CROMPTON INSTRUMENTS CORE PRODUCT CATALOGUE

EDITION 7

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CROMPTON INSTRUMENTS POWER MEASUREMENT, CONTROL AND PROTECTION SOLUTIONS

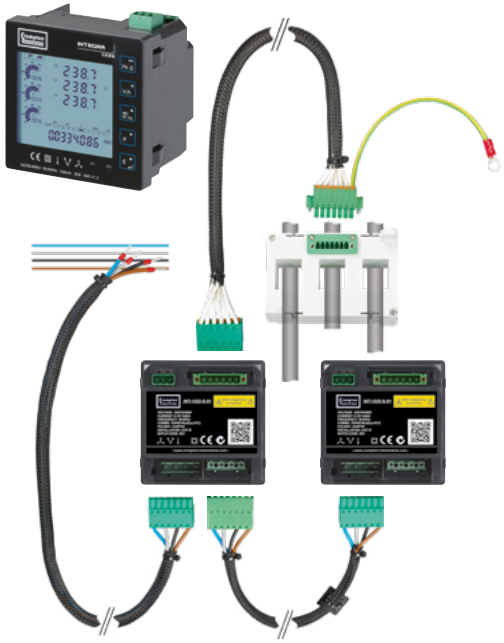
TE CONNECTIVITY OFFERS ONE OF THE LARGEST PRODUCT RANGES OF POWER MEASUREMENT, CONTROL AND PROTECTION INSTRUMENTATION FOR SWITCHGEAR AND GENERATOR SET MANUFACTURERS, PANEL BUILDERS AND OEMS.

Crompton Instruments branded products offer proven reliability across a diverse array of industries including power generation, process control, test and measurement, utility, marine, defence and energy management applications.

This combined catalogue presents a small selection of our complete product portfolio and is in no way exhaustive.

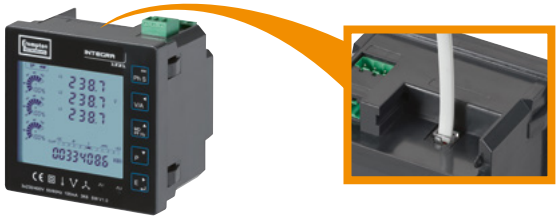
For comprehensive information of our complete product range please visit our web site www.crompton-instruments.com

NEW PRODUCTS



Q2C WIRING LOOM SOLUTION

INTEGRA 1221 DMS



INTEGRA 1222 DMS

INTEGRA 1232 DMS

INTEGRA 0220 / 0230 DMS

DRS ENERGY METERS

MINI CLIP CTS

INTEGRA DL1 DUAL LOAD DMS

Parameters

Button	Scr	Parameter
ESC Ph S	1	Watts L1 Volts L1 Current L1 Active Energy L1
	2	Watts L2 Volts L2 Current L2 Active Energy L2
	3	Watts L3 Volts L3 Current L3 Active Energy L3
	4	Watts L1 Volts L1 Current L1 Active Energy L1
	5	Watts L2 Volts L2 Current L2 Active Energy L2
	6	Watts L3 Volts L3 Current L3 Active Energy L3
V/A	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
MD PF Hz	1	PF and System Freq
	2	PF per phase
	3	MD per phase
	4	System Max demand P, Q, S.
P	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
E	1	Imp Active Energy Exp Active Energy
	2	Imp Reactive Energy Exp Reactive Energy
	3	Total Active Energy Total Reactive Energy

The new range of Crompton Instruments Integra digital metering system (dms) enables cost effective solution for the measurement and display of all electrical parameters.

- MID B + D Certified
- Certified for Import / Export kWh
- Single Phase & 3 phase applications
- Programmable VT, CT Ratios
- Voltage IN-OUT
- HD backlit LCD display - programmable
- 1A or 5A selectable CT Input
- Standard Plug in / Quick to connect (Q2C) & RJ12 connection options available
- Phase voltage and current sequence screen
- 2 pulsed and 1 Modbus output as standard
- No auxiliary power supply wiring required
- Graphic petal array icons show total system load and phase balance

Integra-1221 - RJ12 CT Connection

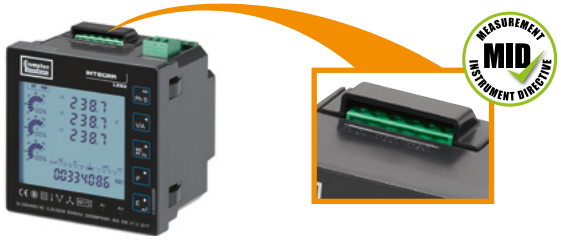
Integra 1221 dms and the 3-in-1 current transformers (DL3N1) include RJ12 connectors for the current connections providing easy and reliable installation. Pre wired voltage looms are also available reducing connectivity errors and providing a complete, connected solution. Integra 1221 dms can also be used with any Crompton Instruments current transformers.

Integra-1222 - Q2C CT Connection

Integra 1222 dms and the 3-in-1 current transformers (QC3N1) supports our Q2C connector solution. Pre wired voltage and current looms are available reducing connectivity errors and providing a complete, easy, reliable, connected solution. Integra 1222 dms can also be used with any Crompton Instruments current transformers.

Integra-1232 - MID Approved, Q2C CT Connection

The MID approved Integra 1232 dms combined with the 3-in-1 current transformers (QC3N1) supports our Q2C connector solution. Pre wired voltage and current looms are available reducing connectivity errors and providing a complete, easy, reliable, connected solution. Integra 1232 dms can also be used with any Crompton Instruments current transformers.



Product Codes

Description	Part number
Integra 1221 multifunction panel meter LCD Input L-L, 100mA AC. 2 pulsed outputs, Modbus RS485 output. RJ12 CT connectivity	INT-1221-S-01
Integra 1222 multifunction panel meter LCD Input 480V L-L, 5A / 1A AC. 2 pulsed outputs, Modbus RS485 output. Optional Q2C plug and socket connectivity	INT-1222-S-01
Integra 1232 multifunction panel meter - MID approved LCD Input 480V L-L, 5A / 1A AC. 2 pulsed outputs, Modbus RS485 output. Optional Q2C plug and socket connectivity	INT-1232-S-01

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. Compatible with all versions of INT 12XX meters.

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

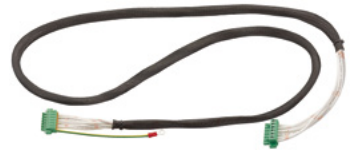
Voltage Meter to Meter Loom

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. Compatible with all versions of INT-12XX meters.

Part Number	Length
Q2C-VMM-0600-01	600mm
Q2C-VMM-1000-01	1000mm
Q2C-VMM-1200-01	1200mm
Q2C-VMM-1500-01	1500mm
Q2C-VMM-2000-01	2000mm
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. Compatible with any Q2C 3 in 1 CT.



