

MID APPROVED ENERGY METERS

TE'S CROMPTON INSTRUMENTS





FEATURES

- MID approved
- Single & Three phase
- Import & Export energy parameters
- Modbus / M-Bus Communication
- Pulsed Output (PLS model)
- 1, 2 or 4 Mod DIN-rail enclosure
- Backlit LCD display

2 variations

- Direct connected energy meters
- 1/5A CT Fed

MID APPROVED ENERGY METERS

TE Connectivity's (TE) Crompton Instruments AC energy meters are designed for use in residential, commercial and light industrial electrical energy metering.

This range of energy meters are self-powered thus offering simplified connections. It displays parameters on a bright LCD screen and also has Pulse Output and Impulse LED for energy monitoring. With inbuilt industry standard MODBUS RTU or MBUS for remote monitoring.

These meters are primarily for bidirectional Active, Reactive and Apparent Energy measurement but it also accurately measures important electrical parameters like Voltage, Current, Frequency, Active, Reactive and Apparent Power, and Power Factor in Single Phase Networks. The measured parameters can be viewed on display and MODBUS or MBUS for remote viewing.

Standard Din rail mounting for easy installation.

Conventional CT Connected Meters

Designed to measure current through external CTs with 1A or 5A secondary output

M-Bus protocol

The meter offers optional communication via the M-Bus protocol, enabling remote acquisition of measurement data as well as remote configuration capabilities.

	Part number	Number id buttons	Module width	CT fed (1/5A)	Direct connected	Modbus	M-Bus	Pulsed outputs (SO)	Tariff Input
	DRR-45-1P-PLS-01	1	1	X	✓	X	X	1	1
	DRR-45-1P-MOD-01	1	1	X	✓	✓	X	1	X
	DRR-45-1P-MBUS-01	1	1	X	✓	X	✓	1	X
	DRR-CT-1P-PLS-01	1	1	✓	X	X	X	1	1
	DRR-CT-1P-MOD-01	1	1	✓	X	✓	X	1	X
	DRR-CT-1P-MBUS-01	1	1	✓	X	X	✓	1	X
	DRR-100-1P-PLS-01	2	2	X	✓	X	X	2	1
	DRR-100-1P-MOD-01	2	2	X	✓	✓	X	2	1
	DRR-100-1P-MBUS-01	2	2	X	✓	X	✓	2	1
	DRR-CT2-1P-PLS-01	2	2	✓	X	X	X	2	1
	DRR-CT2-1P-MOD-01	2	2	✓	X	✓	X	2	1
	DRR-CT2-1P-MBUS-01	2	2	✓	X	X	✓	2	1
	DRR-100-3P-PLS-01	3	4	X	✓	X	X	2	2
	DRR-100-3P-MOD-01	3	4	X	✓	✓	X	2	2
	DRR-100-3P-MBUS-01	3	4	X	✓	X	✓	2	2
	DRR-CT-3P-PLS-01	4	4	✓	X	X	X	2	1
	DRR-CT-3P-MOD-01	4	4	✓	X	✓	X	2	1
	DRR-CT-3P-MBUS-01	4	4	✓	X	X	✓	2	1

ALL MODELS - MEET THE FAMILY OF DIN RAIL DRR AC ENERGY METERS

Single Phase AC Energy Meters - 1 Mod



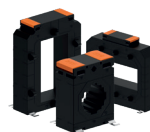
45A
Direct Current Input

DRR-45-1P-PLS-01
DRR-45-1P-MOD-01
DRR-45-1P-MBUS-01



1/5A
CT Input

DRR-CT-1P-PLS-01
DRR-CT-1P-MOD-01
DRR-CT-1P-MBUS-01



Connect
with our
Ebony XL
Current
Transformers
Range

Single Phase AC Energy Meters - 2 Mod



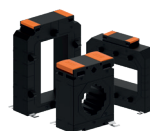
100A
Direct Current Input

DRR-100-1P-PLS-01
DRR-100-1P-MOD-01
DRR-100-1P-MBUS-01



1/5A
CT Input

DRR-CT2-1P-PLS-01
DRR-CT2-1P-MOD-01
DRR-CT2-1P-MBUS-01



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with our
Ebony XL
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Transformers
Range

