PRO EM235 Quick Start Manual

This guide instructs the user on installation, wiring, configuring and operating the EM235 multi-meter. This guide does not substitute the full user manual or the detailed safety instructions. To download the manual and other related material, please visit our website: www.satec-global.com.

⚠️ Warning! Only a licensed electrician may perform the installation and wiring of the EM235.
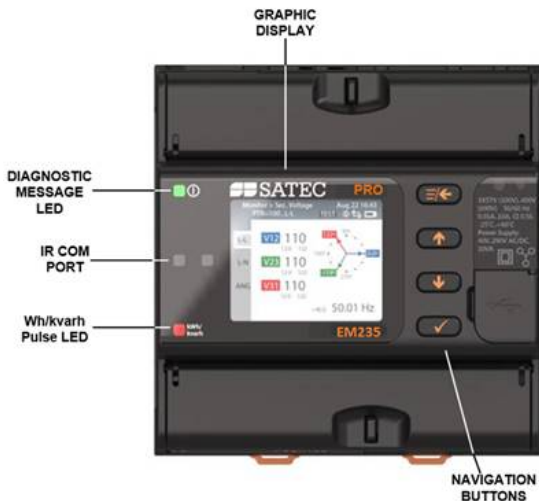

Figure 1: EM235 front panel

INSTALLATION

The PRO EM235 is designed exclusively for installation on DIN-rail.

Please note to leave room for future expansion: when installing a basic unit (without modules), it is recommended to maintain a minimal gap of 30-100mm to the right of the unit, allowing future installation of additional detachable SATEC modules (figure 5; depending on number of added modules, 17.8mm each).

Use a flathead screwdriver to dislodge the unit from the rail by inserting the screw-driver into the slit in the latch, pushing the latch downwards. To install the unit push the latch back upwards.

Figure 2: Opening the latch

ELECTRICAL CONNECTIONS

The following steps (Figure 3) correspond with a low-voltage three phase network:

1. Make sure all power sources are disconnected.
2. Make sure that your designated power supply corresponds with the unit's rating.
3. Connect the power supply (bottom-left of front panel) via 12 AWG wires and a designated circuit breaker.
4. Standard external current transformers: connect the CT's (14 AWG minimum) "**+**" pole to the device's **I1+** current input (unit's bottom right of front panel, as in figure 3) and the "**-**" pole to the adjacent I1- current input. Repeat this for the following two phases, **I2** and **I3**. Verify proper polarity in your connections in accordance with the arrow printed on the external CTs.

   "HACS" CTs: connect the red/white wire to the "**+**" terminal and the black/orange (colors vary according to the CT model) wire to the "**-**" terminal.
5. Connect the voltage measurement inputs (22-12 AWG; bottom-center of front panel).
6. Connect the com wire (26-12 AWG, shielded) to COM1 (RS485, top-left of front panel).
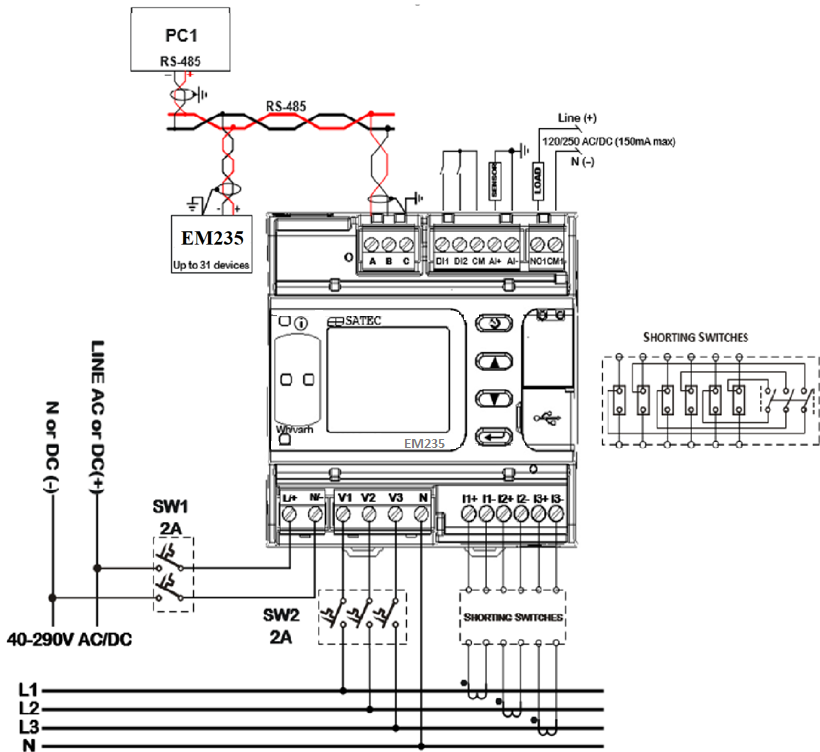7. Power-on the unit.

