



**MADE IN UK**

## TE'S CROMPTON INSTRUMENTS INTEGRA 1222 DIGITAL METERING SYSTEM

### 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

### APPLICATIONS

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

### APPROVALS

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

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

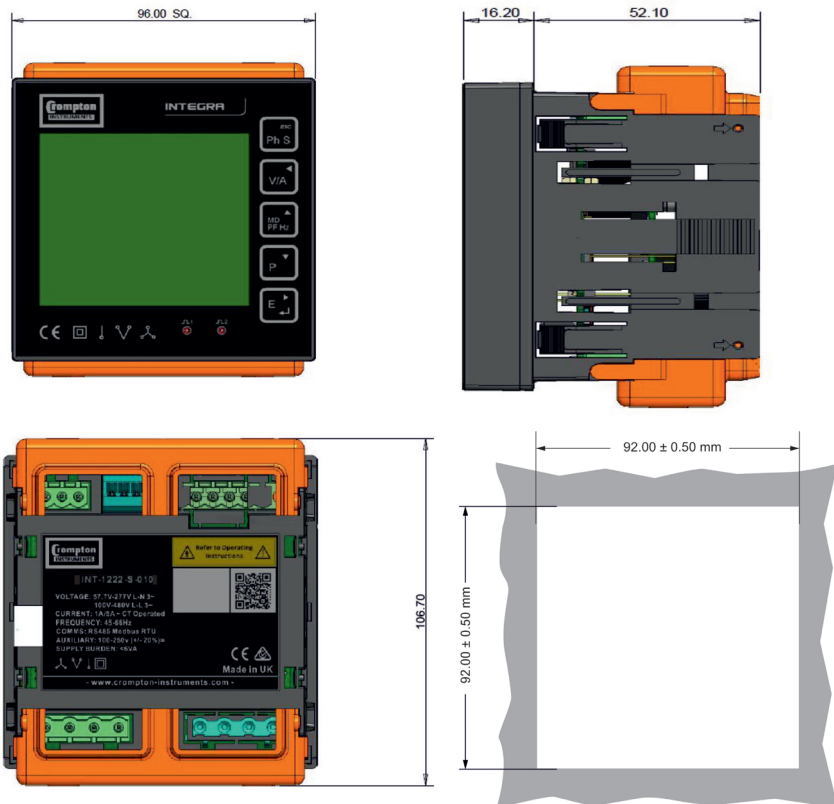
Modbus RTU (RS485) available on all models. Two pulsed outputs available on self powered only.

