

SDM230-WIFI

Single-Phase Two Module DIN rail Meters



- 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

User Manual V1.0

Application

The SDM230-Wifi "with a white back-lighted LCD screen for prefect reading" are used to measure single-phase like residential, utility and industrial application. Use the cthings app to view realtime measurements and usage over time in graphs, The unit measures and displays various important electrical parameters, and provide a communication port for remote reading and monitoring. Bi-directional energy measurement makes the unit a good choice for solar PV energy metering.

PART 1 Specification

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

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



Environment

Operating temperature	-25℃ to +55℃
Storage and transportation temperature	-40℃ to +70℃
Reference temperature	23℃±2℃
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



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 1000imp/kWh.

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

Mechanics

Din rail dimensions
Mounting
Ingress protection
Material

36x100x63 (WxHxD) DIN 43880 DIN rail 35mm IP51 (indoor) self-extinguishing UL94V-0

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

Initialization Display

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

ΣТ8™РЕХРМD1л.л2 ВВВ:ВВ:ВВ:ВВ:ВВ:ВВ:ВВ:ВВ:ВВ:ВВ:ВВ:ВВ:ВВ	01	04.04	ŧ	0393	⇒ Ł	ESFI UQ	Σ	82
Full screen \rightarrow so	ftware	version \rightarrow	Softw	are number	÷	Self testing	÷	AP distribution network

Signal symbol

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attl	r

The signal bar on the normal display interface indicates the networking status. In the connected state, signal bars 0-6 indicate signal strength If the signal bar flashes simultaneously in 6 bars, it indicates that it is not connected to the network.





Failed to connect to WiFi module



After initialization and self-checking program, the meter display the measured values. The default page is total kWh. If the user wants to check other information, he needs to press the scroll button on the front panel.

The display order by scroll button :



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

Page	Display	Descriptions
1	∑ 000 10.00 kWh	Total active energy Example:70.00kWh
2	IMP DDD 50.00 kWh	Import active energy Example: 50.00kWh
3	EXP CCCC 2 CCCC kWh	Export active energy Example: 20.00kWh

4	∑ 00002.68 kWh ⊡	Total resettable energy
5	∑ 10.00 kVArh	Total reactive energy Example: 10.00kVArh
6	IMP DDDDD5.00 kVArh	Import reactive energy Example: 5.00kVArh
7	EXP DDDD5.00 kVArh	Export reactive energy Example: 5.00kVArh
8	∑ 00000 (.49 kVArh ⊕	Total resettable reactive energy
9	× MD 6930 W	Total Max. power demand Example: 6930W
10	8.8 5 S v	Voltage Example: 229.8V





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

Page	Display	Descriptions
	Sood	The setting is done correctly
	Err	The entering information is wrong. The operation fails.
1	PR5 <mark>0</mark> 000	Password To get into Set-up mode, it asks a password confirmation. Default password: 1000
2	844 00 I	Address ID Default ID is 001 Range: 001~247

2-1	10 <mark>0</mark> 668	Press the "Enter" button, the first digit flash. Press the "Scroll" button to change the value. After choosing the new address value, the user need pressing the "Enter" button to confirm the setting
3	PLS olle kWh	Pulse Output Default: Export kWh Option: kWh / kVArh / Imp. kWh / Exp.kWh / Imp.kVArh / Exp.kVArh
3-1	PLS ollt ^{kWh}	Press the "Enter" button, the red part flash. Press the "Scroll" button to change the option. After choosing the new Pulse output option, the user need pressing the "Enter" button to confirm the setting.
4	PLS cSt	Pulse Constant Default: 1000 Option: 1000 / 100 / 10 / 1
4-1	c SE 1000	Press the "Enter" button, the red part flash. Press the "Scroll" button to change the option. After choosing the new Pulse constant option, the user need pressing the "Enter" button to confirm the setting.
5	PLS E	Pulse duration Default: 100mS Option: 200 / 100 / 60ms
5-1	PLSE <mark>200</mark>	Press the "Enter" button, the red part flash. Press the "Scroll" button to change the option. After choosing the new Pulse duration option, the user need pressing the "Enter" button to confirm the setting.

6	di E 5EE ⊙	Demand Integration Time Default: 15 minutes Option: 5 / 10 / 15 / 30 / 60 / OFF
6-1	<mark>ძi </mark>	Press the "Enter" button, the red part flash. Press the "Scroll" button to change the option. After choosing the new DIT option, the user need pressing the "Enter" button to confirm the setting.
7	Scrl Ł ⊙	Automatic Scroll Time Interval Default: 0 S Option: 0 ~ 255S
7-1	է 30 Տ ⊚	Press the "Enter" button, the red part flash. Press the "Scroll" button to change the option. After choosing the new "Scrl" option, the user need pressing the "Enter" button to confirm the setting.
8	LP 5EE ⊙ ⊕	Backlit lasting time set-up Default: 60 min Option: 0 (OFF) / 5/ 10/ 20/ 30/ 60 Long press "Enter" button to enter set-up mode.
8-1	LP <mark>50</mark> ⊙ ⊕	Press the "Scroll" button to change the option. After choosing the new "Scrl" option, the user need pressing the "Enter" button to confirm the setting.
9	cir ⊕	Clear Long press "Enter" to enter clear interface.

