

SmartMon

Power Meter

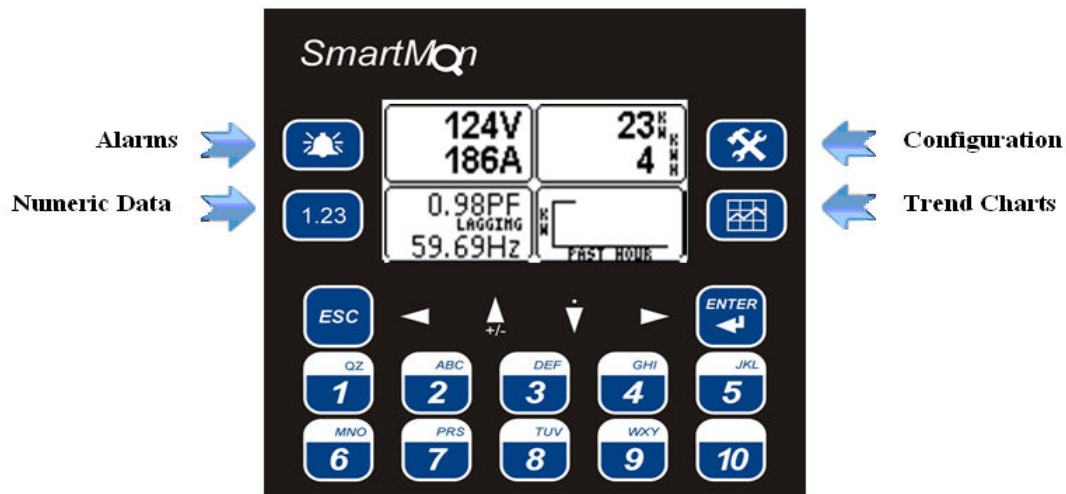
[HS-EXKM]

Quick Start Guide

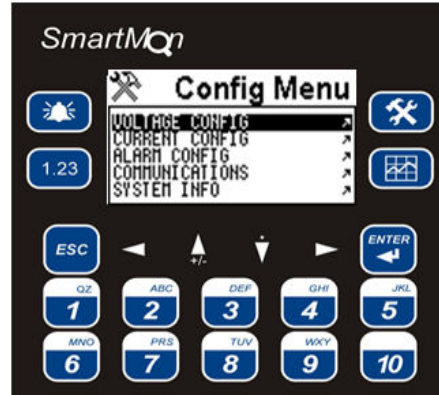
Prior to configuration:

1. Reference document TDS0910, which provides instructions on the installation and wiring of the SmartMon Power Meter.
2. Physically install the SmartMon unit per TDS0910. For a SmartMon unit purchased in a factory fitted control enclosure, install the enclosure in its permanent location.
3. Mount the CT's and/or optional PT's, wiring them to the SmartMon per TDS0910.
4. Ensure that the appropriate power is provided to the SmartMon. For a SmartMon unit purchased in a factory fitted enclosure, provide 120Vac for power. For a SmartMon unit purchased as a stand-alone unit, 10-30Vdc is appropriate control power.
5. Apply power to the SmartMon, which will display its initial splash screen.

SmartMon Power Meter Function Keys



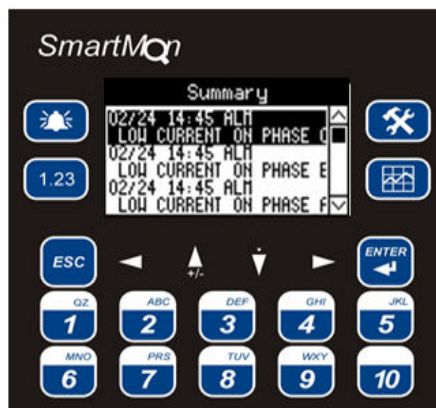
- Configuration – where operational parameters are set for the unit (CT Ratios, PT Ratios, Alarm levels, etc).
- Alarms – toggles between current alarms (Alarm Summary) and past alarms (Alarm History)
- Trend Charts – pressing this key multiple times cycles between a variety of trend charts for the main Power Meter values (kW, V, A, pF, etc.) over time
- Numeric Data – pressing this key multiple times cycles through displays indicating current Power Meter values numerically, as well as the minimum and maximum levels, and the date/time those levels were achieved



Steps to Configure the SmartMon Power Meter:

