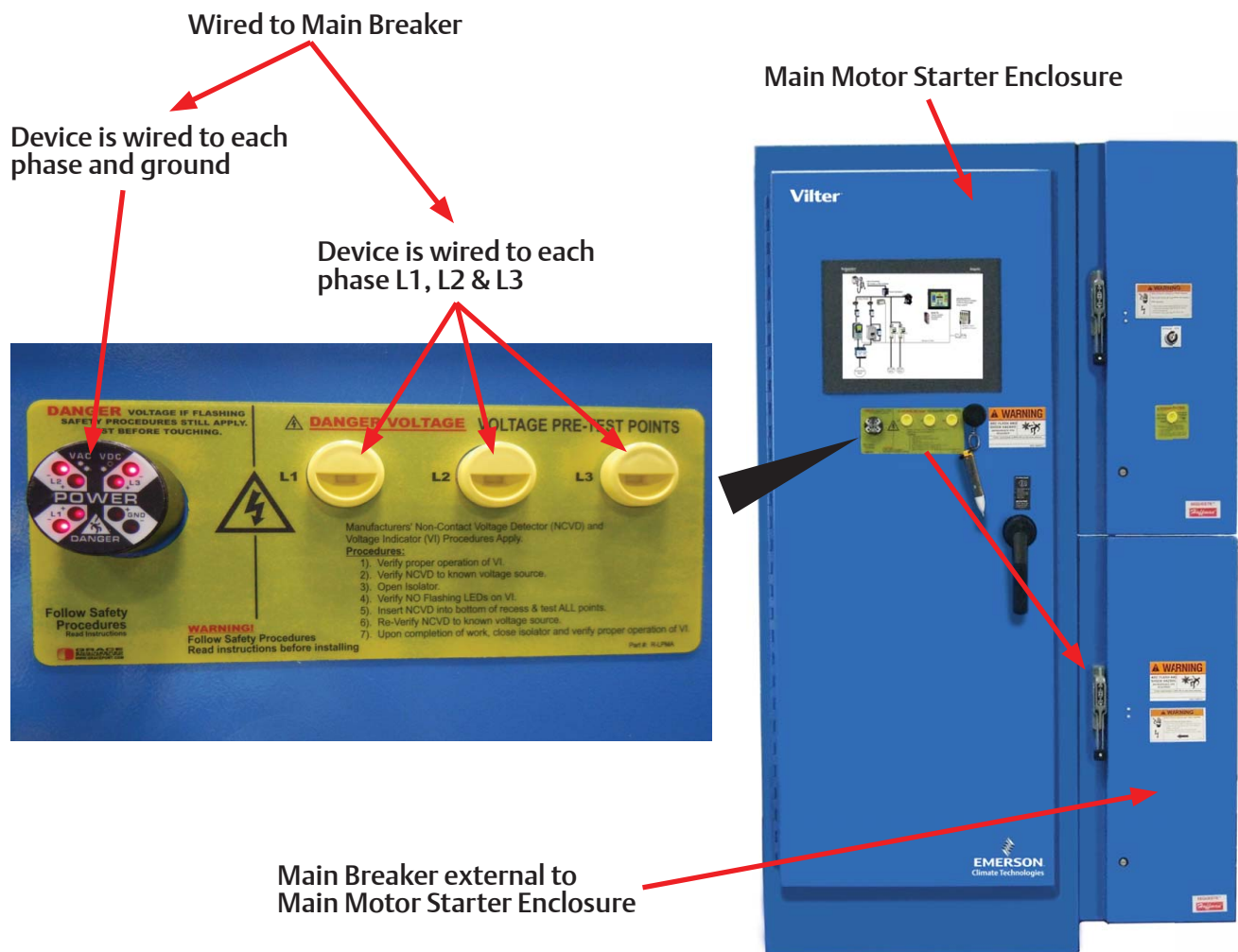


Figure 1-4. Permanent Electrical Safety Devices

## Permanent Electrical Safety Devices (Continued)

### CAUTION

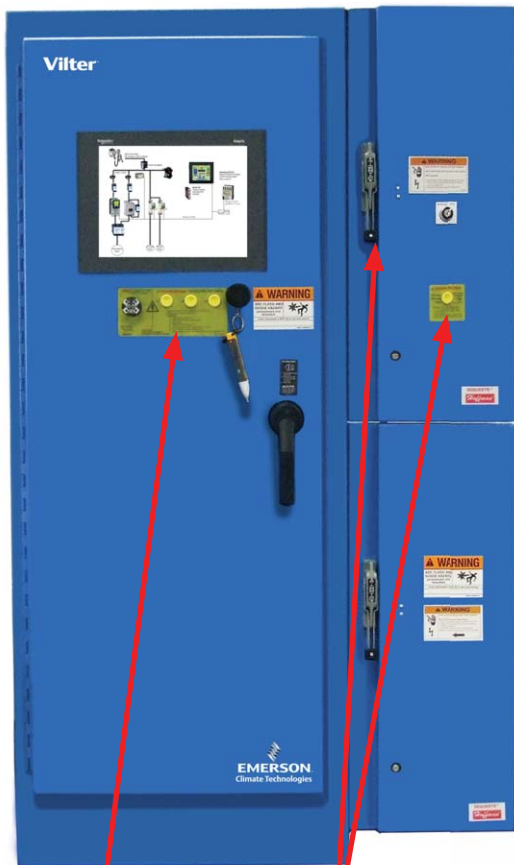
Main breaker should only be turned to the off position when the compressor is not running. Failure to comply may result in damage to equipment.

### NOTICE

Always follow your employer's electrical safety program and NFPA 70E when working around and in energized equipment – this manual is not a substitute for NFPA 70E.

Permanent Electrical Safety Devices continuously test for voltage and that the device itself is working properly. The Visual Voltage Indicator and Non-Contact Voltage Portal are used together to provide redundancy and to allow an independent voltage detector (non-contact voltage detector) to verify the presence or absence of voltage in the Main Motor Starter Enclosure.

Permanent Electrical Safety Devices should be used before entering the Main Motor Starter Enclosure. Before turning off the main breaker, ensure that the motor starter loads are properly interrupted and not energized. Check the Visual Voltage Indicator to make sure the red LEDs are all blinking – this ensures the indicator is working properly. Use your Non-Contact Voltage Detector to test for voltage on each phase – ensure your Non-Contact Voltage Detector is working properly before using it on the Non-Contact Voltage Portal by testing it on a known energy source. Your Non-Contact Voltage Detector should illuminate and/or beep when voltage is present.



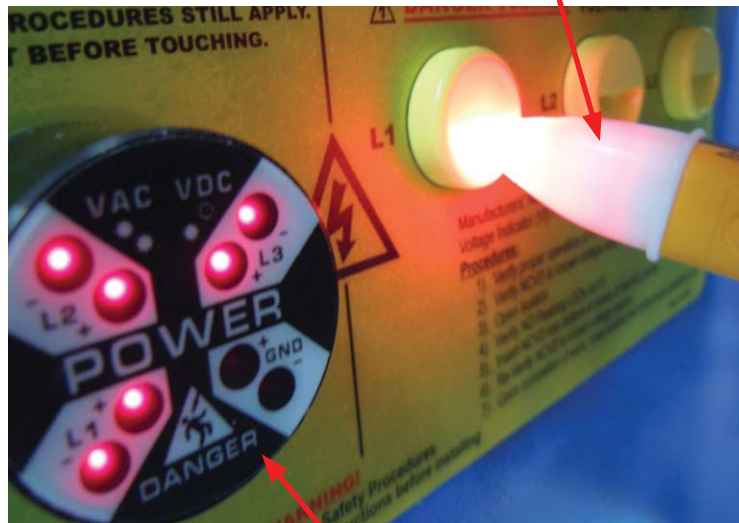
Main power circuit voltage indicator

Control circuit voltage indicator wired to load side of control power disconnect



Redundant Voltage Verification – Visual Indicator and Non-Contact Voltage Portal

Non-Contact Voltage Detector Tests for Voltage on Each Phase



Visual Voltage Indicator Tests Voltage between Phases and Ground – L1-L2; L1-L3; L2-L3; L1-GND; L2-GND; L3-GND

Figure 1-5. Permanent Electrical Safety Devices (Continued)

## Section 1 • General Information

Now turn off your main breaker and apply lockout/tagout devices in accordance with your documented and established policy. Return to the Permanent Electrical Safety Devices to ensure the Visual Voltage Indicator red LEDs are not blinking. Use your Non-Contact Voltage Detector on a known source to ensure it is working properly then test each phase using the Non-Contact Voltage Detector Portals, then test your Non-Contact Voltage Detector again on a known source to ensure it is working properly.

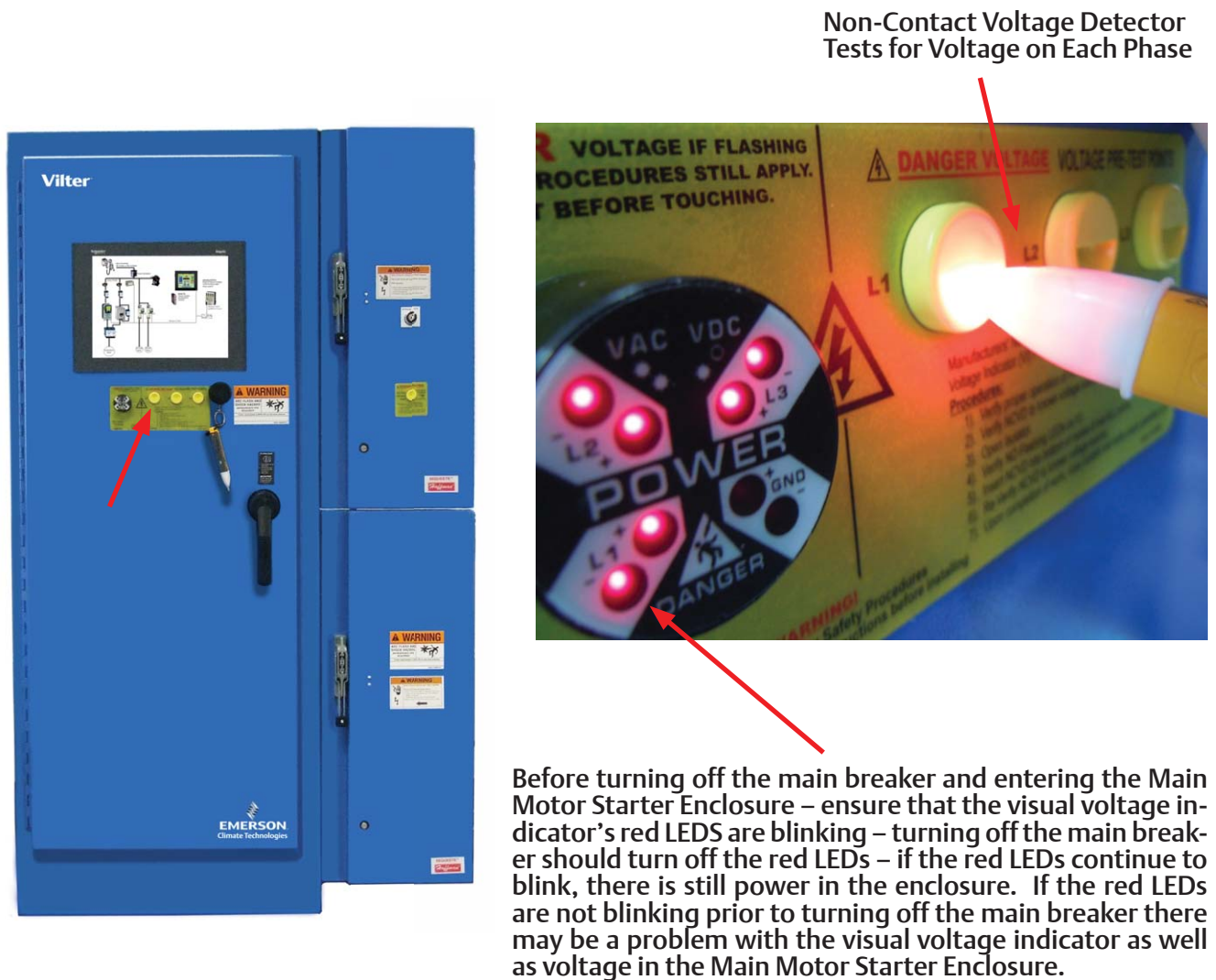


Figure 1-6. Permanent Electrical Safety Devices (Continued)

## Door Interlocks

The Main Motor Starter Enclosure door includes an electromechanical door interlock that is energized by the Main Breaker. As the load side of the Main Breaker (in some applications, the line side) is energized, the

Door Interlock is energized and locks the enclosure door. This prevents deliberate and accidental entry into the energized equipment.

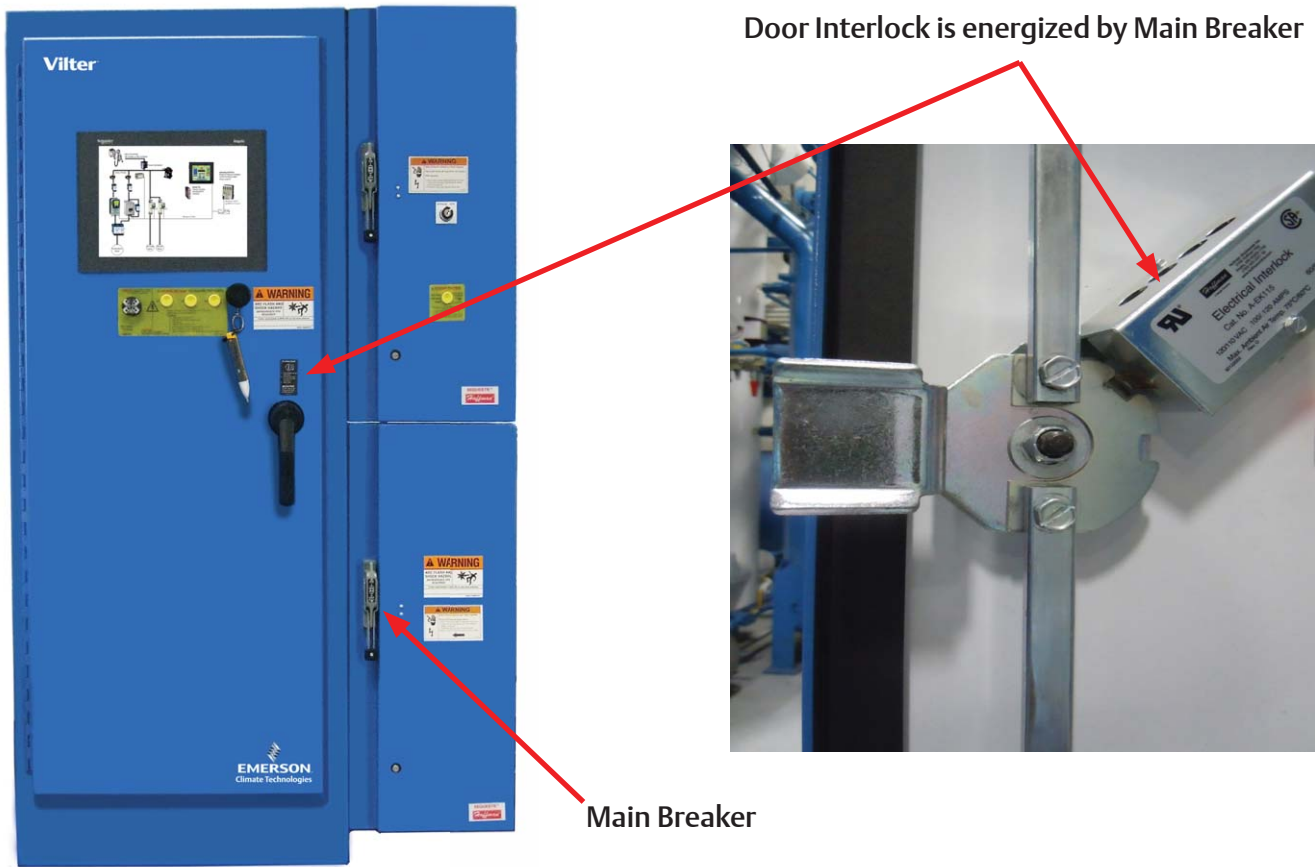


Figure 1-7. Door Interlock

# Human Machine Interface (HMI) Touch Screen

The Human Machine Interface (HMI) Touch Screen allows users to interface with intelligent motor starter components on the inside of the Main Motor Starter Enclosure. Configuration, troubleshooting and data acquisition tools are brought to the outside of the motor starter away from energized components and potential electrical hazards on the inside of the motor starter.

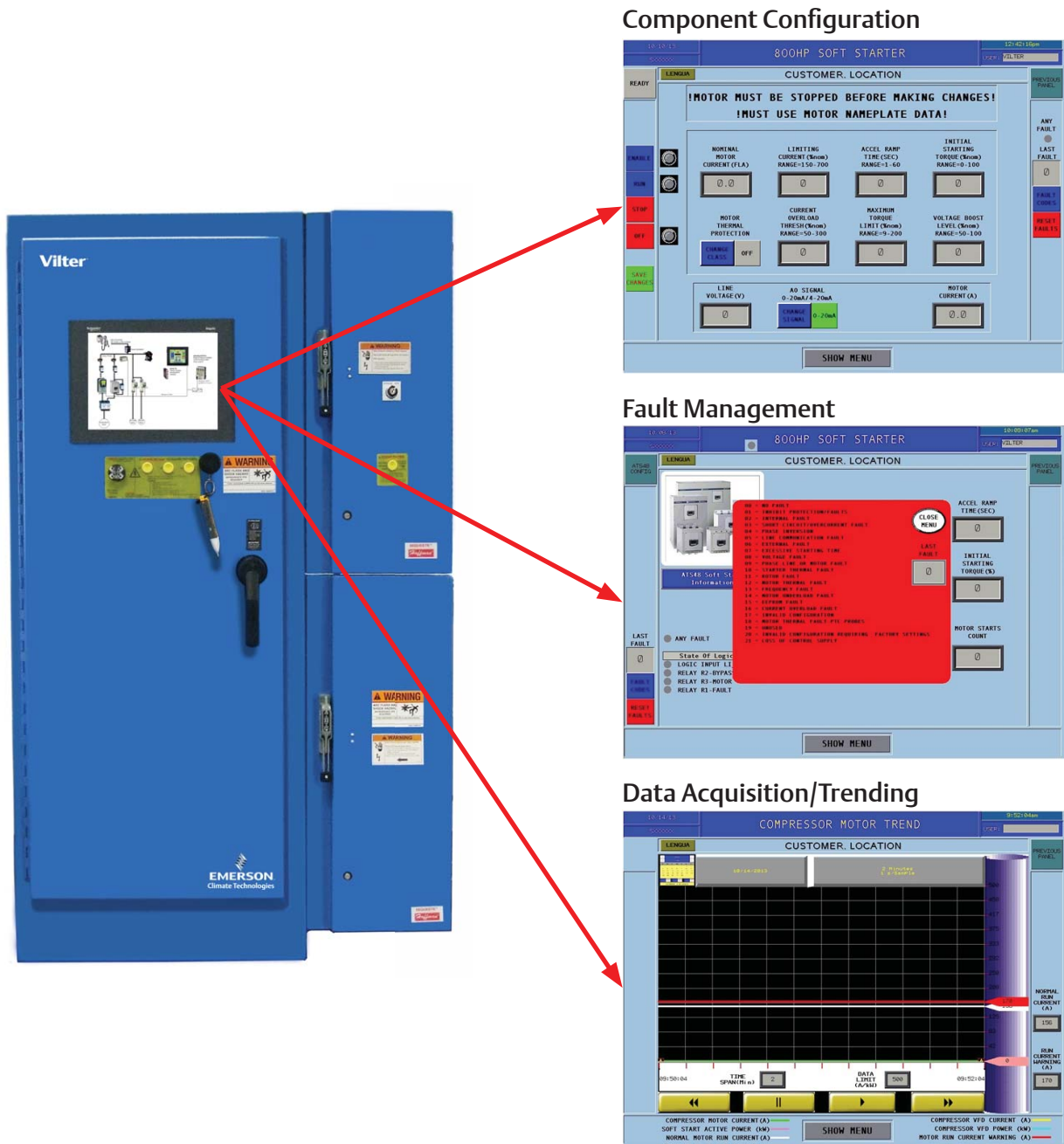


Figure 1-8. HMI Touch Screen





### Splash Screen

On boot up, this screen will display as the HMI boots and runs its diagnostics. Also, other intelligent components run their respective diagnostic routines and establish communication. Once everything has powered up, the touch screen will show the Main Menu/Architecture screen.



