

LamaPLC: Eastron SDM 230 Communication



The Eastron SDM230 Modbus MID 1-phase kWh meter is ideal for the precise monitoring of, for example, a solar panel system, a charging station, a heat pump, or another 1-phase group of your choice. On the illuminated LCD screen, you can immediately see how many kWh the respective system consumes or produces, and it is used for official registration and billing of the measurement data. For example, if you want to bill a tenant for the electricity consumption of a specific room.

Key Features

- **Measurement:** Measures various parameters, including active energy (kWh), reactive energy (kVArh), power (kW, kVAr, kVA), voltage, current, frequency, and power factor.
- **Bi-directional Energy:** Supports bi-directional energy measurement (import and export), making it suitable for solar PV and battery storage applications.
- **Direct Connection:** Designed for a maximum 100A direct connection, eliminating the need for external current transformers (CTs).
- **Display:** Features a blue-backlit LCD screen for easy reading of data.
- **Communication:** Includes two pulse outputs and a communication port (RS485 Modbus or M-Bus, depending on the model) for remote monitoring and integration with building management systems (BMS) or SCADA systems. Some models also offer Wi-Fi or LoRaWAN communication options. * Certification: Many variants are MID-certified (Class B EN50470-3), making them suitable for billing applications. * Design: Compact design (two modules wide, 36mm) for DIN rail mounting. Technical Specifications According to Eastron Europe and Camax.co.uk, the general specifications are as follows: ^Specification^Detail| |Nominal Voltage (Un)|230V AC (range 176~276V AC)| |Base Current (Ib)|10A| |Max. Current (Imax)|100A| |Frequency|50/60 Hz (±10%)| |Accuracy|Active Energy: Class 1 (IEC62053-21) / Class B (EN50470-3)| |Power Consumption|<2W/10VA| |Operating Temperature|-25°C to +55°C| |Mounting|35mm DIN rail| |IP Rating|IP51 (indoor)| === Modbus communication === RS485 communication interface, MODBUS RTU protocol: * Baudrate: 9600 Baud (default, can be set) * Parity: Even * Databits: 8 * Stopbits: 1 * Default slave ID: 45 * Number of Drivers and Receivers: 32 Drivers, 32 Receivers (without repeater) * Maximum Cable Length: 1200 m * Maximum Data Rate: 10 Mbaud * Maximum Common Mode Voltage: 12 V .. -7 V * Minimum Driver Output Levels (Loaded): +/- 1.5 V * Minimum Driver Output Levels (Unloaded): +/- 6 V * Drive Load: Minimum 60 ohms * Driver Output Short Circuit Current Limit: 150 mA to Gnd, 250 mA to 12 V, 250 mA to -7 V * Minimum Receiver Input Resistance: 12 kΩ * Receiver Sensitivity: +/- 200 mV === 32 bit (2 words) input registers === The registers are read-only. Float conversion: 32 bit float with big-endian |< 100% >| ^Code^Register Nr^Description^Type^Unit^Modbus

reading | 1st modbus block||||| |V1|30000|Line neutral volt|Float|V|Basis 0x00, words: 37| |C1|30006|Current|Float|A|0x06| |ACP1|30012|Active power|Float|W|0x0C| |APP1|30018|Apparent power|Float|VA|0x12| |RAP1|30024|Reactive power|Float|VAr|0x18| |PF1|30030|Power factor|Float|-|0x1E| |PA1|30036|Phase angle|Float|°|0x24| |2nd modbus block||||| |FR1|30070|Frequency|Float|Hz|Basis 0x46, words: 25| |IACE1|30072|Import active energy|Float|kWh|0x02| |EACE1|30074|Export active energy|Float|kWh|0x04| |IRAE1|30076|Import reactive energy|Float|kvarh|0x06| |ERAЕ1|30078|Export reactive energy|Float|kvarh|0x08| |TP|30084|Total system power demand|Float|W|0x0E| |-|30086|Maximum total system power demand|Float|W|0x10| |-|30088|Current system positive power demand|Float|W|0x12| |-|30090|Maximum system positive power demand|Float|W|0x14| |-|30092|Current system reverse power demand|Float|W|0x16| |-|30094|Maximum system reverse power demand|Float|W|0x18| |3th modbus block||||| |-|30258|Current demand|Float|A|Basis 0x102, words: 7| |-|30264|Maximum current demand|Float|A|0x06| |4th modbus block**|||||

|TAE|30342|Total active energy|Float|kWh|Basis 0x342, words: 7|

TRE	30344	Total reactive energy	Float	kvarh
-	30384	Current resettable total active energy	Float	kWh
-	30386	Current resettable total reactive energy	Float	kvarh
MA	40020	Modbus node address RW, default 45	Float	-
MBR	40028	Modbus baud rate RW, 0 = 2400 bps default 1 = 4800 bps 2 = 9600 bps 5=1200 bps	Float	-

[modbus](#), [modbus rtu](#), [eastron](#), [modbus map](#), [MID](#), [SDM 230](#), [SDM](#)

This page has been accessed for: Today: 3, Until now: 4

From:
<http://lamaplc.com/> - lamaPLC

Permanent link:
http://lamaplc.com/doku.php?id=sensor:eastron_sdm_230&rev=1770853064

Last update: 2026/02/11 23:37