1. After applying power, the SmartMon will go through a startup sequence, and then display its splash screen for 5 seconds.
2. To initiate configuration, press the CONFIGURATION key. This displays the CONFIGURATION menu. Most parameters on the SmartMon are configured using a menu system. The menu is navigated as follows:
 - Highlight a selection using the UP/DOWN arrow keys
 - Once the desired selection is highlighted, pressing the Enter key will either;
 - i. Navigate to a sub-menu, or
 - ii. Configurable values are highlighted
 - Values may be edited from the keypad as follows
 - i. For a numeric field, simply key-in the value using the number keys and press Enter.
 - ii. To exit without entering a value, press the Esc key.
 - You can “back out” of any menu item, as well as the Configuration Menu itself, using the Esc key.
3. Configuration Menu Items. The following items are accessible from the Configuration Menu:
 - Voltage Config
 - Current Config
 - Alarm Config
 - Communications Config
 - System Info
4. Voltage Config. The following items can be configured from the Voltage Config menu item(s):
 - PT ratios for each phase. A ratio of 1.00:1 indicates a 480V direct input.
 - Nominal Voltage (expected voltage)
 - Display (Measured L-N or Estimated L-L Volts)
 - Alarm (Measured L-N or Estimated L-L Volts)
 - Display Alarm Help (directions)
 - High Voltage Alarm
 - Low Voltage Alarm
 - High/Low Alarm Delay (amt of time value must exceed set-point prior to Alarm enunciation)
 - Zero-cross Timeout (amt of time without a zero-cross prior to Alarm enunciation)
5. Current Config. The following items can be configured from the Current Config menu item(s):
 - CT ratios for each phase. A ratio of 1.00:1 indicates a 5A input.
 - Full-load Current (expected current)
 - Advanced Setup
 - i. CT Phase Compensate for each phase (number of degrees to adjust each phase +/-)

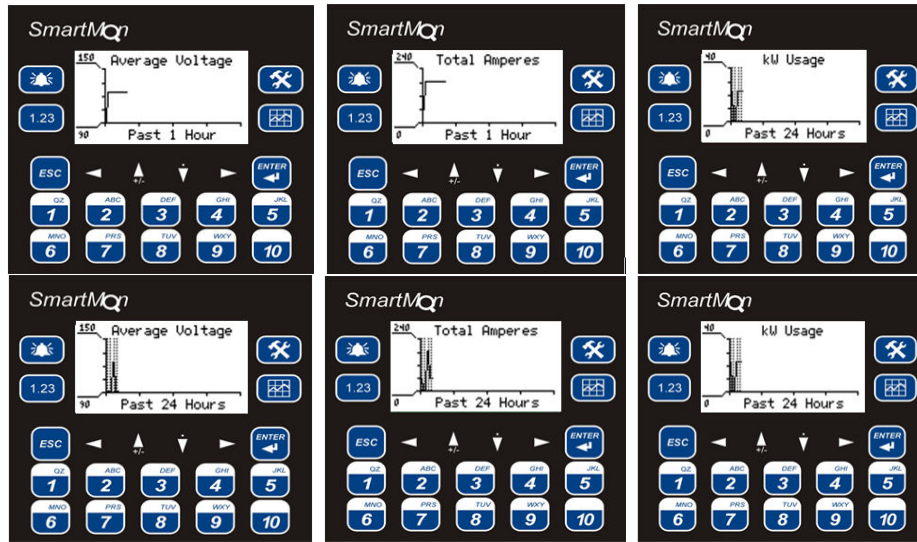
- High Phase Current
 - Low Phase Current
 - High Total Current
 - Low Total Current
 - High/Low Alarm Delay (amt. Of time value must exceed setpoint prior to Alarm enunciation)
6. Alarm Config. The following items can be configured from the Alarm Config menu item(s):
- Alarms Enabled/Disabled
 - Low Power Factor
 - High kW Alarm
 - Delay Above Alarms
 - High 5-min Demand
 - High 15-min Demand
 - High kWh Today
 - High kWh This Month
 - Voltage Alarms (High, Low, Alarm Delay, Zero-Cross Timeout)
 - Amperage Alarms (High & Low Phase, High & Low Total, High/Low Alarm Delay)
7. Communications. The following items can be configured from the Comm. Config menu item(s):
- Modbus Slave ID
 - Wiring (RS485 2-wire or RS232)
 - Baud Rate
 - Parity (None or Add or Even)
 -
8. System Information. The following items can be configured from the System Info menu item(s):
- Status info
 - Program Version
 - Model Version
 - Firmware
 - CPLD
 - I/O
 - Set Time and Date
 - Perform Back up
 - View Technical Support contact details



Viewing Alarms on the SmartMon Power Meter (ALARMS)

Pressing ALARMS on the SmartMon displays the Alarm screen. From here, the current alarms (Alarm Summary) and historical alarms (Alarm History) may be viewed, and cleared if desired. Use the Configuration function key to switch between current and historical alarms. To Ack and/or Clear an alarm, press the Alarm Function key, which will bring up the Alarm Viewer. From the Alarm Viewer,

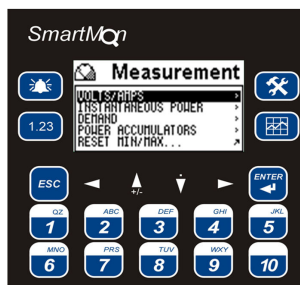
you can choose to view but take no action (Press Esc), clear/ack an individual alarm (scroll to the alarm, Press **F1**-Ack or **F2**-clear), or clear/ack all alarms (Press **F3**-Ack All or **F4**-Clr All).