### 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.

# CROMPTON INSTRUMENTS INTEGRA 1222 DIGITAL METERING SYSTEM

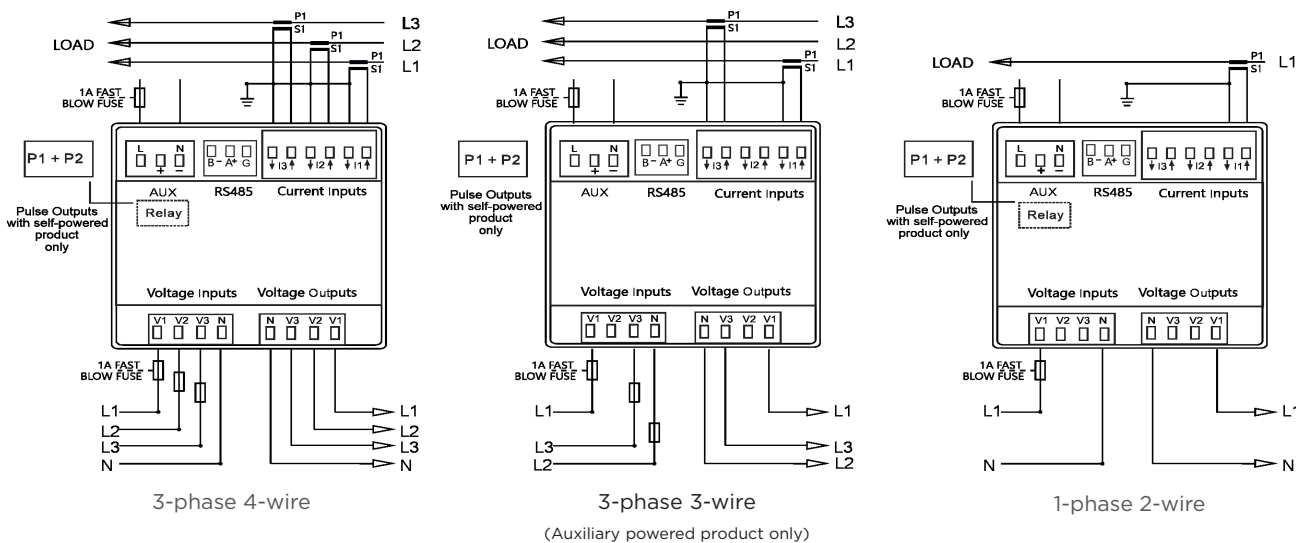
## DIMENSIONS



## 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

## AUXILIARY AND SELF POWERED WIRING DIAGRAMS



PRODUCT CODES	
Description	Part number
INTEGRA 1222 multifunction panel meter - Self powered LCD Display Input 480 V L-L 2 pulsed outputs, Modbus RS485	INT-1222-S-010
INTEGRA 1222 multifunction panel meter - Auxiliary powered 100 - 250 V AC/DC +/- 20% LCD Display Input 480 V L-L Modbus RS485	INT-1222-M-010
Optional Ethernet Module	OPT-ETH
Optional Sealing Gasket & push fixing clamps for IP64 seal to panel	INT-IP6X