9-1 Clear Max demand of active power MD Long press "Enter" button to confirm the clr operation. A 9-2 Clear the resettable energy Σr From the "11-1" page, press "Scroll" button clr enter into the energy reset page. Long press the "Enter" button to confirm the kVArh kWh operation. ⋳ 10 Password Default: 1000 SEEPASS 10-1 Press the "Enter" button, the red part flash. Press the "Scroll" button to change the PRS 1000 value. After choosing the new password, the user need pressing the "Enter" button to confirm the setting. 11 Upload data interval Long press "Enter" button to confirm the ЦP ς operation. М 0 11-1 Upload data interval Default :5min ЦP Option:1-250min M Θ 12 AP mode Long press "Enter" button to confirm the RP Rode operation.



12-1	SEE	Press the "Enter" button to set the AP mode
13	UP98FE	Online update function Long press "Enter" button to confirm the operation.
13-1	ÄEEEP	Online update function Two options: Meter: Meter update ESP32: wifi mudule update
14	6003	After all settings are completed Good: Good means the successful setting Err: Err means the setting is unsuccessful
	500	

How to add the new meter on Cthings Web?



1. Login to cthings web platform

U	Devices				New Device Download
200 Dashboard	Q Search Devices			📀 Status 👻	Filter 🔹 🖨 Service Type 🔹
م Hierarchy					
m	NAME	DEVICE	ТҮРЕ	STATUS	LAST CONNECTED *
Devices	м	230104993	SDM230-WiFi	Disconnected	12 days ago
0	M-2	230104995	SDM230-WiFi	Disconnected	12 days ago
Alerts	M-1	230104994	SDM230-WiFi	Disconnected	12 days ago
Metrics	lo_t_2	230104992	SDM230-WiFi	Disconnected	19 days ago
Û	lo_t_3	287454020	SDM230-WiFi	Disconnected	20 days ago
Reporting	lo_t	99999999	SDM230-WiFi	Disconnected	21 days ago
२८ Network	M-3	0000000	SDM230-WiFi	Disconnected	never
ይያ	230559145	230559145	SDM230-WiFi	Disconnected	never
Users	230559146	230559146	SDM230-WiFi	Disconnected	never
Q					
(LH)					0

2. Enter the device interface

U	Devices				New Device Download
Dashboard	Q Search Devices			🥑 Status 👻	T Filter Tilter Tilter
~℃ Hierarchy					
ń	NAME	DEVICE	ТҮРЕ	STATUS	LAST CONNECTED *
Devices	м	230104993	SDM230-WiFi	Disconnected	12 days ago
()	M-2	230104995	SDM230-WiFi	Disconnected	12 days ago
Alerts	M-1	230104994	SDM230-WiFi	Disconnected	12 days ago
Metrics	lo_t_2	230104992	SDM230-WiFi	Disconnected	19 days ago
Ô	lo_t_3	287454020	SDM230-WiFi	Disconnected	20 days ago
Reporting	lo_t	99999999	SDM230-WiFi	Disconnected	21 days ago
ेर Network	M-3	00000000	SDM230-WiFi	Disconnected	never
ይዩ	230559145	230559145	SDM230-WiFi	Disconnected	never
Users	230559146	230559146	SDM230-WiFi	Disconnected	never
Q					
H					0

3. Press the New Device

U						New Device Download
Dashboard	Q Search Devices		New Dev Select the type of device yo	ice u are setting up	×	Filter 💌 🔯 Service Type 💌
Hierarchy Devices	NAME		4			LAST CONNECTED +
(] Alerts	M-2 M-1	Standard	Device	Carbon Calculator		12 days ago 12 days ago
Metrics	lo_t_2 lo_t_3	Meter, SmartValv	re or CO2 Sensor	carbon emitted per kilometre driven by a vehicle (g/km)		19 days ago 20 days ago
Network	lo_t M-3	Cancel				21 days ago never
යි Users	230559145 230559146	230559146	SDM230-WiFi SDM230-WiFi	Uisconnected		never
d E						•

4. Select the standard Device option

U Devices × Q Search Devices. New Device Select a Device Manufacturer 2 -(4)---6)-0 0 MANUFACTURER TYPE SETUP HIERARCHY COMMUNICATION NETWORKING ADDITIONAL м 12 days ago Q Search Manufacturers... British bas M-2 12 days ago Crown Gas & Power cThings Smart Device Bosch British Gas cThings M-1 12 days ago 19 days ago lo_t_2 DIEHL ERSTRON ELSYS.se **ເປເຮັດ**ຄ elvaco lo_t_3 20 days ago Diehl Energy Assets Eastron Elsys Elvaco lo_t 21 days ago M-3 never GWF Honeywell G епділко 230559145 230559146 neve Back Next LH