Three Phase AC Energy Meters - 4 Mod



100A
Direct Current Input

DRR-100-3P-PLS-01
DRR-100-3P-MOD-01
DRR-100-3P-MBUS-01

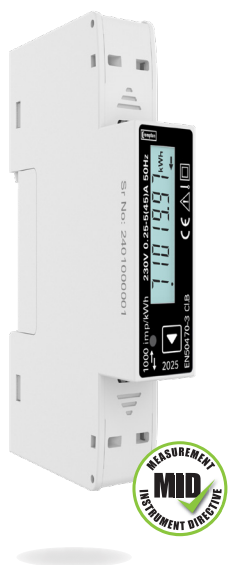


1/5A
CT Input

DRR-CT-3P-PLS-01
DRR-CT-3P-MOD-01
DRR-CT-3P-MBUS-01



Connect
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FEATURES

- MID approved
- Single phase
- Import & export energy parameters
- 1 Mod DIN-rail enclosure
- Backlit LCD Display

2 variations

- Modbus / M-Bus Communication
- Pulsed Output (PLS model)
- Direct connected energy meters
- 1/5A CT Fed

APPLICATIONS

- Internal energy billing/monitoring/auditing
- Sub-metering

Description	Part number
45A, Single Phase, Direct Connect, 1xDI, 1xSO	DRR-45-1P-PLS-01
45A, Single Phase, Direct Connect, 1xSO, 1xModbus	DRR-45-1P-MOD-01
45A, Single Phase, Direct Connect, 1xSO, 1xMBus	DRR-45-1P-MBUS-01
Single Phase, 1/5A CT Connected, 1xDI, 1xSO	DRR-CT-1P-PLS-01
Single Phase, 1/5A CT Connected, 1xSO, 1xModbus	DRR-CT-1P-MOD-01
Single Phase, 1/5A CT Connected, 1xSO, 1xMBus	DRR-CT-1P-MBUS-01

RELEVANT STANDARDS & TEST REPORTS

Accuracy Standard :

- EN50470-3: 2022
- IEC62053-21

IP for water & dust:

- IEC 60529

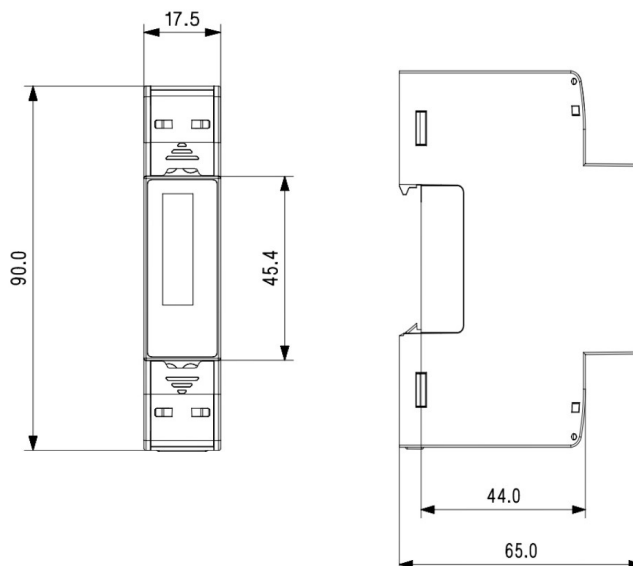
Plastic Flammability Standard:

- UL 94

Safety Standard:

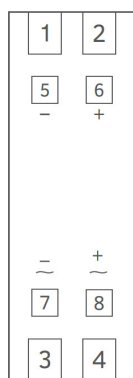
- 62052-31: 2015

DIMENSIONS



WIRING DIAGRAMS

DRR-45-1P DRR-CT-1P



- 1 :Neutral IN
- 2 :Neutral Out
- 3 :L-In
- 4 :L-Out
- 5,6 :Pulse Output Terminal
- 7 :Tariff input Terminal (in Tariff input Model)
- 8 :RS485 Terminal (in Modbus Model)
- : Mbus Terminal (in MBUS Model)



