

FUDA ENERGY MANAGEMENT DIGITAL SOLUTIONS

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ENERGY MANAGEMENT



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VGM BC

Single-phase two-wire smart meter



VGM-BC series energy meter is designed for power monitoring and power demand side management of distributed photovoltaic power generation. When the photovoltaic power generated is greater than the load, reverse power flow will occur, which is not allowed in many cases. Therefore, a power meter is needed to detect and prevent the reverse flow, enabling the inverter to adjust the output power and balance the output power and power consumption. The meter can be widely used in photovoltaic power generation, energy storage, industrial and commercial energy monitoring and management.

- ▶ 35mm standard DIN rail installation, compact appearance
- ▶ Clamp-shaped instrument transformer, no need to re-install the power wires, easy to install
- ▶ Energy measurement function, with two-way power measurement
- ▶ Real-time measurement function of voltage, current, power, power factor, frequency and other electrical parameters
- ▶ Serial communication function via the RS485 communication port, supporting SunSpec Modbus
- ▶ Up to 250ms data refresh rate

Technical Parameter	VGM BC Single-phase two-wire smart meter
Product Feature	
Rated Voltage-Line to N	120 V
Rated Voltage-Line to Line	208/240 V
Extended Voltage Range	88 % ~ 110 %
Accuracy	class 0.5
AC Frequency	50 Hz/60 Hz
Grids Supported	L1/L2/N/PE
Power Consumption	< 1.1 W
Bi-directional Measurement	√
Rated RMS current	100 A/200 A
1%-100% of CT Current	± 0.5 %
Communication	
Interfaces	RS 485
Protocol	SunSpec Modbus
Environment	
Operating temperature	-30 °C ~ 55 °C
Storage temperature	-40 °C ~ 70 °C
Relative Humidity	5% ~ 90% (non-condensing)
Mechanical	
Dimensions(H×W×D)	54.0 mm x 80.0 mm x 52.0 mm
Weight	About 400g
CASE Material	Plastic case
Installation	DIN-Rail, 35mm
Standard	
Certifications	FCC、UL1741、IEC 61010-1(CAT IV)、ANSI C12.1-2022
Product Selection	
Model	Illustration
VGM-BC-D/100	VidaGrid Power Meter, 100A, CT connection
VGM-BC-D/200	VidaGrid Power Meter, 200A, CT connection

VGM

Single-phase smart meters



VGM single-phase electrical smart energy meter (guide rail) is designed to meet power monitoring and energy measurement requirements in photovoltaic power generation and energy storage industry, mainly measuring and monitoring voltage, current, power, frequency, energy and other parameters in real time. It adopts 35mm DIN rail installation, which has the advantages of small size and easy installation. It fully complies with GB/T17215.321-2008 national standard and IEC 62053 international standard, and can be widely used in distributed photovoltaic power monitoring, anti-reverse current monitoring, power demand side management and other applications.

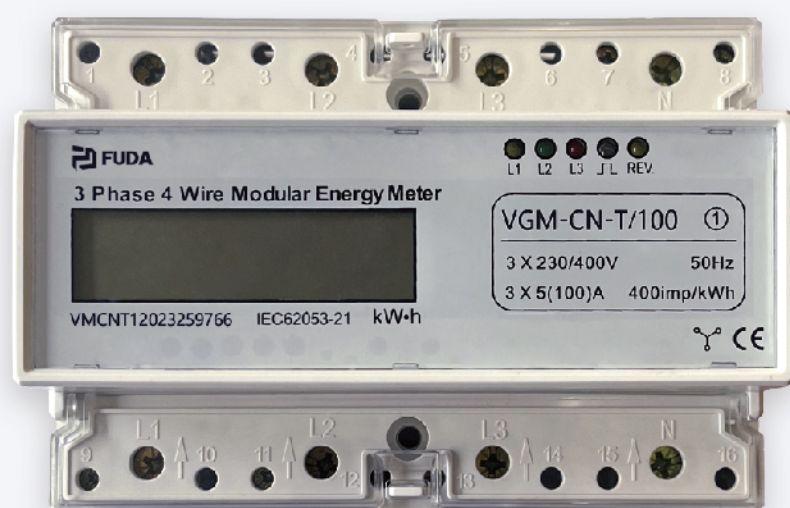
- ▶ 35mm standard DIN rail installation, Segment code LCD display
- ▶ Energy measurement function, active electrical energy measurement
- ▶ With two-way power measurement
- ▶ Real-time measurement function of voltage, current, power, power factor, frequency and other electrical parameters
- ▶ Serial communication function via the RS485 communication port