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

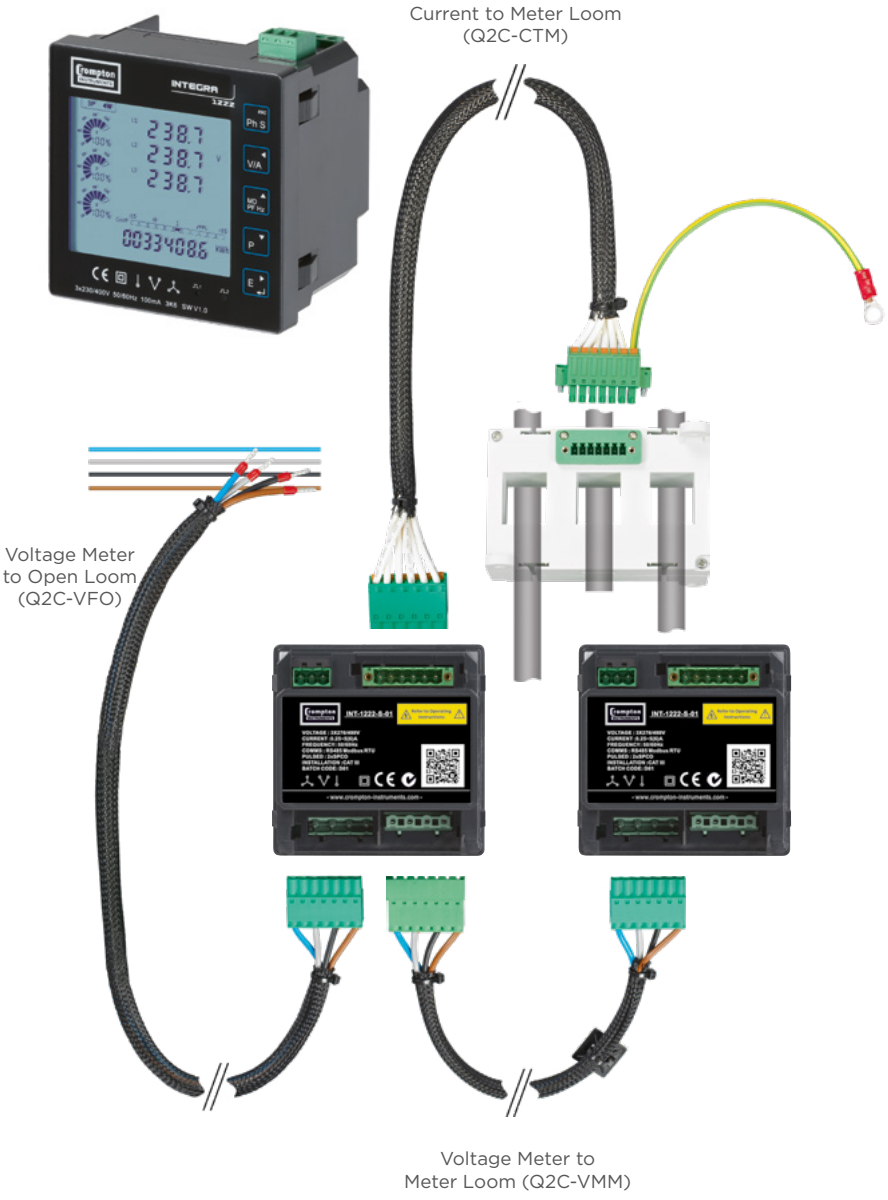
Current to Open Loom

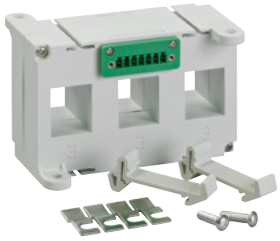
The Current to Open loom is open at the CT end and wired at the meter end allowing hard wired connections to any CT.

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

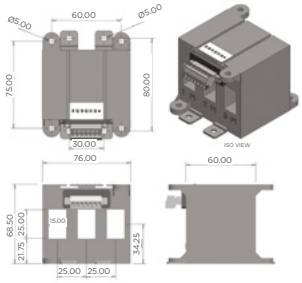
With the Q2C wiring solution, you can quickly and easily connect the Integra 1222 and Integra 1232 Digital Metering System and 3-in-1 current transformers.

- A complete wiring solution with integral connectors and earthing
- Screwless terminal connections, vibration proof and maintenance free
- Up to 32 meters can be supplied from one set of fused terminals
- Reduced installation time
- Eliminates potential cost of errors in electrical connections or programming
- Tidy solution for cable management





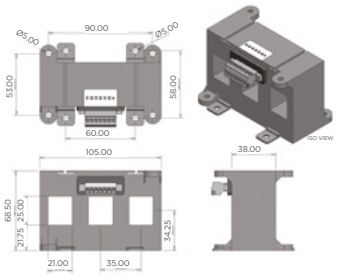
A range of 3-in-1 current transformers to use with or without the Q2C wiring solution and with Integra 1222 and Integra 1232 Meters. The 3-in-1 current transformers combine three traditional current transformers in one moulded case with a connector for simple, easy error free installation and wiring to suit most standard MCCB manufacturers.



QC3N1-25 – 25mm Centres Between Phases

76mm wide x 60mm deep x 68mm high

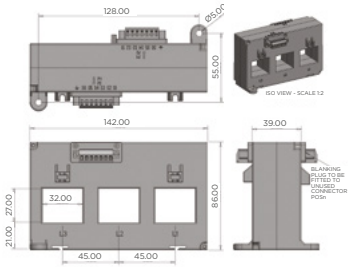
Part number	Ratio	Burden VA against class index			Aperture (mm)
		Class 0.5	Class 1	Class 3	
QC3N1-25-60/5	60/5	-	1	2	3 @ 15x25
QC3N1-25-100/5	100/5	-	1.5	2.5	3 @ 15x25
QC3N1-25-125/5	125/5	-	1.5	2.5	3 @ 15x25
QC3N1-25-160/5	160/5	1.5	1.5	2.5	3 @ 15x25



QC3N1-35 – 35mm Centres Between Phases

105mm wide x 38mm deep x 68.5mm high

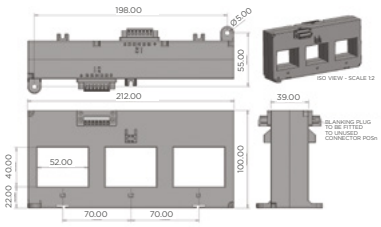
Part number	Ratio	Burden VA against class index			Aperture (mm)
		Class 0.5	Class 1	Class 3	
QC3N1-35-100/5	100/5	-	1.5	2	3 @ 21x25
QC3N1-35-125/5	125/5	-	1.5	2.5	3 @ 21x25
QC3N1-35-160/5	160/5	1.5	1.5	2.5	3 @ 21x25
QC3N1-35-250/5	250/5	1.5	1.5	2.5	3 @ 21x25



QC3N1-45 – 45mm Centres Between Phases

142mm wide x 39mm deep x 86mm 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 – 70mm Centres Between Phases

212mm wide x 39mm deep x 100mm 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

Looms to work in connection with Integra 1221 meters.

