

CROMPTON INSTRUMENTS INTEGRA 1222 DIGITAL METERING SYSTEM



**COST EFFECTIVE SOLUTION FOR THE
MEASUREMENT AND DISPLAY OF ALL
ELECTRICAL PARAMETERS**

KEY FEATURES

- DIN 96 enclosure
- Backlit LCD screen
- Voltage IN-OUT connections
- CT current measurement 5A/1A
- Plug and socket connections
- Programmable VT, CT ratios
- Modbus™ RTU
- Individual harmonics to 63rd
- Non-volatile memory 1MB

The Crompton Instruments Integra 1222 digital metering system (dms) from TE Connectivity enables cost effective solution for the measurement and display of all electrical parameters including total harmonic distortion (THD) up to the 63rd 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 a set period of time for energy saving.

New “petal” array icons shows the percentage of full scale power of the measured system and the instantaneous PF measurement gives clear PF indication. Total power consumption is displayed on the screen at all times.

QUICK TO CONNECT PLUG AND SOCKET WIRING SOLUTION

Integra 1222 dms and the 3-in-1 current transformers feature Q2C wiring solution for simple yet fast installation utilising plug and socket connections and pre-cut wiring looms, which allow to reduce assembly time and connection errors. IN-OUT voltage connections reduce wiring and installation time.

COMMUNICATION

Modbus RTU (RS485) standard on all models. Two pulsed outputs on self powered, one pulsed output on auxiliary powered. Optional modules available Ethernet (TCP), BACnet and Data Logger.

ENCLOSURE AND SYSTEM

The DIN 96 panel mounted enclosure includes integral panel mounting clips 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. Optional IP64 kit available.

APPLICATIONS

- Commercial Buildings Disclosures
- Nabers
- National Construction Code (NCC)
- Greenstar Energy Management

RELEVANT STANDARDS AND TEST REPORTS

- IEC BS EN 61010-1:2010
- BS EN 61326-1:2013
- IEC 62053-21 Class 0.5
- IEC 62053-24 Class 0.5