Figure 2-1. Splash Screen



### Main Menu/Architecture Screen

The Main Menu/Architecture screen is the overview screen of the motor starter. The darker lines represent 480V connections and the light gray lines are communication connections. This screen allows the operator to navigate to all screens, see Figure 3-1.

#### Show Menu Button

- This button opens the Menu button popup window. Navigation to the various motor starter components can be selected through the Menu button popup window.

#### Component Navigation Touch Screen

- Selecting a component on the touch screen will directly open to the component screen.

#### NOTE

Not all components are selectable. Only intelligent components are selectable.

#### Previous Panel Button

- Returns to previously viewed screen.

#### Lengua Button (Optional)

- Allows the operator to select the language to display on the screens.

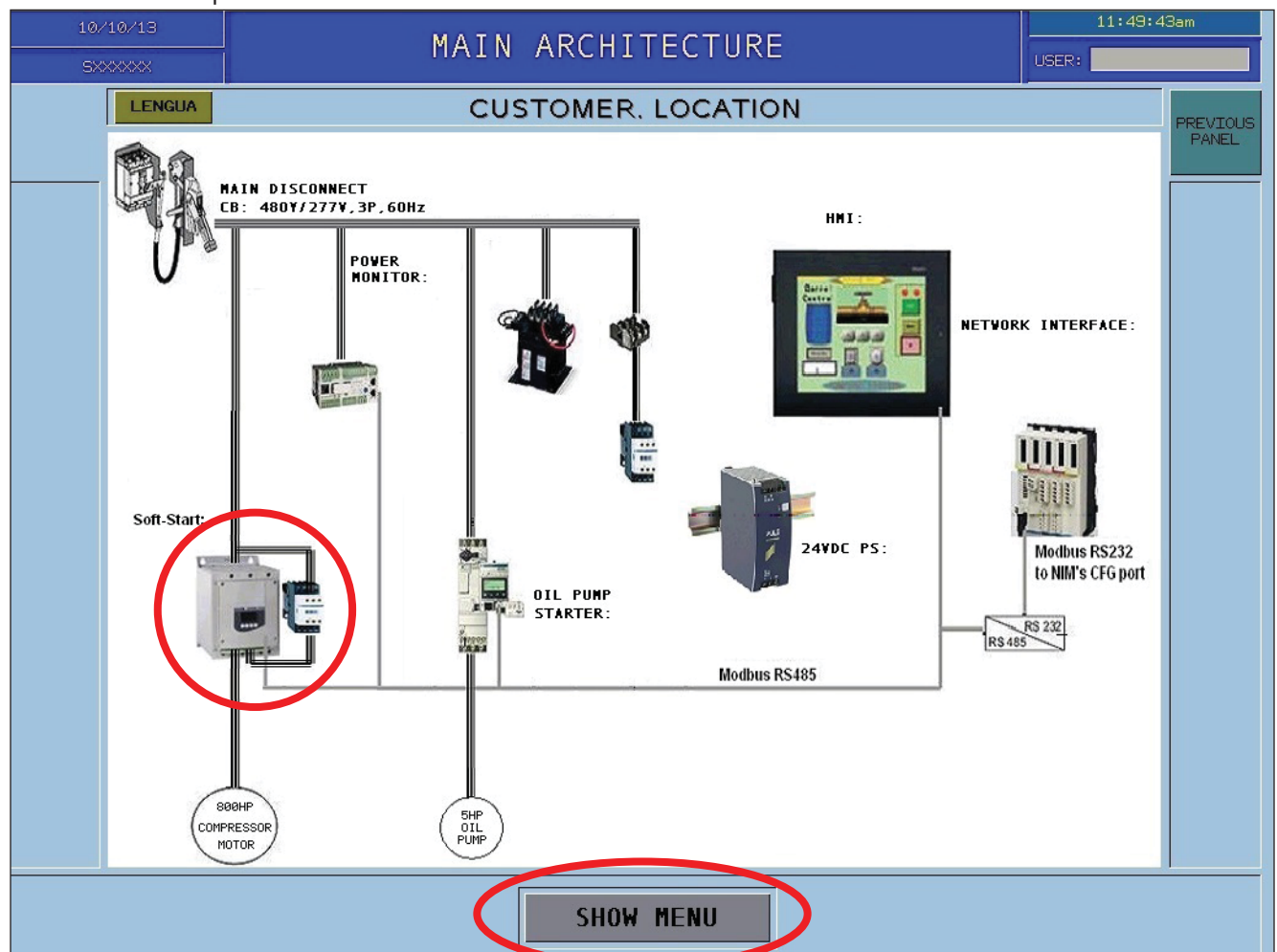


Figure 3-1. Main Menu/Architecture Screen

## Section 3 • Main Menu/Architecture Screen

### Menu Popup Window

Component screens and other additional screens can be accessed through the menu popup window.

When a button is selected on the menu popup window,

the selected screen will open and the button will disappear. In Figure 3-2, when on the main menu/architecture screen the Main Menu button is hidden.

When not logged in, the Drawings button and All Configuration buttons will be hidden.

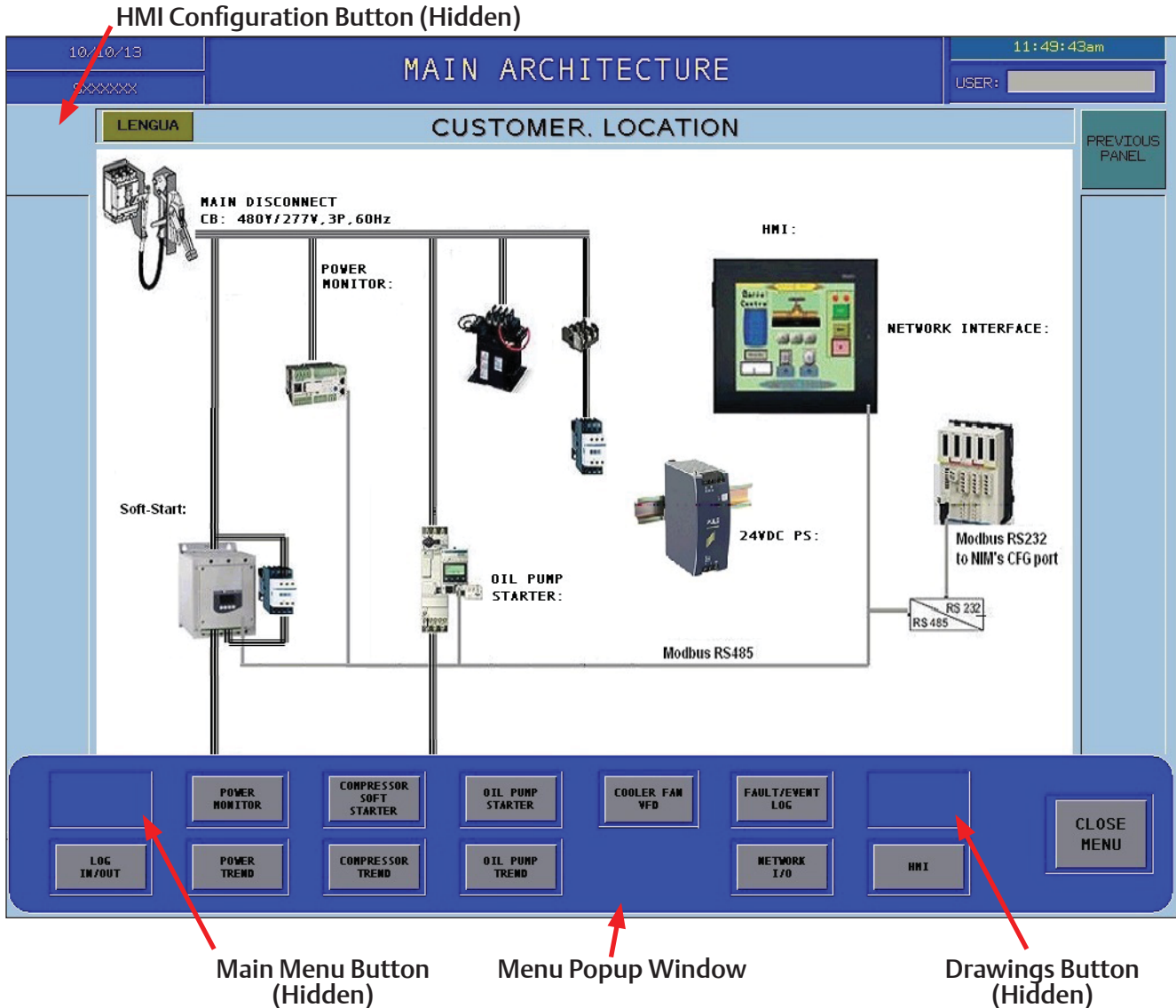


Figure 3-2. Main Menu/Architecture Screen - Menu Popup Window

#### Top Row Buttons (Left to Right)

- Main Menu (Hidden)
- Power Monitor
- Compressor Soft Starter
- Oil Pump Starter
- Cooler Fan VFD
- Fault/Event Log
- Drawings (Hidden)

#### Bottom Row Buttons (Left to Right)

- Log In/Out
- Power Trend
- Compressor Trend
- Oil Pump Trend
- Network I/O
- HMI

## Section 4 • Log In/Out Screen

### Log In/Out Screen

The Log In/Out screen can be accessed through the menu popup window (see Figure 4-1) or through the User Display Field (see Figure 4-2).

To log in:

1. From the menu popup window, Press Log In/Out button to open the Log In Screen. Or, from any screen, press the User Display Field.

2. Press the Name text field to open the on-screen keyboard, see Figure 4-3.

#### NOTE

User Name and Password entries are case sensitive.

The caps lock is on when green. In this case, the caps lock should remain on, since the User Name and Password are all upper case.

3. Enter the user name, then hit Enter.

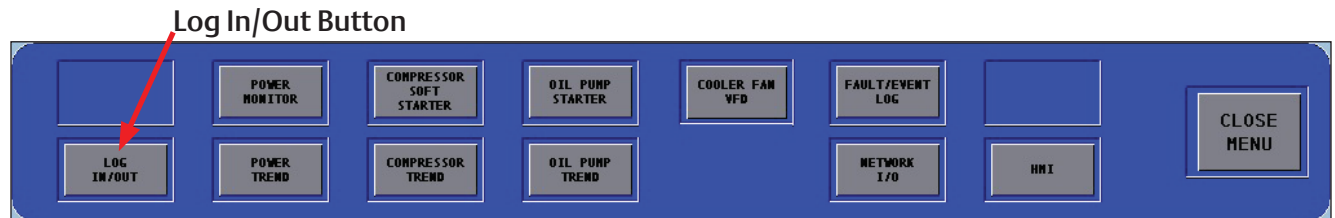


Figure 4-1. Menu Popup Window

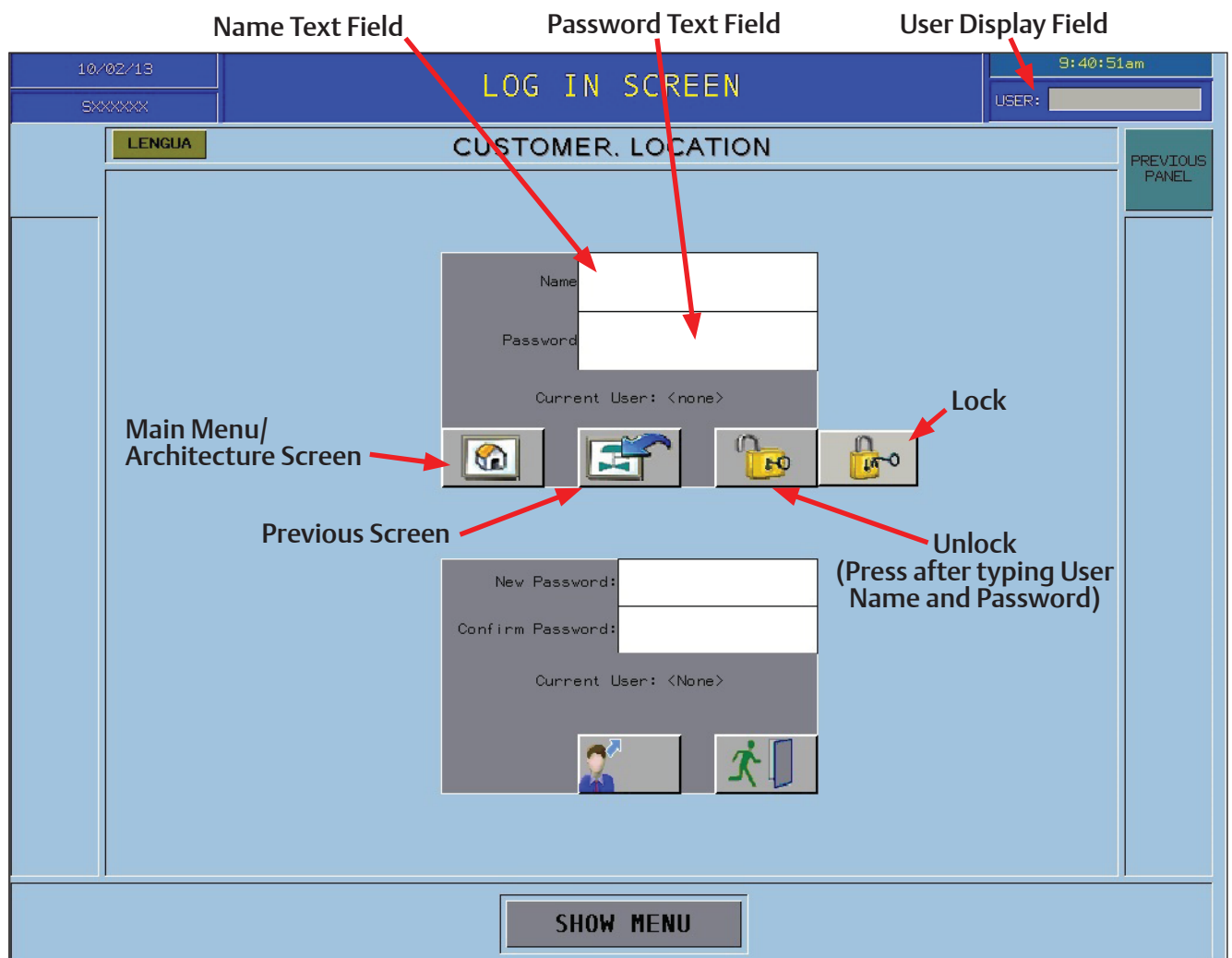


Figure 4-2. Log In Screen

## Section 4 • Log In/Out Screen

4. Press the Password text field to open the on-screen keyboard.
5. Enter the password, then hit Enter.
6. Press the Unlock button.

### NOTE

Log in will end when pressing the Lock button or time out with inactivity.

7. Once logged in, the user name will be displayed in the User Display Field.

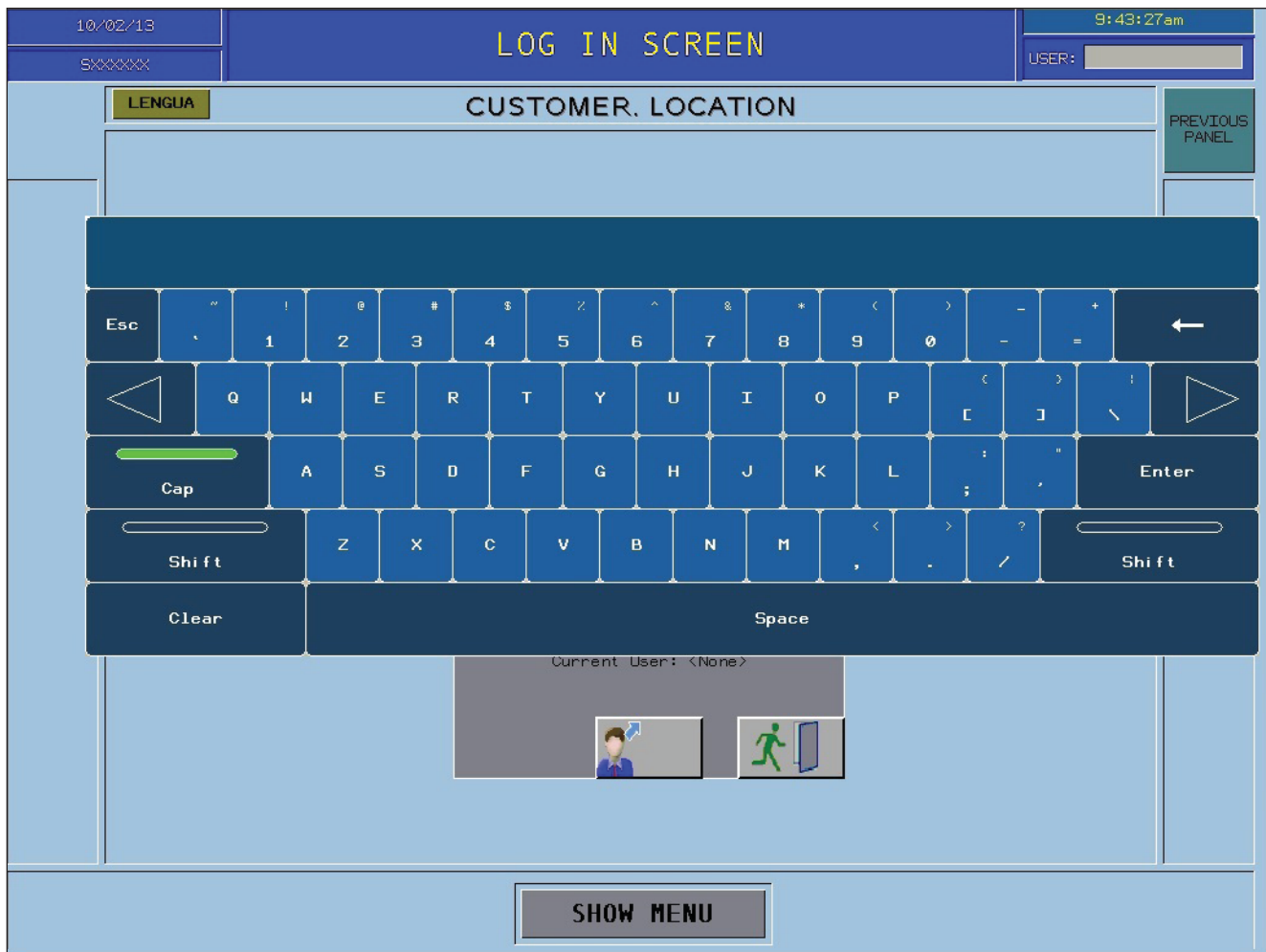


Figure 4-3. Log In Screen - On-Screen Keyboard

### HMI Configuration Screen

When logged in with a high level access, the HMI Configuration button can be found on the Main Menu/Architecture screen or HMI Information screen, see Figure 5-1.