# CROMPTON INSTRUMENTS

## INTEGRA 1222 DIGITAL METERING SYSTEM

SPECIFICATIONS		PARAMETERS				
Input		Button	Scr	Parameter		
Nominal input voltage	57.7 - 276 V AC L-N (100-480 V L-L) 576 V L-L MAX	ESC Ph S	1	Watts L1		
Max. continuous input overload voltage	120% of nominal			Volts L1		
Max. short duration input voltage	2 x nominal voltage for 1 second			Current L1		
Nominal input voltage burden	< 0.2 VA per phase			Active Energy L1		
Nominal input current	1A AC or 5A AC			2	Watts L2	
Nom. Input current burden	< 0.1 VA				Volts L2	
Max. continuous input overload current	120% of nominal	Current L2				
Max. short duration input current (300 msec)	20 x nominal current for 1 second	Active Energy L2				
<b>Auxiliary Powered</b>		ESC Ph S	3	Watts L3		
Operating range	57.7-276 V L-N (100-480 L-L) AC/DC			Volts L3		
Supply burden	50/60 Hz or Self powered from any phase			Current L3		
<b>Accuracy</b>				Active Energy L3		
Voltage (V)	+/- 0.5% of range maximum			4	Watts L1	
Current (A)	+/- 0.5% of range maximum				Volts L1	
Frequency (Hz)	+/- 0.2% of mid-frequency	Current L1				
Power factor (PF)	+/- 1% of unity (0.01)	Reactive Energy L1				
Active power (W)	+/- 0.5% of reading	5	Watts L2			
Reactive power (VAR)	+/- 0.5% of reading		Volts L2			
Apparent power (VA)	+/- 0.5% of reading		Current L2			
Active energy (kWh)	+/- 0.5% of reading to IEC 62053-21	Reactive Energy L2				
Reactive energy (kVARh)	+/- 0.5% of reading to IEC 62053-24	6	Watts L3			
THD	2% to 63rd harmonic		Volts L3			
<b>Measured Range</b>			Current L3			
Voltage (V)	5 - 120% of nominal (Min 100 V - self powered)	Reactive Energy L3				
Current (A)	5 - 120% of nominal	V/A	1	L-N Volts L1, L2, L3		
Frequency (Hz)	44 - 66 Hz		2	L-L Volts L1, L2, L3		
Power (W, VAR, VA)	5 - 144% of nominal (bi-directional)		3	Current L1, L2, L3, N		
Energy	8 digit, upto 9999999.9 MWh		4	V-THD% per line		
Power factor	4 quadrant		5	I-THD% per line		
THD	0 - 40% upto 63rd harmonic		6	Phase Sequence V&I		
<b>Environment</b>		MD PF Hz	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			P	1	Active Power (P) L1, L2, L3
Vibration	10 Hz to 50 Hz, IEC 60068-2-6, 2 g				2	Reactive Power (Q) L1, L2, L3
Surge voltage	4 kV (IEC 61000-4-5)	3	Apparent Power (S) L1, L2, L3			
Impulse voltage	6 kV (IEC 60060-1)	4	System Powers P,Q,S			
Electromagnetic immunity	80 MHz - 2 GHz at 10 V/m IEC 61000-4-3	E	1	Imp Active Energy		
Electrostatic discharge	15 kV (IEC 61000-4-2)		2	Exp Active Energy		
Altitude	3000 m		3	Imp Reactive Energy		
Warm-up	1 minute			Exp Reactive Energy		
<b>Outputs</b>				Total Active Energy		
Pulsed output relay (self powered only)	Opto-coupled, potential-free SPST-NO contact			Total Reactive Energy		
Contact rating current	50 mA at 230 V AC 27 mA at 27 V DC					
Contact rating voltage	5-27 V DC					
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					
<b>Communications</b>						
Type	Modbus RTU (RS485)					
Address	1 to 247					
<b>Enclosure</b>						
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-V0					
Weight	340 g					
Cable size	0.05 mm <sup>2</sup> - 2.5 mm <sup>2</sup> stranded wire					
Terminals	Voltage and Current : Shrouded screw clamp					
Display characters	6.2 mm					

