Display Navigation Guide
EMX-IP

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154-0051-0A

Rev.	Release Date	By	Description of Change	ECR
0A	10/14/2024	CJL	Initial Release	01350

Contents

Also See:

152-0430	*EMX-IP Installation Guide*
154-0049	*EMX-IP BACnet Protocol Guide*
154-0050	*EMX-IP Modbus Protocol Guide*

Display Navigation

The display navigation guide assumes that device installation is complete, and the EMX is powered on. For installation instructions please refer to the EMX-IP installation guide linked earlier in this document. The display will show the home screen when any button is pressed, while the screensaver is active. From any other screen press the ESC button repeatedly to return to the home screen. If you see a lock icon on the screen enter the user set passcode to access the device.

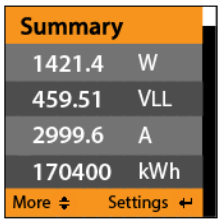
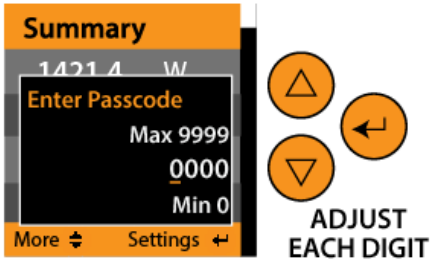
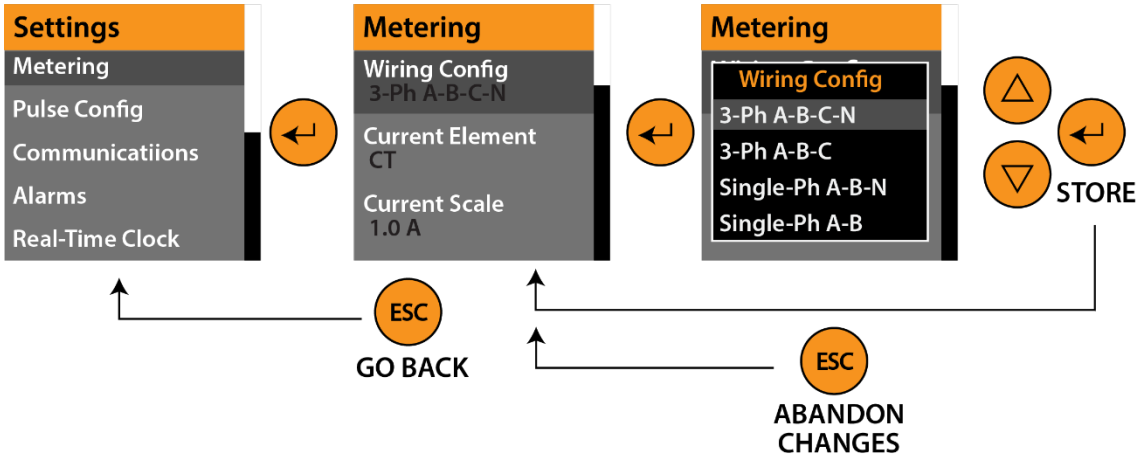


Figure 1: Default Home Display

If passcode is set, enter the passcode to access the menu.