The HMI Configuration screen, shown in Figure 5-2, is the hardware and software setup of the HMI device. This screen should only be accessed by qualified personnel.

#### NOTE

Set Date/Time through the HMI Configuration Screen. Functional details in this screen will not be covered in the manual.

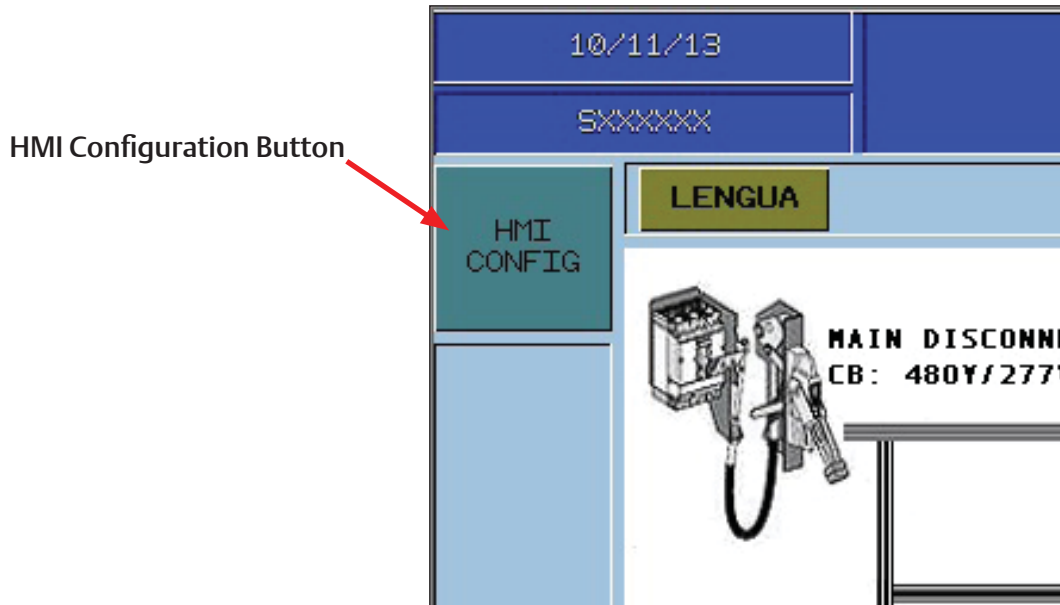


Figure 5-1. HMI Configuration Button

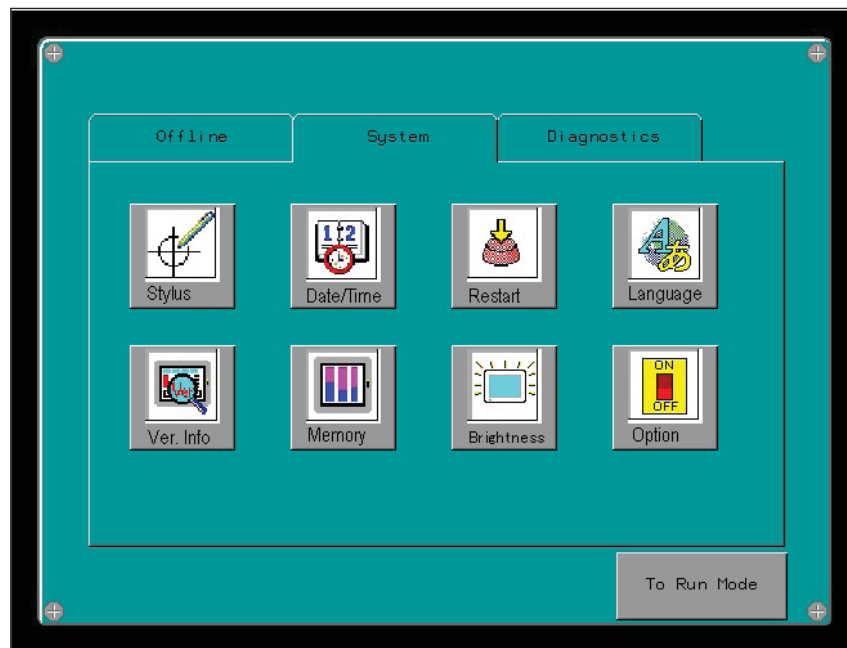


Figure 5-2. HMI Configuration Screen





## HMI Information Screen

The HMI Information screen shows the XBTGT HMI info button and HMI graphic, see Figure 6-1. This screen does not require a login to view.

**NOTE**

The HMI Configuration button is hidden from view until logged in with a high level access.

### XBTGT HMI Information Button

- Navigates to the XBTGT HMI technical data screen.

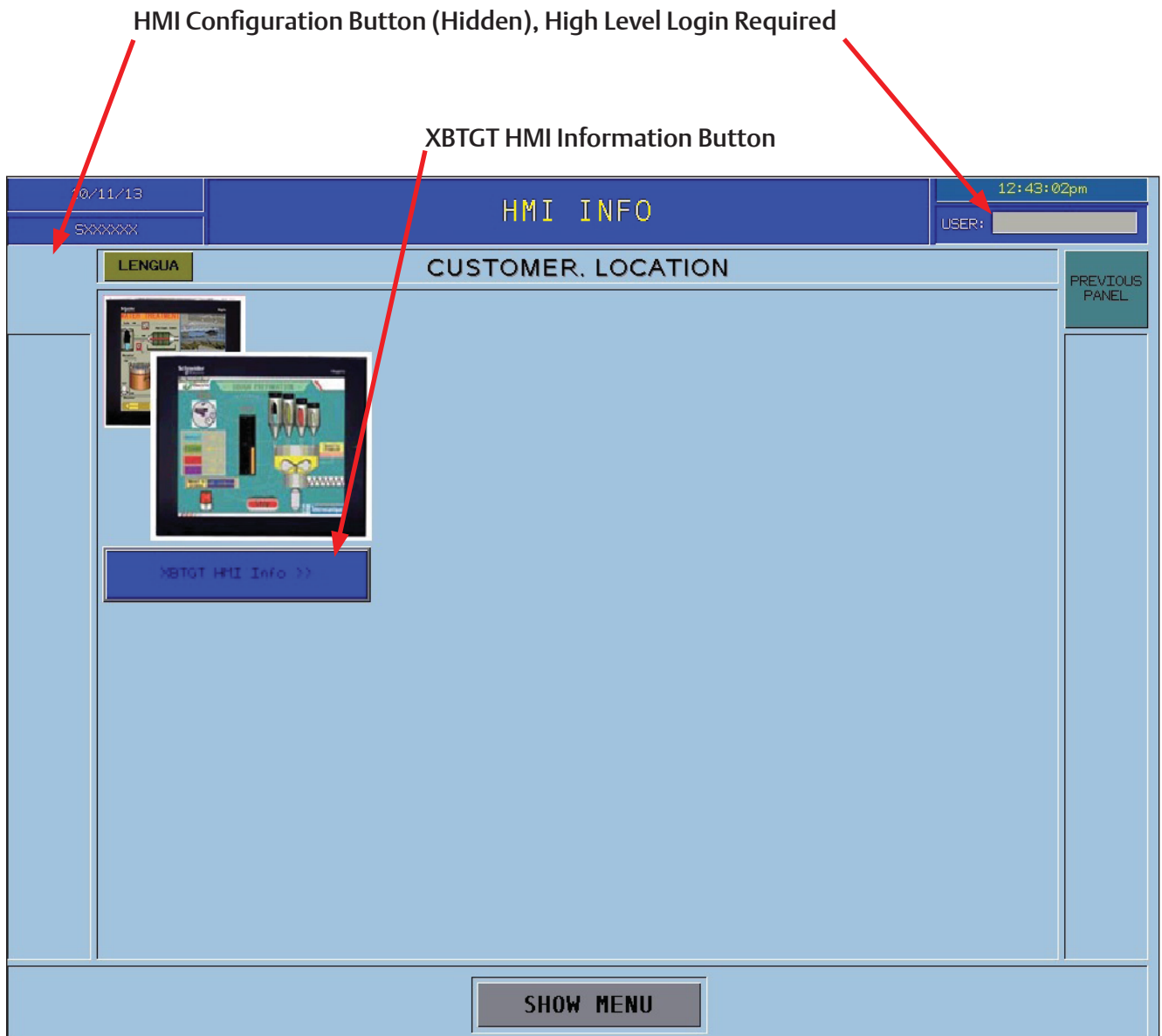


Figure 6-1. HMI Information Screen



## Network Interface/Advantys STB Screen

The Network Interface/Advantys STB screen shows the Advantys STB button and Modbus Hub graphic. This screen also shows the Modbus and Ethernet connections, see Figure 7-1. This screen does not require a login to view.

### Advantys STB Button

- Navigates to the Advantys STB technical data screen.

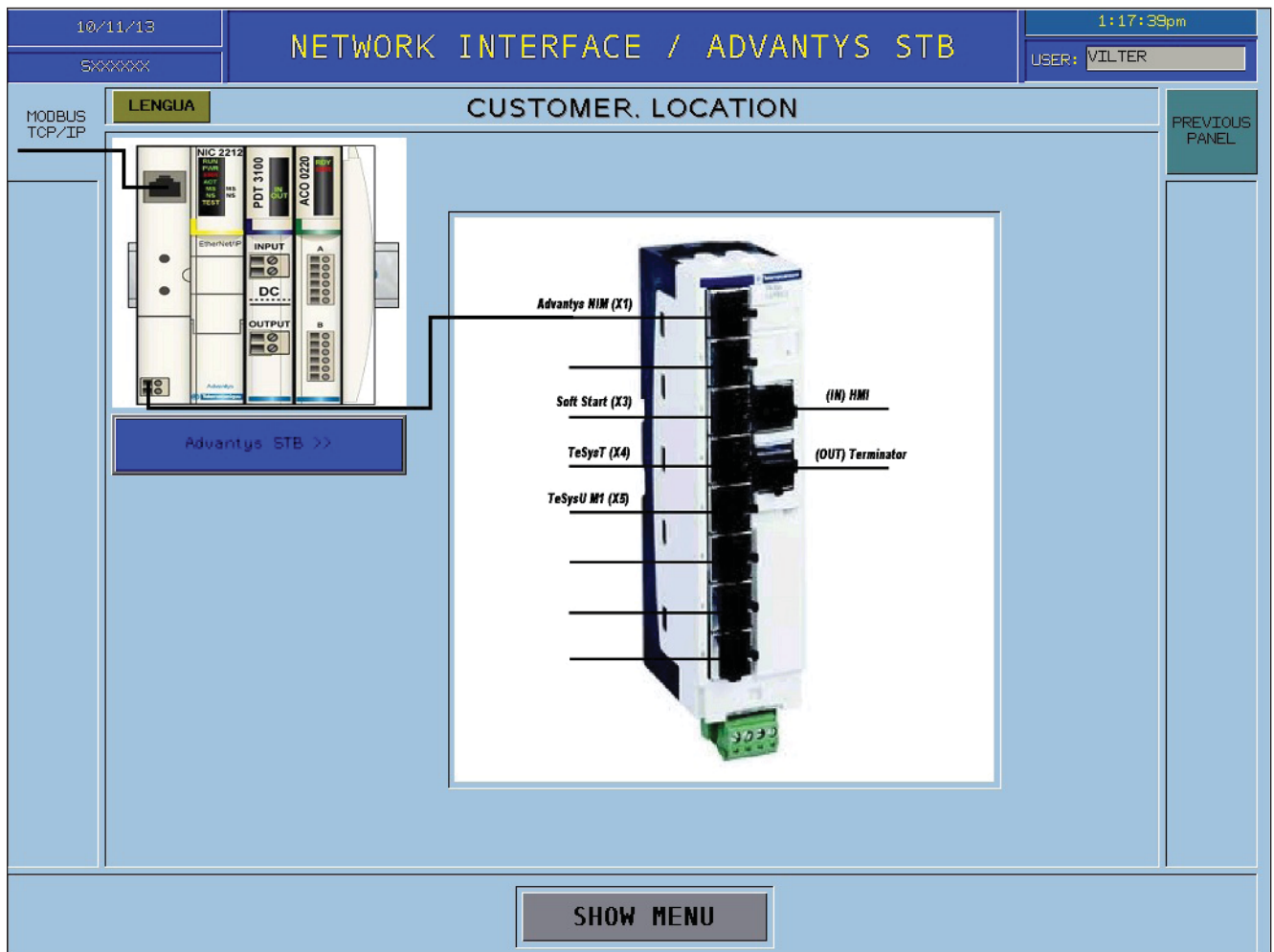


Figure 7-1. Network Interface / Advantys STB

## Section 7 • Network Interface / Advantys STB Screen

### Advantys STB Technical Data Screen

- This screen shows the Advantys STB technical data, see Figure 7-2.

#### NOTE

Screens with the information button will navigate to the component's technical data screen in the Help File section. In Figure 7-2, is an example of the technical data screen that will be similar to all technical data screens.

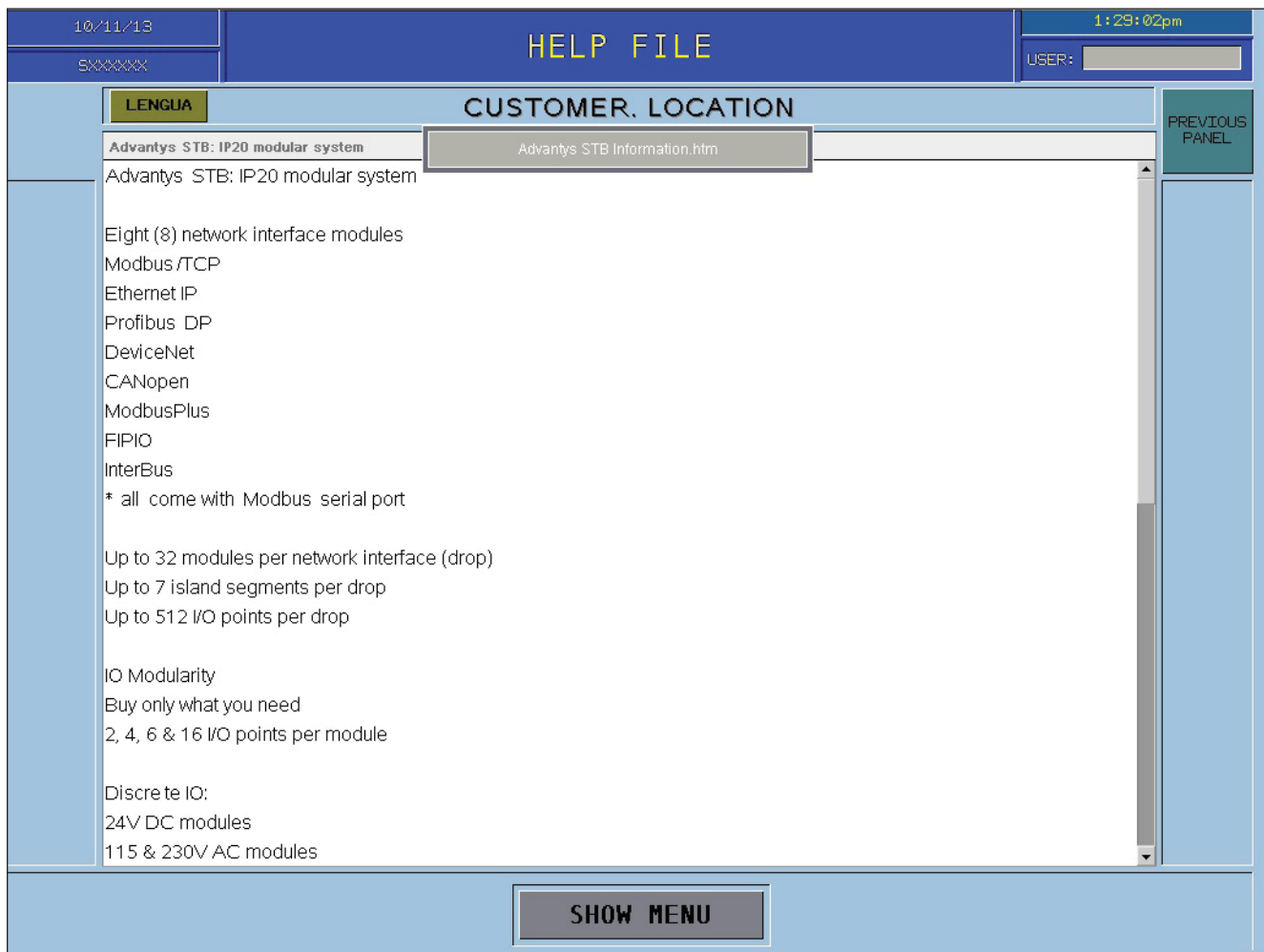


Figure 7-2. Advantys STB Technical Data Screen

## Soft Starter (RVSS) Screen

The Soft Starter screen shows information from the RVSS (Reduced Voltage Soft Start) via Modbus communication. This screen is read only and does not require a login to view, see Figure 8-1.

**NOTE**

The RVSS shown and used for the following description is an ATS48 Soft Starter.

### RVSS Configuration Button

- Navigates to the RVSS Configuration screen for changing critical soft start parameters. This button, shown in Figure 8-2, is visible only when logged in with high level access. For RVSS Configuration screen, see Figure 8-4.

### Last Fault Display

- Both screen and popup list displays the “last fault” address stored in the Soft Start fault register.

