

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 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.

RS485 communication interface, MODBUS RTU protocol:

- Baudrate: 9600 Baud (default, can 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

| 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 |

| Code | Register Nr | Description | Type | Unit | Modbus reading |
|-------------------------|-------------|---|-------|-------|-----------------------|
| 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 |
| ERAE1 | 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](#)

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