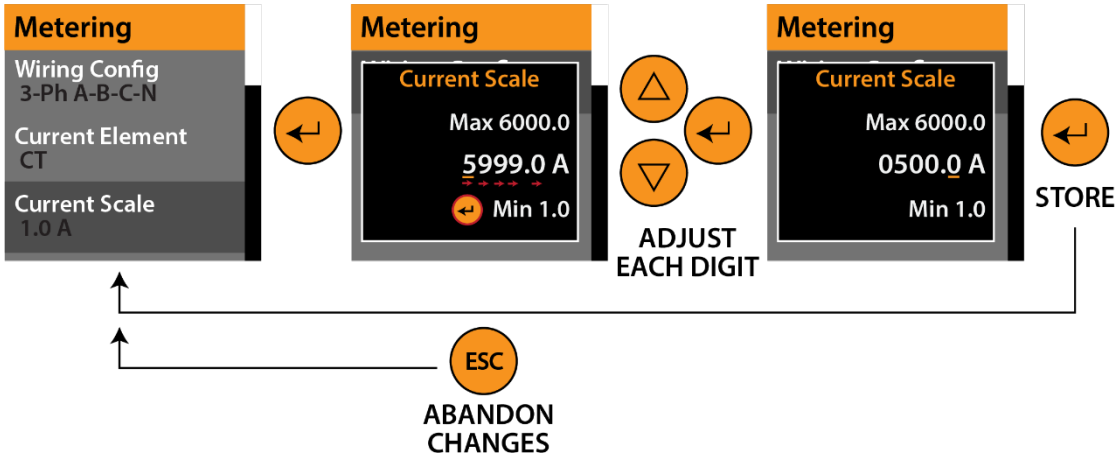


To change any setting, press enter to see the settings menu and navigate to desired parameter and press enter again to choose. For example, to adjust metering parameters, access the settings menu by pressing the 'enter' button once to access settings and once more to access the "Metering" menu and then select "Wiring Config".



Use the arrows to scroll to select the desired setting, store it by using the enter button and use the escape button to return to the main screen.

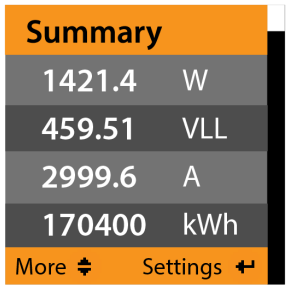
To adjust a numerical setting, set each digit individually and press enter to move cursor to the right. When all digits are set, the value will be saved when enter is pressed again.

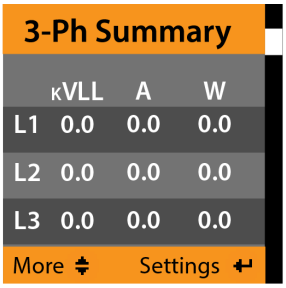


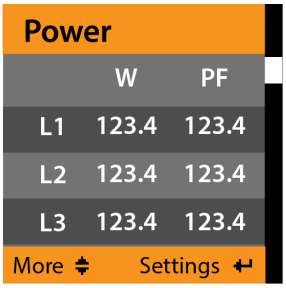
Display

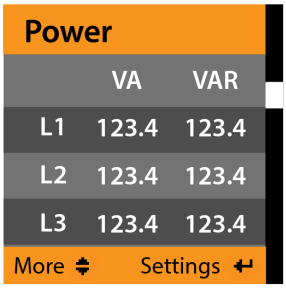
The EMX main screen will show the “Summary” screen when any button is pressed if the screen is off. Using the up and down buttons the main screen can be scrolled to see all 12 screens below. Fewer screens (5) will be visible if the device is set for single phase operation.

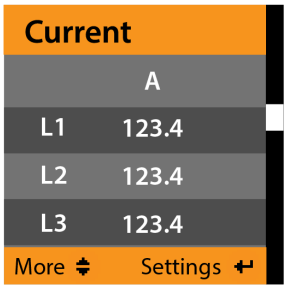
3-Phase Screens:

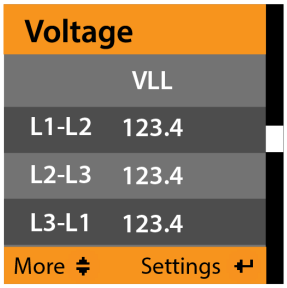


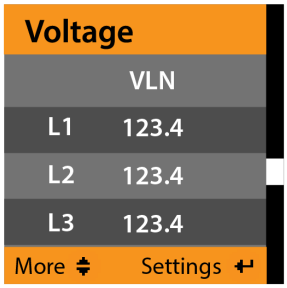


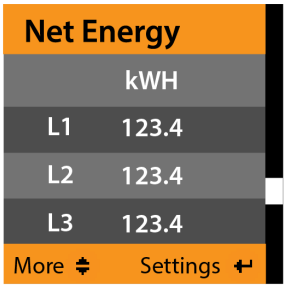


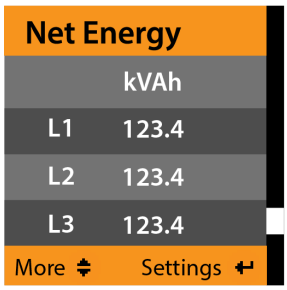


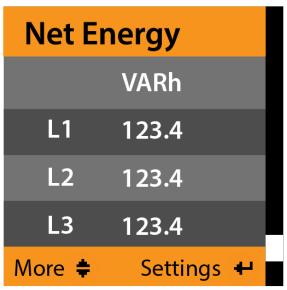


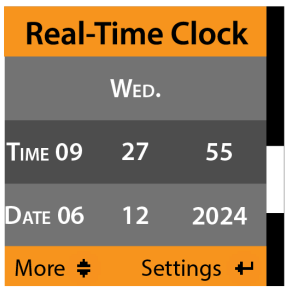




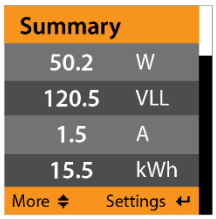


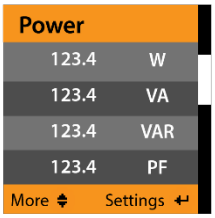


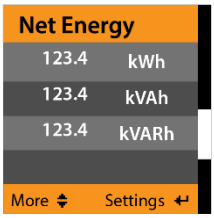


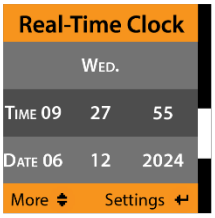


Single-Phase Screens:









Metering

Parameter	Description	Selections	Functionality
Metering > **Wiring Config**	*Sets the configuration of the meter based on the phases connected.*	3-Ph A-B-C-N	3 phase connection with a neutral.
		3-Ph A-B-C	3 phase connection without a neutral.
		Single-Ph A-B-N	Single phase connection with a neutral wire.
		Single-Ph A-B	Single phase connections without a neutral connection.
		Split-Ph A-B-N	Two phase split around neutral.
Metering > **Current Element**	*Select if the current input is a 0.33V CT or Rogo Coil*	CT	selected if an Iron Core 1/3-volt CT is used.
		Rogowski Coil	Selected if a Rogowski loop is being used.
Metering > **Current Scale**	*Setting the scaling for the current*	1-6000.0A (default 1A)	Sets the input scaling for the metering CT or Rogowski coil.
Metering > **Orientation**	*Ordering is ABC, sets the orientation for the current sensors*	default +++	Can select the positive and negative orientation of the phases. Order from left to right is: L1, L2, and L3.
Metering > **Voltage Scale**	*Setting the scaling for the voltage*	0.10–320.00V (default 1V)	Allows the user to scale the Voltage readings.
Metering > **Display Units**	*Sets the display unit type*	IEC or IEEE (default IEEE)	Will change the how the main screen with display units for Current, Voltage and Power.
Metering > **Ph angle Comp**	*Phase angle compensation*	-768 – 768 (default 0)	This setting can be used to adjust the Phase angle compensation.

Pulse Configuration

Parameter	Description	Functionality
Pulse Config > **Pulse 1 Count**	*Stores the number of pulses*	Total amount of input pulses on channel 1.
Pulse Config > **Pulse 2 Count**	*Stores the number of pulses*	Total amount of input pulses on channel 2.

Communications

Parameter	Description	Functionality
Communications > **IPv4 Address**	*Device's IPv4 address*	View the device's IPv4 address.
Communications > **IPv6 Local**	*Device's local IPv6 address*	View the device's local IPv6 address.
Communications > **IPv6 Global**	*Device's global IPv6 address*	View the device's global IPv6 address for use in routing out of the local subnet.