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	600mm
Q2C-VMM-1000-01	1000mm
Q2C-VMM-1200-01	1200mm
Q2C-VMM-1500-01	1500mm
Q2C-VMM-2000-01	2000mm
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	600mm
Q2C-VFO-1000-01	1000mm
Q2C-VFO-1200-01	1200mm
Q2C-VFO-1500-01	1500mm
Other lengths available	

Current Transformer

The 3-in-1 current transformer range are for use with the Integra 1221 digital metering system which combines three traditional current transformers in one moulding case with a RJ12 connection for simple and easy error free installation. **All current transformers include 1.5m lead as standard.**

DL3N1-35 – 35mm Centres Between Phases

Part number	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
DL3N1-35-160/0.1	160A	0.35	0.25
DL3N1-35-250/0.1	250A	0.5	0.25

DL3N1-45 – 45mm Centres Between Phases

Part number	Primary Current	VA at Class 1	VA at Class 0.5
DL3N1-45-250/0.1	250A	0.25	-
DL3N1-45-400/0.1	400A	-	0.25
DL3N1-45-600/0.1	600A	-	0.25

DL3N1-70 – 70mm Centres Between Phases

Part number	Primary Current	VA at Class 1	VA at Class 0.5
DL3N1-70-400/0.1	400A	-	0.25
DL3N1-70-600/0.1	600A	-	0.25
DL3N1-70-800/0.1	800A	-	0.25

Integra-0220 DMS

The Crompton Instruments Integra 0220 digital metering system (dms) provides a solution for the measurement and display of all electrical parameters including total harmonic distortion (THD) and individual, up to the 31st harmonic.

- 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

Product Codes

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

Integra-0230 DMS MID Approved

The Crompton Instruments Integra 0230 digital metering system (dms) provides a solution for the measurement and display of all electrical parameters including total harmonic distortion (THD) and individual, up to the 31st harmonic.

- MID B + 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

Product Codes

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

Panel Mounting Kit for Integra-02xx DMS and DRS Energy Meters

Description	Part number
MID adaptor kit 96x96mm for 4 modules grey	DR-96-4MOD-GREY

Parameters

Button	Scr	Parameter
V/A	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
MD PF Hz	1	PF and System Freq
	2	PF per phase
	3	MD per phase
	4	System Max demand P, Q, S.
P	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
E	1	Imp Active Energy Exp Active Energy
	2	Imp Reactive Energy Exp Reactive Energy
	3	Total Active Energy Total Reactive Energy

Integra DL1 Dual Load Digital Metering System

The new Integra DL1 digital metering system provides a unique space and cost effective solution for measuring your energy consumption in split load applications including lighting and power loads with the additional system accumulation to display and communicate the combined loads. Integra DL1 dms not only offers lighting and power indicators but has the option to change to Load 1 and Load 2 display.

This unique intelligent meter has the programmable option to measure either a continuous busbar application or individual circuits (i.e. not common busbar).

- DIN-rail - 4 module
- RJ12 connection
- Self-Powered
- User programmable CT
- RS485 built-in as standard
- Modbus RTU as standard

Description	Part number
Integra DL1 meter with Modbus RTU RS485	DL1-01

Parameters

Button	Scr	Parameter
Power (Load 1)		
POWER	1	Current L1
	2	Current L2
	3	Current L3
	1	kW L1
	2	kW L2
	3	kW L3
	1	Average System Volts
	2	Average System Current
	3	Average System kWh
	1	kWh Import
Lighting (Load 2)		
LIGHT	1	Current L1
	2	Current L2
	3	Current L3
	1	kW L1
	2	kW L2
	3	kW L3
	1	Average System Volts
	2	Average System Current
	3	Average System kWh
	1	kWh Import
System		
▼	1	Current L1
	2	Current L2
	3	Current L3
	1	Voltage L1
	2	Voltage L2
	3	Voltage L3
	1	Average System Volts
	2	Average System Current
	3	Average System kWh
	1	kWh Import - Power
	2	kWh Import - Lighting
	3	kWh Import - Total
	4	Frequency
	5	Power Factor (PF)

DL 3-in-1 Current Transformers

The 3-in-1 current transformers for the DL1 meters combine three traditional current transformers in one moulding case with a RJ12 connection for easy and error free installation.

- **RJ12 socket for fast connection eliminates wiring errors**
- Busbar DIN-rail and metal feet (mounting hardware supplied)
- Cable included (length 1.5m)
- Low 60A ratio for more energy efficient loads
- Standard 35, 40, 70mm apertures (between centres)

DL3N1-35 – 35mm Centres Between Phases

Part number	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
DL3N1-35-160/0.1	160A	0.35	0.25
DL3N1-35-250/0.1	250A	0.5	0.25

DL3N1-45 – 45mm Centres Between Phases

Part number	Primary Current	VA at Class 1	VA at Class 0.5
DL3N1-45-250/0.1	250A	0.25	-
DL3N1-45-400/0.1	400A	-	0.25
DL3N1-45-600/0.1	600A	-	0.25

DL3N1-70 – 70mm Centres Between Phases

Part number	Primary Current	VA at Class 1	VA at Class 0.5
DL3N1-70-400/0.1	400A	-	0.25
DL3N1-70-600/0.1	600A	-	0.25
DL3N1-70-800/0.1	800A	-	0.25

Displayed Parameters

System (average) volts, System (average) current, System (total) kW
System volts (average) THD%
System current (average) THD%
Phase – neutral, Voltage (L-N) (4-wire only), Phase – phase Voltage (L-L) (3-wire only)
Voltage THD% L-L (3 and 4-wire)
Voltage THD% L-N (4-wire only)
Phase current
Current THD%
Neutral current (4-wire only)
Frequency and Power factor (overall)
kVAr kVA kW
kWh import (7-digit resolution)
kVArh import (7-digit resolution)
kWh export (7-digit resolution)
kVArh export (7-digit resolution)
kW demand current demand
Maximum kW demand
Maximum current demand
Hours run

Integra 1630 digital metering system provides high accuracy 0.2% measurement, display and communication of all major parameters including total harmonic distortion (THD) up to the 31st harmonic. The range includes single-phase, three-phase three-wire and three-phase four-wire capability, selectable at the point of installation.