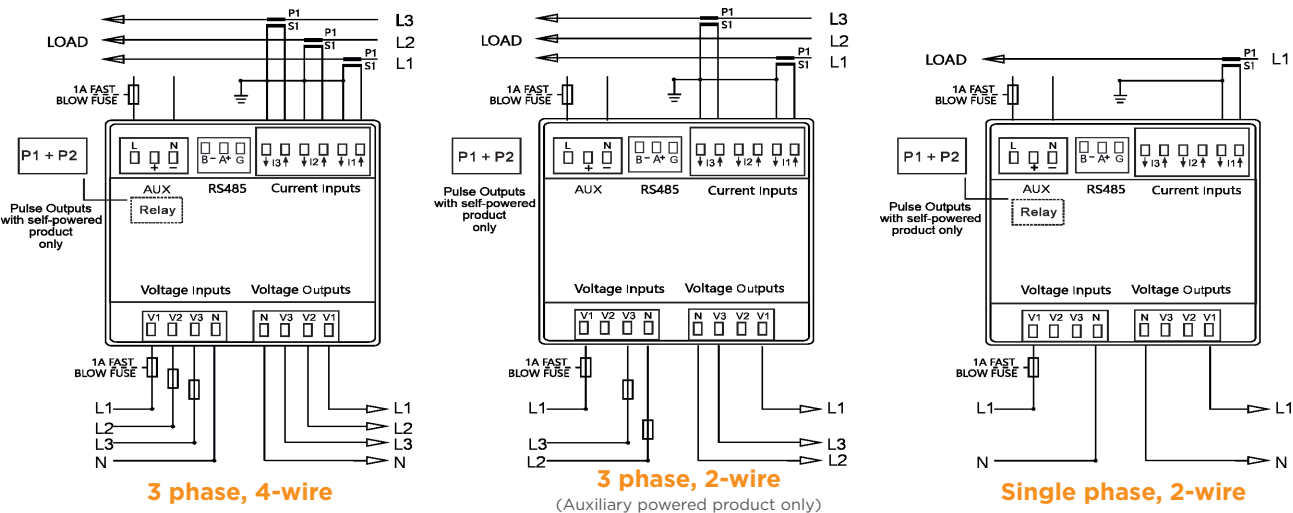
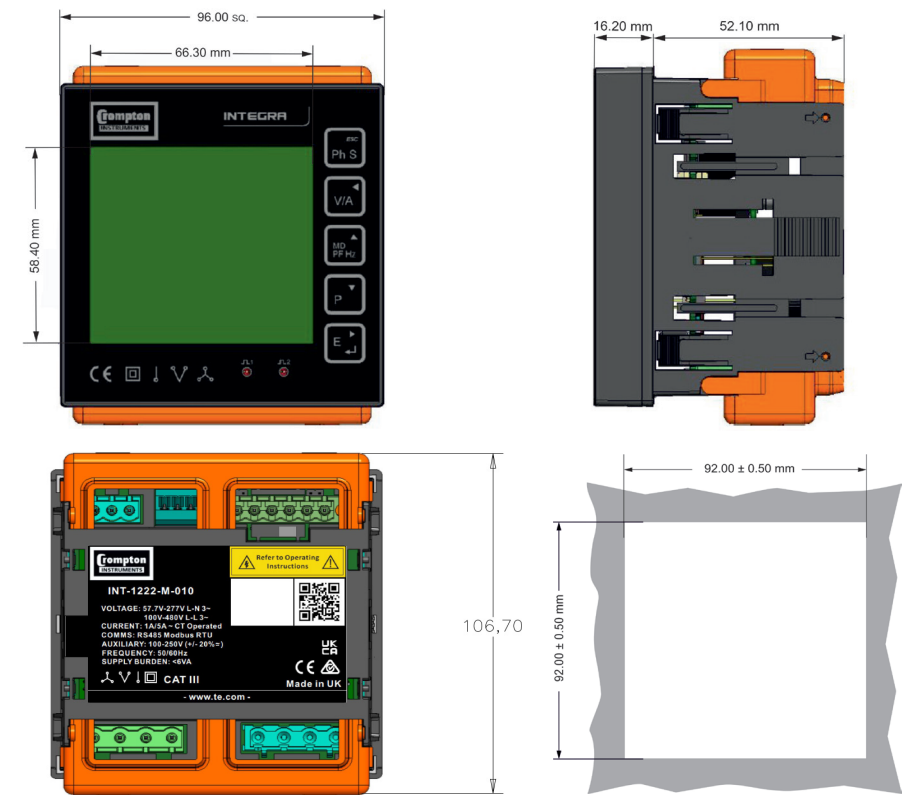
ORDERING INFORMATION

Model	Part number
Integra 1222 multifunction panel meter - Self powered. Backlit LCD HD Display Input 100-277 V AC L-L / 173-480V AC L-L - 2 Pulsed outputs. CT input 5A or 1A selectable. Modbus RS485 output. Optional QC2 plug & socket connectivity.	INT-1222-S-010
Integra 1222 multifunction panel meter - Auxiliary powered. Backlit LCD HD Display Input 57.7-277 V AC L-N / 100-480V AC L-L CT input 5A or 1A selectable. Modbus RS485 output. Auxiliary powered - 100-250V AC/DC +/- 20% Optional QC2 plug & socket connectivity.	INT-1222-M-010
Optional Ethernet Modbus TCP/IP / Bacnet IP Module (1221 & 1222)	OPT-1222-070
Optional Data Logger Module (1221 & 1222)	OPT-1222-020
Optional BACnet Module (1221 & 1222)	OPT-1222-090
Optional Sealing gasket & push fixing clamps for IP64 (1221 & 1222)	OPT-1222-IP64

