CROMPTON INSTRUMENTS INTEGRA DL 1 DUAL LOAD

DIGITAL METERING SYSTEM

PROVIDES MEASUREMENT, ISOLATION AND CONVERSION OF ALL MAIN ELECTRICAL PARAMETERS FROM 2x THREE-PHASE LOADS, IN A SINGLE METER.

APPLICATIONS

- Switchgear distribution systems
- Energy/Building
- Management Systems

RELEVANT STANDARDS AND TEST REPORTS

- IEC 61326
- IEC 61010-1
- IEC 62053-21
- RoHS Compliant

KEY FEATURES

- DIN-rail enclosure
- Single meter for split load panels
- Two display mode operation
- Modbus RTU RS485 as standard
- User-programmable CT ratio and system configuration
- True rms measurement
- Continuous busbar or individual busbar metering
- RJ12 socket for fast connection
- Optional DIN 96mm panel mounting bezel can be supplied

TE Connectivity's (TE) Crompton Instruments Integra DL1 is a Digital Metering System which provides measurement, isolation and conversion of all main electrical parameters from 2x three phase loads, in a single meter. It can be used in single and three-phase unbalanced four-wire electrical systems and as an accuracy of CL0.5.

The Integra DL1 has an integrated microprocessor for exceptional waveform handling of distorted waveforms, and is ideal for low voltage applications. It provides a cost effective way of metering split load distribution and panel boards, in a single metering solution.

ORDERING INFORMATION

Model	Part number
Integra Dual Load multifunction DIN-rail mounted meter LCD Input 400 V L-L, 100 mA AC Modbus RTU RS 485 Self powered	DL1-01

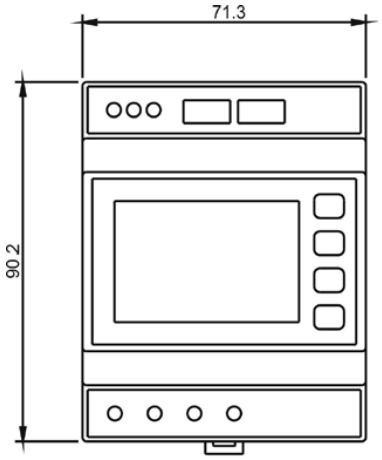
DISPLAYED PARAMETERS

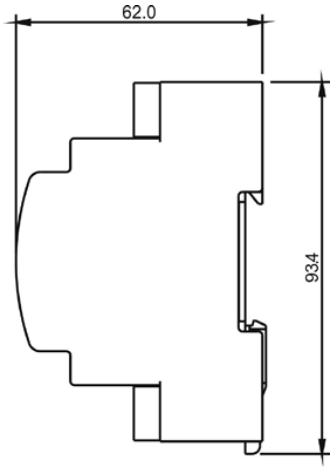
LOAD 1
Current L1
Current L2
Current L3
kW L1
kW L2
kW L3
Average System Volts
Average System Current
Average System kWh
kWh Import

LOAD 2
Current L1
Current L2
Current L3
kW L1
kW L2
kW L3
Average System Volts
Average System Current
Average System kWh
kWh Import

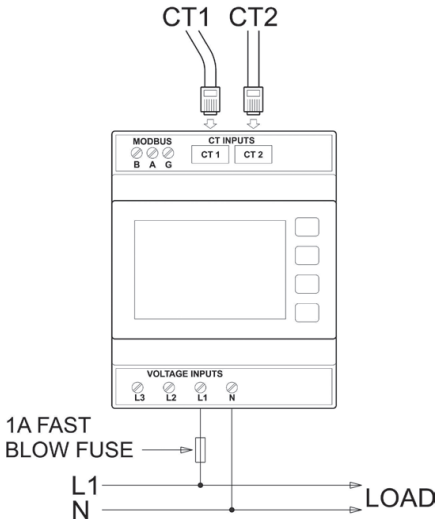
SYSTEM
Current L1
Current L2
Current L3
Voltage L1
Voltage L2
Voltage L3
Average System Volts
Average System Current
Average System kWh
kWh Import - Power
kWh Import - Lighting
kWh Import - Total
Frequency
Power Factor (PF)

