Integra Ri3 Digital Metering System

The Integra Ri3 dms is an accurate and cost effective solution for measurement and display of all major electrical and power quality parameters with easy programming and user friendly navigation in DIN 43880 enclosure.

The product features a DIN-rail enclosure, backlit LCD display and user programmable CT ratios, all accessible via an intuitive user interface. Integra Ri3 dms measures 17 electrical parameters including total harmonic distortion (THD) measurement up to the 31st harmonic.

Programmable Functions

Integra Ci3 dms is programmable to suit single-phase, three-phase three-wire and three-phase four-wire system configurations. Programmable CT ratios enable to display any current range.

Display

The parameters can be viewed on a backlit LCD display. The 15 screens are accessible via four buttons on the front panel allowing to scroll between various screens making the navigation very user-friendly, intuitive and above all – simple.

Output

Modbus RTU RS485 protocol and pulsed output are available as standard.

Features

- DIN-rail enclosure DIN 43880
- Backlit LCD screen
- Programmable CT ratio
- True rms measurement
- User programmable system configuration
- Pulsed output and Modbus RTU RS485 protocol as standard

Benefits

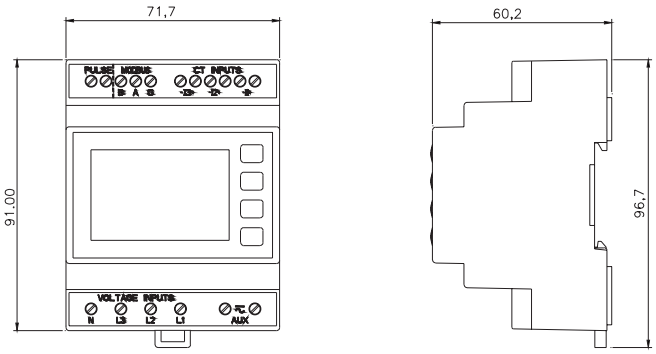
- Cost effective
- Simple navigation
- Crompton renowned quality
- UK manufactured

Standards

- IEC 61326
- IEC 61010-1
- IEC 62053-21

CE

Dimensions



Product Codes

Description	Part number
Integra Ri3 dms	RI3-01

Programmable Parameters

Parameter	Range
Password:	4-digit 0000-9999
System configuration:	1-phase 2-wire, 3-phase 3-wire, 3-phase 4-wire
Demand integration time:	OFF 5, 8, 10, 15, 20, 30, 60 minutes
CT primary current:	Maximum 9999A **
3 independent resets:	Demands and maximum demands
Communications:	Modbus RTU RS 485 or JC N2
RS485 baud rate:	2.4, 4.8, 9.6, 19.2, 38.4 kbps
RS485 parity and stop bits:	Odd or even with 1 stop bit or no parity with 1 or 2 stop bits
RS 485 Comms Address:	1-247
Modbus word order:	Normal or reverse
Pulse output allocation:	Import or export kWh or import or export KVArh
Pulse rate, rate per pulse:	0.001, 0.01, 0.1, 1, 10, 100, 1k, 10 k (max 2 pulses per sec)
Pulse output duration:	60, 100, 200 milliseconds
Energy units:	Unit, lilo or mega
Noise limit (1%):	On or off
Test:	Display ON, TOGGLE or PHASE SEQUENCE

Specifications

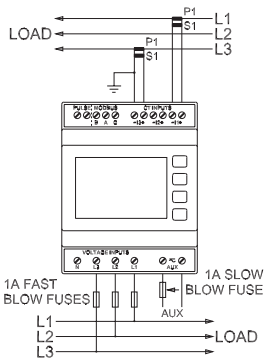
Input	
Nominal input voltage	100-289V AC L-N (173-500V AC L-L)
Max. continuous input overload voltage	120% of nominal
Max. short duration input voltage	2 x range maximum (1 second application repeated 5 times at 5 minute intervals)
Nominal input voltage burden	< 0.2VA per phase
Nominal input current	5A AC rms
Max. continuous input overload current	120% of nominal
Max. short duration input current	10 x nominal (1 second application repeated 5 times at 5 minute intervals)
Nominal input current burden	< 0.6VA per phase
Frequency	45-66Hz
System CT primary values	1 to 9999
Auxiliary	
Operating range	110-400V AC nominal +/-10% (99-440V AC absolute limits) or 120-350V DC +/-20% (96-420V DC absolute limits)
Burden	< 10VA/5W
Accuracy	
Voltage (V)	0.5%
Current (A)	0.5%
Neutral current calculated (A)	4%
Frequency (Hz)	0.1 Hz
Power factor (PF)	1% of unity
Active power (W)	+/- 1% of range
Reactive power (VAr)	+/- 1% of range
Apparent power (VA)	+/- 1% of range
Active energy (kWh)	Class 1 (IEC 62053-21)
Reactive energy (kVArh)	+/- 1% of range
THD	1% up to 31st harmonic
Response time	1 sec
Output	
Pulse output relay	1
Contact rating	50mA max at 250V AC
Type	Solid state relay
Modbus RTU RS485 protocol output module	1 Modbus RTU RS485 protocol channel
Type	2-wire half duplex
Baud rate	2400, 4800, 9600, 19200, 38400
Enclosure	
Enclosure style	DIN-rail - DIN 43880
Front protection rating	IP52
Case protection rating	IP30
Material	Polycarbonate to UL94V0
Weight	300g
Terminals	Shrouded screw-clamp 0.05-4mm wire
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
Vibration	10Hz to 50Hz
Dielectric voltage	Withstand test 3.25kV rms 50Hz for 1 minute between comms and measuring inputs, comm and aux, aux and measuring inputs

Parameters

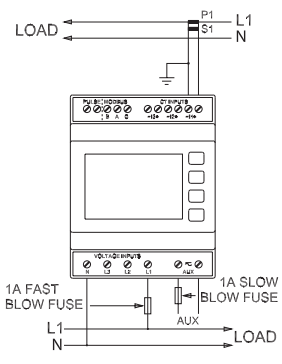
Button	Screen	Parameters
V/Hz	1	Volts L1 - N
		Volts L2 - N
		Volts L3 - N
	2	Volts L1 - L2
		Volts L2 - L3
		Volts L3 - L1
	3	Frequency
	4	Volts L1 - N THD%
		Volts L2 - N THD%
		Volts L3 - N THD%
	5	Volts L1 - L2 THD%
		Volts L2 - L3 THD%
		Volts L3 - L1 THD%
A	1	Current L1
		Current L2
		Current L3
	2	Neutral Current
	3	L1 Current Max Demand
		L2 Current Max Demand
		L3 Current Max Demand
	4	Neutral Current Max Demand
	5	Current L1 THD%
		Current L2 THD%
		Current L3 THD%
P/PF	1	kW
		kVAr
		kVA
	2	kW Max Demand
	3	Power Factor
E	1	Import kWh
	2	Export kWh
	3	Import kVArh
	4	Export kVArh

Connection

3-Phase 3-Wire



Single-Phase 2-Wire



3-Phase 4-Wire