Technical Parameter	VGM Single-phase smart meters
Product Feature	
Rated voltage	220 V
Voltage range	100 ~ 300 V
Accuracy	class 0.5、 class 1.0
Frequency	50 Hz/60 Hz
Power Consumption	< 2 W
Bi-directional Measurement	√
Display	8 digit liquid crystal display
Communication	
Interfaces	RS 485
Protocol	Modbus-RTU、 DL/T 645
Environment	
Operating temperature	-30 °C ~ 55 °C
Storage temperature	-40 °C ~ 70 °C
Relative Humidity	5% ~ 90% (non-condensing)
Mechanical	
Dimensions(H×W×D)	116.0 mm x 18.0 mm x 59.0 mm
Weight	About 0.12kg
CASE Material	Plastic case
Installation	DIN-Rail, 35mm

Product Selection		
Model	Illustration	Current
VGM-BN-S	VGM Single Phase Power Meter, 0.5, Direct connection	5 (30) A
VGM-BC-S	VGM Single Phase Power Meter, 0.5, CT connection	10 (40) A
VGM-CN-S	VGM Single Phase Power Meter, 1.0, Direct connection	10 (60) A
VGM-CC-S	VGM Single Phase Power Meter, 1.0, CT connection	20 (80) A
		20 (100) A

VGM

Three-phase smart energy meter series



VGM three-phase electronic smart energy meter (guide rail) is designed for power monitoring and energy measurement needs in power system and communication industry, mainly measuring and monitoring voltage, current, power, frequency, energy and other parameters in real time. It adopts 35mm DIN rail installation, which has the advantages of small size and easy installation. It fully complies with GB/T17215.321-2008 national standard and IEC 62053 international standard, and can be widely used in internal power management and monitoring applications of enterprises and large public buildings.

- ▶ It can measure positive and reverse active energy and four-quadrant reactive energy
- ▶ 35mm standard DIN rail installation, LCD display, support follow-up, press display, stop display
- ▶ With two-way power measurement
- ▶ Real-time measurement function of voltage, current, power, power factor, frequency and other electrical parameters
- ▶ Serial communication function via the RS485 communication port, supporting SunSpec Modbus, DL/T645

Technical Parameter	VGM Three-phase smart energy meter series
Product Feature	
Rated voltage	57.7/100V、220/380V
Voltage range	80% ~ 115%
Accuracy	class 0.5、class 1.0
Frequency	50 Hz/60 Hz
Power Consumption	< 2 W
Bi-directional Measurement	√
Display	8 digit liquid crystal display
Communication	
Interfaces	RS 485
Protocol	DL/T645、Modbus
Environment	
Operating temperature	-30 °C ~ 55 °C
Storage temperature	-40 °C ~ 70 °C
Relative Humidity	5% ~ 90% (non-condensing)
Mechanical	
Dimensions(H×W×D)	23.0 mm x 142.0 mm x 73.0 mm
Weight	About 1.2kg
CASE Material	Plastic case
Installation	DIN-Rail, 35mm