Alarms

Parameter	Description	Selections	Functionality
Alarm > **Voltage Range**	*Voltage Range Alarm*	Enable/Disable	Sets if the alarm is turned on
Alarm > **Nominal Voltage**	*Nominal Operating voltage*	1.0-6000.0V	Sets what the idea reading in normal operations is.
Alarm > **Voltage Thresh**	*Alarm Threshold*	1-20% (default: 10%)	Sets the threshold limits for what is acceptable in normal operation.
Alarm > **Current Range**	*Current Range Alarm*	Enable/Disable	Sets if the alarm is turned on
Alarm > **Nominal Current**	*Nominal Operating Current*	1.0-6000.0A	Sets what the idea reading in normal operations is.
Alarm > **Current Thresh**	*Alarm Threshold*	1-20% (default: 10%)	Sets the threshold limits for what is acceptable in normal operation.
Alarm > **Neutral Current**	*Ground Current Range Alarm*	Enable/Disable	Sets if the alarm is turned on
Alarm > **Nom. Neutral Cur.**	*Nominal Operating Ground Current*	1.0-6000.0A	Sets what the idea reading in normal operations is.
Alarm > **Neutral Limit**	*Alarm Threshold*	0-20% (default: 10%)	Sets the threshold limits for what is acceptable in normal operation.
Alarm > **Frequency Range**	*Frequency Range Alarm*	Enable/Disable	Sets if the alarm is turned on
Alarm > **Nominal Freq**	*Nominal Operating Frequency*	45.0-65.0 Hz	Sets what the idea reading in normal operations is.
Alarm > **Freq Thresh**	*Alarm Threshold*	1-20% (default: 10%)	Sets the threshold limits for what is acceptable in normal operation.
Alarm > **V. Phase Loss**	*Phase Loss Alarm*	Enable/Disable	Sets if the alarm is turned on
Alarm > **V. Ph. Loss Limit**	*Alarm Threshold*	1-20% (default: 10%)	Sets the threshold limits for what is acceptable in normal operation.
Alarm > **V. Ph. Imbalance**	*Phase Imbalance Alarm*	Enable/Disable	Sets if the alarm is turned on

Alarm > **Imbalance Thresh**	*Alarm Threshold*	1-20% (default: 10%)	Sets the threshold limits for what is acceptable in normal operation.
Alarm > **Low Pwr Factor**	*Low Power Factor Alarm*	Enable/Disable	Sets if the alarm is turned on
Alarm > **Pwr Factor Limit**	*Alarm Threshold*	0.01-0.99 (default: 0.50)	Sets the threshold limits for what is acceptable in normal operation.

Real-Time Clock

Parameter	Description	Selections	Functionality
Real-Time Clock > **Commit Time**	*Commit settings*	commit	Sets the clock to the time settings below. As it doesn't commit the below settings until using this commit field, it's recommended to use the app or webUI for accurate time.
Real-Time Clock > **Year**	*Sets the year*	2022-2060	Set the current year.
Real-Time Clock > **Month**	*Sets the month*	1-12	Set the current month. Example: 1 is January and 12 is December.
Real-Time Clock > **Day**	*Sets the day*	1-31	Set the current day of the month.
Real-Time Clock > **Day of the Week**	*Sets the day of the week*	Sun. – Sat.	Set the current day of the week.
Real-Time Clock > **12-Hour Mode**	*Sets the clock format*	Disabled/Enabled (default disabled)	Set the clock format to 12 or 24 hours. Disabled uses 24-hour format.
Real-Time Clock > **Hour**	*Sets the hour*	0-23	Set the current hour of the day.
Real-Time Clock > **Minute**	*Sets the minute*	0-59	Set the current minute.
Real-Time Clock > **Second**	*Sets the second*	0-59	Set the current second.