Figure 3: Typical wye installation

BASIC CONFIGURATION AND OPERATION

The PRO EM235 is operated via the LCD display, 2 LEDs and 4 pushbuttons (figure 1: front panel).

When powered on, the device will default to displaying voltages, for basic setup back up (<-button) to the home screen navigate with arrows to "setup" (select with ✓), enter default password ("9") and select ("apply"). Open "general setup" to reveal "basic setup" for configuration. See screenshot sequence in figure 4, below.
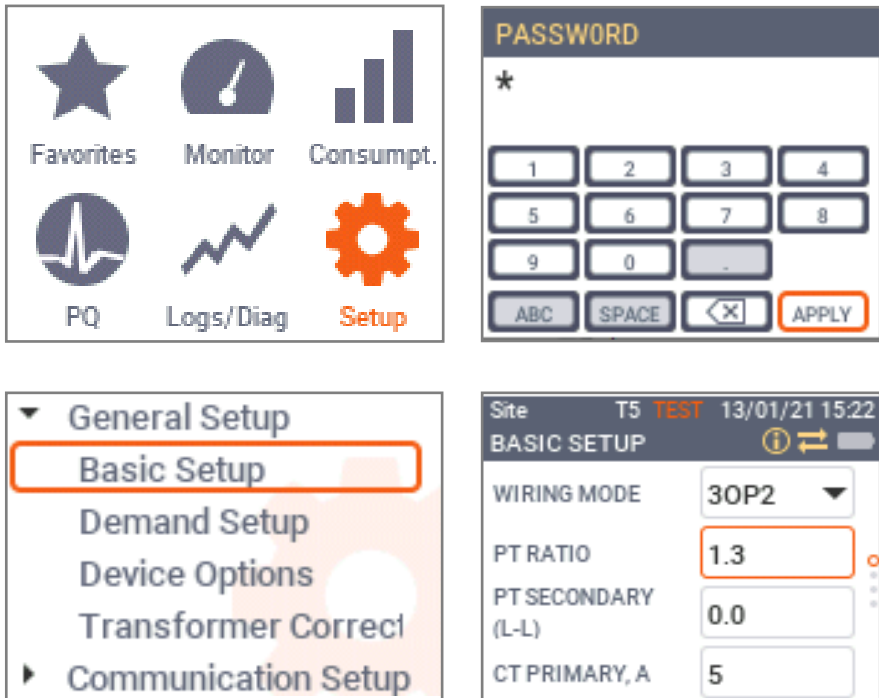

Figure 4: Screenshot sequence for basic setup

CONNECTING OPTIONAL SATEC MODULES

1. **DO NOT HOT-SWAP. When adding/removing modules, make sure the unit is disconnected from power supply**
2. Remove cover (sticker on right side of unit) to reveal port
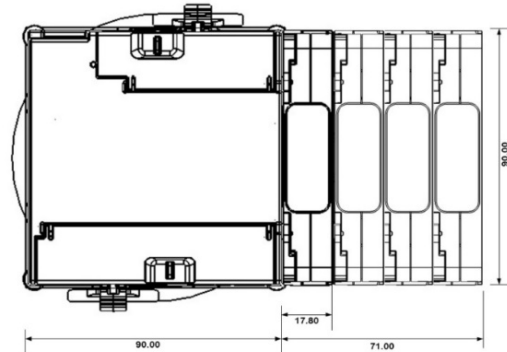3. Attach the module tightly and tighten the clips
4. Power on the unit

Figure 5: module expansion, front panel view

GENERAL INFORMATION AND SYSTEM DEFAULTS

1. Default password: 9
2. Default IP: 192.168.0.203 (ETH1)
3. Default current mode (HACS model): Alternating Current (AC)
4. Default serial com settings (RS485): 19,200 Baud rate; address = 1
5. For convenient configuration please use SATEC's PAS engineering software, connecting your PC to the USB port (type C) at the right side of the front panel)
   To download PAS (free): www.satec-global.com/power-analysis-software
   make sure to update .exe file with the most recent update available on webpage