Product Selection		
Model	Illustration	Current
VGM-BN-Y	VGM Three Phase Three Wire Power Meter, 0.5, Direct connection	1.5 (6) A 5 (20) A 5 (30) A 5 (100) A 10 (50) A 10 (60) A 15 (90) A 20 (80) A 20 (100) A
VGM-BC-Y	VGM Three Phase Three Wire Power Meter, 0.5, CT connection	
VGM-BN-T	VGM Three Phase Four Wire Power Meter, 0.5, Direct connection	
VGM-BC-T	VGM Three Phase Four Wire Power Meter, 0.5, CT connection	
VGM-CN-Y	VGM Three Phase Three Wire Power Meter, 1.0, Direct connection	
VGM-CC-Y	VGM Three Phase Three Wire Power Meter, 1.0, CT connection	
VGM-CN-T	VGM Three Phase Four Wire Power Meter, 1.0, Direct connection	
VGM-CC-T	VGM Three Phase Four Wire Power Meter, 1.0, CT connection	

VGM

DC smart energy meter series



VGM DC smart energy meter (guide rail) uses microelectronics technology to measure DC energy. This energy meter adopts the latest electronic technology with ultra-low power consumption and high measurement accuracy, which has liquid crystal display, electricity metering, RS485 communication, realtime data measurement and monitoring and other functions, and is suitable for energy storage, energy monitoring, solar power generation and other DC power parameter monitoring.

- ▶ 35mm standard DIN rail installation, Easy installation and improved efficiency
- ▶ Support forward and reverse energy measurement
- ▶ Suitable for EV charger, supporting energy measurement in charger
- ▶ Instant voltage, current, power value measurement
- ▶ Serial communication function via the RS485 communication port

Technical Parameter	VGM DC smart energy meter series
Product Feature	
Rated voltage	DC 600 V、800 V、1000 V (±15%)
Current input	Shunt 75mV, etc
Maximum current	450A
Accuracy	class 0.5、 class 1.0
Clock error	<0.5s/D
Working Voltage	DC 9-36V、 AC/DC 80-270V
Power Consumption	< 2.5 W
Bi-directional Measurement	√
Display	8 digit

Communication	
Interfaces	RS 485
Protocol	Modbus-RTU、 DL/T645

Environment	
Operating temperature	-30 °C ~ 55 °C
Storage temperature	-40 °C ~ 70 °C
Relative Humidity	5% ~ 90% (non-condensing)

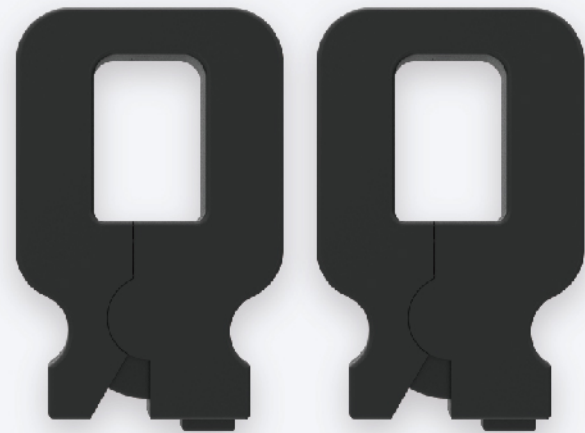
Mechanical	
Dimensions(H×W×D)	72.0 mm x 90.0 mm x 63.5 mm
Weight	About 0.3 Kg
CASE Material	Plastic case
Installation	DIN-Rail, 35mm

Product Selection		
Model	Illustration	Current
VGM-BS-Z	VGM DC Electronic Meter, 0.5, shunt 75mV connection	DC600V、 DC800V、 DC1000V
VGM-CS-Z	VGM DC Electronic Meter, 1.0, shunt 75mV connection	