DIMENSIONAL INFORMATION & CONNECTION DIAGRAM

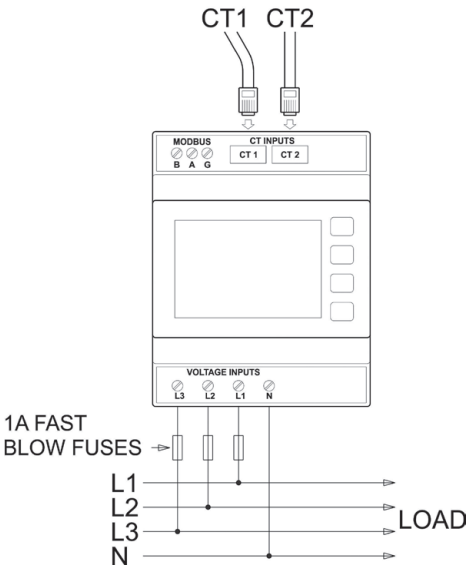




Single phase, 2-wire



3 phase, 4-wire



RJ 12 connection

TECHNICAL SPECIFICATIONS

Parameters	
Input	
Nominal input voltage	100 V to 230 V AC rms., L – N. 173 V to 400 V AC rms., L – L
Max. continuous input overload voltage	120% of nominal
Max. short duration input voltage (1 sec)	2 x nominal voltage
Nominal input voltage burden	0.2 VA per phase (Except L1) **Self powered using the meter electrical input from L1 (6 VA)
Nominal input current	100 mA AC rms. per CT
System CT primary values	1-9999 A (selectable from display)
CT burden	0.1 VA
Accuracy	
Voltage (V)	< 0.5%
Current (A)	< 0.5%
Frequency (Hz)	< 0.2% of mid range
Power factor (PF)	1% of unity
Active power (W)	+/- 1.0% Class 1 IEC 62053-21
Active energy (kWh)	+/- 1.0% Class 1 IEC 62053-21
Range	
Voltage (V)	5% to 120% for nominal
Current (A)	5% to 120% of nominal
Frequency	45 – 65 Hz
Power	1 – 144% of nominal 0.8 capacitive – 1 – 0.8
Power factor	Inductive (functional 4 quadrant, 0-1 lag lead)
Energy	6-digit resolution and to be displayed in KWh (Maximum display 999999, before rollover to 0)
Outputs	
Communication protocol	RS485 Modbus RTU
Type	2-wire half duplex
Baud rate	9600, 19200, 38400
Enclosure	
Enclosure style	DIN-rail mounting EN43880
Dimensions	72 x 90 x 62 mm
Material	Polycarbonate to UL94-V0
Weight	0.25 kg
Terminals voltage	Shrouded screw-clamp 0.05-4 mm wire
Terminals CT	RJ12 connector
Sealing	IP52 front of panel
Environment	
Operating temperature	-10°C to +55°C
Storage temperature	-20°C to +70°C
Relative humidity	0-90% non-condensing
Shock	30 g in 3 planes and vibration of 0 Hz to 50 Hz IEC 60068-2-6, 2 g
Vibration	0 Hz to 50 Hz, IEC 60068-2-6, 2 g. Withstand test 2.2 kV, 50 Hz for 1 minute between auxiliary / input / output

3-in-1 Current Transformers for use with Dual Load DL1

FEATURES

- Busbar DIN-rail and metal feet (mounting hardware supplied)
- RJ12 socket for fast connection
- Cable included (length 1.5 m)
- Low 60A ratio for more energy efficient loads
- Aperture hole centres 25, 35, 45, 70 mm