**CROMPTON INSTRUMENTS  
INTEGRA 1222 DIGITAL METERING SYSTEM**

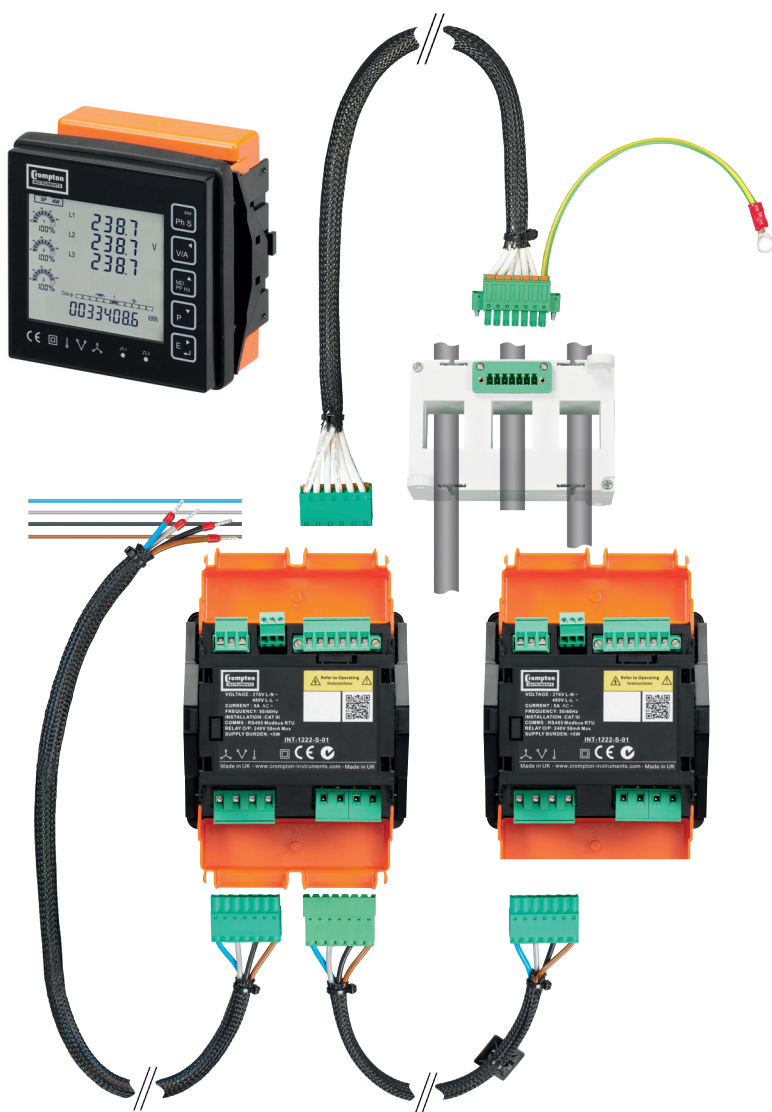
# Q2C WIRING SOLUTION

**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



### 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
<b>Other lengths available</b>	

### VOLTAGE METER TO OPEN LOOM

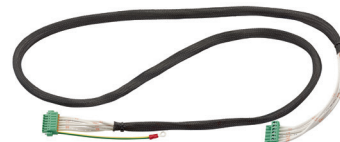
The meter to open loom connects the voltage supply from the fused connections to the meter using high quality LSZH cable fitted with suitable plugs and socket for safe and easy voltage connections.



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
<b>Other lengths available</b>	

### 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
<b>Other lengths available</b>	

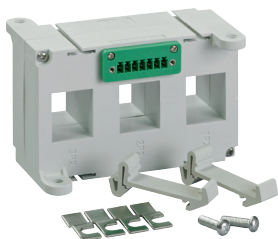
### CURRENT TO OPEN LOOM

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
<b>Other lengths available</b>	

## Q2C 3-IN-1 CURRENT TRANSFORMERS

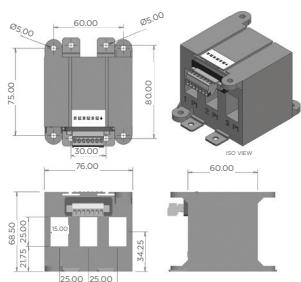


A range of 3-in-1 current transformers to use with or without the Q2C wiring solution. The 3-in-1 current transformers combine three traditional current transformers in one moulded case with a connector for simple and easy installation.

### QC3N1-25

76 mm wide x 60 mm deep x 68 mm high

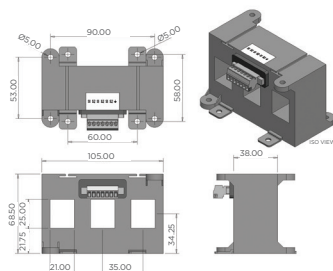
PART NUMBER	RATIO	BURDEN VA AGAINST CLASS INDEX			APERTURE (MM)
		CLASS 0.5	CLASS 1	CLASS 3	
QC3N1-25-60/5	60/5	-	1	2	3 @ 15x25
QC3N1-25-100/5	100/5	-	1.5	2.5	3 @ 15x25
QC3N1-25-125/5	125/5	-	1.5	2.5	3 @ 15x25
QC3N1-25-160/5	160/5	1.5	1.5	2.5	3 @ 15x25



