CROMPTON INSTRUMENTS

DRS-45-1P – DIRECT CONNECT 45A SINGLE PHASE ENERGY METER

The DRS range of MID & NMI* APPROVED, direct connected energy meters represents a multi-function range of energy meters in the Crompton Instruments portfolio.

The DRS-45-1P, 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-45-1P an ideal choice for customers who require reliable energy measurement.

The product features a DIN-rail enclosure and backlit LCD display.

The DRS-45-1P has two communication interfaces

- Modbus™ RTU protocol
- Two pulsed outputs
- National Measurement Institue Approved *DRS-45-1P-NMI model only

Product Codes

Description	Part number
MID energy meter Single phase DIN-rail mounted 45A direct connect Modbus + 2 pulsed outputs	DRS-45-1P-MOD-01
NMI energy meter Single phase DIN-rail mounted 45A direct connect Modbus + 2 pulsed outputs	DRS-45-1P-NMI

Features

- MID D certified
- Class B (kWh) to EC 2004/22/EC
- Direct connect to 45A
- DIN-rail enclosure DIN 43880
- Import / export kWh
- Modbus™ RTU protocol
- Two pulsed output

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
- NMI

Australian Government
Department of Industry, Science, Energy and Resources
National Measurement Institute

CE RoHS MID

TE connectivity

Specifications

Input	
Nominal input voltage	63.5-276V AC L-N (173-500V L-L) 600V MAX
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	0.25-5 (45A)
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
Impulse voltage	6 kV
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	0.001 / 0.01 / 1 / kWh / kVArh Default. 1 pulse per Wh/VArh
Pulsed output relay (non-configurable)	1000IMP/kWh
Communications	Modbus RTU (RS485)
Type	2-wire half duplex
Baud rate	4800, 9600
Address	1 to 247
Parity	None (default) / Odd / Even
Stop bits	1 (default) / 2
Enclosure	
Enclosure style	DIN-rail to DIN 43880
Dimensions	119x17.5x62mm (LxWxH)
Protection rating	Front IP51
Material	Self extinguishing UL 94 V-O
Weight	75 g
Cable size	0.5mm² – 6mm² stranded cable.
Torque settings: Input terminals Modbus, pulse outputs terminals	2.5 Nm 0.2Nm

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)

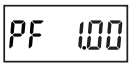
Voltage and Current

Voltage Input (V)

Current Input (A)

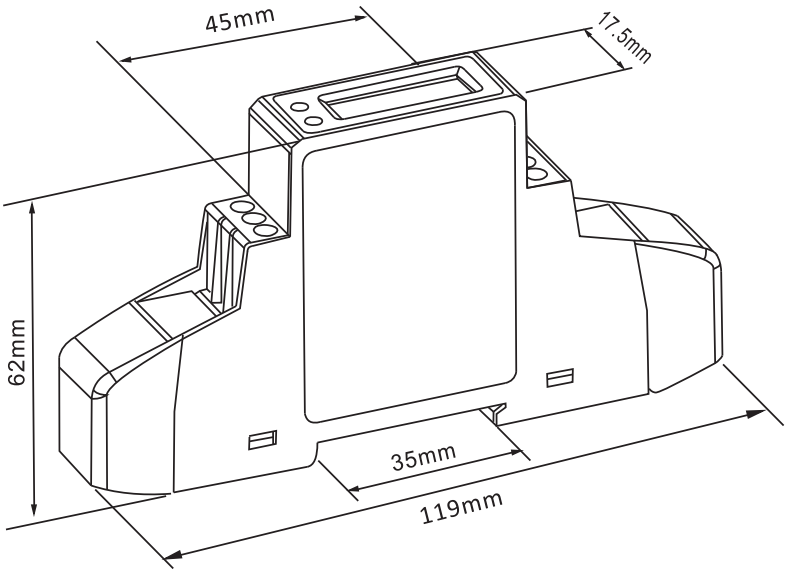
Instantaneous Active (W)

Frequency (Hz)



Power Factor (PF)

Dimensions



DRS-45-1P-PLS

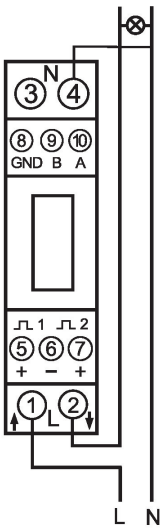
The DRS-45-1P-PLS Energy Meter is an accurate and cost effective solution for the measurement of Importing Active Energy (kWh) for a single phase network, directly connected upto 45A.

Product Codes

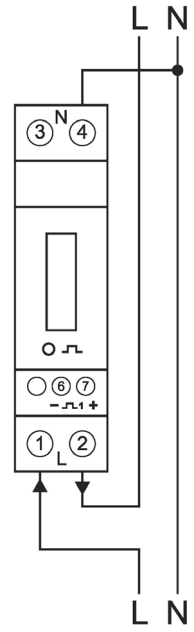
Description	Part number
MID energy meter Single phase DIN-rail mounted 45A direct connect 1 pulsed output	DRS-45-1P-PLS-01

Wiring Diagrams

DRS-45-1P-MOD



DRS-45-1P-PLS



Energy Measurement

Imported Active Energy (kWh)

About TE Connectivity

TE Connectivity Ltd. (NYSE: TEL) TE Connectivity is a $12 billion global technology leader. Our commitment to innovation enables advancements in transportation, industrial applications, medical technology, energy, data communications, and the home. TE's unmatched breadth of connectivity and sensor solutions, proven in the harshest of environments, helps build a safer, greener, smarter and more connected world. With 75,000 people – including more than 7,000 engineers – working alongside customers in nearly 150 countries, we help ensure that EVERY CONNECTION COUNTS.

WHEREVER ELECTRICITY FLOWS, YOU'LL FIND TE ENERGY

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