Viewing Trends on the SmartMon Power Meter (TRENDS)

Pressing TRENDS repeatedly will cycle through the available trends (in the order of the above images). The following six trend screens are available:

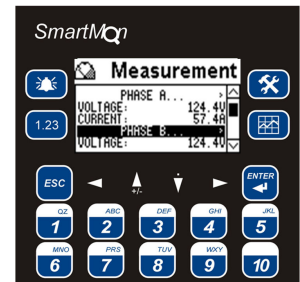
- Volts, Amps, and kW – for the last hour
- Volts, Amps, and kW – for the last 24 hours
- Volts, Amps and kW – for the past week
- Volts, Amps and kW – for the past 30 days
- Power Factor – for the past hour, 24 hours, week, and 30 days
- Frequency – for the past hour, day, week,



Viewing Numeric (Min-Max) Data on the SmartMon Power Meter Plus (NUMERIC)

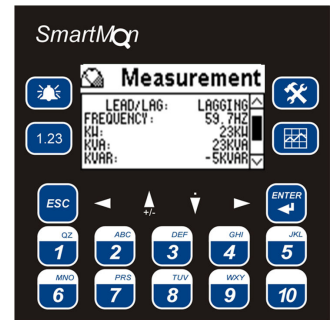
Pressing NUMERIC on the SmartMon displays the Instantaneous Values, as well as Minimum and Maximum Values for several Power Meter parameters.

- Volt/Amps
 - Voltage A, B, and C Phases
 - Current A, B, and C Phases
 - Voltage Average
 - Total Current
- To view Min/Max data for each section simply scroll down to the desire section heading and press enter

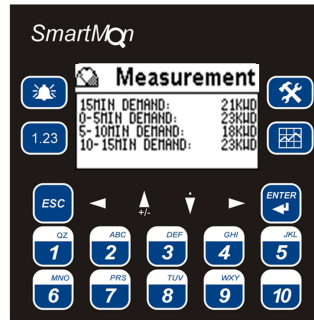


Example: to view Phase B Min/Max Scroll to Phase B (highlighted on the screen) and press enter.

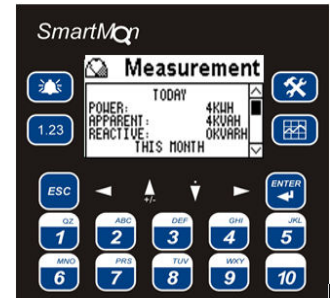
- **Instantaneous Power**
 - Power factor
 - Lead/ Lag indication
 - KW, KVA, KVAR
 - Min/Max PF/Freq (Scroll to and press enter to view Min/Max)
 - Min/Max Power (Scroll to and press enter to view Min/Max)



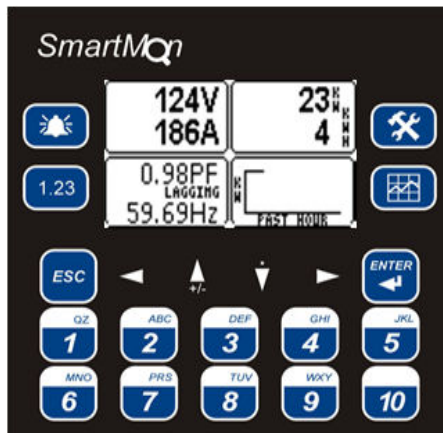
- **Demand**
 - 15 min, demands
 - 0-5 min, demands
 - 5-10 min, demands
 - 10-15 min demands



- **Power Accumulators**
 - Today- Power, Apparent, and Reactive
 - This Month- Power, Apparent, and Reactive
 - Total for Power- Power, Apparent, and Reactive
- Reset Screen – resets Min/Max for all Power Meter Parameters



Viewing Live Power Meter Data on the SmartMon Power Meter (HOME VIEW)



Home screen displayed during startup and exiting (using ESC) out of all other screens displays live Power Meter data. The following parameters are displayed on the screen:

Screen

- Volts Average
- Current Total
- Instantaneous Power (kW)
- Power Factor (numeric)
- Frequency (Hz, numeric)