FEATURES

- MID approved
- Single phase
- Import & export energy parameters
- 2 Mod DIN-rail enclosure
- Backlit LCD Display

2 variations

- Modbus / M-Bus Communication
- Pulsed Output (PLS model)
- Direct connected energy meters
- 1/5A CT Fed
- Backlit LCD display

APPLICATIONS

- Internal energy billing/monitoring/auditing
- Sub-metering
- Genset, Test Benches & Laboratories

Description	Part number
100A, Single Phase, Direct Connect, 1xDI, 2xSO	DRR-100-1P-PLS-01
100A, Single Phase, Direct Connect, 1xDI, 2xSO, 1xModbus	DRR-100-1P-MOD-01
100A, Single Phase, Direct Connect, 1xDI, 2xSO, 1xMBus	DRR-100-1P-MBUS-01
Single Phase, 1/5A CT Connected, 1xDI, 2xSO	DRR-CT2-1P-PLS-01
Single Phase, 1/5A CT Connected, 1xDI, 2xSO, 1xModbus	DRR-CT2-1P-MOD-01
Single Phase, 1/5A CT Connected, 1xDI, 2xSO, 1xMBus	DRR-CT2-1P-MBUS-01

RELEVANT STANDARDS & TEST REPORTS

Accuracy Standard :

- EN50470-3: 2022
- IEC62053-21

IP for water & dust:

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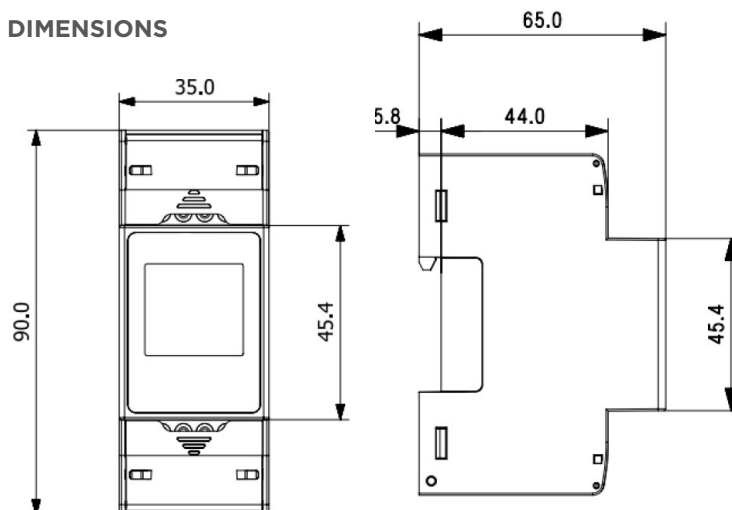
Plastic Flammability Standard:

- UL 94

Safety Standard:

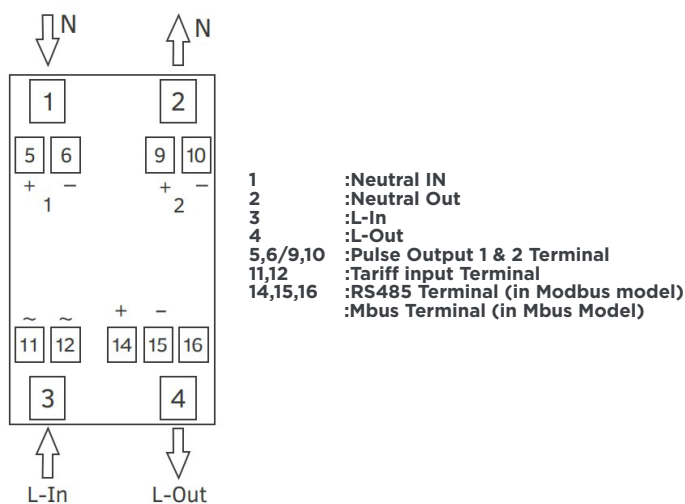
- 62052-31: 2015

DIMENSIONS



WIRING DIAGRAM

DRR-100-1P





FEATURES

- Direct Connection Meter
- Three Buttons (for easy navigation)
- Multi Tariff & Partial Energy Counters
- MID Approved
- LCD & Backlit Display
- Impulse LED
- Din rail mounted

