Eastron
EUROPE

SDM230-WiFi
Single-Phase Two Module DIN rail Meters

User Manual
2025 V1.0

- Measures kWh, kVArh, kW, kVAr, kVA, PF, Hz, dmd, V, A, etc.
- Bi-directional measurement IMP & EXP
- Two pulse outputs
- WiFi Communication
- Din rail mounting 35mm
- 100A direct connection
- Better than Class 1 / B accuracy

PART 1 Specification

1.1 General Specifications

• Voltage AC (Un)	230V
• Voltage Range	176~276V AC
• Base Current (Ib)	10A
• Max. Current (Imax)	100A
• Mini Current (Imin)	0.5A
• Starting Current	0.4% of Ib
• Power Consumption	<2W/10VA
• Frequency	50/60Hz(±10%)
• AC Voltage Withstand	4KV for 1 minute
• Impulse Voltage Withstand	6KV-1.2uS waveform
• Overcurrent Withstand	30 Imax for 0.01s
Pulse Output Rate	
• Pulse Output 1	1000/100/10/1 imp/Exp/ kWh/kVArh (configurable)
• Pulse Output 2	1000imp/kWh (default) for import kWh
• Display	LCD with white backlit
• Max. Reading	999999.9 kWh/kVArh

1.2 Accuracy

• Voltage	0.5% of range maximum
• Current	0.5% of nominal
• Frequency	0.2% of mid-frequency
• Power factor	1% of Unity
• Active power	1% of range maximum
• Reactive power	1% of range maximum
• Apparent power	1% of range maximum
• Active energy	Class 1 IEC62053-21 Class B EN50470-1/3
• Reactive energy	Class 2 IEC62053-23

1.3 Environment

- Operating temperature -25°C to +55°C
- Storage and transportation temperature -40°C to +70°C
- Reference temperature 23°C±2°C
- Relative humidity 0 to 95%, non-condensing
- Altitude up to 2000m
- Warm up time 5s
- Installation category CAT III
- Mechanical Environment M1
- Electromagnetic environment E2
- Degree of pollution 2

1.4 Output

Pulse Output

The meter provides two pulse outputs. Both pulse outputs are passive type.

Pulse output 1 is configurable. The pulse output can be set to generate pulses to represent total / import/export kWh or kVArh.

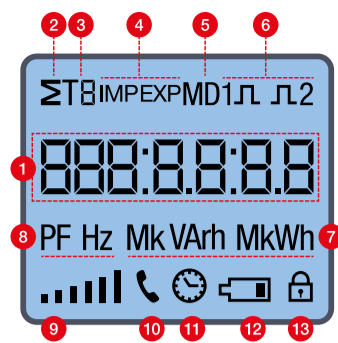The pulse constant can be set to generate 1 pulse per: 0.001(default) /0.01/0.1/1kWh/kVArh.

Pulse width: 200/100/60ms

Pulse output 2 is non-configurable. It is fixed to import kWh. The constant is 2000imp/kWh.

Wi-Fi support:	2.4Ghz b/g/n
Wi-Fi data freq.:	Every second

1.5 LCD display

Item	Descriptions
1	7 digits used to display measured values or RTC
2	Total value
4	Import information, Export information
5	Max. Demand for Power or Current
6	Pulse output 1 and Pulse output 2
7	Measurement units
8	PF = power factor Hz = frequency
9	Bar display of Power
10	Communication indicator
11	Time information
12	Low battery warning
13	Lock symbol

PART 2 Operation

2.1 Initialization Display

When it is powered on, the meter will initialize and do self-checking.

Fu	
70 04.04	Software version
CE 0393	Software number
tEStInG	Self testing
AP	AP distribution network

2.2 Signal symbol

The signal bar on the display interface indicates the network strength and status, while connected, you will see between 0-6 bars indicating signal strength. If the signal bar is flashing simultaneously with 6 bars then this means the meter is not connected to the network.

Err — Failed to connect to WiFi module

2.3 Scroll display by Button

After initialization and the self-checking program has run, the meter will display the measured values. The default page is the total kWh. If the user would like to check other information, they should press the WIFI button to scroll through the other pages.

