



CROMPTON INSTRUMENTS INTEGRA 0230 DIGITAL METERING SYSTEM

The Crompton Instruments INTEGRA 0230 digital metering system (dms) from TE Connectivity provides an MID certified solution for the measurement and display of all electrical parameters including total harmonic distortion (THD) and individual, up to the 31st harmonic.

Display

High definition screen features programmable backlight for high contrast visibility in low light and direct sunlight applications. The light can be programmed to automatically dim after set period of time for energy saving.

Auxiliary supply

Separate auxiliary input terminals are provided to power the product. Auxiliary output terminals are also provided to allow multiple products to be connected together. "Daisy-chain".

Communication

Modbus RS485 RTU and two pulsed outputs are fitted as standard.

Enclosure and System

The DIN-rail mounted enclosure includes integral retaining clip for quick and easy fitting and to suit user requirements, the range includes single-phase, three-phase three-wire and three-phase four-wire capability, all selectable at the point of installation.

Features

- MID D certified
- DIN-rail enclosure DIN 43880
- Programmable backlit LCD screen
- CT current measurement 5 / 1 A
- Directly wired
- Programmable VT, CT ratios
- Modbus™ RTU as standard
- 2 pulsed outputs
- 3P4W, 3P3W, 1P2W system types
- Individual harmonics to 31st

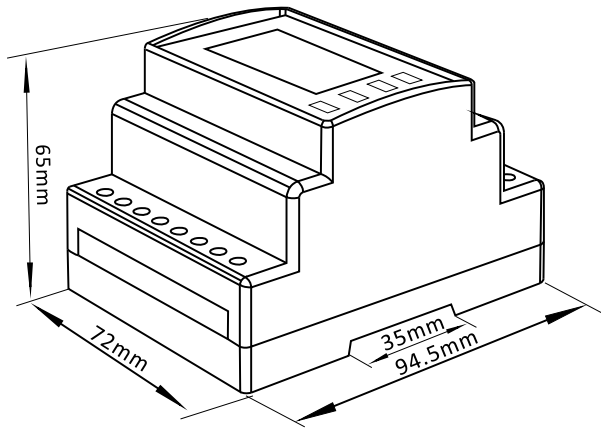
Benefits

- Cost effective
- Easy installation
- Tamperproof

Approvals

- IEC BS EN 61010-1:2010
- BS EN 61326-1:2013
- IEC 62053-21 Class 1
- IEC 62053-24 Class 1

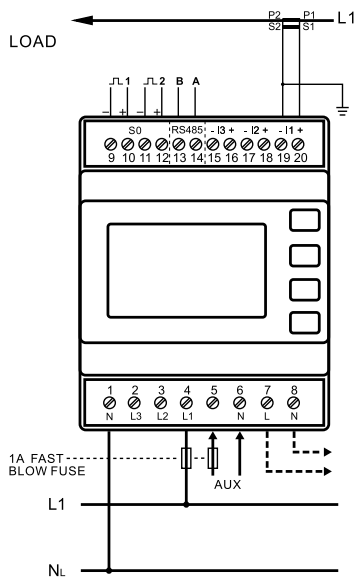
Dimensions



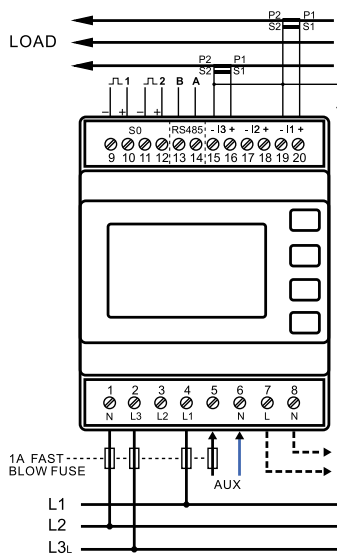
Displayed Parameters

- Voltage per phase L-N, L-L
- Current per phase and Max Demand
- Power Factor – per phase and system
- Total Harmonic Distortion – Voltage and Current per phase
- Neutral current
- Frequency system
- Phase Sequence
- Active Power (P) per phase, total and Max Demand
- Reactive Power (Q) per phase, total and Max Demand
- Apparent Power (S) per phase, total and Max Demand
- Energy – Active and Reactive Importing and Total
- Energy – Active and Reactive Exporting and Total