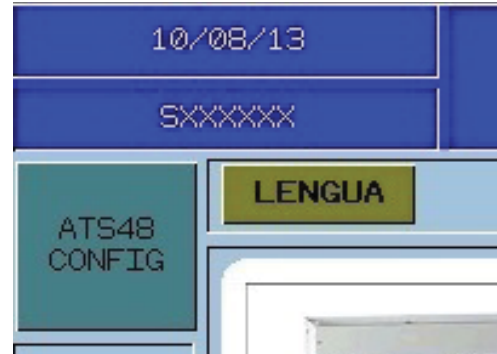


Figure 8-2. RVSS Configuration Button

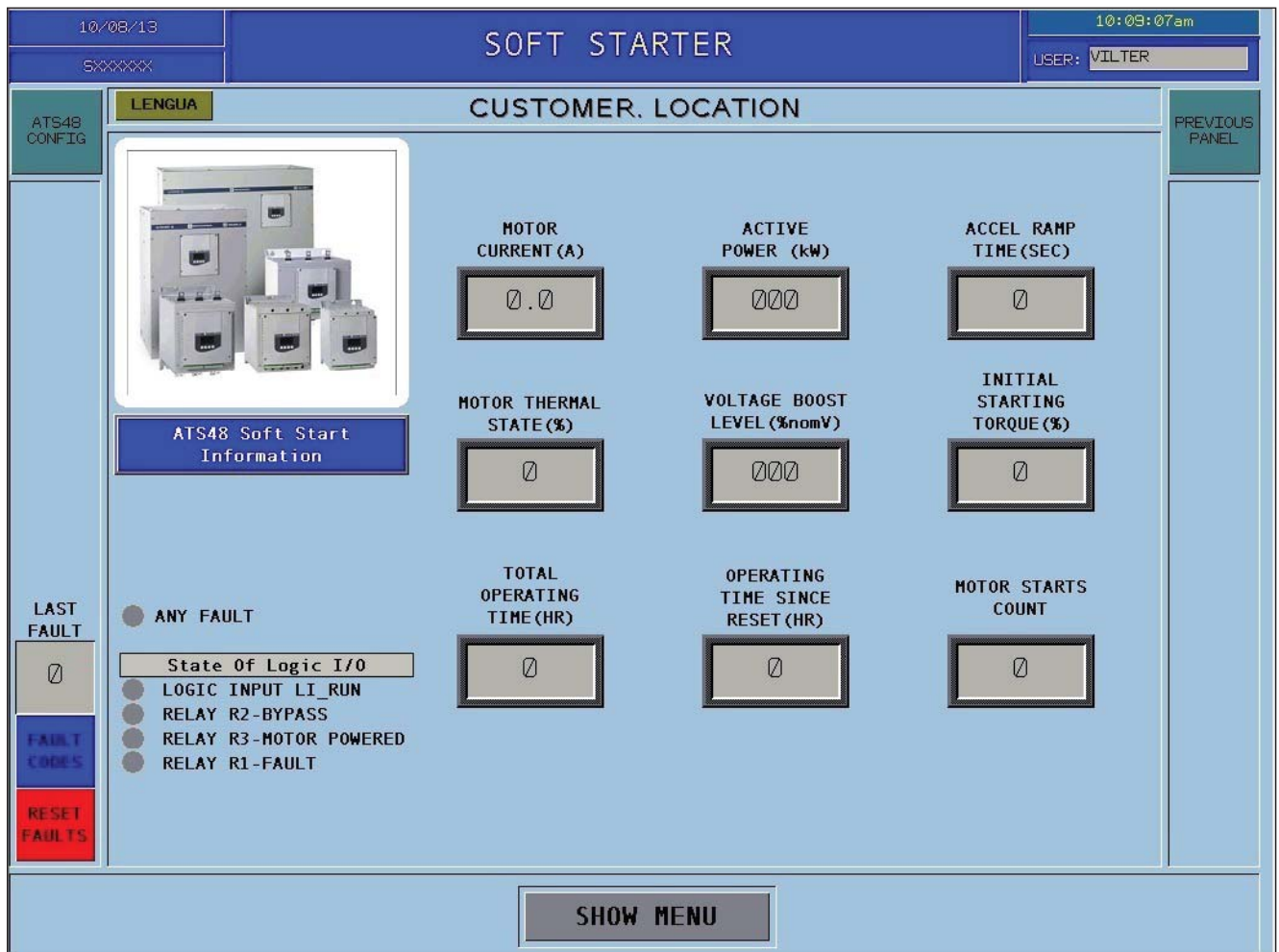


Figure 8-1. Soft Starter (RVSS) Screen

## Section 8 • Soft Starter Screen

### Fault Code Button

- This button opens the Fault Code popup window, see Figure 8-3.

### Reset Faults Button

- This button resets some active faults in the RVSS. Major faults require a 480V power cycle by turning the main breaker disconnect to the OFF position and then back to ON position.

### RVSS Information Button

- Navigates to the RVSS technical data screen, in this case, an ATS48 Soft Starter.

### State of Logic I/O Indicators

- These indicators change state (color) depending on the status of the description text, see Figure 8-3.
  - Green indicates engaged or running.
  - Red indicates fault.
  - Not illuminated is not in use.

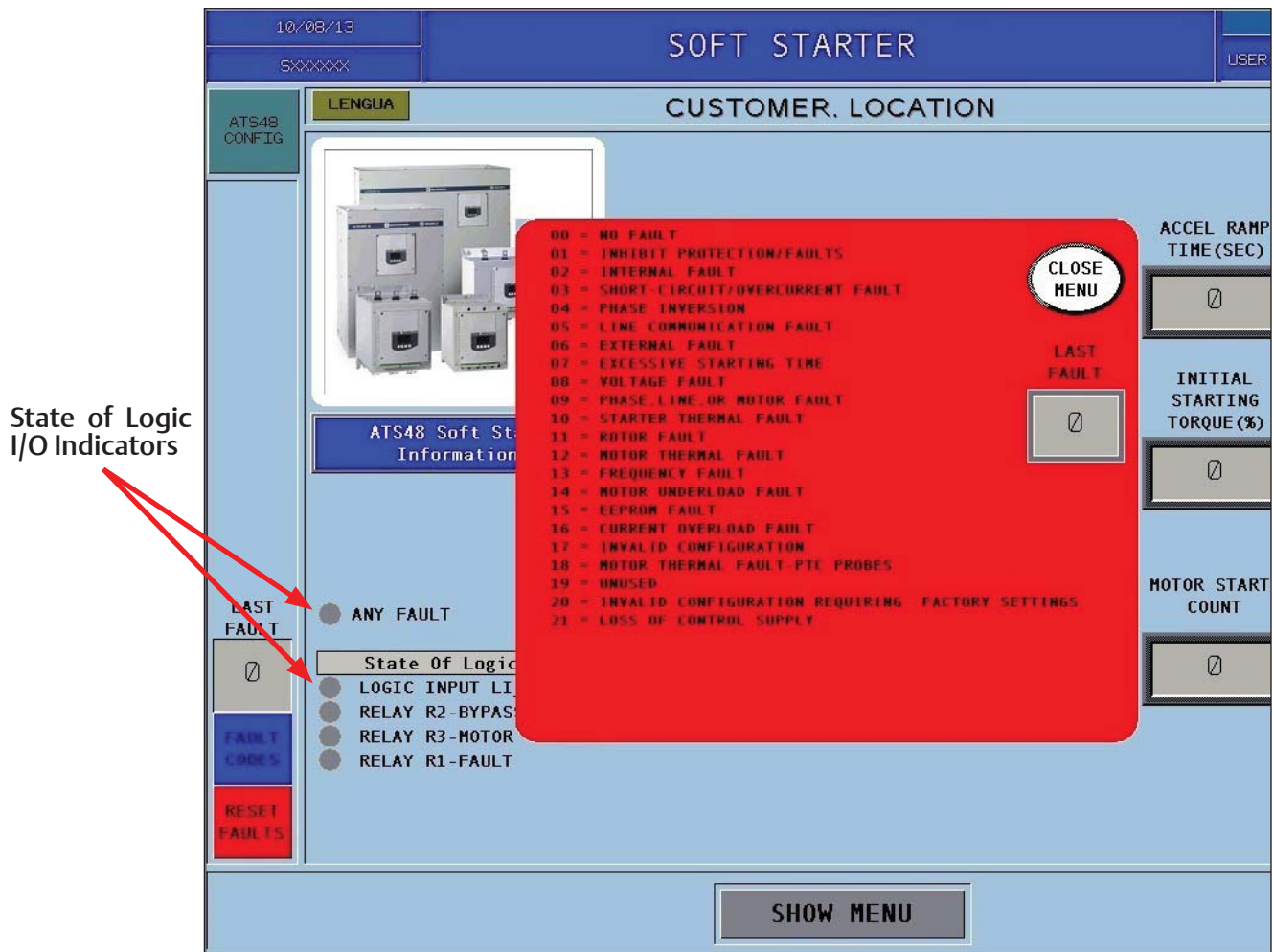


Figure 8-3. Soft Starter (RVSS) Screen - Fault Code Popup List

## Section 8 • Soft Starter Screen

### RVSS Configuration Screen

- This screen is only viewable when logged in with high level access, see Figure 8-4. Each parameter is configurable except the Motor Current (A) display and the Last Fault display.

## WARNING

Motor must be stopped before making changes. Must use motor nameplate data when configuring. Failure to comply may result in death, serious injury and/or damage to equipment.

### Ready Indicator

- This indicator turns green when the RVSS is ready to start only.

### Enable / Run / Stop / Off Buttons

- These buttons are for Vilter Personnel use only. Unauthorized use may result in equipment damage or injury.

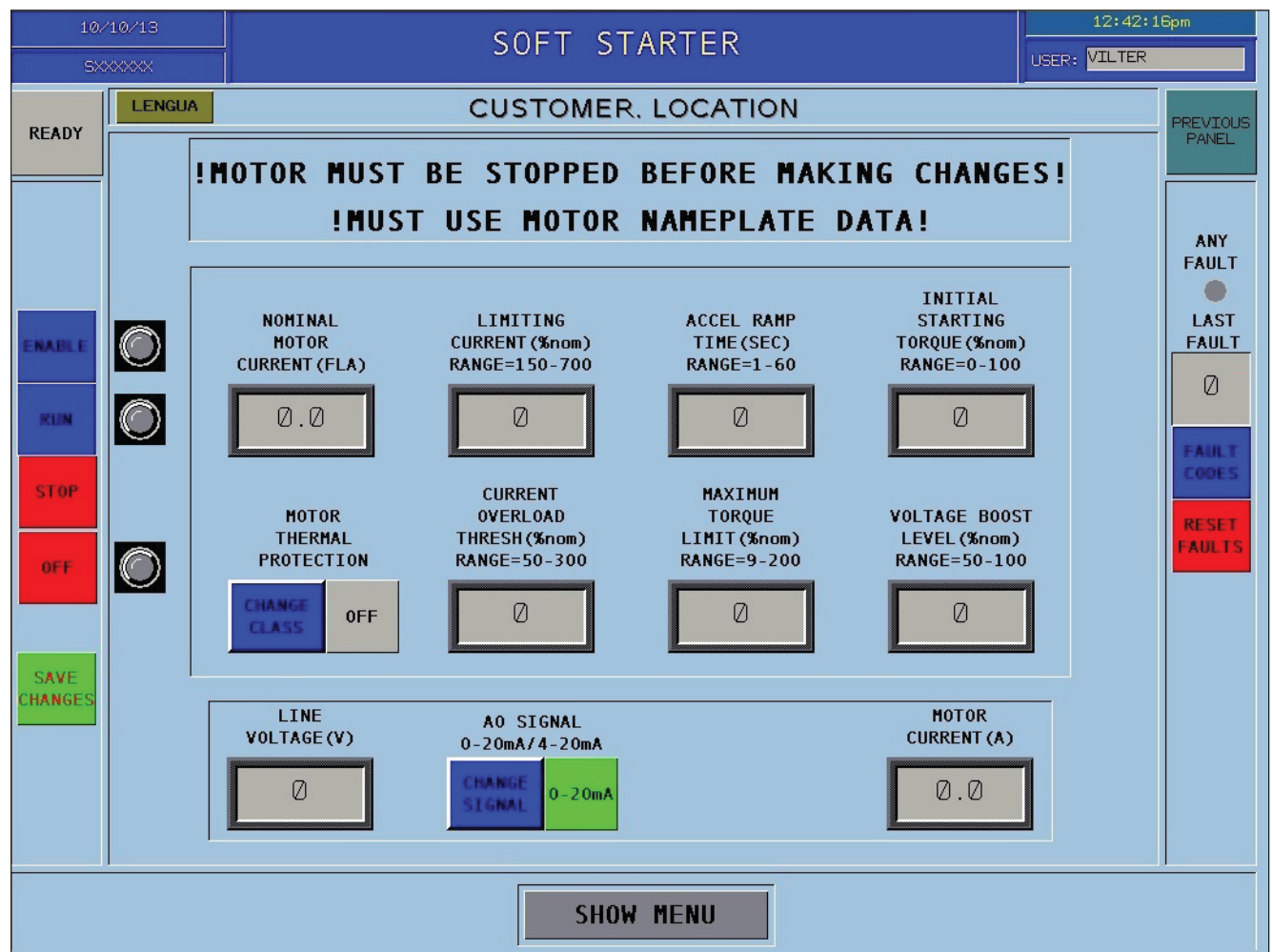


Figure 8-4. RVSS Configuration Screen

## Section 8 • Soft Starter Screen

### Parameters

- Pressing one of the numeric entry fields for a parameter (i.e. Nominal Current Motor (FLA)) will open the numeric entry keypad. Enter a number within the set min/max range for that parameter. For an example, see Figure 8-5.
- Must use motor nameplate data when configuring.

### Save Changes Button

- After entering the desired parameters, press the save button to save the changes to the RVSS.

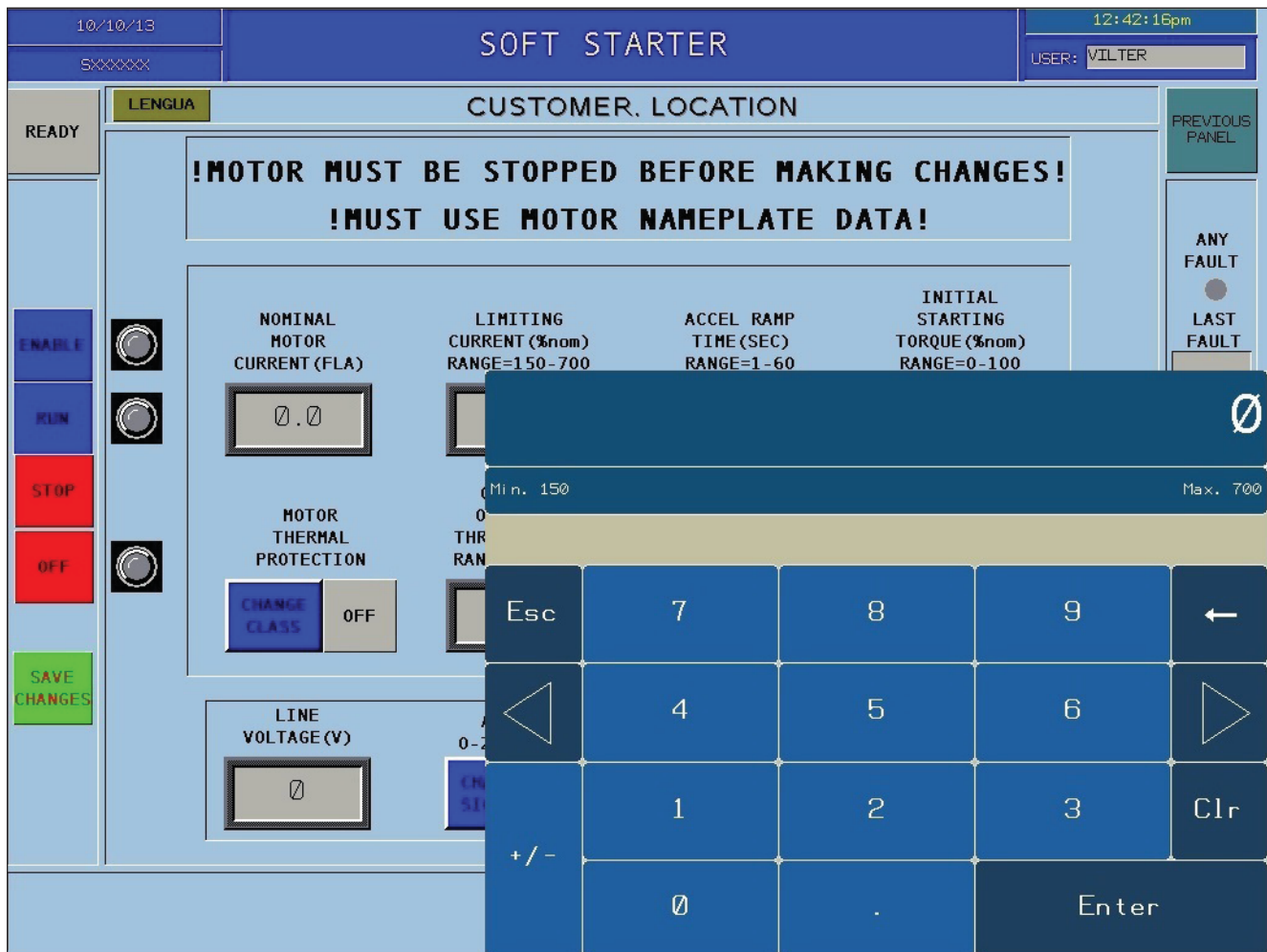


Figure 8-5. RVSS Configuration Screen - Nominal Motor Current Numeric Entry Keypad



## Section 8 • Soft Starter Screen

### Change Class Button

- This button opens a popup window to allow changes to the overload class of the RVSS, see Figure 8-6.

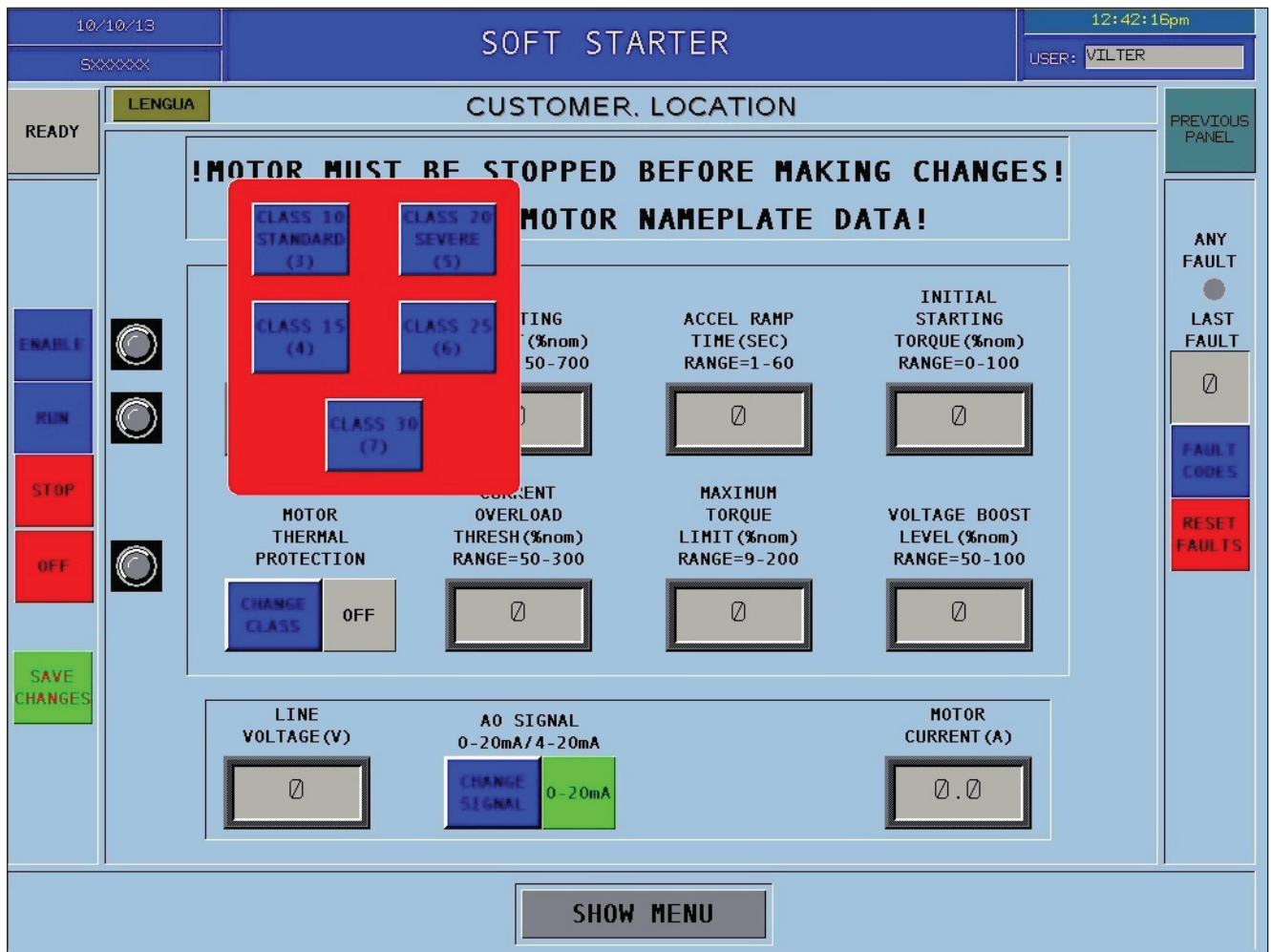


Figure 8-6. RVSS Configuration Screen - Change Class Popup Window

## Section 8 • Soft Starter Screen

### Change Signal Button

- This button opens a popup window to allow changes to the analog output signal current, see Figure 8-7.