The display order by scroll button:

Total kWh → import kWh → export kWh → resettable kWh → total kVArh → import kVArh → export kVArh → resettable kVArh → Max. power demand → voltage → current → W → VAr → VA → power factor → frequency → running time → server time → Version number of ESP32

2.4 Start-up Screens

Σ 000 70.00 kWh	Total active energy Example: 70.00kWh
IMP 000 50.00 kWh	Import active energy Example: 50.00kWh
EXP 000 20.00 kWh	Export active energy Example: 20.00kWh

Σ r 000 02.68 kWh	Total resettable energy
Σ 000 10.00 k VArh	Total reactive energy Example: 10.00kVArh
IMP 000 05.00 k VArh	Import reactive energy Example: 5.00kVArh
EXP 000 05.00 k VArh	Export reactive energy Example: 5.00kVArh
Σ r 000 01.49 k VArh	Total resettable reactive energy
Σ MD 6930 W	Total Max. power demand Example: 6930W
229.8 V	Voltage Example: 229.8V
30.156 A	Current Example: 30.156A
4700 W	Active Power Example: 4700W
1030 VAr	Reactive Power Example: 1030VAr
4811 VA	Apparent power Example: 4811VA
1.000 PF	Power factor Example: 1.000
49.99 Hz	Frequency Example: 49.99Hz
Σ 0.1h	Running time Example: 0.1h
01:01:01	Server time Example: 01:01:01 Note: If not connected to the server, the meter will display offline
ESP04.04	Version number of ESP32 Example: ESP04.04

2.5 Set-up Mode

To get into Set-up Mode, the user need press the 'Enter' button for 3 second.

Good	The setting is done correctly
Err	The entering information is wrong. The operation fails.
PAS 00.00	Password To get into set up mode, you will need to enter the default password below. Default password: 1000
PLS oUt kWh	Pulse Output Default: Export kWh Option: kWh / kVArh / Imp. kWh / Exp.kWh / Imp.kVArh / Exp.kVArh
PLS oUt kWh	Hold down the 'Enter' button, the red text will flash. Press the 'Scroll' button to change the type. After selecting the new pulsed output type, the user should hold down the 'Enter' button to confirm the setting.

PLS cSt	Pulse Constant Default: 1000 Option: 1000 / 100 / 10 / 1
cSt 1000	Hold down the 'Enter' button, the red text will flash. Press the 'Scroll' button to change the option. After selecting the new pulse constant option, the user should hold down the 'Enter' button to confirm the setting.
PLS t	Pulse duration Default: 100mS Option: 200 / 100 / 60ms
PLSt 200	Hold down the 'Enter' button, the red text will flash. Press the 'Scroll' button to change the option. After selecting the new pulse duration option, the user should hold down the 'Enter' button to confirm the setting.
dit SEt	Demand Integration Time Default: 15 minutes Option: 5 / 10 / 15 / 30 / 60 / OFF
dit 15	Hold down the 'Enter' button, the red text will flash. Press the 'Scroll' button to change the option. After selecting the new DIT option, the user should hold down the 'Enter' button to confirm the setting.
ScrL t	Automatic Scroll Time Interval Default: 0 S Option: 0 ~ 255S
t 30 S	Hold down the 'Enter' button, the red text will flash. Press the 'Scroll' button to change the option. After selecting the new scroll time option, the user should hold down the 'Enter' button to confirm the setting.
LP SEt	Backlight duration timer set-up Default: 60 min Option: 0 (OFF) / 5 / 10/ 20/ 30/ 60 Hold down the 'Enter' button to enter set-up mode.
LP 60	Press the 'Scroll' button to change the backlight time. After selecting the new backlight option, the user should hold down the 'Enter' button to confirm the setting.
cLr	Clear Hold down the 'Enter' button to enter clear interface.
MD cLr	To clear the Max demand reading for active power, hold down the 'Enter' button.
Σ r cLr k VArh kWh	To clear the resettable energy readings, hold down the 'Enter' button.
SEt PASS	Password Default: 1000
PAS 1000	Hold down the 'Enter' button, the red text will flash. Press the 'Scroll' button to change the values. After selecting the new password, hold down the 'Enter' button to confirm the setting.
AP mode	AP mode Hold down the 'Enter' button to enter AP mode setting.
SEt	Hold down the 'Enter' button to set the AP mode.
UPdAtE	Online update function Hold down the 'Enter' button to set the AP mode.
mEtEr	Online update function Two options: Meter: Meter update ESP32: wifi module update
GOod	After all settings are completed Good: Good means the setting was successful ERR: ERR means the setting was unsuccessful
Err	