VGM-TC

VGM-TR



VGM Series

Clamp-on current transformer

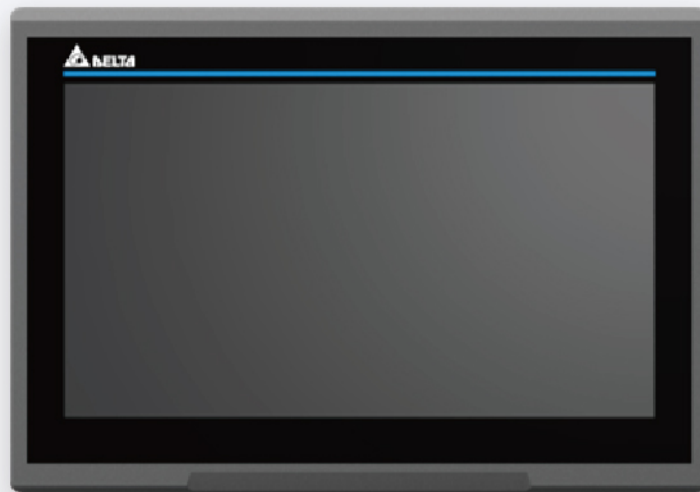
The clamp-on current transformer is characterized by graceful appearance, convenient wiring, small size, high precision, strong load capacity and convenient installation. The non-invasive design enables the user to install the meter without changing the existing electrical circuits, which saves manpower, material resources, financial resources and improves work efficiency. It is widely used in many fields related to electrical measurement.

- ▶ Clamp-shaped structure, no need to re-wire the cables
- ▶ Easy installation, high precision
- ▶ Easy to operate, simple and fast
- ▶ Safe and stable, strong load capacity

Technical Parameter	VGM-TC	VGM-TR
Product Feature		
Insulation Class	Class B	
Frequency	50 Hz/60 Hz	
Maximum current	300 A	
Accuracy	class 0.2、 class 0.5	
Environmental protection	ROHs compliant directive 2011/65/EU	
Environment		
Operating temperature	-40°C ~ 70°C	
Storage temperature	-40°C ~ 70°C	
Relative Humidity	5% ~ 90% (non-condensing)	
Mechanical		
Dimensions	101.0 mm x 54.8 mm x 15.0 mm	77.5 mm x 49.0 mm x 14.0 mm
Window Size	24mm	24mm
Weight	About 0.3 Kg	About 0.25 Kg
CASE Material	Plastic case	Plastic case

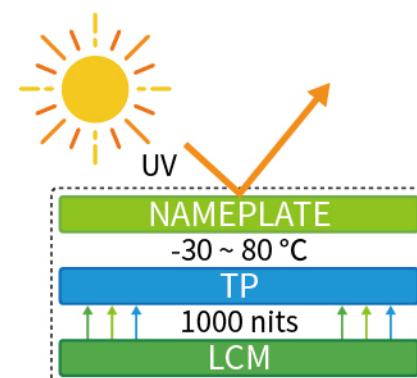
DOP-3E15S4E2

Extreme Type HMI



DOP-3E15S4E2 is a cost-effective HMI, which supports VGA ports through full lamination technology without air layer between nameplate and screen, and can support external display devices, such as notebook computers, etc.

- ▶ Nameplate material UV Cut
- ▶ TP Film wide temperature
- ▶ LCM Wide Temp. / High Luminance Display/50000 hours
- ▶ 107WVCS (7") CPU 0.8GHz raised to 1GHz
- ▶ Outdoor certification
- ▶ Support GIF and MP4 Function
- ▶ Enhanced network firmware update mechanism
- ▶ Linux-Based host computer update mode
- ▶ use GPU to improve rendering performance in 15.6"