- DIN 96mm enclosure
- LED display
- 0.2% accuracy
- LED annunciators for each measured parameter
- User programmable system configuration (4-wire default)
- Fully programmable VT and CT ratios
- Current demand per phase
- Elapsed time counter for connected loads

Product Codes

Description	Part number
Integra 1630 low profile DMS LED display, DIN 96mm panel mounted user selectable system configuration Input. 241-480V L-L 3~ 140-277V L-N 3~ Input. 5A Ct operated 3~ 45-66Hz Auxiliary. 100-250V AC/DC	
Integra 1630 low profile DMS - output. 1 Modbus	INT-1630-M-5-M-010
Integra 1630 low profile DMS - output. 1 relay, 1 Modbus	INT-1630-M-5-M-110
Integra 1630 low profile DMS - output. 2 relay, 1 Modbus	INT-1630-M-5-M-210
Integra 1630 low profile DMS - output. Profibus	INT-1630-M-5-M-050
Integra 1630 low profile DMS - output. Ethernet/IP Modbus TCP	INT-1630-M-5-M-070
Integra 1630 low profile DMS - output. Bacnet/IP comms	INT-1630-M-5-M-080

Integra 1530/1630 digital metering systems are also available with:

- 12 to 48V DC auxiliary
- Voltage input 100-240V L-L
- Current input 1A
- Lonworks
- Analogue outputs
- True neutral current measurement
- Bacnet MSTP

Features

- Full colour, energy efficient, touch screen user interface
- Patent pending signal conditioning technology
- Fits both ANSI and DIN cut-outs
- Alarm/pulsed output
- Pulsed inputs
- User programmable configuration
- Heart beat indication for self checking
- Min/Max value stored in non-volatile memory
- Individual harmonics measurement to 63rd harmonic
- Active power (kW) by phase
- Reactive power (kVAr) per phase
- Apparent power (kVA) per phase
- Current demand (AD) per phase
- Unbalanced voltage (%)
- Unbalanced current (%)
- Internal temperature measurement
- Hours run
- Supported real time clock
- Soft alarms
- Percentage of load bar for full scale indication
- User programmable display screen
- Accuracy to 0.5S% (reading)
- Sub cycle transient monitoring

Features (INT-2270 only)

- Waveform capture 8 cycles per phase
- Sags/swells monitoring to BS EN 50160
- Accuracy to 0.2S% (reading)

The new Integra 2270 power quality meter monitors the quality of incoming electricity with a 0.2S% accuracy of reading.

- **Total Harmonic Distortion** – the total distortion in the supply, measured as harmonics of the base frequency up to the 63rd harmonic
- **Waveform Capture** – allows instantaneous events to be captured and analysed offline using a computer
- **Voltage Interference** – known as 'sags and swells'. Variations in the voltage supply caused by non-linear loads, as described BS EN 50160:2010

Key features

Signal conditioning
New technology enables measurement of power quality within any voltage of electrical supply, in a single product, covering the global range 120/230V of electrical supplies.

Full colour touch screen display
Energy-efficient and intuitive touch screen display with clear graphics and simple navigation. Easy for Field Engineers to set up and configure, reducing site time and saving money during installation.

Inputs and output

- Total measurement for all utilities in a single meter, including measurement of pulses from water and gas meters
- Can be configured to communicate outputs relating to active and reactive energy to building management systems
- Alarms can be configured for any relevant, measured parameters and can also serve as a trip function

Easy installation
Plug and socket connectivity for easy installation of prewired looms, saving valuable installation time and reducing wiring errors. Current flows directly through the meter primary CTs, meaning there is no need to terminate the CT wire at the meter.

Product Codes

Description	Part number
Integra 2170 Power quality meter Accuracy: 0.5S%	INT-2170-M-01

Product Codes

Description	Part number
Integra 2270 Power quality meter Accuracy: 0.2S% Waveform capture	INT-2270-M-01

The DRS range of MID approved, direct connected energy meters represents a multi-function range of kWh meters in the Crompton Instruments portfolio.

The DRS single and three phase, energy meter is an accurate and cost effective solution for measurement and display of importing and exporting energy parameters for single or three phase networks. Its easy programming, mounting and user-friendly navigation make the DRS range an ideal choice for customers who require reliable energy measurement.

The product features a DIN-rail enclosure and backlit LCD display, all accessible via an intuitive user interface.

The DRS-100-1P has two communication interfaces

- Modbus™ RTU protocol
- Two pulsed outputs

DRS-45-1P-MOD

The DRS-45-1P-MOD energy meter is an accurate and cost effective solution for the measurement of importing active energy (kWh) for a single phase network. 2 pulse and Modbus outputs as standard.

Product Codes

Description	Part number
MID approved energy meter Single phase DIN-rail mounted 45A direct connect Modbus + 2 pulsed outputs	DRS-45-1P-MOD-01

DRS-45-1P-PLS

The DRS-45-1P-PLS direct connected energy meter is an accurate and cost effective solution for the measurement of importing active energy (kWh) for a single phase network. 1 pulse output as standard.

Product Codes

Description	Part number
MID energy meter Single phase DIN-rail mounted 45A direct connect 1 pulsed output	DRS-45-1P-PLS-01

DRS-100-1P

The DRS-100-1P direct connected energy meter is an accurate and cost effective solution for measurement and display of importing and exporting energy parameters for single phase networks. Its easy programming, mounting and user-friendly navigation make the DRS-100-1P an ideal choice for customers who require reliable energy measurement. 2 pulse and Modbus as standard.

Product Codes

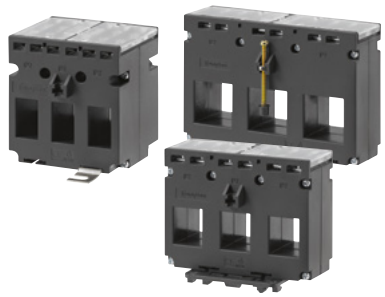
Description	Part number
MID energy meter Single phase DIN-rail mounted 100A direct connect 2 Pulsed Outputs + Modbus	DRS-100-1P-MOD-01

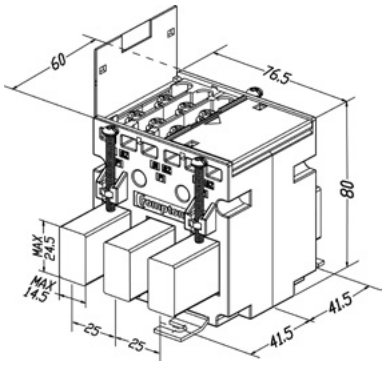
DRS-100-3P

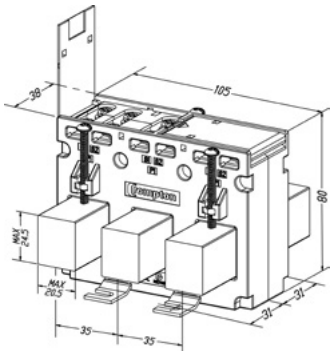
The DRS-100-3P direct connected energy meter is an accurate and cost effective solution for measurement and display of importing and exporting energy parameters for three phase networks. Its easy programming, mounting and user-friendly navigation make the DRS-100-3P an ideal choice for customers who require reliable energy measurement. 2 pulse and Modbus outputs as standard.