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2.6 Wiring Diagram


2.11 Pulsed output type
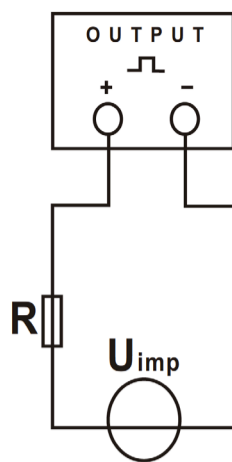
The test pulse output is a polarity dependant, passive transistor output requiring an external voltage source for correct operation. For this external voltage source, the voltage (Ui) should be 5-27V DC, and the maximum input current (Imax) should be 27mA DC. To connect the impulse output, connect 5-27V DC to connector 7 (anode) and the signal wire (s) to connector 6 (cathode). The meter pulse is indicated on the front panel by a red flashing LED
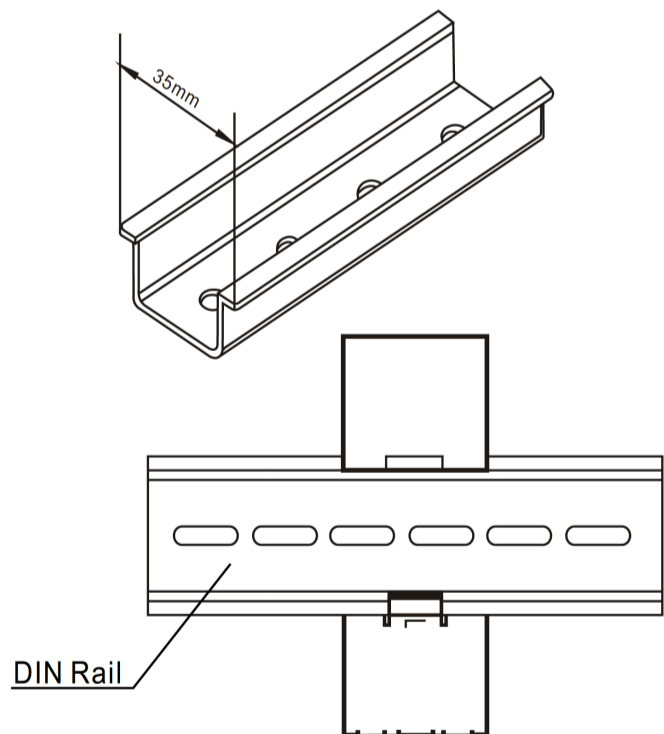
ATTENTION: Pulse output must be fed as shown in the wiring diagram above. Scrupulously respect polarities and the connection mode. Opto-coupler with potential free SPST-NO contact.

Contact range: 5~27V DC Max current input: 27mA DC

2.7 Dimensions
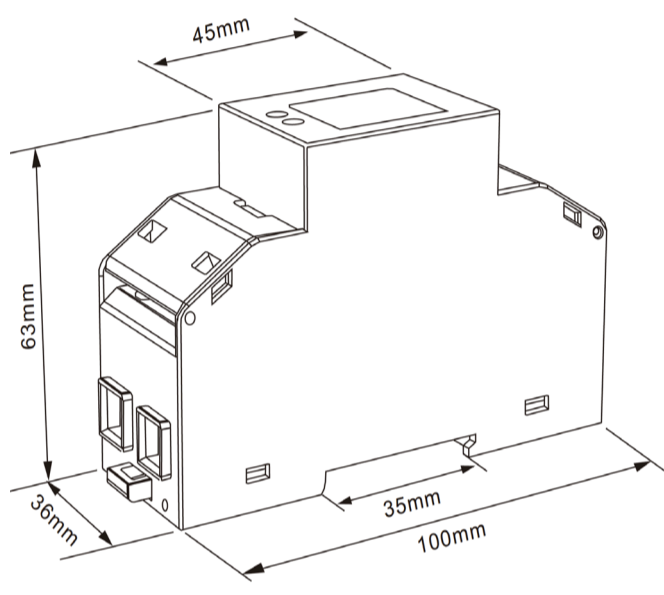
2.8 Installation

2.9 Wiring Torque

Terminals Capacity	COMM / Pulse / 2T	0.5~1.5mm²
	Load	4~1.6mm²
Screw Torque	COMM / Pulse / 2T	0.4Nm
	Load	3Nm

2.10 Mechanics

- Din rail dimensions   36x100x63 (WxHxD) Per DIN 43880
- Mounting   DIN rail 35mm
- Ingress protection   IP51 (indoor)
- Material   Self-extinguishing UL94V-0

EU Type Examination Certificate

Declaration of Conformity
(for the MID approved version meter only)

We Zhejiang Eastron Electronic Co.,Ltd. Declare under our sole responsibility as the manufacturer that the single phase multi-funtion electrical energy meter "SDM230 Series" correspond to the production model described in the EU-type examination certificate and to the requirements of the Directive 2014/32/EU EU type examination certificate number 0120/SGS0206. Identification number of the NB0598

Download the **EasyLink** App on Apple and Play Store

Safety Instruction

The Installation instructions do not include a complete list of all safety measures necessary for operating the device. Special operating conditions may require additional measures. The installation instructions contain notes that must be observed for your personal safety to prevent property damage.

Safety instructions in this document are highlighted with a warning triangle and are presented as follows depending on the level of risk.

⚠️ The General warning symbol calls attention to possible risks of injury. Observe all the instructions listed under the symbol to prevent injuries or even death

⚡ This additional symbol indicates any electrical danger that can result in serious injuries or death

Attention

Warns of an imminently dangerous situation that can result in property damage or environmental damage in the event of non-compliance.

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