Optional Features

- Remote Communication
- Tariff Input
- Pulse Outputs

APPLICATIONS

- Internal Energy billing/monitoring/auditing
- Sub-metering
- Genset, Test Benches & Laboratories

Description	Part number
100A, 3 Phase, Direct Connect, 2xDI, 2xSO	DRR-100-3P-PLS-01
100A, 3 Phase, Direct Connect, 2xDI, 2xSO, 1xModbus	DRR-100-3P-MOD-01
100A, 3 Phase, Direct Connect, 2xDI, 2xSO, 1xMBus	DRR-100-3P-MBUS-01

RELEVANT STANDARDS & TEST REPORTS

Accuracy Standard :

- EN50470-3: 2022
- IEC62053-21

IP for water & dust:

- IEC 60529

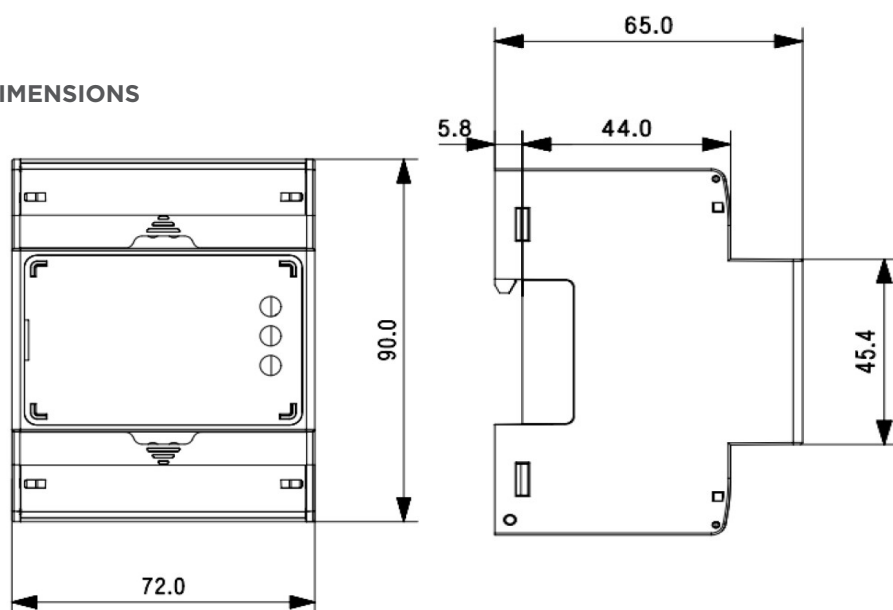
Plastic Flammability Standard:

- UL 94

Safety Standard:

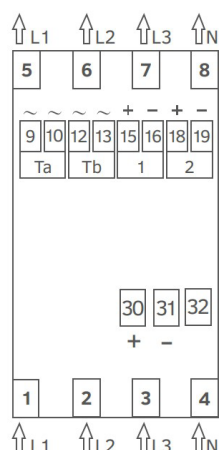
- 62052-31: 2015

DIMENSIONS



WIRING DIAGRAM

DRR-100-3P



- 1,2,3 :I-In
- 5,6,7 :I-Out
- 4 :Neutral-In
- 8 :Neutral-Out
- 15,16,18,19 :Pulse Output 1 & Pulse Output 2 Terminal
- 9,10,12,13 :Tariff input a & Tariff input b Terminal
- 30,31,32 :RS485 Terminal (in Modbus model)
- :Mbus Terminal (in Mbus model)



FEATURES

- True RMS measurement
- In-built 1/5A OR RJ12 100mA CT
- Four Buttons (for easy navigation)
- 1 Digital Input
- 2 Pulse Outputs
- Dual Tariff
- Programmable CT ratios
- 3P4W, 3P3W, 1 Phase 2 wire system types
- Din rail mounted