Logging

Parameter	Description	Selections	Functionality
Logging > **Trigger Source**	*Sets the source of triggering the logging*	Disabled (default)	Logging is disabled.
		Timer	Logs are stored at the rate of the trigger interval time.
		Comms	Logs are stored whenever register 5015 or object AV44 are written to.
		Pulse Input 1	Logs are stored whenever a pulse is seen on input 1.
		Pulse Input 2	Logs are stored whenever a pulse is seen on input 2.
Logging > **Trigger Interval**	*Sets the timer trigger source in seconds*	15-3600 (default 300)	Set the time in seconds for the timer trigger source.
Logging > **Logging Mode**	*Method of storing logs*	One Shot Overwrite (default One Shot)	One Shot – Log until memory is full, and then stop and alarm. Overwrite – Log until memory is full and then overwrite data.
Logging > **Log Source 1**	*Data source for log 1*	1-190 (default 11)	Set the source of data for log 1. Number corresponds with Modbus address, so '11' would be "V-LL Phase A-B".
Logging > **Log Source 2**	*Data source for log 2*	1-190 (default 12)	Set the source of data for log 2. Number corresponds with Modbus address, so '12' would be "V-LL Phase B-C".
Logging > **Log Source 3**	*Data source for log 3*	1-190 (default 13)	Set the source of data for log 3. Number corresponds with Modbus address, so '13' would be "V-LL Phase C-A".
Logging > **Log Source 4**	*Data source for log 4*	1-190 (default 14)	Set the source of data for log 4. Number corresponds with Modbus address, so '14' would be "Current Phase A".
Logging > **Log Source 5**	*Data source for log 5*	1-190 (default 15)	Set the source of data for log 5. Number corresponds with Modbus address, so '15' would be "Current Phase B".
Logging > **Log Source 6**	*Data source for log 6*	1-190 (default 16)	Set the source of data for log 6. Number corresponds with Modbus address, so '16' would be "Current Phase C".
Logging > **Log Source 7**	*Data source for log 7*	1-190 (default 5)	Set the source of data for log 7. Number corresponds with Modbus address, so '5' would be "Total Real Power".
Logging > **Log Source 8**	*Data source for log 8*	1-190 (default 20)	Set the source of data for log 8. Number corresponds with Modbus address, so '20' would be "Phase A Frequency".

Logging > **Log Source 9**	*Data source for log 9*	1-190 (default 45)	Set the source of data for log 9. Number corresponds with Modbus address, so '45' would be bytes one and two of "Real Net Energy Total".
Logging > **Log Source 10**	*Data source for log 10*	1-190 (default 46)	Set the source of data for log 10. Number corresponds with Modbus address, so '46' would be bytes three and four of "Real Net Energy Total".
Logging > **Log Source 11**	*Data source for log 11*	1-190 (default 47)	Set the source of data for log 11. Number corresponds with Modbus address, so '47' would be bytes five and six of "Real Net Energy Total".
Logging > **Log Source 12**	*Data source for log 12*	1-190 (default 48)	Set the source of data for log 12. Number corresponds with Modbus address, so '48' would be bytes seven and eight of "Real Net Energy Total".
Logging > **Number of Entries**	*Number of logs stored*	N/A	Total number of logs stored. Will count up to 4096.

Passcode

Parameter	Description	Selections	Functionality
Passcode > **Set Passcode**	*Sets the passcode*	0-9999 (default 0)	This is used to add a passcode to lock the ability to enter the menu. If this field is set to 0 then no passcode will have to be set to enter the settings menu. When the passcode is set it will be required to enter that code.

Advanced

Parameter	Functionality
Advanced > **Reboot System**	This menu function will reboot the device.
Advanced > **Reset Settings**	This will reset the settings to factory defaults.
Advanced > **Reset Energy**	This will reset the energy counters to zero.
Advanced > **Reset Load Time**	This will reset the time measuring non-zero power.
Advanced > **Reset Pulse Count**	This will reset the pulse counters.
Advanced > **Reset Logs**	This will empty the logs. Logging settings remain.
Advanced > **NFC**	Enable or Disable the NFC feature. Need to be enabled for phone app.
Advanced > **Load Status Time**	This will reset the time measuring non-zero power.
Advanced > **Device-On Time**	Total time device has been powered on.
Advanced > **Time Since Boot**	Time since last boot (power cycle or reboot).
Advanced > **Power Loss count**	This will show how many times the device has lost power.
Advanced > **Diagnostics**	Additional menu containing firmware versions and serial number.