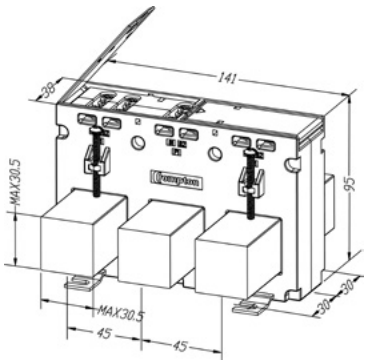
Product Codes

Description	Part number
MID energy meter Three phase DIN-rail mounted 100A direct connect 2 Pulsed Outputs + Modbus	DRS-100-3P-MOD-01









A range of 3-in-1 current transformers combining three traditional current transformers in one moulded case. 3-in-1 current transformers can be directly installed in line with 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.

Plug-in metal feet, DIN-rail clips and busbar mounting are supplied as standard.

M3N1-25 25mm Centres between Phases

Case size: 75mm wide x 60mm deep x 80mm 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@15 x 25mm
M3N1-25-100/5	100/5	-	1.5	2.5	3@15 x 25mm
M3N1-25-125/5	125/5	-	1.5	2.5	3@15 x 25mm
M3N1-25-160/5	160/5	1.5	1.5	2.5	3@15 x 25mm

M3N1-35 35mm Centres between Phases

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

Part number	Ratio	Burden VA against Class index			Aperture (mm)
		Class 0.5	Class 1	Class 3	
M3N1-35-100/5	100/5	-	1.5	2	3@21 x 25mm
M3N1-35-125/5	125/5	-	1.5	2.5	3@21 x 25mm
M3N1-35-150/5	150/5	-	1.5	2.5	3@21 x 25mm
M3N1-35-160/5	160/5	1.5	1.5	2.5	3@21 x 25mm
M3N1-35-200/5	200/5	1.5	1.5	2.5	3@21 x 25mm
M3N1-35-250/5	250/5	1.5	1.5	2.5	3@21 x 25mm

M3N1-45 45mm Centres between Phases

Case size: 141mm wide x 38mm deep x 95mm 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@31 x 31mm
M3N1-45-300/5	300/5	2.5	2.5	3.75	3@31 x 31mm
M3N1-45-400/5	400/5	2.5	2.5	3.75	3@31 x 31mm
M3N1-45-500/5	500/5	2.5	2.5	3.75	3@31 x 31mm
M3N1-45-600/5	600/5	2.5	2.5	3.75	3@31 x 31mm
M3N1-45-630/5	630/5	2.5	2.5	3.75	3@31 x 31mm

A range of 3-in-1 current transformers combine three traditional current transformers in one Low profile DIN-rail enclosure. 3-in-1 current transformers can be directly mounted onto a DIN-rail, thus saving installation time where fitting three standard individual current transformers would be required. The 3-in-1 range of current transformers offers primary currents between 50-250A with 5A secondaries with up to class 0.5 accuracy performance.

Features

- Cost effective three-phase moulded case
- Ratio's ranging from 50/5 to 250/5
- Two part connector for fast installation
- Complete with cable assembly

Benefits

- Long product life
- Faster installation
- Compact size

Applications

- Switchgear
- Distribution systems
- Generator sets
- Control panels

Specifications

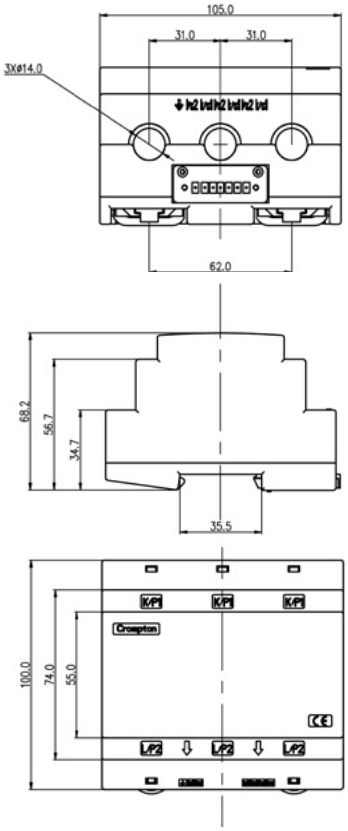
System voltage:	720V maximum
Test voltage:	3kV for 1 minute
System frequency:	50Hz or 60Hz
Primary ratings:	50A to 160A
Short circuit thermal current:	60 x rated primary current (Ith): for 1 sec
Overload withstand:	1.2 x rated current continuously
Rated dynamic current:	= 2.55 x Iht
Secondary terminals:	7 way screw clamp connector
Cable assembly:	Open ended loom/harness CT fixed/open at meter connection, 1mm^2 LSZH cable (lengths specified in part number table)
Enclosure:	Flame retardant grade classified UL 94V-O
Aperture holes centres:	31mm (cable through 13.5mm) up to 150A, 36mm (cable through 20mm) from 160-250A
Operating temperature:	-20°C to +85°C
Accuracy class:	0.5, 1, 3
Compliant with:	IEC/EN 60044-1

Part number	Ratio	Class 0.5 VA	Class 1 VA	Class 3 VA	Aperture (mm)	No. of modules	Cable length (M)
DR3N1-50/5	50/5A	-	1	1.5	3@13.5 x 31	6	1
DR3N1-60/5	60/5A	-	1	1.5	3@13.5 x 31	6	1
DR3N1-75/5	75/5A	-	1.5	2	3@13.5 x 31	6	1
DR3N1-80/5	80/5A	-	1.5	2.5	3@13.5 x 31	6	1
DR3N1-100/5	100/5A	2.5	3	3.75	3@13.5 x 31	6	2
DR3N1-125/5	125/5A	2.5	3	3.75	3@13.5 x 31	6	2
DR3N1-150/5	150/5A	2.5	3.75	5	3@13.5 x 31	6	2
DR3N1-160/5	160/5A	1.5	2.5	3.75	3@20 x 36	7	2
DR3N1-180/5	180/5A	2.5	3	3.75	3@20 x 36	7	2
DR3N1-200/5	200/5A	2.5	3.75	5	3@20 x 36	7	2
DR3N1-250/5	250/5A	3.75	5	6.25	3@20 x 36	7	2

