DC Measurement

Systems which either produce or consume direct current are becoming commonplace. This includes commercial clients and industrial applications, raising the demand for accurate metering of DC systems. Using the PRO Series meters as platform, SATEC has developed DC metering capability via Hall Effect sensors (HES). This now allows accurate metering of DC systems, combining the familiar SATEC features of data logging, high-accuracy and our advanced options for communication protocols and control (I/O).

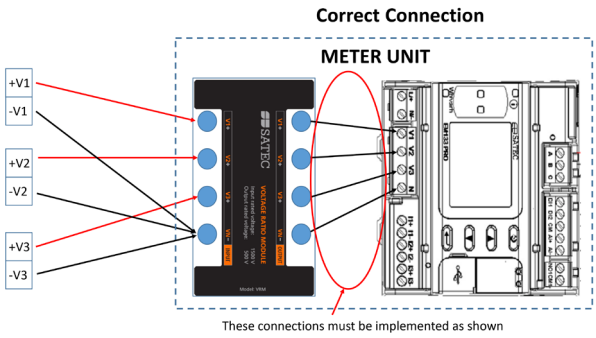
SATEC DC metering platform

- PRO Series meters with HACS current inputs
- Typical accuracy for DC Power and DC Energy: up to 0.2% (depending on HES type)

DC Voltage Measurement

Each meter can monitor 3 independent DC circuits via 3 independent DC voltage Inputs.

Measuring up to 800V DC is carried out via direct connection to the SATEC meter: Measuring 1500V DC and 2500V DC systems is possible via a special SATEC Voltage Ratio Module (VRM).



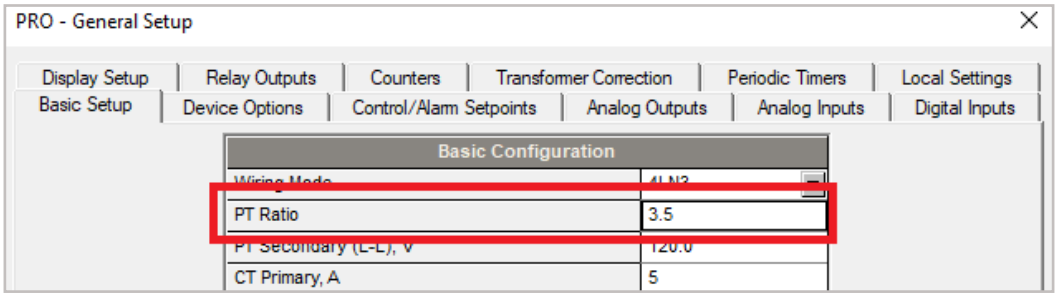
For DC High Voltage connection: recommended distance between SATEC VRM and SATEC meter should not exceed 2 meters, using cables featuring minimum 600V insulation.

Voltage Ratio Module Characteristics

- Accuracy = 0.1%
- 3 Independent voltage inputs
- DIN-rail installation

When using SATEC VRM the correct ratio coefficient must be fed by PAS software ("basic configuration" tab)

- Using the PRO Series meters, enter "ratio" = 3.5



DC Current Measurement (Hall Effect Sensors)

The PRO Series

The device has 4 independent current inputs rated at 20mA nominal current, to which the user may connect standard Hall Effect sensors featuring 0-20mA/+-20mA outputs.

It is mandatory to use cabling featuring double insulation (600V) when connecting HES to PRO Series meters.

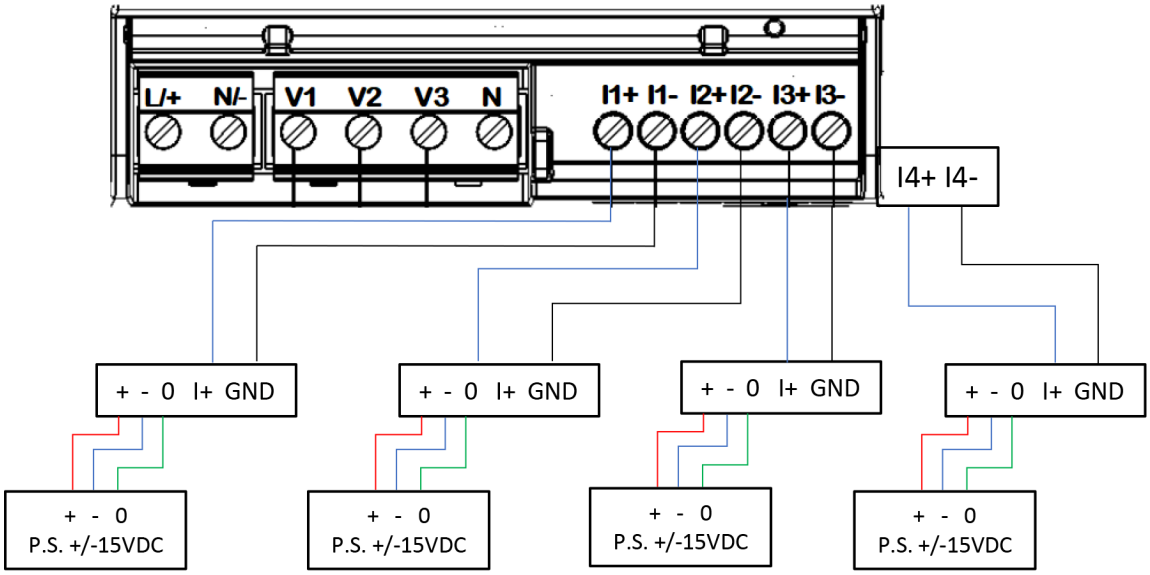
Likewise, when using the PRO series (unlike the PM130 PLUS), it is mandatory to use a separate power supply for each sensor.

Requirements for power supply for Hall Effect Sensors:

- Double insulation
- No Ground connection permitted
- Overvoltage withstand of 3kV or more
- Power supply: 15V DC or +/- 15VDC (or 12VDC), depending on HSE type
- UL Listed

DC power is calculated with indication for direction of power flow. Energy is calculated separately for each channel (except for I4).

Typical Current measurement accuracy: up to 0.2% (depending on HES type).



It is mandatory to setup the PRO meter to DC mode using PAS Software.