Optional Features

- Remote Communication
- Tariff Input
- Pulse Outputs

APPLICATIONS

- Internal energy billing/monitoring/auditing
- Sub-metering
- Genset, Test Benches & Laboratories

Description	Part number
1A or 5A CT input, Aux Powered 100-550V AC/DC (230V Nominal), 1 x Digital Input, 2 x Pulsed Outputs	DRR-CT-3P-PLS-01
1A or 5A CT input, Aux Powered 100-550V AC/DC (230V Nominal), 1 x Digital Input, 2 x Pulsed Outputs, 1 x Modbus	DRR-CT-3P-MOD-01
1A or 5A CT input, Aux Powered 100-550V AC/DC (230V Nominal), 1 x Digital Input, 2 x Pulsed Outputs, 1 x Mbus	DRR-CT-3P-MBUS-01

RELEVANT STANDARDS & TEST REPORTS

Accuracy Standard :

- EN50470-3: 2022
- IEC62053-21

IP for water & dust:

- IEC 60529

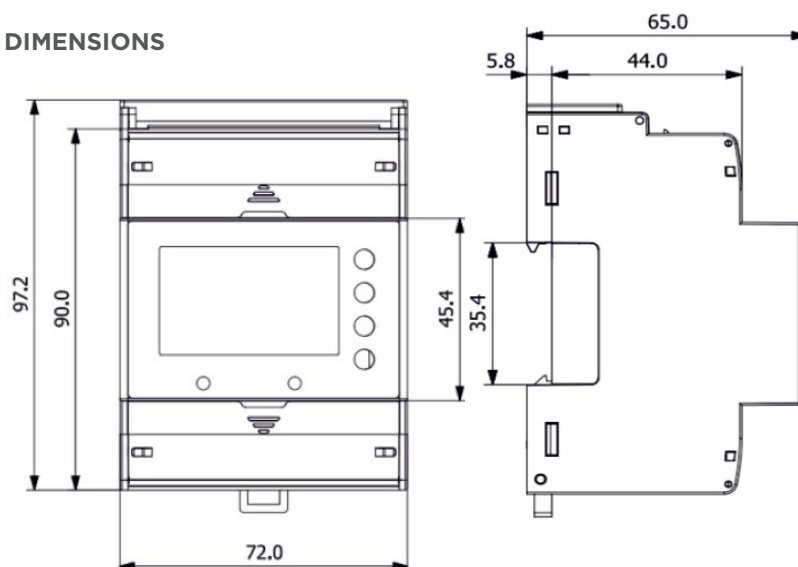
Plastic Flammability Standard:

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Safety Standard:

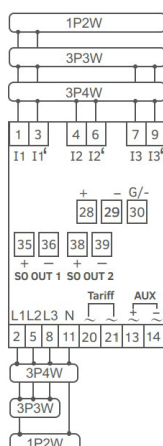
- 62052-31: 2015

DIMENSIONS



WIRING DIAGRAM

DRR-CT-3P



- 2,5,8 :L1,L2,L3
 11 :Neutral
 1 & 3 :L1 Current In & L1 Current Out
 4 & 6 :L2 Current In & L2 Current Out
 7 & 9 :L3 Current In & L3 Current Out
 13 & 14 :Aux Terminal
 35,36 & 38,39 :Pulse Output Terminal
 20,21 :Tariff input Terminal
 28,29,30 :RS485 Terminal (in Modbus Model)
 :Mbus Terminal (in Mbus Model)