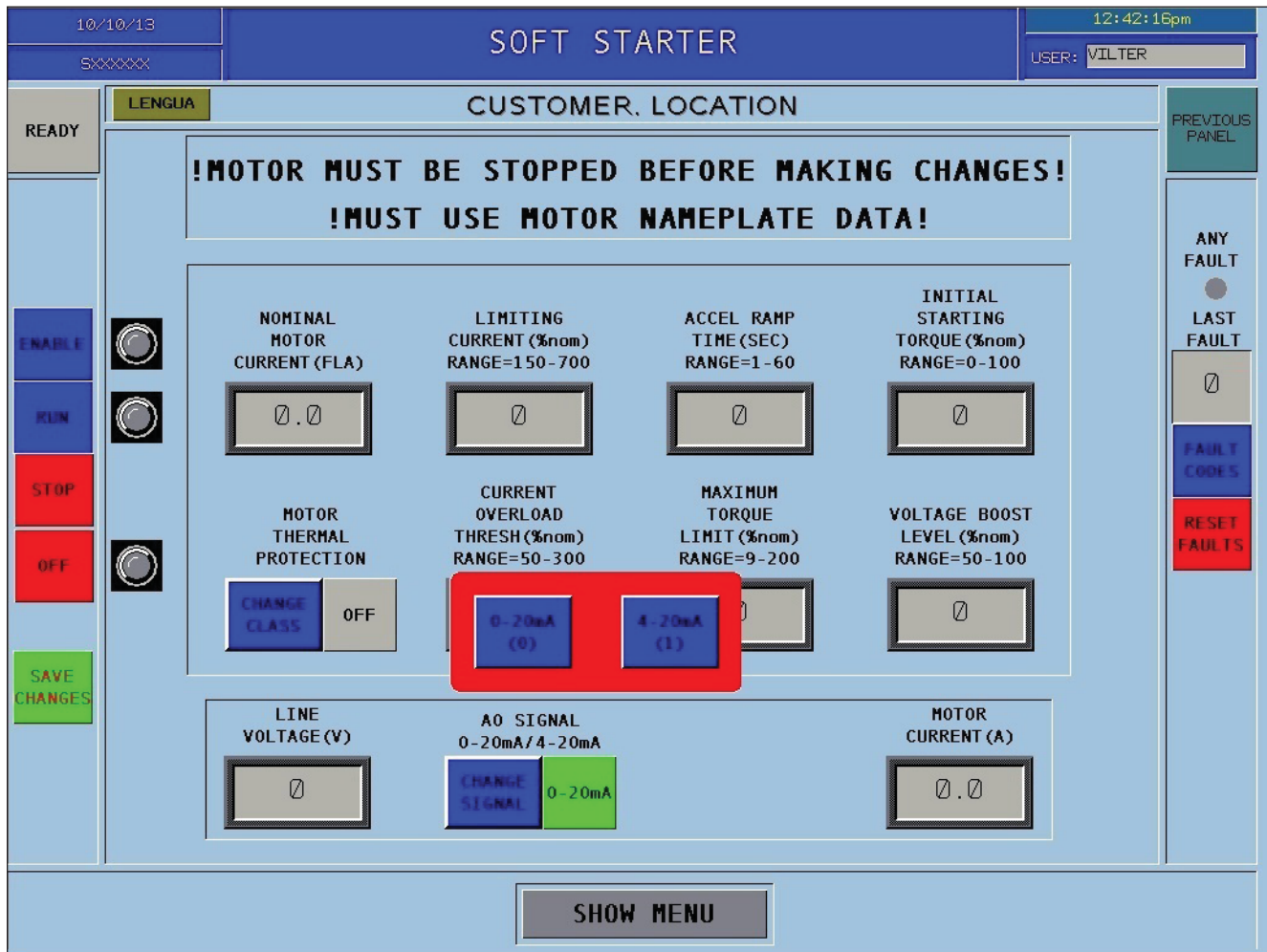


Figure 8-7. RVSS Configuration Screen - Change Signal Popup Window

## Oil Pump Motor Starter Screen

The Oil Pump Motor Starter screen shows information from the TeSys U via Modbus communication. This screen is read only and does not require a login to view, see Figure 9-1.

**NOTE**

The oil pump motor starter shown and used for the following description is a TeSys U motor starter.

### Oil Pump Motor Starter (TeSys U) Configuration Button

- Navigates to Oil Pump Motor Starter Configuration screen for changing critical parameters. This button, shown in Figure 9-1, is visible only when logged in with high level access. For Oil Pump Motor Starter Configuration screen, see Figure 9-3.

### Last Fault Display

- Both screen and popup, displays the “last fault” address stored in the fault register.

### Fault Code Button

- This button opens the Fault Code popup window.

### Reset Faults Button

- This button resets simple active faults in the starter. Major faults require resetting the switch on the TeSys U motor starter.

### TeSys U Information Button

- Navigates to the oil pump starter technical data screen, in this case, a TeSys U motor starter.

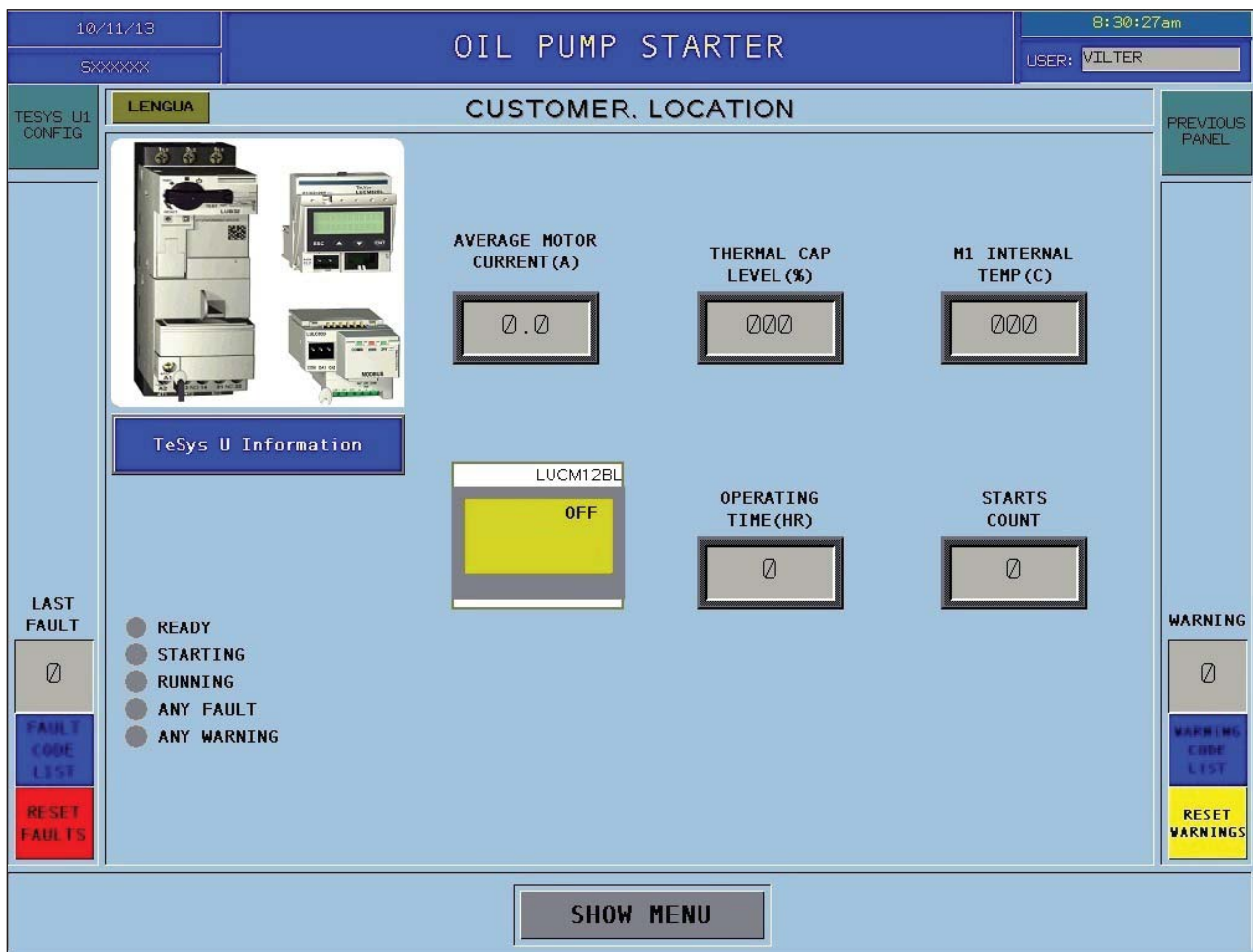


Figure 9-1. Oil Pump Motor Starter Screen

## Section 9 • Oil Pump Motor Starter Screen

### State of Logic I/O Indicators

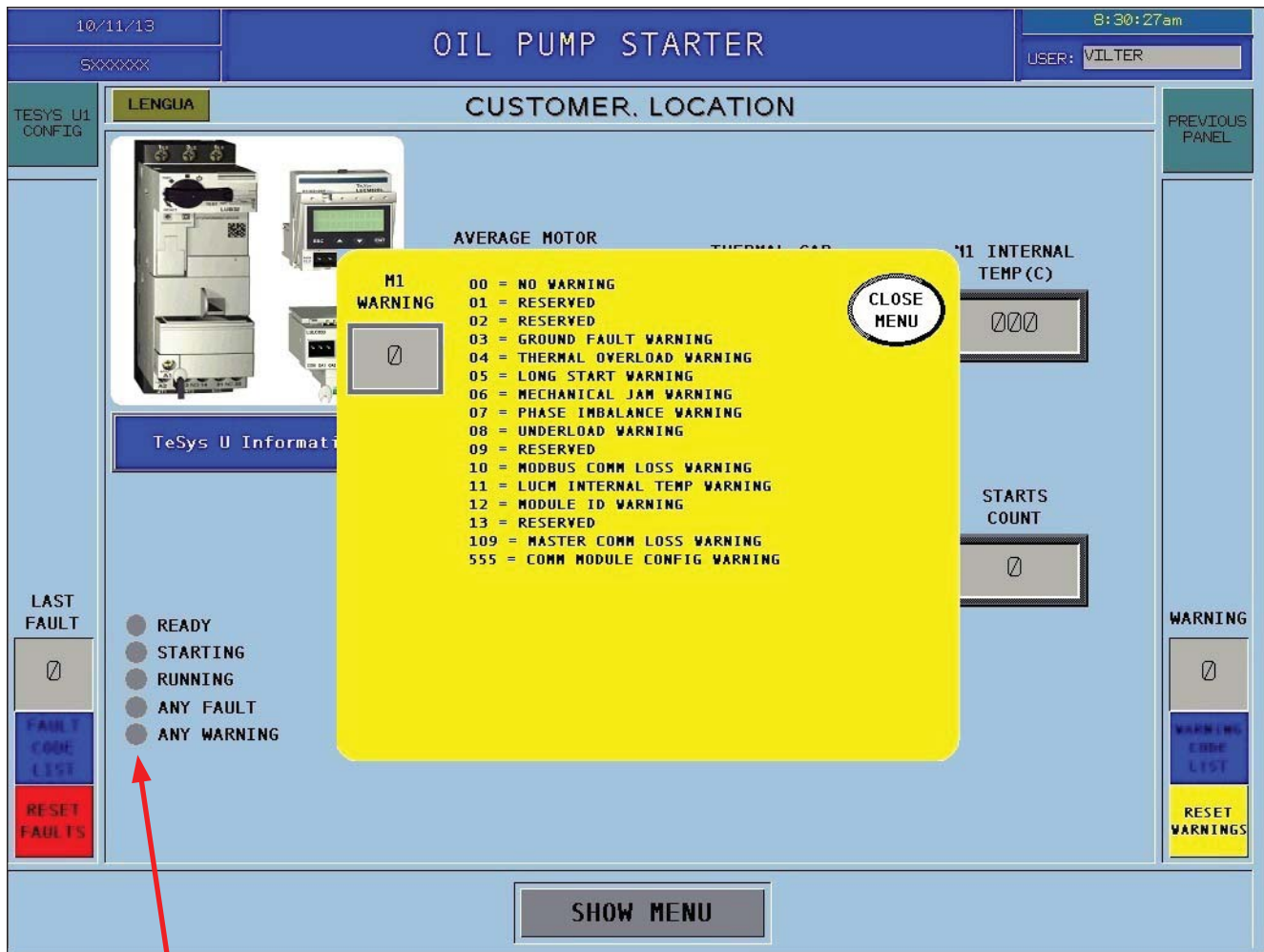
- These indicators change state (color) depending on the status of the description text, see Figure 9-2.
  - Green indicates engaged or running.
  - Red indicates fault.
  - Not illuminated is not in use.

### Warning (Last Fault) Display

- Both screen and popup list displays the “last fault” address stored in the starter fault register, see Figure 9-2.

### Reset Warnings Button

- This button resets active warning faults in the starter.



### State of Logic I/O Indicators

Figure 9-2. Oil Pump Motor Starter Screen - Warning Fault Code Popup List

## Section 9 • Oil Pump Motor Starter Screen

### Oil Pump Motor Starter (TeSys U) Configuration Screen

- This screen is only viewable when logged in with high level access, see Figure 9-3. Each parameter is configurable.

## WARNING

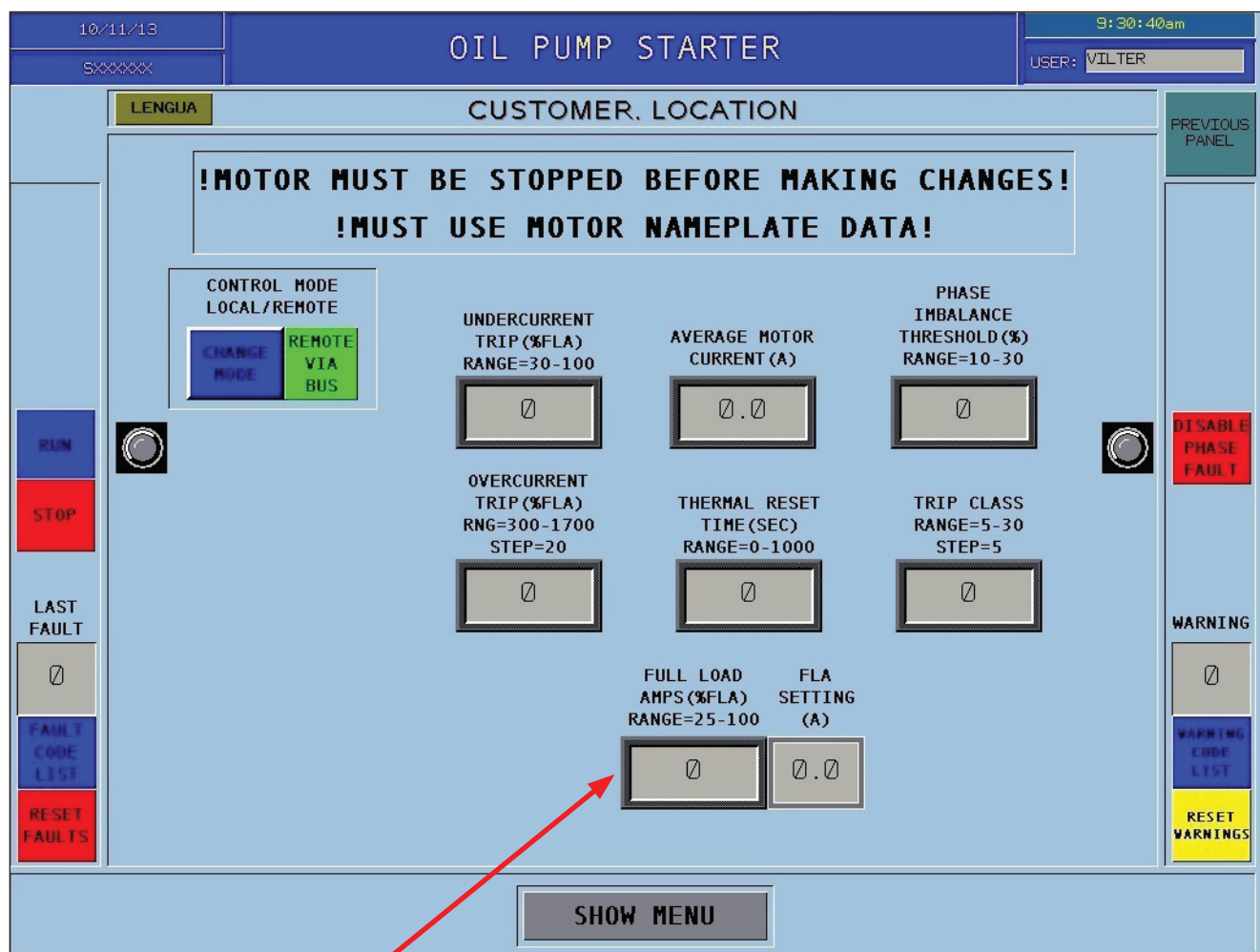
Motor must be stopped before making changes. Must use motor nameplate data when configuring. Failure to comply may result in death, serious injury and/or damage to equipment.

### Run / Stop Buttons

- These buttons are for Vilter Personnel use only. Unauthorized use may result in equipment damage or injury.

### Control Mode Local/Remote - Change Mode Button

- These buttons are for Vilter Personnel use only. Unauthorized use may result in equipment damage or injury.