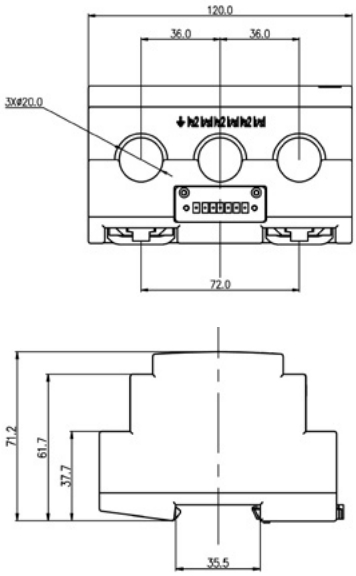
Dimensions

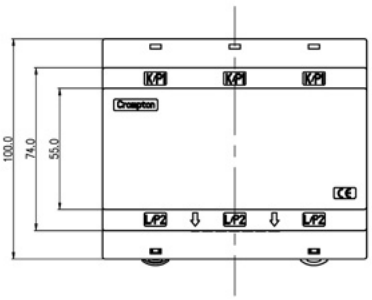
Part number	Width	Aperture	Mounting	Number of modules (width)
DR3N1-50/5A-150/5A	105mm	13.5mm	35mm DIN-rail	6 (31mm cable centres)
DR3N1-160/5A-250/5A	120mm	20mm	35mm DIN-rail	7 (36mm cable centres)

DR3N1-50/5A - 150/5A



DR3N1-160/5A - 250/5A



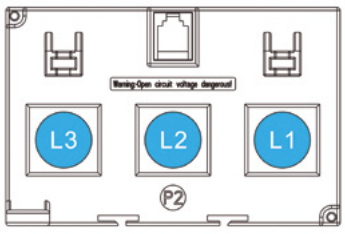


Key Features

- Busbar DIN-rail and metal feet (mounting hardware supplied)
- RJ12 socket for fast connection eliminate wiring errors
- Cable included (length 1.5 m)
- Low 60A ratio for more energy efficient loads
- Aperture hole centres 35mm

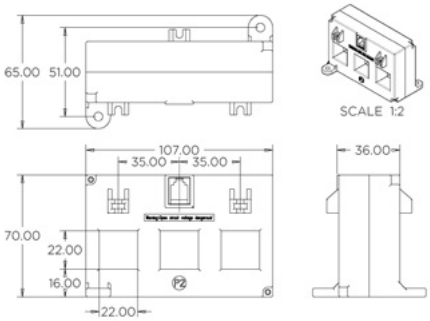
All current transformers are supplied with a 1.5m connecting cable, with RJ12 connector termination at each end.

Dual Load CT Phase Orientation



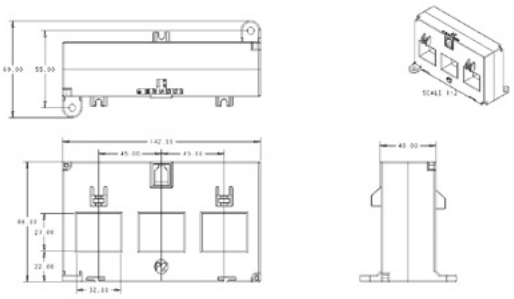
The 3-in-1 current transformer range are for use with the Integra 1221 and Integra DL1 digital metering system which combines three traditional current transformers in one moulding case with a RJ12 connection for simple and easy error free installation.

DL3N1-35 – 35mm Centres Between Phases



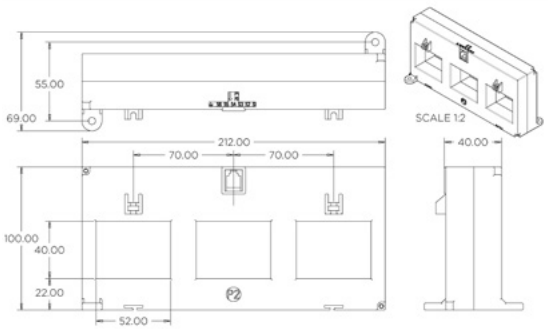
Part number	Primary Current	VA at Class 1	VA at Class 0.5	Aperture (mm)
DL3N1-35-60/0.1	60A	0.25	-	3 @ 22x22
DL3N1-35-125/0.1	125A	0.5	0.25	3 @ 22x22
DL3N1-35-160/0.1	160A	0.35	0.25	3 @ 22x22
DL3N1-35-250/0.1	250A	0.5	0.25	3 @ 22x22

DL3N1-45 – 45mm Centres Between Phases

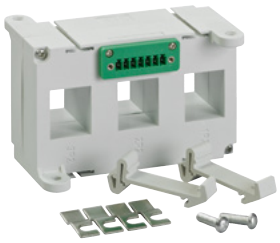


Part number	Primary Current	VA at Class 1	VA at Class 0.5	Aperture (mm)
DL3N1-45-250/0.1	250A	0.25	-	3 @ 27x32
DL3N1-45-400/0.1	400A	-	0.25	3 @ 27x32
DL3N1-45-600/0.1	600A	-	0.25	3 @ 27x32

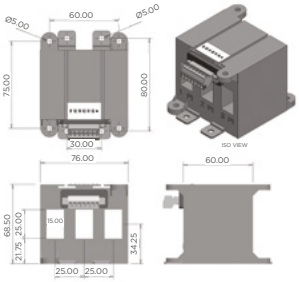
DL3N1-70 – 70mm Centres Between Phases



Part number	Primary Current	VA at Class 1	VA at Class 0.5	Aperture (mm)
DL3N1-70-400/0.1	400A	-	0.25	3 @ 40x52
DL3N1-70-600/0.1	600A	-	0.25	3 @ 40x52
DL3N1-70-800/0.1	800A	-	0.25	3 @ 40x52



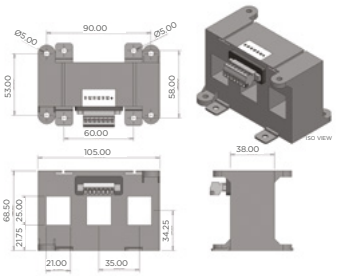
A range of 3-in-1 current transformers to use to use with or without the Q2C wiring solution. The 3-in-1 current transformers combine three traditional current transformers in one moulded case with a connector for simple, easy error free installation and wiring to suit most standard MCCB manufacturers.



QC3N1-25 – 25mm Centres Between Phases

76mm wide x 60mm deep x 68mm high

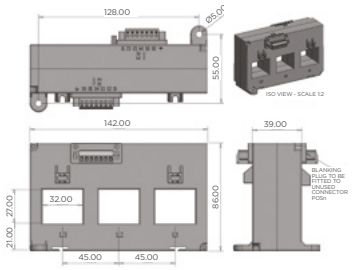
Part number	Ratio	Burden VA against class index			Aperture (mm)
		Class 0.5	Class 1	Class 3	
QC3N1-25-60/5	60/5	-	1	2	3 @ 15x25
QC3N1-25-100/5	100/5	-	1.5	2.5	3 @ 15x25
QC3N1-25-125/5	125/5	-	1.5	2.5	3 @ 15x25
QC3N1-25-160/5	160/5	1.5	1.5	2.5	3 @ 15x25



