



# CROMPTON INSTRUMENTS INTEGRA DL 1 DUAL LOAD DIGITAL METERING SYSTEM

Designed, developed and manufactured in the UK, the 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.

## 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
- Can be programmed for one individual power load when required
- RJ12 socket for fast connection
- Optional DIN 96mm panel mounting bezel can be supplied

## Displayed Parameters

Power (Load 1)	Lighting (Load 2)	System
Current L1	Current L1	Current L1
Current L2	Current L2	Current L2
Current L3	Current L3	Current L3
kW L1	kW L1	Voltage L1
kW L2	kW L2	Voltage L2
kW L3	kW L3	Voltage L3
Average System Volts	Average System Volts	Average System Volts
Average System Current	Average System Current	Average System Current
Average System kW	Average System kW	System total kW
kWh Import	kWh Import	kWh Import - Power
		kWh Import - Lighting
		kWh Import - Total
		Frequency
		Power Factor (PF)

Product Code	
Integra DL1 DMS	DL1-01



## Benefits

- Cost-effective, single meter solution
- UK manufactured
- CL0.5 accuracy
- Modbus communications
- Fully configurable
- Additional facility to accumulate the total system power/kWhs - displaying the combined system total parameters

## Specification

Input	
Nominal input voltage	100V to 230V AC rms., L - N. 173V to 400V 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	0.2VA per phase (Except L1)**Self powered using the meter electrical input from L1 (6VA)
Nominal input current	100mA AC rms. per CT
System CT primary values	250A, 125A and 60A (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% of range Class 1 IEC 62053-21
Active energy (kWh)	+/- 1.0% of range 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

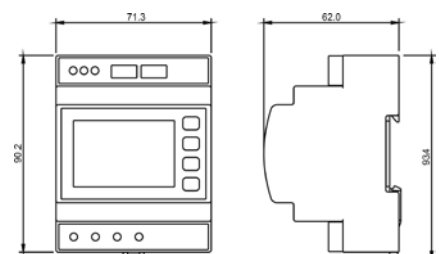
## Applications

- Switchgear distribution systems
- Energy/Building Management Systems

## Standards

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

## Dimensions

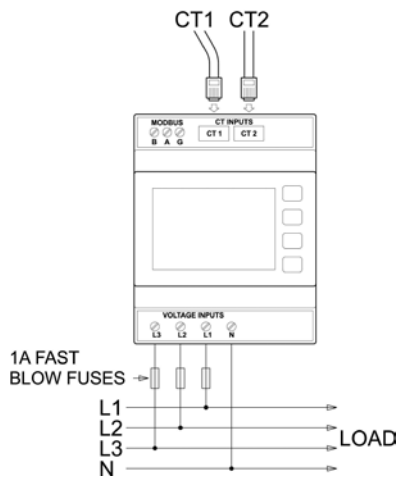


# Integra DL 1 Dual Load Digital Metering System

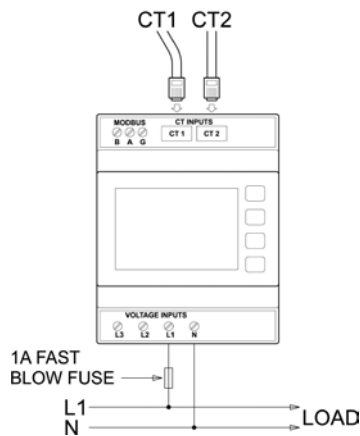
Enclosure	
Enclosure style	DIN-rail mounting EN43880
Dimensions	72 x 90 x 62 mm
Material	Polycarbonate to UL94-V0
Weight	0.25kg
Terminals voltage	Shrouded screw-clamp 0.05-4mm wire
Terminals CT	RJ12 connector
Sealing	IP52 front of panel
Environment	
Operating temperature	-10°C to +55°C
Storage temperature	-20°C to +70°C
Relative humidity	0-90% non-condensing
Shock	30g in 3 planes and vibration of 0Hz to 50Hz IEC 60068-2-6, 2g
Vibration	0Hz to 50Hz, IEC 60068-2-6, 2g. Withstand test 2.2kV, 50Hz for 1 minute between auxiliary / input / output

## Connection Diagrams

3 Phase, 4 wire



Single Phase, 2 wire



## Dual Load CT

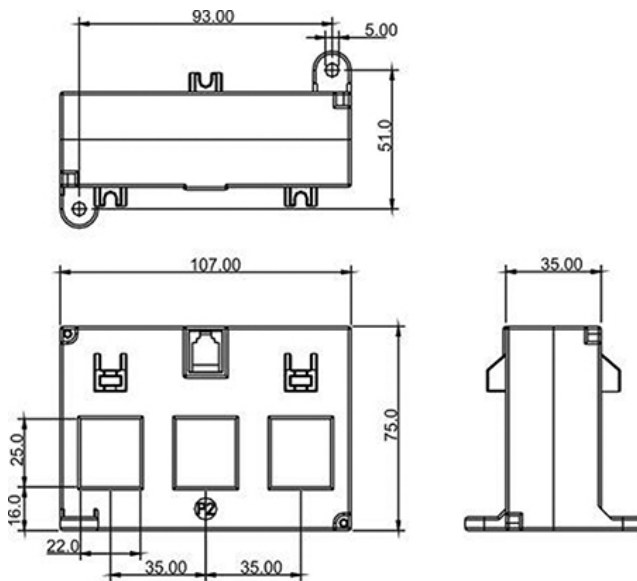
### Specification

System voltage	720V maximum
Test voltage	3kV for 1 minute
System frequency	50Hz or 60Hz
Primary ratings	100mA AC rms. per CT
Overload withstand	1.2x rated current continuously
Enclosure	Flame retardant grade classified UL94V-0
Aperture hole centres	35mm
Operating temperature	-20°C to 85°C
Compliant with accuracy	IEC / EN 60044-1 Class 0.5, Class 1,



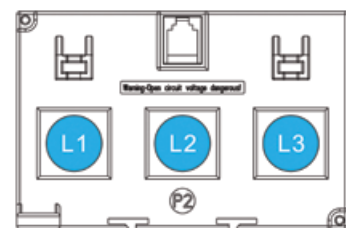
All Current Transformers are supplied with a 1.5m connecting cable, with RJ12 connector termination at each end.

### Dual Load CT Dimensions



### Dual Load CT Phase Orientation

Product Codes	Primary Current	VA at Class 1	VA at Class 0.5
DL3N1-35-60/0.1	60A	0.25	-
DL3N1-35-125/0.1	125A	0.5	0.25
DL3N1-35-250/0.1	250A	0.5	0.25



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