DISPLAYED PARAMETERS

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

DIMENSIONAL INFORMATION & CONNECTION DIAGRAM



TECHNICAL SPECIFICATIONS

Specifications		Parameters			
Input		Button	Scr	Parameter	
Nominal input voltage (Self powered)	100-277 V AC L-N / 173-480V AC L-L		1	Watts L1	
Nominal input voltage (Auxillary powered)	57.7-276 V L-N (100-480 L-L) AC/DC			Volts L1	
Max. continuous input overload voltage	120% of nominal			Current L1	
Max. short duration input voltage	2 x nominal voltage for 1 second			Active Energy L1	
Nominal input voltage burden	< 0.2 VA per phase			2	Watts L2
Nominal input current	1A AC or 5A AC				Volts L2
Nom. Input current burden	< 0.1 VA		Current L2		
Max. continuous input overload current	120% of nominal		Active Energy L2		
Max. short duration input current (300 msec)	20 x nominal current for 1 second		3	Watts L3	
Supply burden (Auxiliary powered)	<5 VA			Volts L3	
				Current L3	
			Active Energy L3		
Accuracy			4	Watts L1	
Voltage (V)	+/- 0.5% of range maximum			Volts L1	
Current (A)	+/- 0.5% of range maximum			Current L1	
Frequency (Hz)	+/- 0.2% of mid-frequency		5	Reactive Energy L1	
Power factor (PF)	+/- 1% of unity (0.01)			Watts L2	
Active power (W)	+/- 0.5% of reading			Volts L2	
Reactive power (VAr)	+/- 0.5% of reading	Current L2			
Apparent power (VA)	+/- 0.5% of reading	Reactive Energy L2			
Active energy (kWh)	+/- 0.5% of reading to IEC 62053-21	6	Watts L3		
Reactive energy (kVArh)	+/- 0.5% of reading to IEC 62053-24		Volts L3		
THD	2% to 63rd harmonic		Current L3		
		Reactive Energy L3			
Measured Range			1	L-N Volts L1, L2, L3	
Voltage (V)	5 – 120% of nominal (Min 100 V – self powered)		2	L-L Volts L1, L2, L3	
Current (A)	5 – 120% of nominal		3	Current L1, L2, L3, N	
Frequency (Hz)	44 – 66 Hz		4	V-THD% per line	
Power (W, VAr, VA)	5 – 144% of nominal (bi-directional)		5	I-THD% per line	
Energy	8 digit, upto 9999999.9 MWh		6	Phase Sequence V&I	
Power factor	4 quadrant				
THD	0 – 40% upto 63rd harmonic				
Environment				1	PF and System Freq
Operating temperature	-25°C to +70°C			2	PF per phase
Storage temperature	-40°C to +80°C	3		Max Current Demand per phase	
Relative humidity	0 to 95%, non-condensing	4		System Max demand P, Q, S.	
Shock	30 g in 3 planes				
Vibration	10 Hz to 50 Hz, IEC 60068-2-6, 2 g				
Surge voltage	4 kV (IEC 61000-4-5)		1	Active Power (P) L1, L2, L3	
Impulse voltage	6 kV (IEC 60060-1)		2	Reactive Power (Q) L1, L2, L3	
Electromagnetic immunity	80 MHz - 2 GHz at 10 V/m IEC 61000-4-3		3	Apparent Power (S) L1, L2, L3	
Electrostatic discharge	15 kV (IEC 61000-4-2)		4	System Powers P,Q,S	
Altitude	3000 m		1	Imp Active Energy	
Warm-up	1 minute			Exp Active Energy	
Outputs				2	Imp Reactive Energy
Pulsed output relay (self powered only)	Opto-coupled, potential-free SPST-NO contact		Exp Reactive Energy		
Contact rating current	50 mA at 230 V AC 27 mA at 27 V DC		3		Total Active Energy
Contact rating voltage	5-27 V DC			Total Reactive Energy	
Pulse width	60 / 100 / 200 ms				
Pulse rate	0.001/0.01/0.1/1/ 0/100/1000 kWh/kVArh				
Pulsed output relay (non-configurable)	2400IMP/kWh				
Communications	Modbus RTU (RS485)				
Type	2-wire half duplex				
Baud rate	2400, 4800, 9600, 19200, 38400				
Address	1 to 247				
Enclosure					
Enclosure style	DIN 96 panel mount				
Dimensions	96x96x62 mm				
Panel cut-out	92x92 mm				
Panel thickness	1-5 mm				
Protection rating	Front IP54, Rear IP30, IP64 (with additional kit)				
Material	UL 94-VO				
Weight	340 g				
Cable size	0.05 mm² - 2.5 mm² stranded wire				
Terminals	Voltage and Current : Shrouded screw clamp				

Q2C WIRING SOLUTION

Ensures error free installation and reduces wiring time by 80%.

With the Q2C wiring solution, you can quickly and easily connect the INTEGRA 1222 Digital Metering System and 3-in-1 current transformers.

