

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)
Current L1
Current L2
Current L3
kW L1
kW L2
kW L3
Average System Volts
Average System Current
Average System kW
kWh Import

Lighting (Load 2)		
Current L1		
Current L2		
Current L3		
kW L1		
kW L2		
kW L3		
Average System Volts		
Average System Current		
Average System kW		
kWh Import		

DL1-01

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



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

Product Code

Integra DL1 DMS

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	O.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	
Туре	2-wire half duplex	
Baud rate	9600, 19200, 38400	

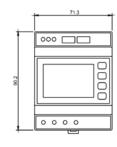
Applications

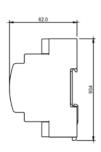
- Switchgear distribution systems
- Energy/Building Management Systems

Standards

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

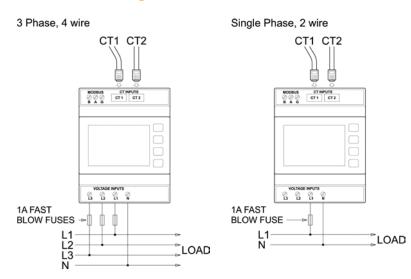
Dimensions





Englosum		
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	OHz to 50Hz, IEC 60068-2-6, 2g. Withstand test 2.2kV, 50Hz for 1 minute between auxiliary / input / output	

Connection Diagrams





Dual Load CT

Specification

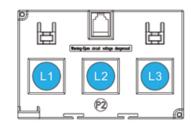
System voltage	720V maximum
Test voltage	3kV for 1 minute
System frequency	50Hz or 60Hz
Primary ratings	100mA AC rms. per CT
Overload withstand	1.2x rated current continuously
Enclosure	Flame retardant grade classified UL94V-0
Aperture hole centres	35mm
Operating temperature	-20°C to 85°C
Compliant with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



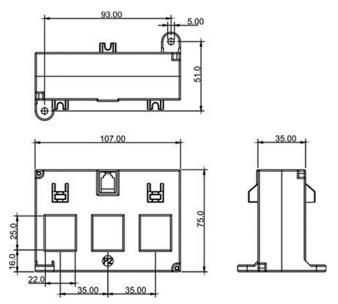
All Current Transformers are supplied with a 1.5m connecting cable, with RJ12 connector termination at each end.



Dual Load CT Phase Orientation



Dual Load CT Dimensions



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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