



## DIRECT CONNECT 100A THREE PHASE ENERGY METER - DRS-100-3P CROMPTON INSTRUMENTS

### KEY 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 output

TE Connectivity's (TE) Crompton Instruments DRS range of MID APPROVED, direct connected energy meters represents a multi-function range of kWh meters in the Crompton Instruments portfolio.

The DRS-100-3P, energy meter is an accurate and cost effective solution for measurement and display of importing and exporting energy parameters for three phase networks. Its easy programming, mounting and user-friendly navigation make the DRS-100-3P an ideal choice for customers who require reliable energy measurement.

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

The DRS-100-3P has two communication interfaces

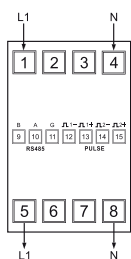
Modbus™ RTU protocol

Two pulsed outputs

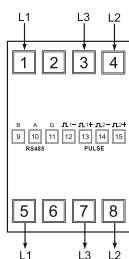
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## Energy Meter - Three Phase

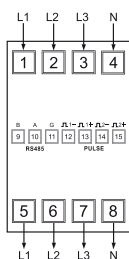
### Wiring Diagrams



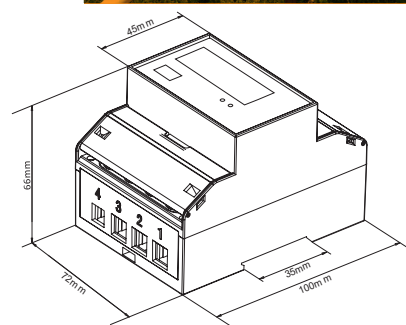
Single Phase



Three Phase  
Three Wire



Three Phase  
Four Wire



### SPECIFICATION

#### 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	0.5-10 (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 (300 msec)

#### 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
THD	1% to 31 <sup>st</sup> harmonic
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	8 digit, upto 9999999.9 kWh / kVARh
Power factor	4 quadrant
THD	0 - 40% upto 31 <sup>st</sup> harmonic
Input Waveform	Sinusoidal (distortion factor < 0.05)

#### Description

#### Part number

MID energy meter  
Three phase  
DIN-rail mounted  
100A direct connect  
Modbus + 2 pulsed outputs

DRS-100-3P-MOD-01

### SPECIFICATION

#### Auxiliary

Operating range	Self powered
Supply burden	< 10 VA

#### 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 between circuits and measured inputs
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)	3200IMP/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	100x72x66mm (LxWxH)
Protection rating	Front IP51
Material	Self extinguishing UL 94 V-O
Weight	340 g
Cable size	2.5mm <sup>2</sup> - 25mm <sup>2</sup> stranded cable. AWG 12 - 4.



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