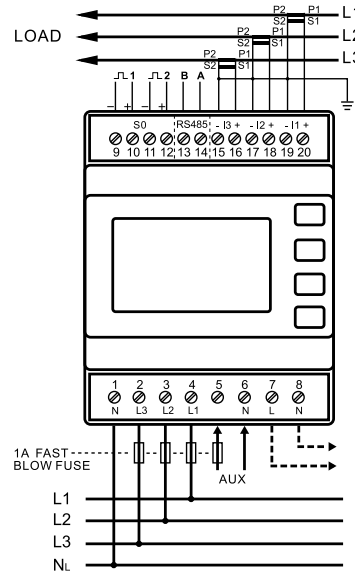
Wiring Diagrams



1-phase 2-wire



3-phase 3-wire



3-phase 4-wire

Product Codes





Description	Part number
INTEGRA 0230 multifunction DIN-rail LCD Input 500V L-L, 5A / 1A AC 2 pulsed outputs, Modbus RS485 MID Approved	INT-0230-S-01
INTEGRA 0220 multifunction DIN-rail LCD Input 500V L-L, 5A / 1A AC 2 pulsed outputs, Modbus RS485	INT-0220-S-01



Specifications

Input	
Nominal input voltage	100 - 289V AC L-N (65-500V L-L) 600V MAX
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 1/15A	1 / 5A
Nom. Input current burden	< 0.1 VA
Max. continuous input overload current	120% of nominal
Max. short duration input current	20 x nominal current for 1 second
Auxiliary	
Operating range	85 - 275V AC 120 - 380V DC
Supply burden	1 VA
Accuracy	
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
THD	2% to 31st harmonic
Measured Range	
Voltage (V)	5 - 120% of nominal (Min 100V - self powered)
Current (A)	5 - 120% of nominal
Frequency (Hz)	44 - 66 Hz
Power (W, VAr, VA)	5 - 144% of nominal (bi-directional)
Energy	8 digit, upto 9999999.9 MWh
Power factor	4 quadrant
THD	0 - 40% upto 31st harmonic
Environment	
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 between voltage and current to earth
Altitude	3000m
Warm-up	1 minute
Outputs	
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
Pulsed output relay (non-configurable)	3200IMP/kWh
Communications	
Type	Modbus RTU (RS485)
Baud rate	2-wire half duplex 4800, 9600, 19200, 38400
Address	1 to 247
Enclosure	
Enclosure Style	DIN-rail to DIN 43880
Dimensions	72x94.5x62 mm
Protection rating	Front IP54, Rear IP30
Material	UL 94-VO
Weight	230 g
Cable size	0.05mm-4mm stranded wire
Terminals	Voltage: Shrouded screw-clamp. Current: Shrouded screw clamp

Parameters

Button	Scr	Parameter
	1	L-N Volts L1, L2, L3
	2	L-L Volts L1, L2, L3
	3	Current L1, L2, L3, N
	4	V-THD% per line
	5	I-THD% per line
	6	Phase Sequence V&I
	1	PF and System Freq
	2	PF per phase
	3	MD per phase
	4	System Max demand P, Q, S.
	1	Active Power (P) L1, L2, L3
	2	Reactive Power (Q) L1, L2, L3
	3	Apparent Power (S) L1, L2, L3
	4	System Powers P,Q,S
	1	Imp Active Energy Exp Active Energy
	2	Imp Reactive Energy Exp Reactive Energy
	3	Total Active Energy Total Reactive Energy

CURRENT TRANSFORMERS RANGE



Ebony Current Transformers

The range of Crompton Instruments Ebony current transformers offers wide system current ratings, apertures, busbar and case sizes to suit every application. Manufactured to meet EN60044 the range benefits include ratio rating from 1/5 to 6000/5, accuracy up to Class 0.5, integral terminal cover for safety and multiple mounting options.

Supplied with metal feet. DIN rail clips and busbar mounting as standard.

For use with the CTO range of wiring looms.



Split Core Current Transformers

A range of split core current transformers that offers a cost effective and efficient method by which the current can be measured without the need to break the conductor, thereby reducing installation and commissioning time.



Miniature Split Core Current Transformers

A range of miniature split core current transformers that offers a cost effective and efficient method by which the current can be measured without the need to break the conductor, each current transformer is supplied with colour coded leads of up to 3 meters for connection to the monitoring device. The MSC range of current transformers offers primary currents between 60-500A with 1 or 5A secondaries with class 1 accuracy performance. (Class 3 for 60-80A range).

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