5. Select the Eastron option

U	Devices					New Device Download
Dashboard	Q Search Devices		New Devi Select the Type of your n	CCE new Device	×	Filter 🔹 🏠 ServiceType 🔹
Hierarchy		MANUFACTURER TYPE	3 4 SETUP HIERARCHY	COMMUNICATION NETWORKING	ADDITIONAL	LAST CONNECTED +
Devices	M	Q Bearch Device Types				12 days ago
Alerts	M-2	SDM120-MBus	Electricity	Eastron	Î	12 days ago
(j) Metrics	lo_t_2	SDM120-Modbus	Electricity	Eastron		19 days ago
C Reporting	lo_t_3	SDM230-WiFi	Electricity	Eastron		20 days ago 21 days ago
کچ Network	M-3	SDM530 (PV) SDM530-LoRaWAN	Electricity	Eastron		never
යි Users	230559145 230559146	SDM630 (Max Apparent Power)	Electricity	Eastron	-	never
Q		Back				
LH						0

6. Select 230 WiFi

Ü	Devices		New Device Download
Dashboard	Q Search Devices	New Device ×	Filter • Service Type •
ہے Hierarchy		MANUFACTURER TYPE SETUP HIERARCHY COMMUNICATION NETWORKING ADDITIONAL	LAST CONNECTED +
L.F Devices	м	Name Serial Number	12 days ago
0	M-2	Office Temperature 8765AB21	12 days ago
Alerts	M-1	Choose a recognisacie name for your Device Enter the Unique Senai Number of your Device Data Interval Status	12 days ago
Metrics	lo_t_2	1 Hour • Active Inactive	19 days ago
Û	lo_t_3	Select how often your Device sends data Set whether your Device is currently in operation	20 days ago
Reporting	lo_t		21 days ago
ිද Network	M-3		never
থ্র	230559145		never
Users	230559146	Back	never
Q			
(LH)			

7.we can name devices according to your own ideas Please note The serial number needs to correspond to the correct one

Ü	Devices		New Device Download
Dashboard	Q Search Devices	New Device ×	Filter 🔹 🧔 Service Type 🔹
Hierarchy		MANUFACTURER TYPE SETUP HIERARCHY COMMUNICATION NETWORKING ADDITIONAL	LAST CONNECTED +
Devices	м	Parent Asset Provider	12 days ago
()	M-2	Eastron China Eastron SDM-WiFi Select the Asset under which to odd up ur Device Select the Device Browider	12 days ago
Alerts	M-1	Service Point	12 days ago
Metrics	lo_t_2	New Existing	19 days ago
Û	lo_t_3	Create a new Service Point or replace an existing Device	20 days ago
Reporting	lo_t		21 days ago
ెర్గి Network	M-3		never
দ্র্য	230559145		never
Users	230559146	Back	never
Q			
(LH)			0

8. According to the above diagram



|--|

U	Devices				New Device Download
888 Dashboard ∞(°	Q Search Devices		Review your new Device Check the setup information of your new Device	×	Filter 🔹 🏠 Service Type 🔹
∿o Hierarchy		Name	Luke	/	LAST CONNECTED *
Devices	м	Serial	123456789	1	12 days ago
!	M-2	Interval	1 Hour	1	12 days ago
Alerts	M-1	Manufacturer	Eastron	1	12 days ago
()) Metrics	lo_t_2	Device Type	SDM230-WiFi	1	19 days ago
Û	lo_t_3	Hierachy Information			20 days ago
Reporting	lo_t	Parent Asset	Fastron China	1	21 days ago
ංදී" Network	M-3	Provider	Eastron SDM-WiFi		never
ধ্র	230559145		20030000000000		never
Users	230559146	Back		Create Device	never
Q					
(H)					

9.Finally, it can be checked and confirmed

U	Luke - SDM23	30-WiFi			Device •
EEE Dashboard	Dashboard Data	Alerts	Notes Configuration		
୍ଟ Hierarchy Devices	Connection Status	RECTED	Last Connection	Signal Strength	Alerts
() Alerts () Metrics Reporting Reporting	Eastron V A ¢ -	SDM230	Device Location	Atta Atta 基単子 現文未 新四 単面 大型 和 日 日 日 日 日 日 日 一 二 二 二 二 二 二 二 二 二 二 二 二 二	Today's Usage No data available Weekly Usage No data available No data available
Users Q (LH)	Historical Data				Default (24h) (1w) (1m) (3m) (1y)

10. Then we can monitor our electricity meters in real time



Wiring and Dimensior





Installation



CONTACT US

If you have any question, please feel free to contact our sales team.

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