Technical Parameter		DOP-3E15S4E2	
CPU	ARM Cortex-A53 (4x Core 1.8GHz) up		
OS	Linux		
RAM	DDR 32GB		
SRAM	SRAM 32KB		
RTC	Built, Support NTP		
System Storage		Specification	Quantity
Flash ROM	eMMC 8GB		1
DC Power			
Operation Voltage	DC 24V(+20%-15%)		
Power Consumption	45W(Normal) , 52W(Max)		
Storage Capacity	N/A		
Display			
Display Size	15.6"		
Resolution	1920x 1080 24Bit RGB		
Display Mode	Full view 89/89/89/89		
Brightness	1000 cd/m2 (up)		
Backlight Life	50000(Min.)		
Acklight Life	TYPE	4-wire resistive fully laminated anti-UV-OCA	
	Life	>=10000000(250g pressing force)	
	Panel	IK8	
Interface		Specification	Quantity
USB 2.0	USB Host		1
	USB Device		0
Ethernet Port	10/100Mbps		1
Serial Port		Specification	Quantity
RS422	COM1: RS232/RS485 COM2: RS422/RS485 COM3: RS232/RS485 COM4: RS422/RS485		TWO COM Ports are divided into two physical wiring
RS485			
RS232			
MISC			
Audio	Stereo output		
Battery	Gold capacitor For RTC/SRAM		
Buzzer	Multi-Tone Frequency(2K~ 4KHz)/ 80dB		
Mechanical			
Installation Method	8 locking screws, the maximum thickness of the mounting panel is less than 5mm, torque: 6.17b-inch (0.7N-M)		
Dimension for Installation	394 x 270 mm		
Dimension	410x286x73 mm		
Multi-media			
Decoding Method	decoder (H.264 24FPS)		
Environment			
Operation Temperature	-30°C~+70°C		
Storage Temperature	-40°C~+80°C		
Operating Environment	10%~90%RH[0~40 °C]、10%~55%RH[41~50 °C]、10%~20%RH[51~70 °C]		
Vibration Resistance	Conforms to IEC61131-2; Continuous: 5 Hz ~ 8.3 Hz 3.5 mm, 8.3 Hz ~ 150 Hz 1 G		
Flame Resistance Grade	Front and rear cover 5VA level		
Shock Resistance	Conforms to IEC60068-2-27: 11 ms, 15 G Peak , X, Y, Z direction for 6 times		
Waterproof Level of Panel Display	IP66/NEMA4 Type4		
Panel Scratch Resistance Level	3H		
Panel Anti-UV Grade	ISO 4892-2 Xenon lights (1000 hours)、DIN 75220 Halogen lamp (600 hours)		

VS-80 Series

Intelligent Component-Level Rapid Shutdown



VS-80 series intelligent component-level rapid shutdown is the best solution for photovoltaic fire safety, meeting the requirements of the Technical Code for Home Rooftop Photovoltaic Power Supply Connection to the Power Grid, and at the same time complied with UL certification. The component-level rapid shutdown is used in conjunction with the transmitter. When the system encounters an emergency, the shutdown can disconnect the output of each panel to ensure the safety of the system.

- ▶ Flexible installation, small size, light weight, can be directly installed on the component frame or stuck to the component back panel, suitable for double-sided components and stand-alone junction box components
- ▶ Reliable installation, aligned with NEC2017&2020 (690.12) and SunSpec certification requirements
- ▶ High efficiency, lower power loss, fast shutdown of component output
- ▶ Low noise, no false trigger of arc detection (AFCI)

Technical Parameter	VS-80SP	VS-80DP
Product Feature		
Input Voltage (per channel)	10V-80V	
Max. Output Voltage	160V	
Max. Current	15A/20A/25A	
System Voltage	1000V/1500V	
Shutdown Output Voltage	≤2V	
Rapid Shutdown Time Limit	<30s	
Communication Type	SunSpec PLC	
Environment		
Operating temperature	-40°C ~ 85°C	
Storage temperature	-40°C ~ 85°C	
Relative Humidity	5% ~ 90% (non-condensing)	
Mechanical		
Dimensions	138.0 mm x 50.0 mm x 18.0 mm	138.0 mm x 50.0 mm x 18.0 mm
Cable Lengths	0.2m(input) /1.2m(output)	0.2m(input) /1.2m(output)
Connectors	MC4	MC4
Weight	320g	380g
CASE Material	Plastic case	Plastic case
Conductor AWG Range	10-12AWG	10-12AWG
Outdoor Rating	IP68	IP68
Standard		
Safety	NEC 2017 & 2020 (690.12); UL1741; CSA C22.2 No. 330-17; IEC/EN62109-1	
EMC	FCC Part15; ICES-003; IEC/EN 61000-6-1/-2/-3/-4	