

ELECTRICAL SAFETY
POWER QUALITY
ENERGY MANAGEMENT



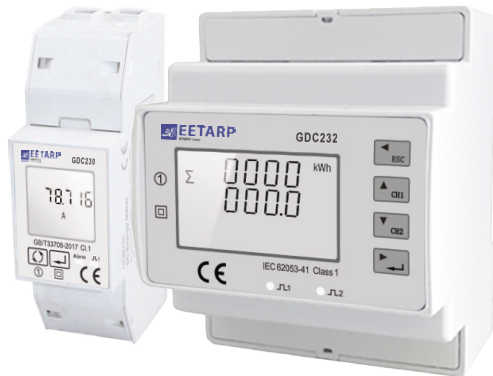
Graphene DC Meter - GDC230/GDC232

Single/Double Circuits DC Meter

- Single/Double Circuits
- 2 Modules / 4 Modules Size
- Voltage inputs 5..... 1000Vdc
- Record of 12 months kWh

Graphene DC Meter – GDC230/GDC232

Single / Double Circuit DC Meter



Product Description

GDC230/GDC232 is part of the new smart Graphene-Meter-Series and an advanced digital DC energy meter, which can be directly connected to up to 1000Vdc via a DC shunt to any system. The unit measures all-important system values like voltage, current, power, energy and etc. All data in the meter are accessible via RS485 using modbus RTU.

The meter has two versions working with AC or DC power supply. Input voltage range up to 300, 600, 1000V DC, and current inputs are flexible with DC shunt and current sensors. The multi-tariff version has a RTC equipped inside, it can provide multi-tariff information and monthly records.

Device Features

- Accuracy 1% of max range
- Voltage range: 5....1000Vdc
- Primary current range: 0.....2000A
- Input shunt: 45/60/75mV
- Measures voltage, current, power, energy
- Modbus RTU communication
- Single / Multi-tariff

Typical Applications

- Solar installation
- Generation plant
- Charging Station
- DC energy metering

Certifications and Compliances



Technical Specification

	Model	
	GDC230	GDC232
No. of Circuits	1	2
Power supply	85 ~ 300V AC / 9-60V DC	
Input Range	5-300Vdc / 5-600Vdc / 5-1000Vdc	
Input Current	45mV / 60mV / 75mV (Default)	
Overload	30 I _{max} for 0.01s	20 I _{max} for 0.01s
Insulation capabilities		
AC voltage withstand	4KV for 1 minute	
Impulse voltage withstand	6KV-1.2μS/50μS waveform	
Internal power consumption	≤ 5VA	
Environment Protection		
Operating humidity	≤ 90%, non-condensing	
Storage humidity	≤ 95%	
Operating temperature	-25°C - +55°C	
Storage temperature	-40°C - +70°C	
Working Altitude	≤2000m	
Reference temperature	23°C± 2°C	
Mechanical environment	M2	
Electromagnetic environment	E2	
Protection	Class II, IP51(indoor)	
Insulating Class	IEC 61010-1 double insulated, Over Voltage Category CAT III	
Electrostatic discharges	8kV contact / 15kV air gap	
EMC	IEC 61326-1:2013 ; IEC 61326-2-3:2013	
Accuracy class		
Voltage, Current	0 5% of max range	
Power	+/- 1%-of max range	
Active Power	±1% of range maximum	
Active energy (Wh)	IEC62053-21 Class 1	
Communication		
Bus type	RS485	
Protocol	Modbus RTU	
Pulse output 1	1000, 1000, 100, 10, 1 imp/kWh / Default:10000imp/kWh	
Pulse output 2	1000, 1000, 100, 10, 1 imp/kWh / Default:10000imp/kWh	
Pulse width	60, 100, 200 mS / Default: 100mS	

Dimensions & Ordering Code

Ordering Code for GDC230 / GDC232

G	Eetarp Product Fixed Code
D	Fixed Code
C	Fixed Code
1	1 = Single Circuit 2 = Double Circuits
X	Summary Voltage: 1 = 85 - 300Vdc 2 = 9 - 40Vdc
C	C = MODBUS RTU
X	5 = RS485
X	Max Voltage: 0 - 1000Vdc
X	Shunt Input 1 = 45mV 2 = 60mV 3 = 75mV
X	1 = 1 Pulse Outputs
X	1 = Single Tariffs
X	1 = 1%

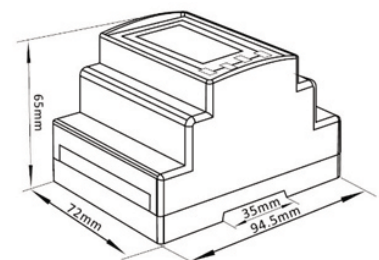
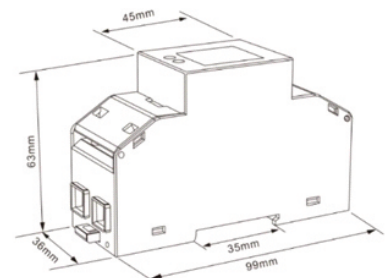
DC Shunt Option



Model	Primary Input	Rated Voltage Output	Accuracy	Dimension (mm)
DC-SH-01	10-50 A	75/60/45 mV	0.5%	25x120x22
DC-SH-02	75-100 A	75/60/45 mV	0.5%	23x109x11
DC-SH-03	150-200 A	75/60/45 mV	0.5%	22x118x22
DC-SH-04	300 A	75/60/45 mV	0.5%	26x127x22
DC-SH-05	400 A	75/60/45 mV	0.5%	36x127x22
DC-SH-06	500 A	75/60/45 mV	0.5%	46x127x22
DC-SH-07	600 A	75/60/45 mV	0.5%	55x127x22
DC-SH-08	750 A	75/60/45 mV	0.5%	76x127x22
DC-SH-09	1000 A	75/60/45 mV	0.5%	96x127x22
DC-SH-10	1500 A	75/60/45 mV	0.5%	113x127x22
DC-SH-11	2000 A	75/60/45 mV	0.5%	136x200x97

Common GDC230 / GDC232 Variants

Order Number	Type	Features
GDC12C513111	GDC230	Single circuit DC, Aux 9-40Vdc, Nominal 1000Vdc, 75mV, Multi-Tariff meter
GDC22C513111	GDC232	Double circuit DC, Aux 9-40Vdc, Nominal 1000Vdc, 75mV, Multi-Tariff meter



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