



CROMPTON INSTRUMENTS

DRS-100-1P – DIRECT CONNECT 100A SINGLE PHASE ENERGY METER

The DRS range of MID APPROVED, direct connected Energy Meters represents a multi-function range of kWh meters in the Crompton Instruments portfolio.

The DRS-100-1P, energy meter is an accurate and cost effective solution for measurement and display of importing and exporting energy parameters for single phase networks. Its easy programming, mounting and user-friendly navigation make the DRS-100-1P an ideal choice for customers who require reliable energy measurement.

The product features a DIN-rail enclosure, backlit LCD display and user programmable CT ratios, all accessible via an intuitive user interface.

The DRS-100-1P has two communication interfaces

- Modbus™ RTU protocol
- Two pulsed outputs

Product Codes

Description	Part number
MID energy meter Single phase DIN-rail mounted 100A direct connect Modbus + 2 pulsed outputs	DRS-100-1P-MOD-01

Features

- MID D certified
- Class B (kWh) to EC 2004/22/EC
- Direct connect to 100A
- DIN-rail enclosure DIN 43880
- Import / export kWh
- Modbus™ RTU protocol
- Two pulsed outputs

Benefits

- Cost effective
- Simple navigation
- Tamper-proof

Approvals


- IEC 50470-1
- IEC 50470-3
- IEC 62053-21
- IEC 62052-11
- IEC 61010-1
- IEC 60068




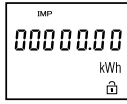
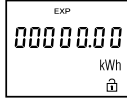
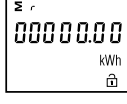


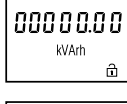
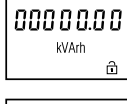
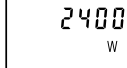
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Specifications

Input	
Nominal input voltage	(Ph+N) 176 to 276V
Max. continuous input overload voltage	120% of nominal
Max. short duration input voltage	2 x nominal voltage for 1 second
Nominal input voltage burden	< 0.2VA per phase
Nominal input current	0.5-10 (100A)
Nom. Input current burden	< 0.5 VA
Max. continuous input overload current	120% of nominal
Max. short duration input current	20 x nominal current for (10 msec)
Auxiliary	
Operating range	Self powered
Supply burden	< 10 VA
Accuracy	
Voltage (V)	+/- 0.5% of range maximum
Current (A)	+/- 0.5% of range maximum
Frequency (Hz)	+/- 0.2% of mid-frequency
Power factor (PF)	+/- 1% of unity (0.01)
Active power (W)	+/- 1.0% of range maximum
Reactive power (VAr)	+/- 1.0% of range maximum
Apparent power (VA)	+/- 1.0% of range maximum
Active energy (kWh)	+/- 1.0% of range maximum to IEC 62053-21
Reactive energy (kVArh)	+/- 1.0% of range maximum to IEC 62053-24
Response Time	1 sec, typical, to >99% of final reading at 50Hz
Measured Range	
Voltage (V)	5 - 120% of nominal (Min 100V - self powered)
Current (A)	5 - 120% of nominal
Frequency (Hz)	44 - 66 Hz +/- 2%
Power (W, VAr, VA)	5 - 144% of nominal (bi-directional)
Energy	7 digit, upto 999999.9 kWh / kVArh
Power factor	4 quadrant
Input Waveform	Sinusoidal (distortion factor < 0.05)
Environment	
Operating temperature	-25°C to +55°C
Storage temperature	-40°C to +70°C
Relative humidity	0 to 95%, non-condensing
Shock	30g in 3 planes
Vibration	10Hz to 50Hz, IEC 60068-2-6, 2g
Dielectric voltage	4kV
Altitude	3000m
Warm-up	1 minute
Magnetic field of external origin	Terrestrial flux
Outputs	
Pulsed output relay (configurable)	Opto-coupled, potential-free SPST-NO contact
Contact rating current	2-27mA at 27V DC
Contact rating voltage	5-27V DC
Pulse width	60 / 100 / 200 ms
Pulse rate	0.01 / 0.1 / 1 / 10 / 100 kWh / kVArh Default. 1 pulse per Wh/VArh
Pulsed output relay (non-configurable)	1000 Imp/kWh
Communications	Modbus RTU (RS485)
Type	2-wire half duplex
Baud rate	2400, 4800, 9600, 19.2 K, 38.4 K
Address	1 to 247
Parity	None (default) / Odd / Even
Stop bits	1 (default) / 2
Enclosure	
Enclosure style	DIN-rail to DIN 43880
Dimensions	99x36x63mm (LxWxH)
Protection rating	Front IP51
Material	Self extinguishing UL 94 V-O
Weight	216 g
Cable size	2.5mm ² - 25mm ² stranded cable. AWG 12 - 4.

Each successive press of the  button selects a new parameter.

Energy Measurements

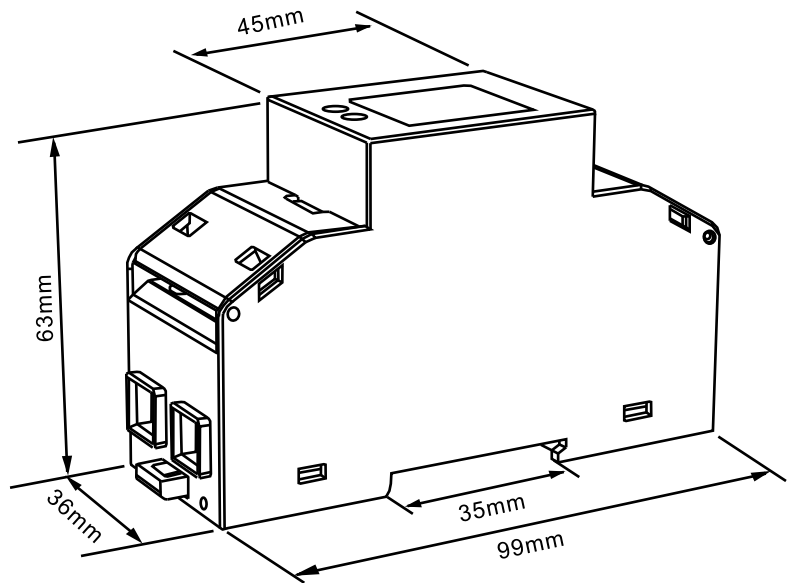
	Total Active Energy (Σ kWh)
	Imported Active Energy (kWh)
	Exported Active Energy (kWh)
	Partial Active Energy (Σ r kWh)
	Total Reactive Energy (Σ kVArh)
	Imported Reactive Energy (kVArh)
	Exported Reactive Energy (kVArh)
	Partial Reactive Energy (Σ r kVArh)
	Total Maximum Demand (W)

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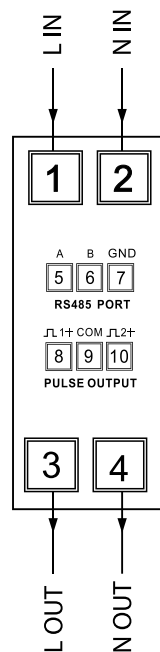
Voltage and Current

230.0 V	Voltage Input (V)
0.000 A	Current Input (A)
0 W	Instantaneous Active (W)
0.999 PF	Power Factor
50.00 Hz	Frequency (Hz)
256.1000	Pulse Constant
Addr 001	Modbus Address (0001-241)
bd 9600	Modbus Baud Rate
Σ 0.0h ⌚	Hours Run (Σ h)

Dimensions



Wiring Diagrams



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WHEREVER ELECTRICITY FLOWS, YOU'LL FIND TE ENERGY



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