Type in % of motor over-load to equal motor FLA

Figure 9-3. Oil Pump Motor Starter Configuration Screen

## Section 9 • Oil Pump Motor Starter Screen

### Parameters

- Pressing one of the numeric entry fields for a parameter (i.e. Undercurrent Trip (%FLA)) will open the numeric entry keypad. Enter a number within the set min/max range for that parameter. For an example, see Figure 9-4.
- Must use motor nameplate data when configuring.

### Setting the %FLA Value

- To set the %FLA value from the motor nameplate data, the percentage of the TeSys U overload must be entered to equal the motor FLA, see Figure 9-3.
- For example, if the TeSys U has a 5A maximum overload and the motor FLA is 1.4A. Divide 1.4 by 5 to equal 28% ( $1.4 / 5 = .28$ ). Type in 28 to equal 1.4A ( $.28 \times 5 = 1.4$ ).

### Disable Phase Fault Button

- This button allows the operator to shut off the Phase Disable. The phase imbalance should be increased to allow the motor to keep running until the motor can be replaced.

#### NOTE

At this point the motor is going to fail, it's just a matter of when, this action may allow enough time to get a new motor installed.

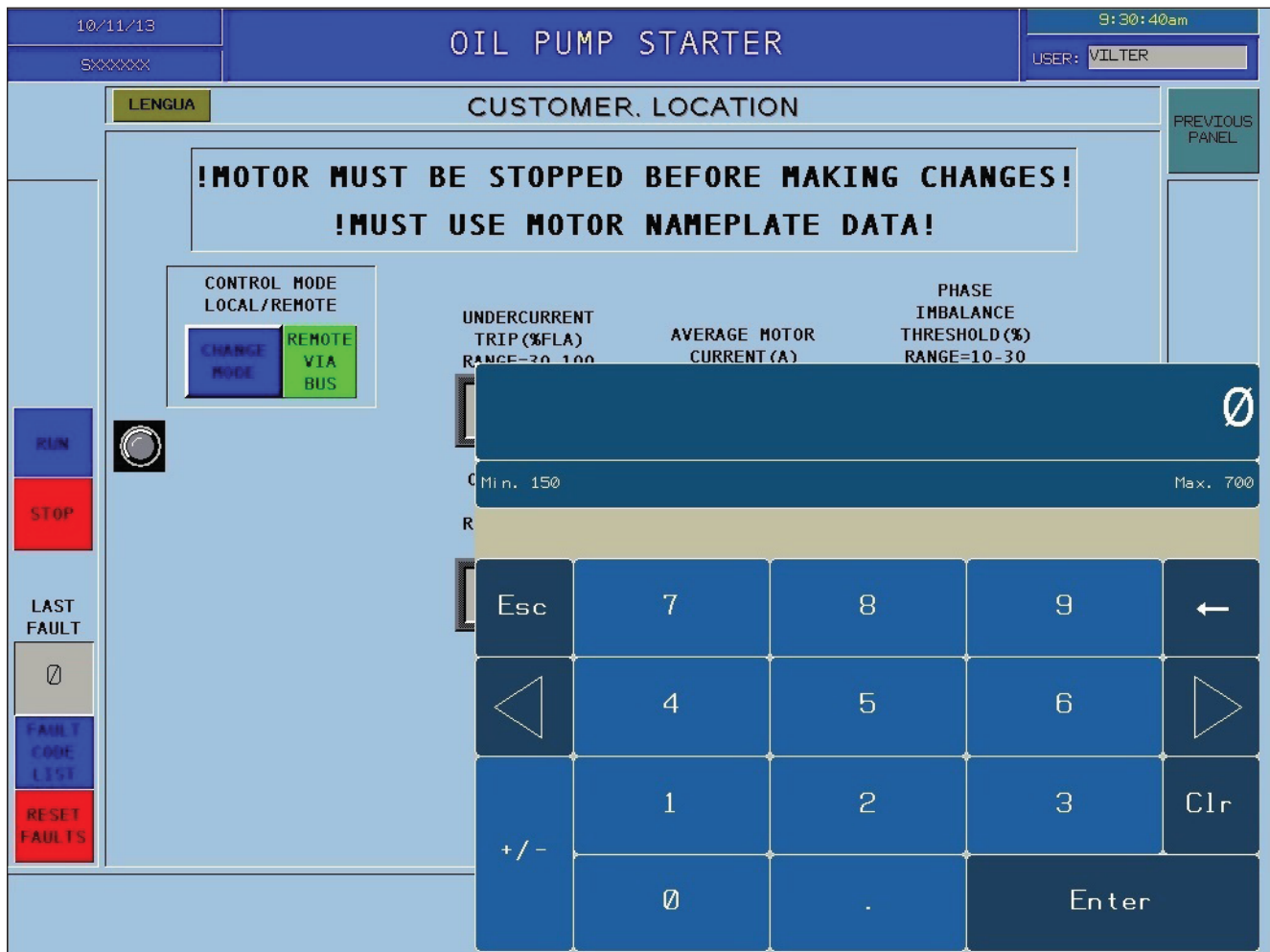


Figure 9-4. Oil Pump Motor Starter Configuration Screen - Numeric Entry Keypad

## Power Monitor Screen

The Power Monitor screen shows information from the TeSys T via Modbus communication. This screen is read only and does not require a login to view, see Figure 10-1.

**NOTE**

The Power Monitor shown and used for the following description is a TeSys T controller.

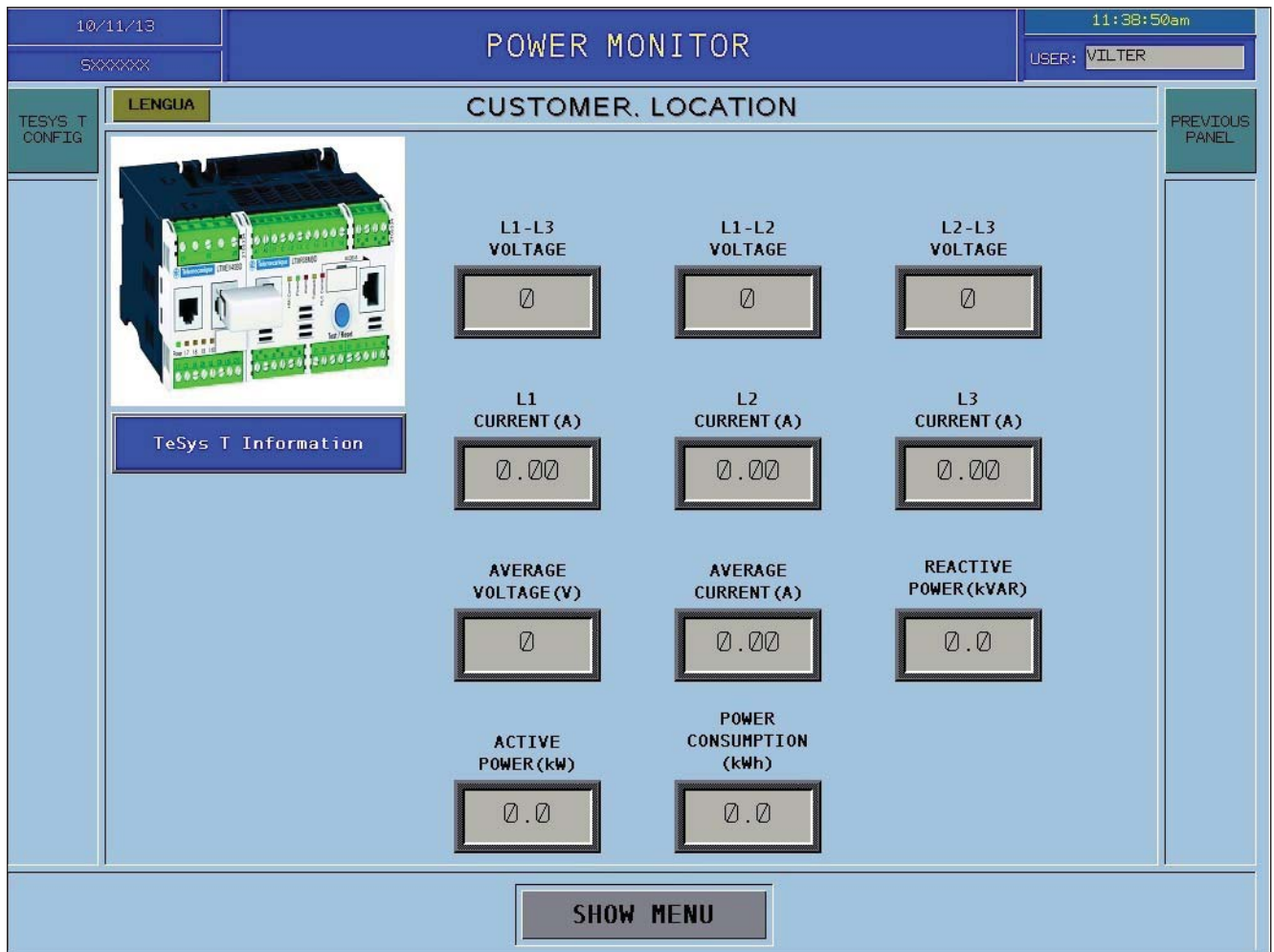


Figure 10-1. Power Monitor Screen

## Section 10 • Power Monitor Screen

### Power Monitor (TeSys T) Configuration Button

- Navigates to the Power Monitor (TeSys T) Configuration screen for changing critical parameters. This button, shown in Figure 10-1, is visible only when logged in with high level access. For the Power Monitor Configuration screen, see Figure 10-2.

### Power Monitor (TeSys T) Configuration Screen

- This screen is only viewable when logged in with high level access, see Figure 10-2. Each parameter is configurable.

## WARNING

Motor must be stopped before making changes. Must use motor nameplate data when configuring. Failure to comply may result in death, serious injury and/or damage to equipment.

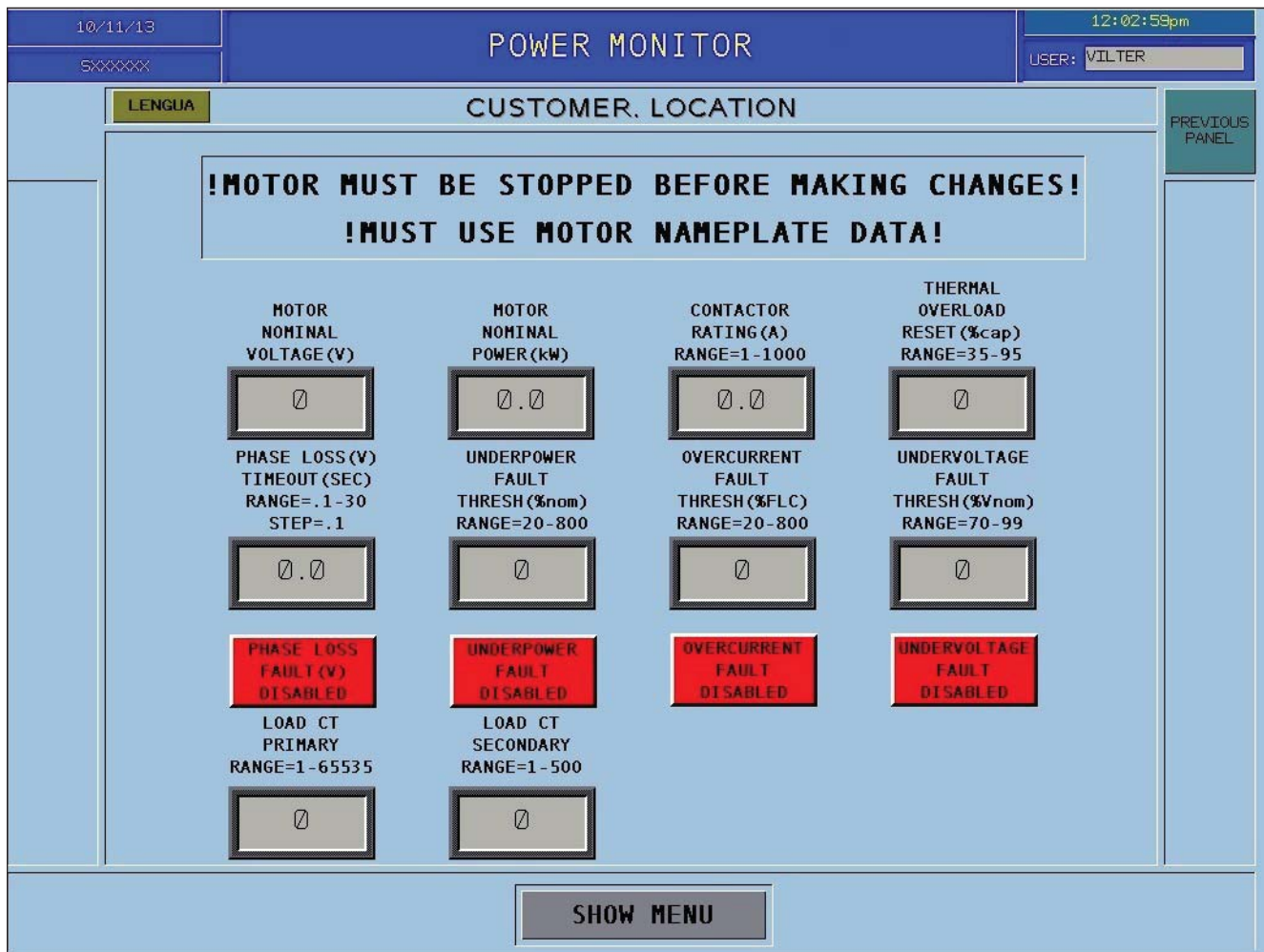


Figure 10-2. Power Monitor Configuration Screen



## Section 11 • Power Monitor Trend Screen

### Power Monitor Trend Screen

The Power Monitor Trend screen shows information via Modbus communication. The pens are preset and listed at the bottom of the screen. This screen is read only and does not require a login to view, see Figure 11-1.

#### NOTE

The Power Monitor Trend screen shown is for the TeSys T controller.

#### Calendar Window

- Pressing the calendar in the upper left of the trend screen enlarges the calendar. From the calendar, the operator can select dates of past trends, see Figure 11-3.

#### Time Span

- This numeric entry display sets the leading to lagging edge of the trend screen span; notice here the span is set to 2 minutes, so the time span is 8:23:50 to 8:25:50 on this trend. Security is needed to make changes to this numeric entry display.

#### Range Span

- This numeric entry display set the upper limit of the range. Here the upper limit is set to 600, notice the scale on the right of the trend screen shows 0 to 600. Security is needed to make changes to this numeric entry display.

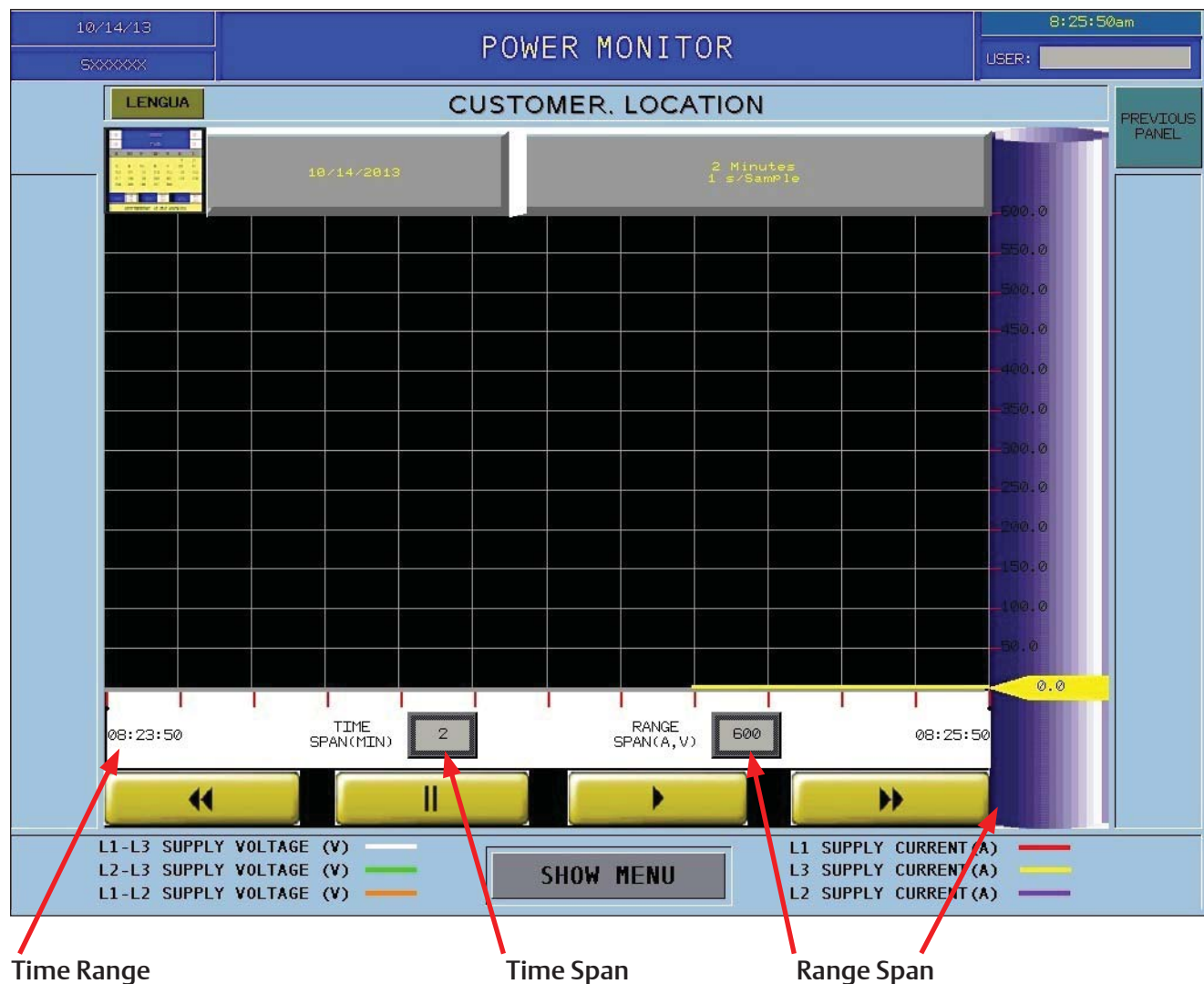


Figure 11-1. Power Monitor Trend Screen

## Section 11 • Power Monitor Trend Screen

### Forward and Reverse Buttons

- The forward and reverse buttons allow you to increment through the time range, see Figure 11-2.

### Play and Pause Buttons

- This button allows you to run or pause the trend, see Figure 11-2.