MID APPROVED ENERGY METERS

PARAMETERS

DRR-45
DRR-CT-1P
DRR-100-1P
DRR-CT-2P



DRR-CT-3P



DRR-CT-3P Continued

Sr No.	Parameters	1P 2Wire	Sr. No.	Parameters	3P 4Wire	3P 3Wire	1 P 2Wire	Sr. No.	Parameters	3P 4Wire	3 P 3Wire	1 P 2Wire
1	Import Active Energy	✓	1	System Import Active Energy	✓	✓	✓	50	System Voltage THD	✓	✓	✓
2	Export Active Energy	✓	2	System Export Active Energy	✓	✓	✓	51	L1,L2,L3 Voltage THD	✓	✓	X
3	Total Active Energy	✓	3	System Total Active Energy	✓	✓	✓	52	System Current THD	✓	✓	✓
4	Import Reactive Energy	✓	4	System Import Reactive Energy	✓	✓	✓	53	L1,L2,L3 Current THD	✓	✓	X
5	Export Reactive Energy	✓	5	System Export Reactive Energy	✓	✓	✓	54	Run Hours	✓	✓	✓
6	Total Reactive Energy	✓	6	System Total Reactive Energy	✓	✓	✓	55	On Hours	✓	✓	✓
7	Total Apparent Energy	✓	7	System Apparent Energy	✓	✓	✓	56	Number of interruptions	✓	✓	✓
8	Tariff 1 Import Active Energy	✓	8	Tariff 1 & 2 Import Active Energy	✓	✓	✓	57	Phase Sequence Indication	✓	✓	X
9	Tariff 1 Export Active Energy	✓	9	Tariff 1 & 2 Export Active Energy	✓	✓	✓	58	Current Reversal Indication	✓	X	✓
10	Tariff 1 Total Active Energy	✓	10	Tariff 1 & 2 Total Active Energy	✓	✓	✓	59	Phase (V-I) Absent Indication	✓	X	X
11	Tariff 1 Import Reactive Energy	✓	11	Tariff 1 & 2 Import Reactive Energy	✓	✓	✓					
12	Tariff 1 Export Reactive Energy	✓	12	Tariff 1 & 2 Export Reactive Energy	✓	✓	✓					
13	Tariff 1 Total Reactive Energy	✓	13	Tariff 1 & 2 Total Reactive Energy	✓	✓	✓					
14	Tariff 1 Total Apparent Energy	✓	14	L1, L2, L3 Import Active Energy	✓	X	X					
15	Tariff 2 Import Active Energy	✓	15	L1, L2, L3 Export Active Energy	✓	X	X					
16	Tariff 2 Export Active Energy	✓	16	L1, L2, L3 Total Active Energy	✓	X	X					
17	Tariff 2 Total Active Energy	✓	17	L1, L2, L3 Import Reactive Energy	✓	X	X					
18	Tariff 2 Import Reactive Energy	✓	18	L1, L2, L3 Export Reactive Energy	✓	X	X					
19	Tariff 2 Export Reactive Energy	✓	19	L1, L2, L3 Total Reactive Energy	✓	X	X					
20	Tariff 2 Total Reactive Energy	✓	20	L1, L2, L3 Apparent Energy	✓	X	X					
21	Tariff 2 Total Apparent Energy	✓	21	Current Demand	✓	✓	✓					
22	Partial Import Active Energy	✓	22	kVA Demand	✓	✓	✓					
23	Partial Export Active Energy	✓	23	Import kW Demand	✓	✓	✓					
24	Partial Total Active Energy	✓	24	Export kW Demand	✓	✓	✓					
25	Partial Import Reactive Energy	✓	25	Import Var Demand	✓	✓	✓					
26	Partial Export Reactive Energy	✓	26	Export Var Demand	✓	✓	✓					
27	Partial Total Reactive Energy	✓	27	Max Current Demand	✓	✓	✓					
28	Partial Total Apparent Energy	✓	28	Max kVA Demand	✓	✓	✓					
29	Max Import kVA Demand	✓	29	Max Import kW Demand	✓	✓	✓					
30	Max Current Demand	✓	30	Max Export kW Demand	✓	✓	✓					
31	Max Export kVA Demand	✓	31	Max Import Var Demand	✓	✓	✓					
32	Max Import kW Demand	✓	32	Max Export Var Demand	✓	✓	✓					
33	Max Export kW Demand	✓	33	System Voltage	✓	✓	✓					
34	Max Import kVAR Demand	✓	34	L1, L2, L3 Voltage	✓	X	X					
35	Max Export kVAR Demand	✓	35	L12, L23, L31 Voltage	✓	✓	X					
36	Voltage	✓	36	System Current	✓	✓	✓					
37	Current	✓	37	L1, L2, L3 Current	✓	✓	X					
38	Frequency	✓	38	Neutral Current (Calculated)	✓	X	X					
39	Active Power	✓	39	Frequency	✓	✓	✓					
40	Reactive Power	✓	40	System Active Power (kW)	✓	✓	✓					
41	Apparent Power	✓	41	L1, L2, L3 Active Power (kW)	✓	X	X					
42	Power Factor	✓	42	System Total Re-active Power	✓	✓	✓					
43	Number of Interruptions	✓	43	L1, L2, L3 Total Re-active Power	✓	X	X					
			44	System Apparent Power	✓	✓	✓					
			45	L1, L2, L3 Apparent Power	✓	X	X					
			46	System Power Factor	✓	✓	✓					
			47	L1, L2, L3 Power Factor	✓	X	X					
			48	System Phase Angle	✓	✓	✓					
			49	L1, L2, L3 Phase Angle	✓	X	X					