QC3N1-35 – 35mm Centres Between Phases

105mm wide x 38mm deep x 68.5mm high

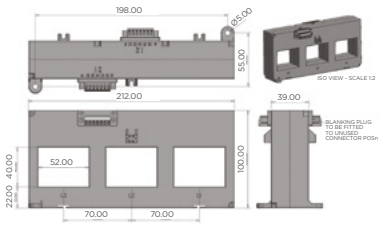
Part number	Ratio	Burden VA against class index			Aperture (mm)
		Class 0.5	Class 1	Class 3	
QC3N1-35-100/5	100/5	-	1.5	2	3 @ 21x25
QC3N1-35-125/5	125/5	-	1.5	2.5	3 @ 21x25
QC3N1-35-160/5	160/5	1.5	1.5	2.5	3 @ 21x25
QC3N1-35-250/5	250/5	1.5	1.5	2.5	3 @ 21x25



QC3N1-45 – 45mm Centres Between Phases

142mm wide x 39mm deep x 86mm high

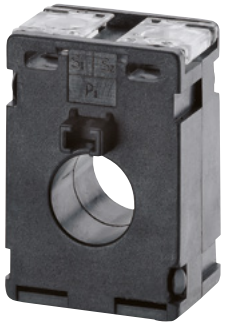
Part number	Ratio	Burden VA against class index			Aperture (mm)
		Class 0.5	Class 1	Class 3	
QC3N1-45-250/5	250/5	-	2.5VA	-	3 @ 32x27
QC3N1-45-400/5	400/5	-	2.5VA	-	3 @ 32x27
QC3N1-45-630/5	630/5	2.5VA	5VA	-	3 @ 32x27



QC3N1-70 – 70mm Centres Between Phases

212mm wide x 39mm deep x 100mm 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



The range of Crompton Instruments Ebony current transformers offers wide system current ratings, apertures and case sizes to suit every application. Manufactured to meet IEC 60044-1:2003 the range benefits include ratio rating from 5/5 to 4000/5, accuracy up to Class 0.5, integral terminal cover for safety and multiple mounting options.

MA5Y Range

Case Size: 77mm wide x 50mm deep x 116mm high 3” wide x 2” deep x 4.5” high
Fixing: M8 stud primary bar
Weight: 0.45Kg

Part number	Ratio range	VA at Class 3	VA at Class 1
MA5Y-5/5	5/5	7.5	5
MA5Y-10/5	10/5	7.5	5
MA5Y-15/5	15/5	7.5	5
MA5Y-20/5	20/5	7.5	5
MA5Y-30/5	30/5	7.5	5
MA5Y-40/5	40/5	7.5	5

Ordering Codes

MA5Y-*	Add suffix to depict required ratio range. For example: MA5Y-5/5
M50-DINCLIP	DIN-rail mounting clip for DIN-rail mounting option (2 required)

M53Q Range

Case Size: 45mm wide x 30mm deep x 65mm high 1.8” wide x 1.2” deep x 2.5” high
Aperture: 20 x 6mm and 21mm diameter 0.8” x 0.2” and 0.8” diameter
Weight: 0.25Kg

Part number	Ratio range	VA at Class 3	VA at Class 1
M53Q-50/5	50/5	1	-
M53Q-60/5	60/5	1.25	-
M53Q-80/5	80/5	1.5	-
M53Q-100/5	100/5	2.5	1.5
M53Q-125/5	125/5	3	2.5
M53Q-150/5	150/5	3.75	2.5
M53Q-200/5	200/5	5	3.75
M53Q-250/5	250/5	-	5

Ordering Codes

M53Q -*	Add suffix to depict required ratio range. For example: M53Q-50/5
M30-DINCLIP -*	DIN-rail mounting clip for DIN-rail mounting option (2 required)

M55E Range

Case Size: 50mm wide x 50mm deep x 80mm high 2” wide x 2” deep x 3.1” high
Aperture: 16.2 diameter and 15 x 5mm 0.68” diameter
Weight: 0.4Kg

Part number	Ratio range	VA at Class 3	VA at Class 1
M55E-30/5	30/5	1.25	-
M55E-40/5	40/5	2.5	-
M55E-50/5	50/5	2.5	-
M55E-60/5	60/5	3.75	2.5
M55E-80/5	80/5	5	3.75

Ordering Codes

M55E -*	Add suffix to depict required ratio range. For example: M55E-20/5
M50-DINCLIP	DIN-rail mounting clip for DIN-rail mounting option (2 required)

M53J Range

Case Size: 50mm wide x 30mm deep x 80mm high 2” wide x 1.2” deep x 3.1” high
Aperture: 30 x 10mm, 25 x 15mm and 20 x 20mm and 25mm diameter
1.2” x 0.4”, 1” x 0.6” and 0.8” x 0.8” and 1.0” diameter
Weight: 0.22Kg

Part number	Ratio range	VA at Class 3	VA at Class 1
M53J-100/5	100/5	1.25	-
M53J-125/5	125/5	1.25	-
M53J-150/5	150/5	2.5	-
M53J-200/5	200/5	2.5	2.5
M53J-250/5	250/5	3.75	2.5
M53J-300/5	300/5	5	3.75
M53J-400/5	400/5	7.5	3.75

Ordering Codes

M53J -*	Add suffix to depict required ratio range. For example: M53J-100/5
M30-DINCLIP -*	DIN-rail mounting clip for DIN-rail mounting option (2 required)

M63N Range

Case Size: 60mm wide x 30mm deep x 94mm high 2.3” wide x 1.2” deep x 3.7” high
Aperture: 40 x 10mm and 32mm diameter 1.5” x 0.4” and 1.2” diameter
Weight: 0.3Kg

Part number	Ratio range	VA at Class 3	VA at Class 1	VA at Class 0.5
M63N-200/5	200/5	2.5	-	-
M63N-250/5	250/5	3.75	2.5	-
M63N-400/5	400/5	7.5	5	-
M63N-500/5	500/5	10	7.5	3.75
M63N-600/5	600/5	10	7.5	5
M63N-800/5	800/5	15	10	7.5

Ordering Codes

M63N -*	Add suffix to depict required ratio range. For example: M63N-200/5
M30-DINCLIP -*	DIN-rail mounting clip for DIN-rail mounting option (2 required)

M93L Range

Case Size: 90mm wide x 30mm deep x 131mm high 3.5” wide x 1.2” deep x 5.1” high
Aperture: 50 x 10mm, 40 x 30mm and 42mm diameter 2” x 0.4”, 1.5” x 1.2”
and 1.6” diameter
Weight: 0.45Kg

Part number	Ratio range	VA at Class 3	VA at Class 1	VA at Class 0.5
M93L-400/5	400/5	15	7.5	3.75
M93L-600/5	600/5	30	20	10
M93L-800/5	800/5	20	15	10
M93L-1000/5	1000/5	20	20	15

Ordering Codes

M93L -*	Add suffix to depict required ratio range. For example: M93L-400/5
M30-DINCLIP -*	DIN-rail mounting clip for DIN-rail mounting option (2 required)