### QC3N1-35

105 mm wide x 38 mm deep x 68.5 mm high

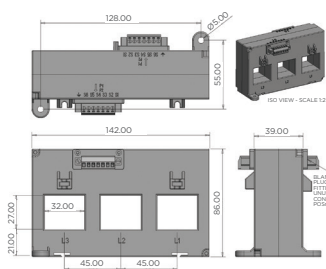
PART NUMBER	RATIO	BURDEN VA AGAINST CLASS INDEX			APERTURE (MM)
		CLASS 0.5	CLASS 1	CLASS 3	
QC3N1-35-100/5	100/5	-	1.5	2	3 @ 21x25
QC3N1-35-125/5	125/5	-	1.5	2.5	3 @ 21x25
QC3N1-35-160/5	160/5	1.5	1.5	2.5	3 @ 21x25
QC3N1-35-250/5	250/5	1.5	1.5	2.5	3 @ 21x25



### QC3N1-45

142 mm wide x 39 mm deep x 86 mm high

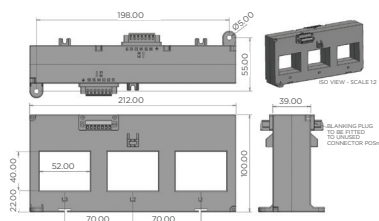
PART NUMBER	RATIO	BURDEN VA AGAINST CLASS INDEX			APERTURE (MM)
		CLASS 0.5	CLASS 1	CLASS 3	
QC3N1-45-250/5	250/5	-	2.5VA	-	3 @ 32x27
QC3N1-45-400/5	400/5	-	2.5VA	-	3 @ 32x27
QC3N1-45-630/5	630/5	2.5VA	5VA	-	3 @ 32x27



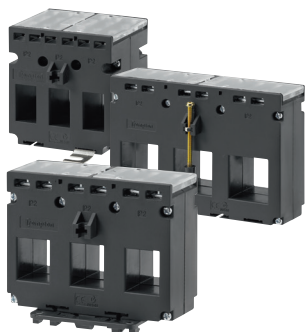
### QC3N1-70

212 mm wide x 39 mm deep x 100 mm high

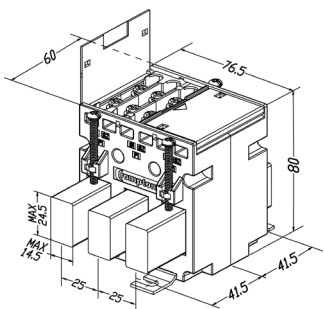
PART NUMBER	RATIO	BURDEN VA AGAINST CLASS INDEX			APERTURE (MM)
		CLASS 0.5	CLASS 1	CLASS 3	
QC3N1-70-400/5	400/5	-	2.5VA	-	3 @ 52x40
QC3N1-70-630/5	630/5	2.5VA	2.5VA	-	3 @ 52x40
QC3N1-70-800/5	800/5	2.5VA	5VA	-	3 @ 52x40



## 3-IN-1 CURRENT TRANSFORMERS



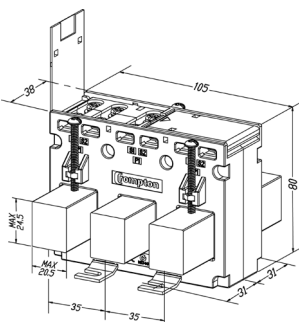
A range of 3-in-1 current transformers combine three traditional current transformers in one moulded case. 3-in-1 current transformers can be directly installed next to a three-phase moulded case circuit breaker, thus saving installation time where fitting three standard individual current transformers would be required. The M3N1 range of current transformers offers primary currents between 60-630A with 5A secondaries with up to Class 0.5 accuracy performance.