PARAMETERS



DRR-100-3P

DRR-100-3P - continued

Sr No.	Parameters	3P 4Wire	3P 3Wire	1P 2Wire	Sr No.	Parameters	3P 4Wire	3P 3Wire	1P 2Wire
1	Import Active Energy	✓	✓	✓	48	Tariff 4 Partial Import Active Energy	✓	✓	✓
2	Export Active Energy	✓	✓	✓	49	Tariff 4 Partial Export Active Energy	✓	✓	✓
3	Total Active Energy	✓	✓	✓	50	Tariff 4 Partial Import Reactive Energy	✓	✓	✓
4	Import Reactive Energy	✓	✓	✓	51	Tariff 4 Partial Export Reactive Energy	✓	✓	✓
5	Export Reactive Energy	✓	✓	✓	52	L1, L2, L3 Import Active Energy	✓	X	✓
6	Total Reactive Energy	✓	✓	✓	53	L1, L2, L3 Export Active Energy	✓	X	✓
7	Total Apparent Energy	✓	✓	✓	54	L1, L2, L3 Total Active Energy	✓	X	✓
8	Tariff 1 Import Active Energy	✓	✓	✓	55	L1, L2, L3 Import Reactive Energy	✓	X	✓
9	Tariff 1 Export Active Energy	✓	✓	✓	56	L1, L2, L3 Export Reactive Energy	✓	X	X
10	Tariff 1 Total Active Energy	✓	✓	✓	57	L1, L2, L3 Total Reactive Energy	✓	X	X
11	Tariff 1 Import Reactive Energy	✓	✓	✓	58	L1, L2, L3 Total Apparent Energy	✓	X	X
12	Tariff 1 Export Reactive Energy	✓	✓	✓	59	Partial Import Active Energy	✓	✓	X
13	Tariff 1 Total Reactive Energy	✓	✓	✓	60	Partial Export Active Energy	✓	✓	X
14	Tariff 1 Total Apparent Energy	✓	✓	✓	61	Partial Total Active Energy	✓	✓	X
15	Tariff 1 Partial Import Active Energy	✓	✓	✓	62	Partial Import Reactive Energy	✓	✓	X
16	Tariff 1 Partial Export Active Energy	✓	✓	✓	63	Partial Export Reactive Energy	✓	✓	✓
17	Tariff 1 Partial Import Reactive Energy	✓	✓	✓	64	Partial Total Reactive Energy	✓	✓	✓
18	Tariff 1 Partial Export Reactive Energy	✓	✓	✓	65	Partial Total Apparent Energy	✓	✓	✓
19	Tariff 2 Import Active Energy	✓	✓	✓	66	Current Max Demand	✓	✓	✓
20	Tariff 2 Export Active Energy	✓	✓	✓	67	kVA Max Demand	✓	✓	✓
21	Tariff 2 Total Active Energy	✓	✓	✓	68	kW Max Demand	✓	✓	✓
22	Tariff 2 Import Reactive Energy	✓	✓	✓	69	kVar Max Demand	✓	✓	✓
23	Tariff 2 Export Reactive Energy	✓	✓	✓	70	Import kW Max Demand	✓	✓	✓
24	Tariff 2 Total Reactive Energy	✓	✓	✓	71	Export kW Max Demand	✓	✓	✓
25	Tariff 2 Total Apparent Energy	✓	✓	✓	72	Import kVar Max Demand	✓	✓	✓
26	Tariff 2 Partial Import Active Energy	✓	✓	✓	73	Export kVar Max Demand	✓	✓	✓
27	Tariff 2 Partial Export Active Energy	✓	✓	✓	74	L1, L2, L3 Current Max Demand	✓	✓	✓
28	Tariff 2 Partial Import Reactive Energy	✓	✓	✓	75	System Voltage	✓	✓	✓