Figure 11-2. Power Monitor Trend Screen - Reverse/Pause/Play/Forward Buttons

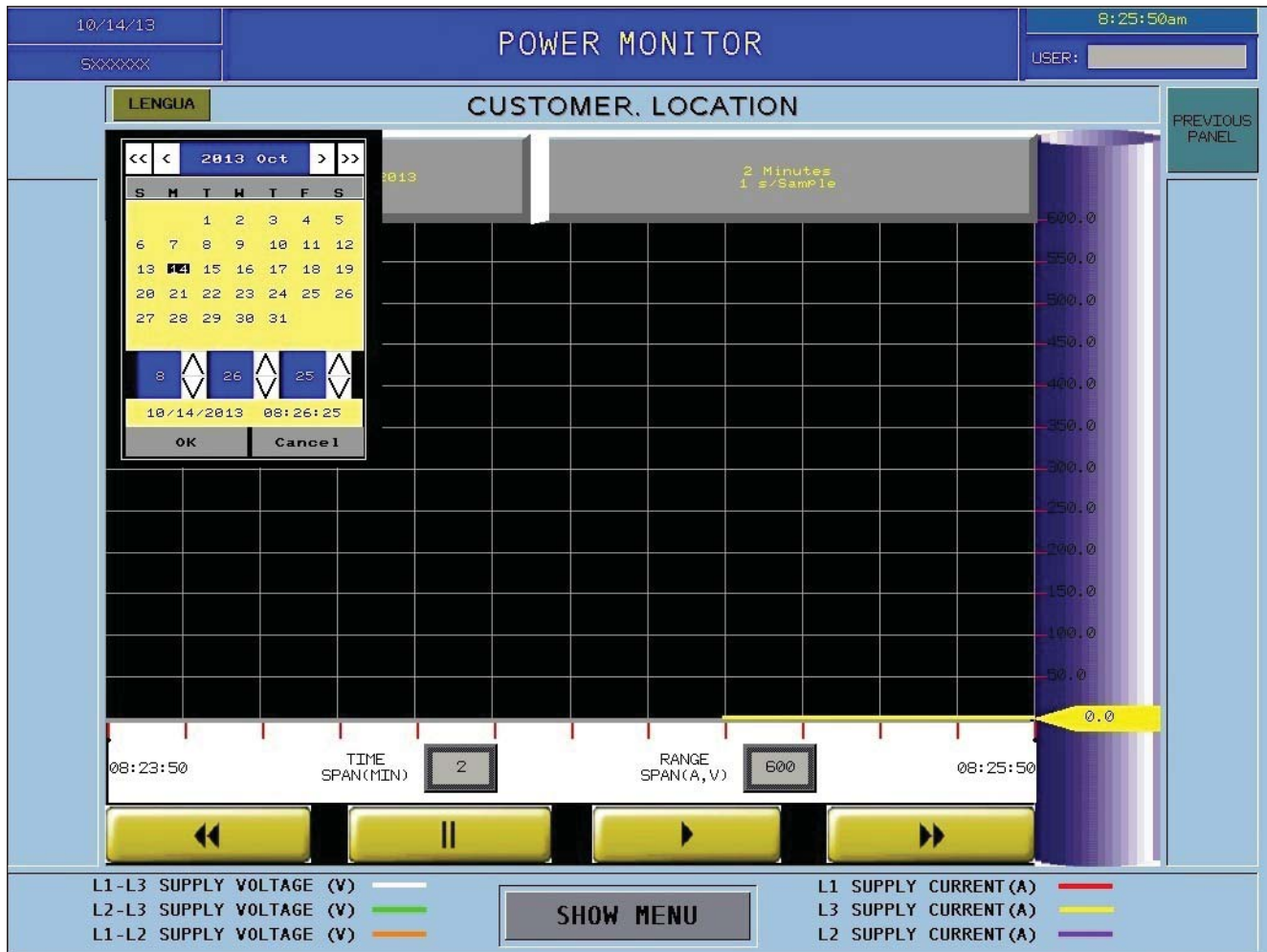


Figure 11-3. Power Monitor Trend Screen - Calendar Window (Enlarged)

## Section 11 • Power Monitor Trend Screen

### Power Monitor Trend Screen

The Power Monitor Trend screen shows information via Modbus communication. The pens are preset and listed at the bottom of the screen. This screen is read only and does not require a login to view, see Figure 11-1.

#### NOTE

The Power Monitor Trend screen shown is for the TeSys T controller.

#### Calendar Window

- Pressing the calendar in the upper left of the trend screen enlarges the calendar. From the calendar, the operator can select dates of past trends, see Figure 11-3.

#### Time Span

- This numeric entry display sets the leading to lagging edge of the trend screen span; notice here the span is set to 2 minutes, so the time span is 8:23:50 to 8:25:50 on this trend. Security is needed to make changes to this numeric entry display.

#### Range Span

- This numeric entry display set the upper limit of the range. Here the upper limit is set to 600, notice the scale on the right of the trend screen shows 0 to 600. Security is needed to make changes to this numeric entry display.

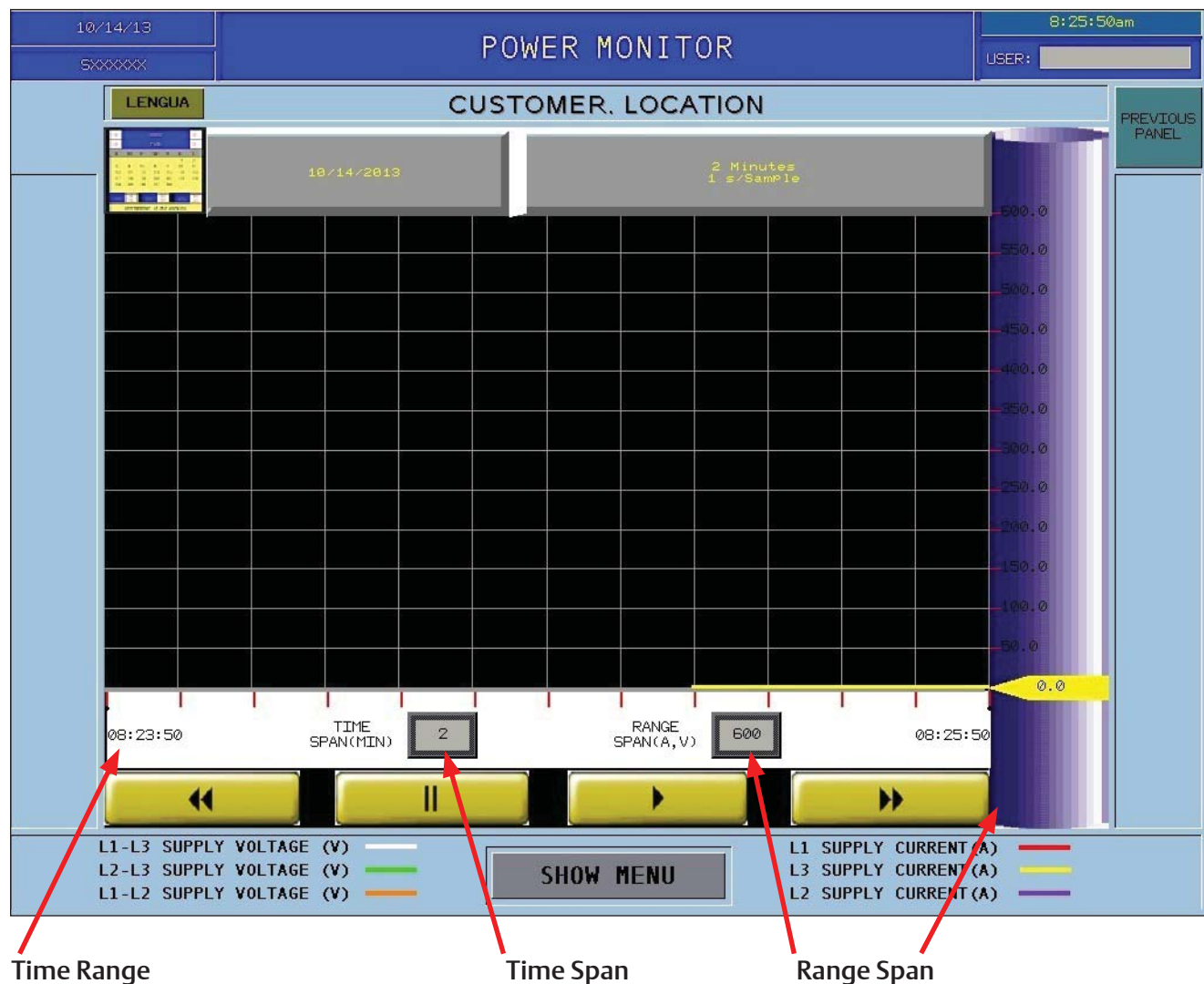


Figure 11-1. Power Monitor Trend Screen

## Section 11 • Power Monitor Trend Screen

### Forward and Reverse Buttons

- The forward and reverse buttons allow you to increment through the time range, see Figure 11-2.

### Play and Pause Buttons

- This button allows you to run or pause the trend, see Figure 11-2.



Figure 11-2. Power Monitor Trend Screen - Reverse/Pause/Play/Forward Buttons

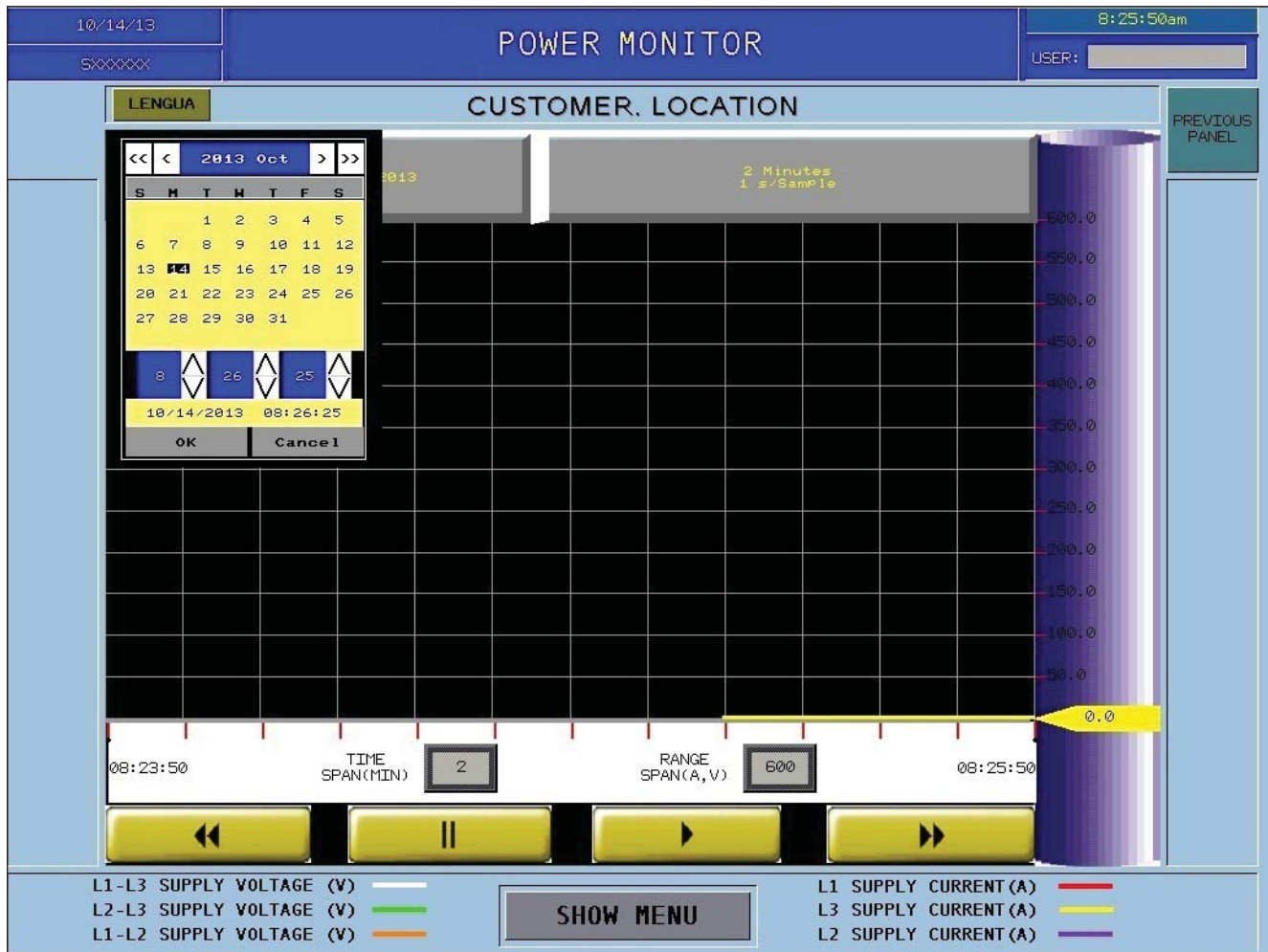


Figure 11-3. Power Monitor Trend Screen - Calendar Window (Enlarged)

### Compressor Motor Trend Screen

The Compressor Motor Trend screen shows information from the RVSS via Modbus communication. The pens are preset and listed at the bottom of the screen. This screen does not require a login to view, see Figure 12-1. Both setpoints, Normal Run Current and Run Current Warning are configurable.

#### Calendar Window

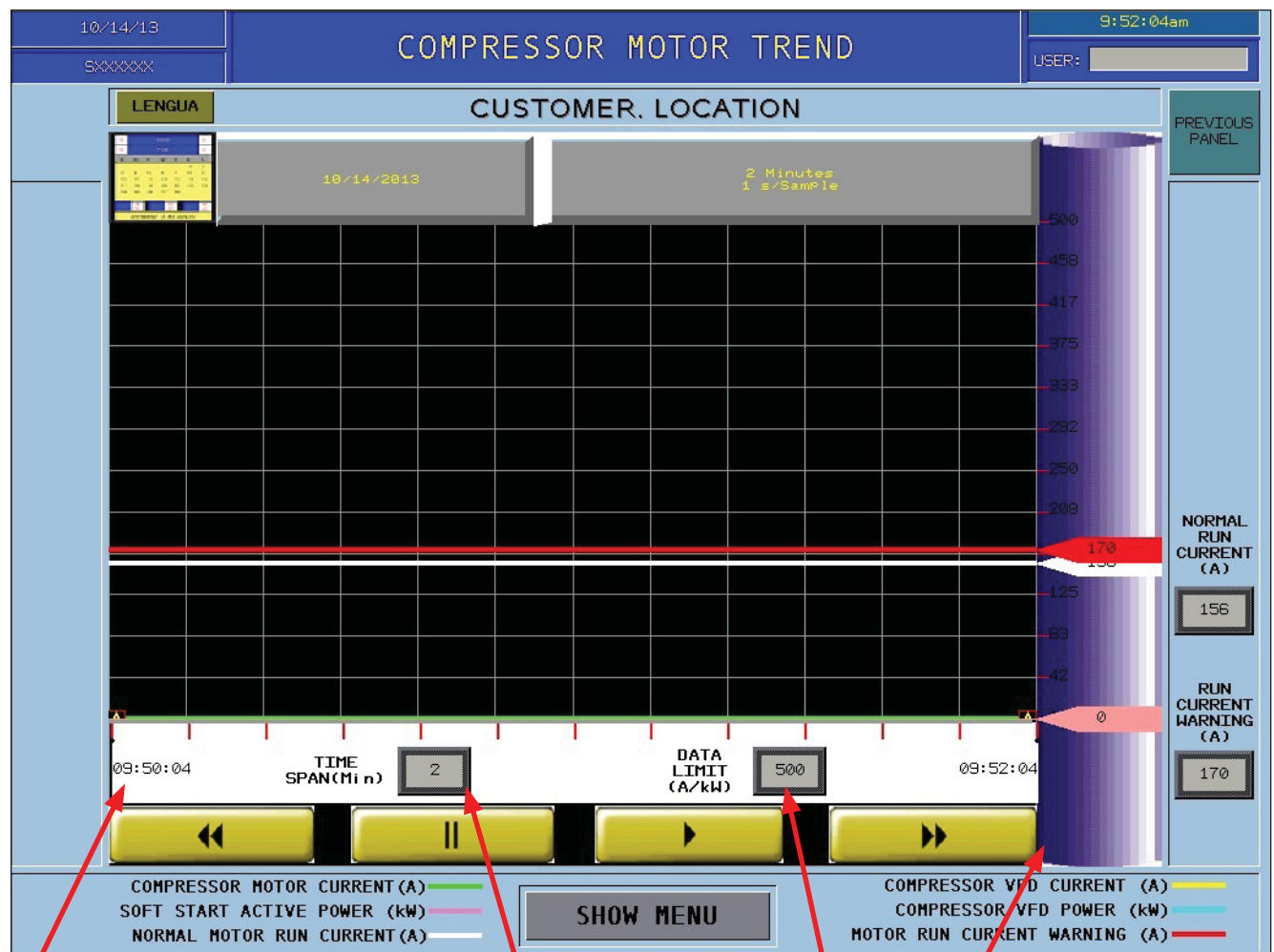
- Pressing the calendar in the upper left of the trend screen enlarges the calendar. From the calendar, the operator can select dates of past trends. For an example, see Figure 11-3 (page 11-2).

#### Time Span

- This numeric entry field sets the leading to lagging edge of the trend screen span. In Figure 12-1, the span is set to 2 minutes, so the time span is 8:23:50 to 8:25:50 on this trend. High level access login is needed to make changes to this field.

#### Data Limit

- This numeric entry field set the upper limit of the range. In Figure 12-1, the upper limit is set to 500. The scale on the right side of the trend screen corresponds to the upper limit, displaying 0 to 500. High level access login is needed to make changes to this field.



Time Range

Time Span

Data Limit

Figure 12-1. Compressor Motor Trend Screen

## Section 12 • Compressor Motor Trend Screen

### Normal Run Current

- This setpoint sets the pen for the Normal Run Current of the motor. The actual motor current should trend around this set point; but may vary depending on the loading of the motor. This should be adjusted by the operator for their application.

### Run Current Warning

- This setpoint sets the pen for the Run Current Warning. If the current reaches this warning limit, the HMI will show an Alarm banner and register the event in the Alarm Log. The Alarm banner will remain visible until the motor current dips below the set point.
- Typical Run Current Warning is the Full Load Amps from the motor nameplate or specific application.