### M3N1-25

Case size: 75 mm wide x 60 mm deep x 80 mm high

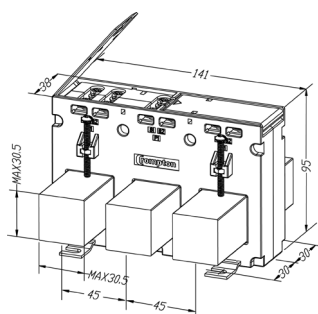
PART NUMBER	RATIO	BURDEN VA AGAINST CLASS INDEX			APERTURE (MM)
		CLASS 0.5	CLASS 1	CLASS 3	
M3N1-25-60/5	60/5	-	1	2	3 @ 15x25
M3N1-25-100/5	100/5	-	1.5	2.5	3 @ 15x25
M3N1-25-125/5	125/5	-	1.5	2.5	3 @ 15x25
M3N1-25-160/5	160/5	1.5	1.5	2.5	3 @ 15x25



### M3N1-35

Case size: 105 mm wide x 38 mm deep x 80 mm high

PART NUMBER	RATIO	BURDEN VA AGAINST CLASS INDEX			APERTURE (MM)
		CLASS 0.5	CLASS 1	CLASS 3	
M3N1-35-100/5	100/5	-	1	2	3 @ 21x25
M3N1-35-125/5	125/5	-	1.5	2.5	3 @ 21x25
M3N1-35-150/5	150/5	-	1.5	2.5	3 @ 21x25
M3N1-35-160/5	160/5	1.5	1.5	2.5	3 @ 21x25
M3N1-35-200/5	200/5	1.5	1.5	2.5	3 @ 21x25
M3N1-35-250/5	250/5	1.5	1.5	2.5	3 @ 21x25

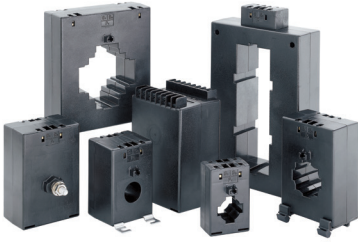


### M3N1-45

Case size: 141 mm wide x 38 mm deep x 95 mm high

PART NUMBER	RATIO	BURDEN VA AGAINST CLASS INDEX			APERTURE (MM)
		CLASS 0.5	CLASS 1	CLASS 3	
M3N1-45-250/5	250/5	1.5	1.5	2.5	3 @ 31x31
M3N1-45-300/5	300/5	2.5	2.5	3.75	3 @ 31x31
M3N1-45-400/5	400/5	2.5	2.5	3.75	3 @ 31x31
M3N1-45-500/5	500/5	2.5	2.5	3.75	3 @ 31x31
M3N1-45-600/5	600/5	2.5	2.5	3.75	3 @ 31x31
M3N1-45-630/5	630/5	2.5	2.5	3.75	3 @ 31x31

## 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.

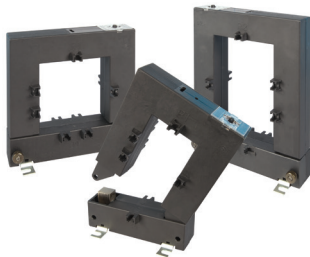
Supplied with metal feet. DIN rail clips and busbar mounting as standard.

For use with the CTO range of wiring looms.



### MR SERIES CURRENT TRANSFORMERS

MR transformers are used to accurately measure high alternating primary currents, converting the primary current into a proportional secondary current as required for measurement and instrumentation. They are available in 5 amp or 1 amp secondary versions.



### 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).

For full range and part numbers visit  
[Crompton-instruments.com](http://Crompton-instruments.com)

## CROMPTON INSTRUMENTS INTEGRA 1222 DIGITAL METERING SYSTEM

### About TE Connectivity

**TE Connectivity Ltd.** (NYSE: TEL) TE Connectivity is a \$12 billion global technology leader. Our commitment to innovation enables advancements in transportation, industrial applications, medical technology, energy, data communications, and the home. TE's unmatched breadth of connectivity and sensor solutions, proven in the harshest of environments, helps build a safer, greener, smarter and more connected world. With 75,000 people – including more than 7,000 engineers – working alongside customers in nearly 150 countries, we help ensure that EVERY CONNECTION COUNTS.

WHEREVER ELECTRICITY FLOWS, YOU'LL FIND TE ENERGY



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ELECTRICAL ENGINEERING & FLUID CONTROL DISTRIBUTORS

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