29	Tariff 2 Partial Export Reactive Energy	✓	✓	✓	76	L1, L2, L3 Voltage	✓	X	✓
30	Tariff 3 Import Active Energy	✓	✓	✓	77	L12, L23, L31 Voltage	✓	✓	✓
31	Tariff 3 Export Active Energy	✓	✓	✓	78	System Current	✓	✓	X
32	Tariff 3 Total Active Energy	✓	✓	✓	79	L1, L2, L3 Current	✓	✓	✓
33	Tariff 3 Import Reactive Energy	✓	✓	✓	80	Frequency	✓	✓	X
34	Tariff 3 Export Reactive Energy	✓	✓	✓	81	System Active Power	✓	✓	X
35	Tariff 3 Total Reactive Energy	✓	✓	✓	82	L1, L2, L3 Active Power	✓	X	✓
36	Tariff 3 Total Apparent Energy	✓	✓	✓	83	System Reactive Power	✓	✓	✗
37	Tariff 3 Partial Import Active Energy	✓	✓	✓	84	L1, L2, L3 Reactive Power	✓	X	✓
38	Tariff 3 Partial Export Active Energy	✓	✓	✓	85	System Apparent Power	✓	✓	✓
39	Tariff 3 Partial Import Reactive Energy	✓	✓	✓	86	L1, L2, L3 Apparent Power	✓	X	X
40	Tariff 3 Partial Export Reactive Energy	✓	✓	✓	87	System Power Factor	✓	✓	✓
41	Tariff 4 Import Active Energy	✓	✓	✓	88	L1, L2, L3 Power Factor	✓	X	X
42	Tariff 4 Export Active Energy	✓	✓	✓	89	System Phase Angle	✓	✓	✓
43	Tariff 4 Total Active Energy	✓	✓	✓	90	L1, L2, L3 Phase Angle	✓	X	X
44	Tariff 4 Import Reactive Energy	✓	✓	✓	91	System Voltage THD	✓	✓	✓
45	Tariff 4 Export Reactive Energy	✓	✓	✓	92	L1, L2, L3 Voltage THD	✓	X	X
46	Tariff 4 Total Reactive Energy	✓	✓	✓	93	System Current THD	✓	✓	✓
47	Tariff 4 Total Apparent Energy	✓	✓	✓	94	L1, L2, L3 Current THD	✓	X	X

TE Connectivity Ltd. is a \$14 billion global technology and manufacturing leader creating a safer, sustainable, productive, and connected future. For more than 75 years, our connectivity and sensor solutions, proven in the harshest environments, have enabled advancements in transportation, industrial applications, medical technology, energy, data communications, and the home. With 80,000 employees, including more than 8,000 engineers, working alongside customers in approximately 140 countries, TE ensures that EVERY CONNECTION COUNTS. Learn more at www.te.com and on [LinkedIn](#), [Facebook](#), [WeChat](#) and [Twitter](#).

Generation

- Conventional Power
- Nuclear Power
- Wind/Solar
- Hydro-electric

Transmission & Distribution

- Substation
- Underground
- Overhead
- Street Lighting

Industry

- Mining
- Petrochemical
- Railway
- Shipbuilding

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