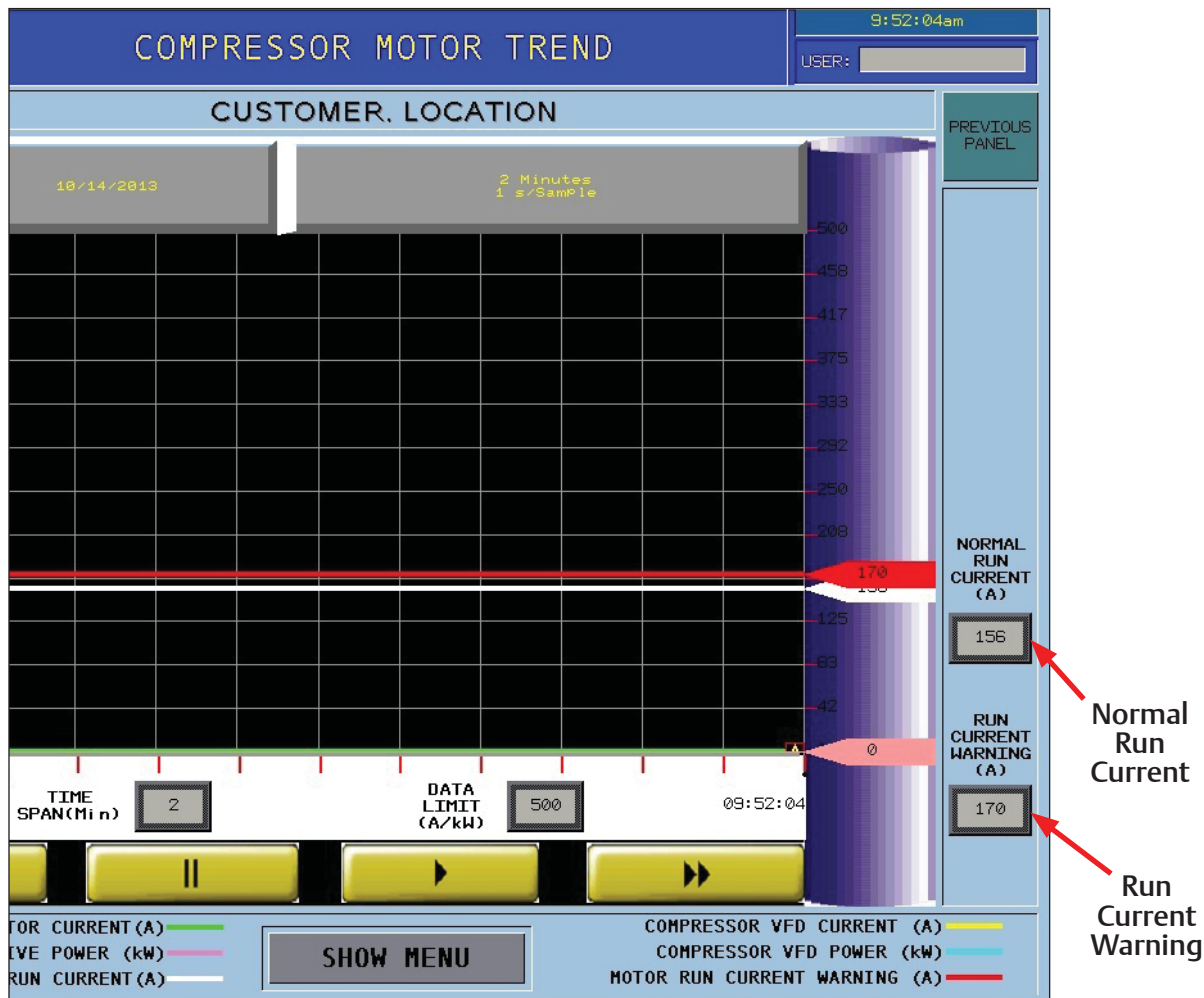


Figure 12-2. Compressor Motor Trend Screen - Normal Run Current & Run Current Warning

## Oil Pump Motor Trend Screen

The Oil Pump Motor Trend screen shows information from the TeSys U via Modbus communication. The pens are preset and listed at the bottom of the screen. This screen does not require a login to view, see Figure 13-1.

### Calendar Window

- Pressing the calendar in the upper left of the trend screen enlarges the calendar. From the calendar, the operator can select dates of past trends. For an example, see Figure 11-3 (page 11-2).

### Time Span

- This numeric entry field sets the leading to lagging edge of the trend screen span. High level access login is needed to make changes to this field.

### Data Limit

- This numeric entry field set the upper limit of the range. High level access login is needed to make changes to this field.

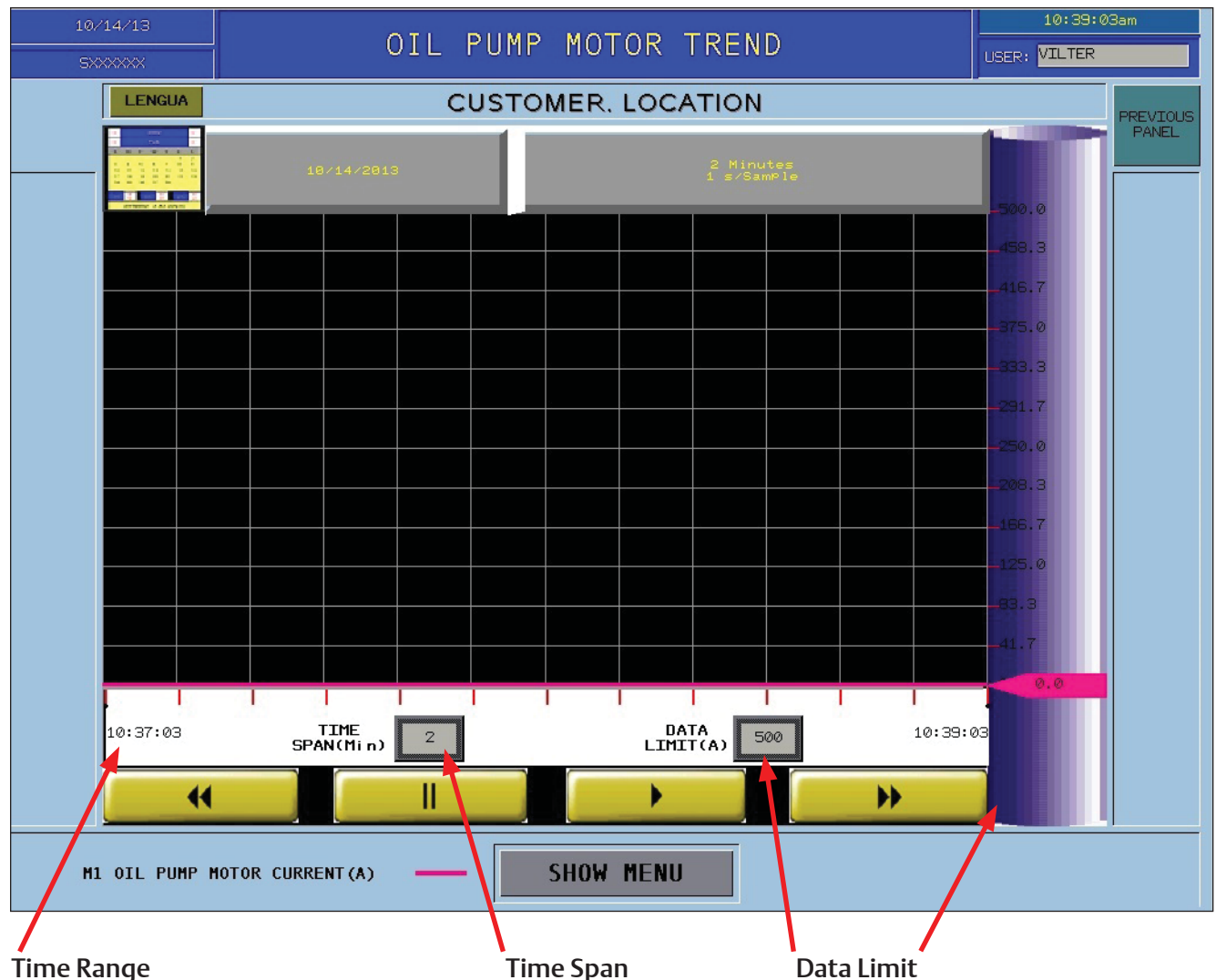


Figure 13-1. Oil Pump Motor Trend Screen







## Alarm & Event Log Screen

The Alarm & Event Log screen shows faults and events that either active or inactive, see Figure 14-1. The faults and events will populate the lines until they reach the maximum, then it will populate in a first in, first out sequence. The Alarm & Event Log will also be stored on the flash card. Also, when the flash card fills up, it will store in a first in, first out sequence. The flash card will store faults and events for up to 30 days.

The screenshot displays the 'ALARM & EVENT LOGS' screen. At the top, the date '10/14/13' is shown on the left, and the time '10:48:28am' is on the right. Below the date is a field containing 'SXXXXXX'. The main title 'ALARM & EVENT LOGS' is centered in a blue bar. Below this, a light blue bar contains 'LENGUA' on the left, 'CUSTOMER, LOCATION' in the center, and a 'PREVIOUS PANEL' button on the right. The screen is divided into two main sections: 'ALARMS' and 'EVENTS'. Each section has a header with icons for alarm status and a table below. The 'ALARMS' table has columns for 'Date', 'Time', 'ACK', and 'RTN'. The 'EVENTS' table has columns for 'Date', 'Time', and 'User Name'. Both tables are currently empty. A 'SHOW MENU' button is located at the bottom center of the screen.

Figure 14-1. Alarm & Event Log Screen

## Section 14 • Alarm & Event Log Screen

---

### Acknowledge All

- This button acknowledges the fault and turns the text yellow as long as the fault is no longer active.

### Acknowledge

- This button clears the fault and turns the text green as long as the fault is no longer active.

### Scroll Buttons

- These buttons scroll up and down the Fault/Event lists.

### Page Buttons

- These buttons page up and down the Fault/Event lists.

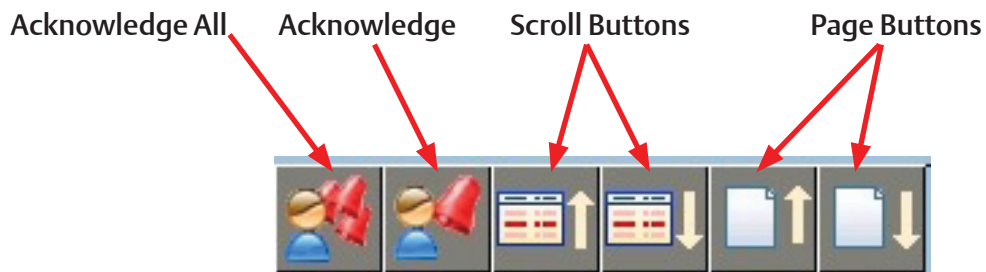


Figure 14-2. Alarm & Event Log Screen - Push Buttons



## Motor Starter Drawings Screen

The Motor Starter Drawings screen, shown in Figure 15-1, show drawings associated with the motor starter package. The number of screens depend on the size of the drawing set. The drawings shown are as-designed drawings.

### Drawing Menu

- Displays all associated as-designed drawings in a popup window, see Figure 15-2.

### Zoom In/Out Buttons

- Enlarges or reduces image of drawing, see Figure 15-3.

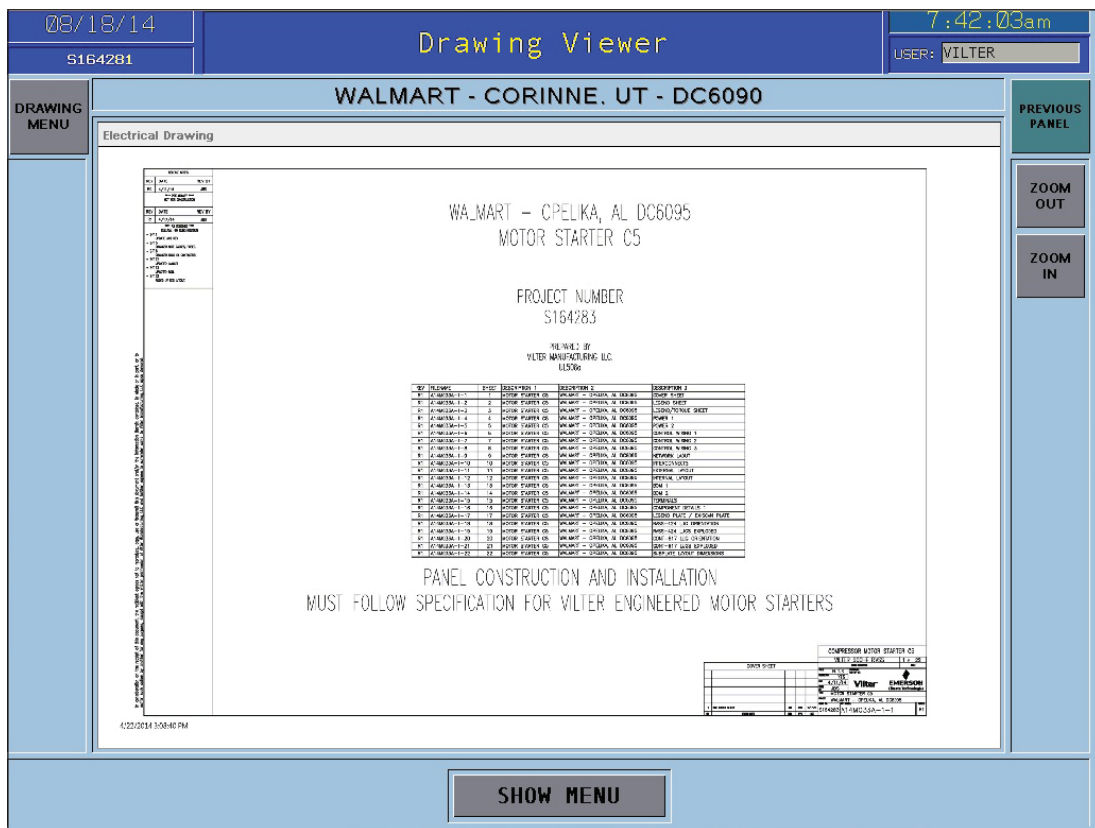


Figure 15-1. Motor Starter Drawings Screen

# Section 15 • Motor Starter Drawings Screen

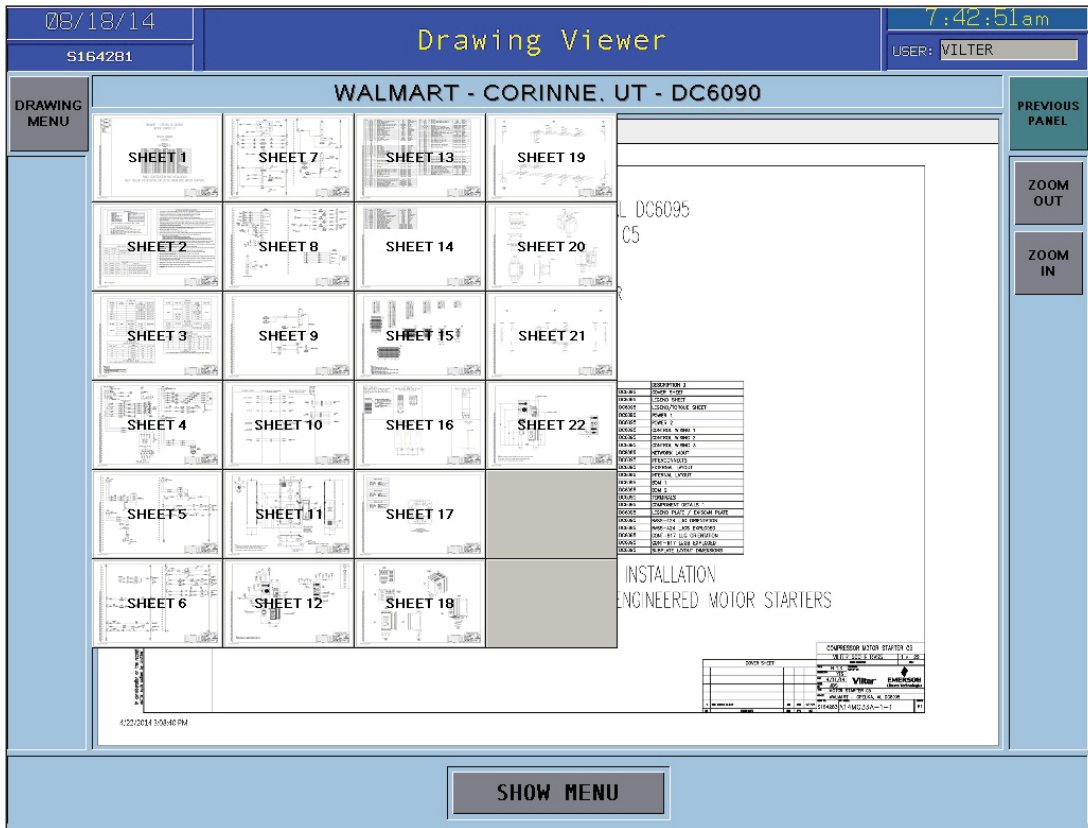


Figure 15-2. Drawing Menu

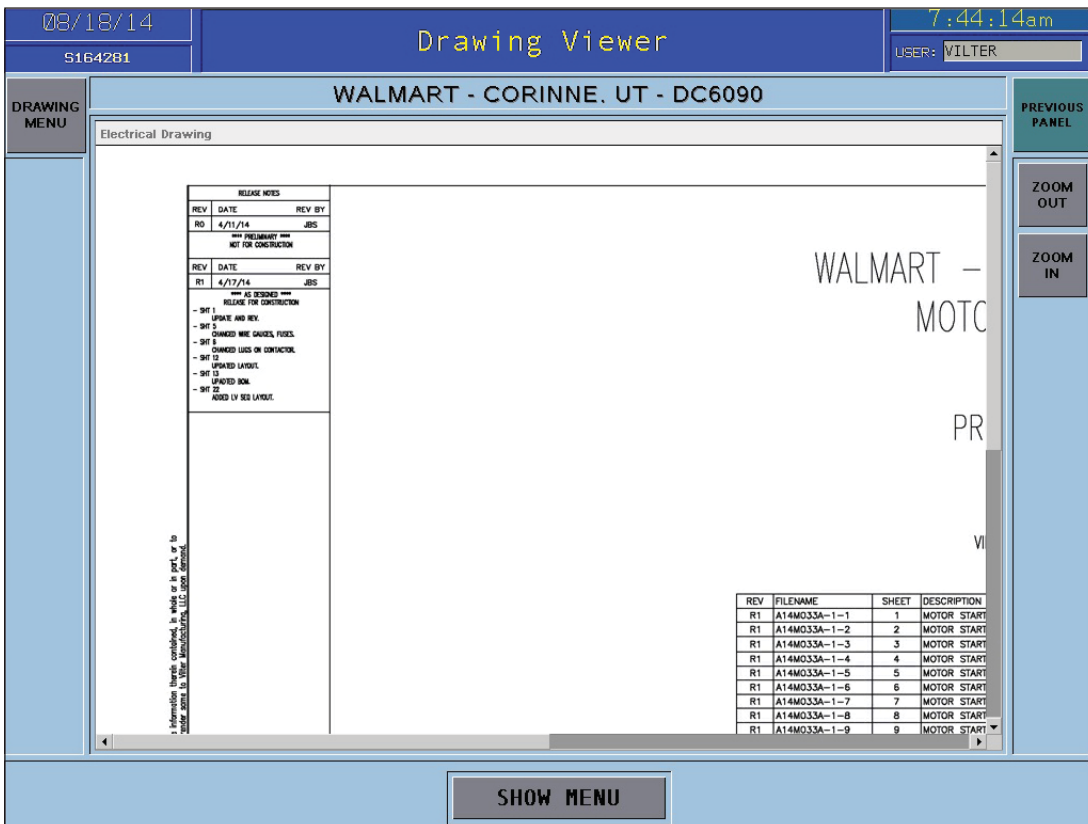


Figure 15-3. Zoom In/Out Buttons



EmersonClimate.com



## Free Manuals Download Website

<http://myh66.com>

<http://usermanuals.us>

<http://www.somanuals.com>

<http://www.4manuals.cc>

<http://www.manual-lib.com>

<http://www.404manual.com>

<http://www.luxmanual.com>

<http://aubethermostatmanual.com>

Golf course search by state

<http://golfingnear.com>

Email search by domain

<http://emailbydomain.com>

Auto manuals search

<http://auto.somanuals.com>

TV manuals search

<http://tv.somanuals.com>