

# 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

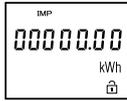
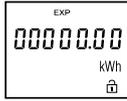
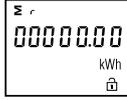
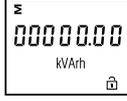
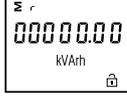


**Specifications**

<b>Input</b>	
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)
<b>Auxiliary</b>	
Operating range	Self powered
Supply burden	< 10 VA
<b>Accuracy</b>	
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
<b>Measured Range</b>	
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)
<b>Environment</b>	
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
<b>Outputs</b>	
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
<b>Enclosure</b>	
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 <sup>2</sup> - 25mm <sup>2</sup> stranded cable. AWG 12 - 4.

Each successive press of the  button selects a new parameter.

**Energy Measurements**

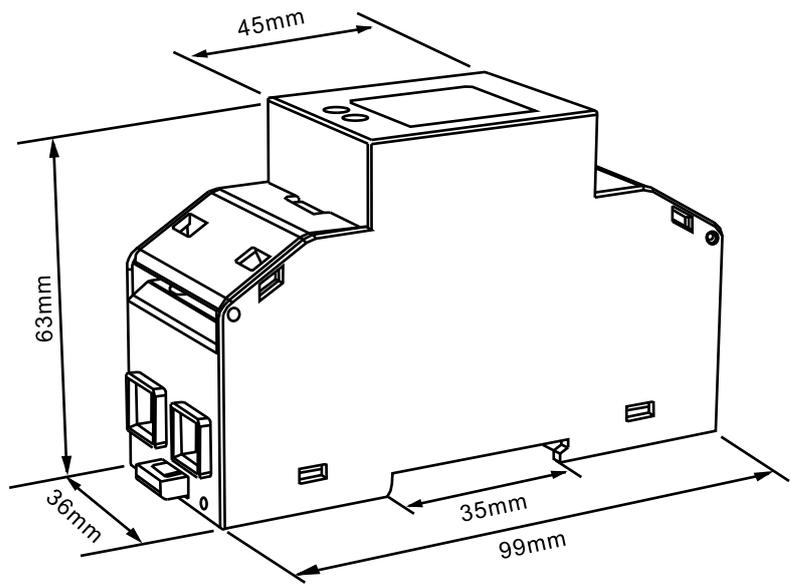
	Total Active Energy (Σ kWh)
	Imported Active Energy (kWh)
	Exported Active Energy (kWh)
	Partial Active Energy (Σ r kWh)
	Total Reactive Energy (Σ kVArh)
	Imported Reactive Energy (kVArh)
	Exported Reactive Energy (kVArh)
	Partial Reactive Energy (Σ r kVArh)
	Total Maximum Demand (W)

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

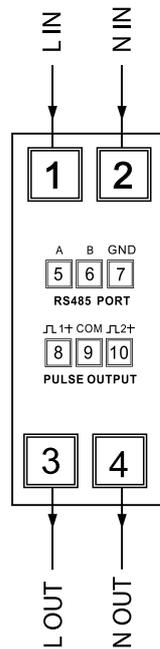
## Voltage and Current

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)
c5t.1000	Pulse Constant
Addr 001	Modbus Address (001-241)
bd 9600	Modbus Baud Rate
Σ 0.0h ⊖	Hours Run (Σ h)

## Dimensions



## Wiring Diagrams



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

## 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



[crompton-instruments.com](http://crompton-instruments.com)

For email or phone, go to:

[crompton-instruments.com](http://crompton-instruments.com)

FOR MORE INFORMATION: TE Technical Support Centres

UK +44 1376 509 533

USA: +1 800 327 6996

Australia +61 1300 656 090

Singapore +65 6590 5151

Hong Kong: +852 2790 9609

[crompton-instruments.com](http://crompton-instruments.com)

© 2017 TE Connectivity Ltd. family of companies. All Rights Reserved. EPP 2913-4/17.

TE, TE Connectivity, the TE connectivity (logo) and Integra are trademarks of the TE Connectivity Ltd. family of companies. Crompton Instruments is a trademark of Crompton Parkinson and is used under a licence. Other logos, product and company names mentioned herein may be trademarks of their respective owners. While TE has made every reasonable effort to ensure the accuracy of the information in this brochure, TE does not guarantee that it is error-free, nor does TE make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. TE reserves the right to make any adjustments to the information contained herein at any time without notice. TE expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. The dimensions in this brochure are for reference purposes only and are subject to change without notice. Specifications are subject to change without notice. Consult TE for the latest dimensions and design specifications.