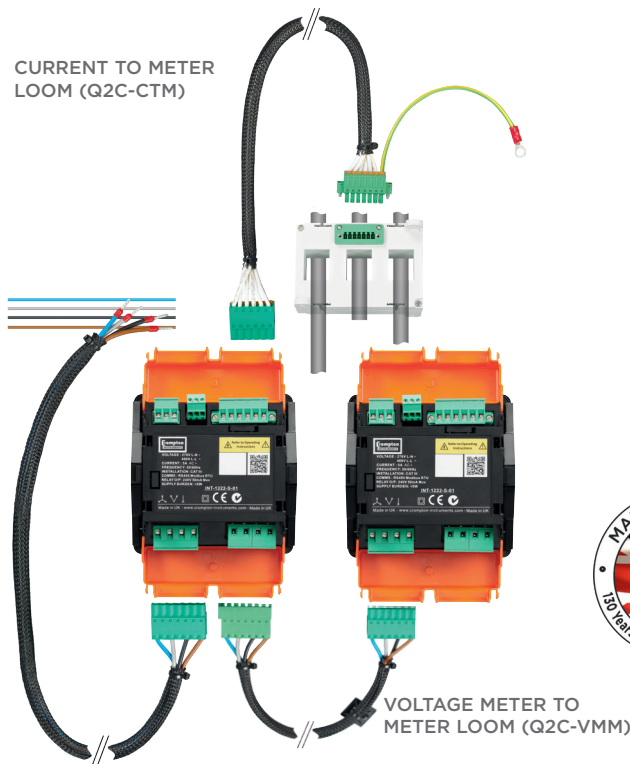
KEY BENEFITS

- A complete wiring solution with integral connectors and earthing
- Low smoke zero halogen wiring looms
- Screwless terminal connections, vibration proof and maintenance free
- Reduced installation time
- Eliminates potential cost of errors in electrical connections or programming



CURRENT TO METER
LOOM (Q2C-CTM)

VOLTAGE METER
TO OPEN LOOM
(Q2C-VFO)



VOLTAGE METER TO
METER LOOM (Q2C-VMM)



VOLTAGE METER TO METER LOOM

The meter to meter loom connects the voltage for upto 32 meters using high quality LSZH cable fitted with suitable plugs and socket for safe and easy voltage connections.



Part Number	Length
Q2C-VMM-0600-01	600 mm
Q2C-VMM-1000-01	1000 mm
Q2C-VMM-1200-01	1200 mm
Q2C-VMM-1500-01	1500 mm
Q2C-VMM-2000-01	2000 mm
Other lengths available	

VOLTAGE METER TO OPEN LOOM

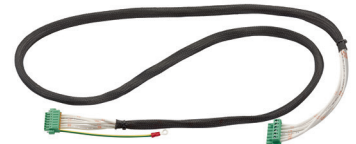
The meter to open loom connects the voltage supply from the fused connections to the meter using high quality LSZH cable fitted with suitable plugs and socket for safe and easy voltage connections.



Part Number	Length
Q2C-VFO-0600-01	600 mm
Q2C-VFO-1000-01	1000 mm
Q2C-VFO-1200-01	1200 mm
Q2C-VFO-1500-01	1500 mm
Other lengths available	

CURRENT TO METER LOOM

The current to meter loom connects the current from the current transformer to the current input on the meter using high quality LSZH cable fitted with suitable plugs and socket for safe and easy voltage connections.



Part Number	Length
Q2C-CTM-0600-01	600 mm
Q2C-CTM-0900-01	900 mm
Q2C-CTM-1200-01	1200 mm
Q2C-CTM-1500-01	1500 mm
Q2C-CTM-2000-01	2000 mm
Q2C-CTM-2500-01	2500 mm
Other lengths available	

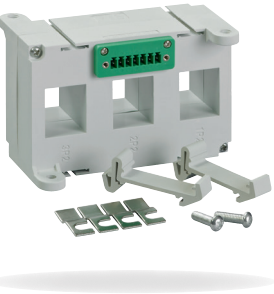
CURRENT TO OPEN LOOM

The open loom allows to hard wire the high quality LSZH cable to any CT while the plug connector ensures quick and safe connection to the inputs on the meter fitted with suitable plugs.