STANDARDS

- IEC61869-2

BENEFITS

- RJ12 connection for simple and easy error free installation

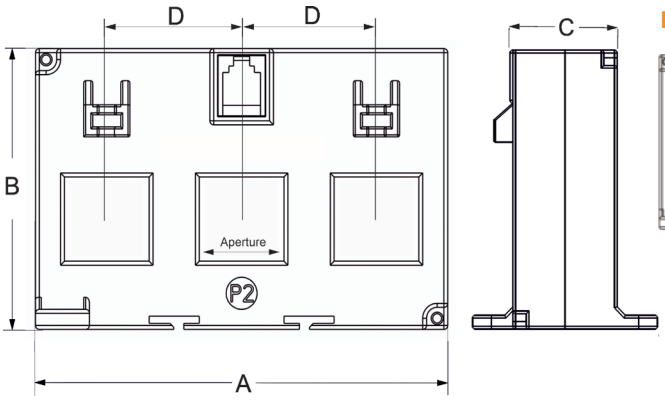
ALL CURRENT TRANSFORMERS ARE SUPPLIED WITH A 1.5M CONNECTING CABLE, WITH RJ12 CONNECTOR TERMINATION AT EACH END.

The 3-in-1 current transformer range are for use with the Integra digital metering system SL1-01/DL1-01/TL1-01 and INT 1221 combines three traditional current transformers in one moulding case with a RJ12 connection for simple and easy error free installation.

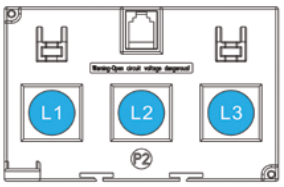
Specification	
System voltage	720V maximum
Test voltage	3kV for 1 minute
System frequency	50Hz or 60Hz
Primary ratings	100mA AC rms. per CT
Overload withstand	1.2 x rated current continuously
Enclosure	Flame retardant grade classified UL94V-O
Aperture hole centres	25mm, 35mm, 45mm, 70mm
Operating temperature	-20°C to +85°C
Compliant with accuracy	IEC61869-2 Class 0.5, Class 1

Part number	Primary Current	VA at Class 1	VA at Class 0.5	A (Width) mm	B (Height) mm	C (Depth) mm	D (Hole Centres) mm	Aperture mm
DL3N1-25-60/0.1	60A	0.25	-	76	78	30	25	3 @ 25 x 15
DL3N1-25-100/0.1	100A	0.35	0.25	76	78	30	25	3 @ 25 x 15
DL3N1-25-125/0.1	125A	0.35	0.25	76	78	30	25	3 @ 25 x 15
DL3N1-25-160/0.1	160A	0.35	0.25	76	78	30	25	3 @ 25 x 15
DL3N1-35-60/0.1	60A	0.25	-	107	70	35	35	3 @ 22 x 22
DL3N1-35-125/0.1	125A	0.5	0.25	107	70	35	35	3 @ 22 x 22
DL3N1-35-160/0.1	160A	0.35	0.25	107	70	35	35	3 @ 22 x 22
DL3N1-35-250/0.1	250A	0.5	0.25	107	70	35	35	3 @ 22 x 22
DL3N1-45-250/0.1	250A	0.25	-	142	86	40	45	3 @ 27 x 32
DL3N1-45-400/0.1	400A	-	0.25	142	86	40	45	3 @ 27 x 32
DL3N1-45-600/0.1	600A	-	0.25	142	86	40	45	3 @ 27 x 32
DL3N1-70-400/0.1	400A	-	0.25	212	100	40	70	3 @ 40 x 52
DL3N1-70-600/0.1	600A	-	0.25	212	100	40	70	3 @ 40 x 52
DL3N1-70-800/0.1	800A	-	0.25	212	100	40	70	3 @ 40 x 52

DIMENSIONAL INFORMATION



PHASE ORIENTATION



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