Part Number	Length
Q2C-CMO-0600-01	600 mm
Q2C-CMO-0900-01	900 mm
Q2C-CMO-1200-01	1200 mm
Q2C-CMO-1500-01	1500 mm
Q2C-CMO-2000-01	2000 mm
Q2C-CMO-2500-01	2500 mm
Other lengths available	

Integra DMS - Q2C 3-in-1 Current Transformers for use with Integra 1222, 1232

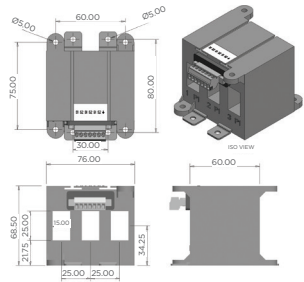


FEATURES

- 3-IN-1 current transformers combine 3 traditional current transformers
- Can be use with or without Q2C wiring solution
- Suitable for use with Integra 1222 and 1232 meters
- Integral connector

BENEFITS

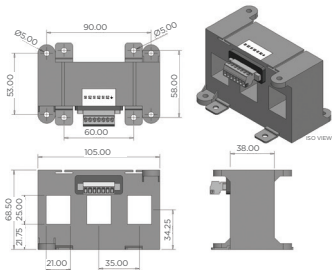
- Simple, easy and error free installation and wiring
- Applicable for most standard MCCB manufacturers



QC3N1-25 – 25 MM CENTRES BETWEEN PHASES

76 mm wide x 60 mm deep x 68 mm high

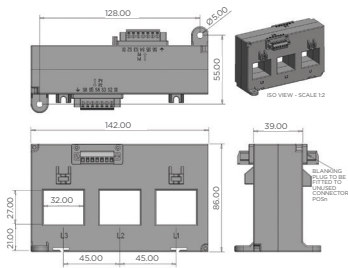
Part number	Ratio	Burden VA against class index			Aperture (mm)
		Class 0.5	Class 1	Class 3	
QC3N1-25-60/5	60/5	-	1	2	3@15x25
QC3N1-25-100/5	100/5	-	1.5	2.5	3@15x25
QC3N1-25-125/5	125/5	-	1.5	2.5	3@15x25
QC3N1-25-160/5	160/5	1.5	1.5	2.5	3@15x25



QC3N1-35 – 35 MM CENTRES BETWEEN PHASES

105 mm wide x 38 mm deep x 68.5 mm high

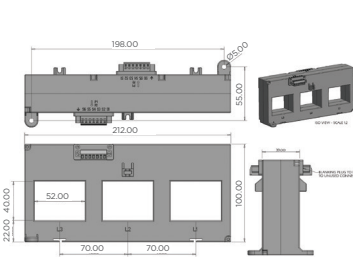
Part number	Ratio	Burden VA against class index			Aperture (mm)
		Class 0.5	Class 1	Class 3	
QC3N1-35-100/5	100/5	-	1.5	2	3@21x25
QC3N1-35-125/5	125/5	-	1.5	2.5	3@21x25
QC3N1-35-160/5	160/5	1.5	1.5	2.5	3@21x25
QC3N1-35-250/5	250/5	1.5	1.5	2.5	3@21x25



QC3N1-45 – 45 MM CENTRES BETWEEN PHASES

142 mm wide x 39 mm deep x 86 mm high

Part number	Ratio	Burden VA against class index			Aperture (mm)
		Class 0.5	Class 1	Class 3	
QC3N1-45-250/5	250/5	-	2.5VA	-	3@32x27
QC3N1-45-400/5	400/5	-	2.5VA	-	3@32x27
QC3N1-45-630/5	630/5	2.5VA	5VA	-	3@32x27



QC3N1-70 – 70 MM CENTRES BETWEEN PHASES

212 mm wide x 39 mm deep x 100 mm high

Part number	Ratio	Burden VA against class index			Aperture (mm)
		Class 0.5	Class 1	Class 3	
QC3N1-70-400/5	400/5	-	2.5VA	-	3@52x40
QC3N1-70-630/5	630/5	2.5VA	2.5VA	-	3@52x40
QC3N1-70-800/5	800/5	2.5VA	5VA	-	3@52x40

FOR MORE INFORMATION:

TE Technical Support Centres

Learn more: [TE.com/energy](https://www.te.com/energy)

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