For details of extended input current range from 100 to 1600 Amps, 1 Amp secondaries, intermediate ratios or protection CTs, contact sales or visit our website at www.crompton-instruments.com

M93R Range

Case Size: 90mm wide x 30mm deep x 131mm high 3.5” wide x 1.2” deep x 5.1” high
Aperture: 64 x 12.6mm, 60 x 30mm 2.5” x 0.5”, 2.4” x 1.2”
Weight: 0.6Kg

Part number	Ratio range	VA at Class 3	VA at Class 1	VA at Class 0.5
M93R-800/5	800/5	10	10	5
M93R-1000/5	1000/5	15	10	7.5
M93R-1200/5	1200/5	20	15	10
M93R-1250/5	1250/5	20	15	10
M93R-1600/5	1600/5	20	20	15
M93R-2000/5	2000/5	30	20	20

Ordering Codes

M93R -*	Add suffix to depict required ratio range. For example: M93R-800/5
M30-DINCLIP -*	DIN-rail mounting clip for DIN-rail mounting option (2 required)

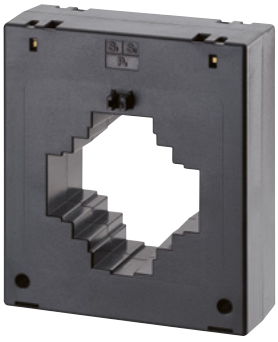
M93S Range

Case Size: 90mm wide x 30mm deep x 131mm high 3.5” wide x 1.2” deep x 5.1” high
Aperture: 76.5 x 19mm, 60 x 30mm 3.0” x 0.7”, 2.4” x 1.2”
Weight: 0.7Kg

Part number	Ratio range	VA at Class 3	VA at Class 1	VA at Class 0.5
M93S-800/5	800	10	10	5
M93S-1200/5	1200	20	15	10
M93S-1600/5	1600	30	20	15

Ordering Codes

As above	Change end suffix to depict required secondary. For example: M93R-800/5
M30-DINCLIP -*	DIN-rail mounting clip for DIN-rail mounting option (2 required)



MB5D Range

Case Size: 134mm wide x 50mm deep x 156mm high 5.2” wide x 2” deep x 6.1” high
Aperture: 80 x 30mm, 60 x 30mm, 50 x 50mm and 63mm diameter
3.1” x 1.2”, 2.3” x 1.2”, 2 x 2” and 2.4” diameter
Weight: 0.5Kg

Part number	Ratio range	VA at Class 3	VA at Class 1	VA at Class 0.5
MB5D-800/5	800/5	20	15	7.5
MB5D-1000/5	1000/5	22.5	20	10
MB5D-1250/5	1250/5	30	20	15
MB5D-1600/5	1600/5	40	30	20

Ordering Codes

MB5D -*	Add suffix to depict required ratio range. For example: MB5D-400/5
M50-DINCLIP	DIN-rail mounting clip for DIN-rail mounting option (2 required)

MB5Z Range

Case Size: 134mm wide x 50mm deep x 156mm high 5.2” wide x 2” deep x 6.1” high
Aperture: 104 x 35mm, 35mm diameter 4” x 1.3” and 1.3” diameter
Weight: 0.7Kg

Part number	Ratio range	VA at Class 3	VA at Class 1	VA at Class 0.5
MB5Z-1600/5	1600/5	30	20	15
MB5Z-2000/5	2000/5	30	20	15
MB5Z-2500/5	2500/5	30	20	15
MB5Z-3000/5	3000/5	30	20	15

Ordering Codes

MB5Z -*	Add suffix to depict required ratio range. For example: MB5Z-750/5
M50-DINCLIP	DIN-rail mounting clip for DIN-rail mounting option (2 required)

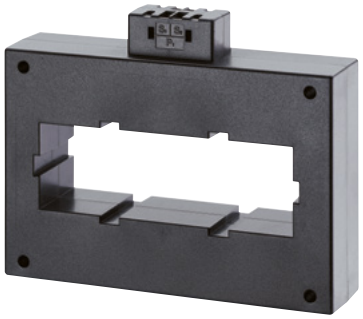
MC5T Range

Case Size: 140mm wide x 50mm deep x 238mm high5.5” wide x 2” deep x 9.3” high
Aperture: 160 x 50mm 6.3” x 2”
Weight: +/-1.5Kg

Part number	Ratio range	VA at Class 3	VA at Class 1	VA at Class 0.5
MC5T-2500/5	2500/5	60	45	30
MC5T-4000/5	4000/5	60	45	30
MC5T-6000/5	6000/5	60	45	30

Ordering Codes

As above	Change end suffix to depict required secondary. For example: MC5T-4000/5



MD5T Range

Case Size: 213mm wide x 50mm deep x 165mm high 8.3” wide x 2” deep x 6.5” high
Aperture: 160 x 50mm 6.3” x 2”
Weight: +/-1.5Kg

Part number	Ratio range	VA at Class 3	VA at Class 1	VA at Class 0.5
MD5T-4000/5	4000/5	60	45	30
MD5T-5000/5	5000/5	60	45	30
MD5T-6000/5	6000/5	60	45	30

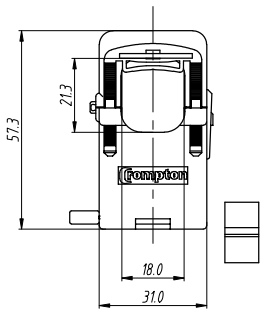
Ordering Codes

As above	Change end suffix to depict required secondary. For example: MD5T-4000/5

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 pre-wired 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 100-500A with 5A secondaries with class 1 accuracy performance. Available with 1A secondaries between ratio's 60-500A on request. All CT's supplied with removable shorting links.

General Specifications

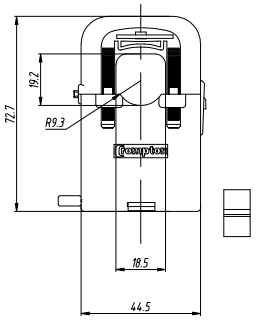
System voltage	720V maximum
Test voltage	3kV for 1 minute
System frequency	50Hz or 60Hz
Primary ratings	60A to 500A
Short circuit thermal current	60 x rated primary current (Ith): for 1 sec
Overload withstand	1.2 x rated current continuously
Rated dynamic current	= 2.55 x Iht
Secondary leads	5A (Length 1m) 2.5mm Wire
Enclosure	Flame retardant grade classified UL 94V-O
Aperture holes centres	18mm up to 250A, 28mm from 300A - 500A
Operating temperature	-20°C to +70°C
Accuracy Class	1
Compliant with	IEC/EN 60044-1



MSC1

Case: 31 mm wide x 53 mm deep x 57.3 mm high
Aperture: 18mm, Cable length: 1m

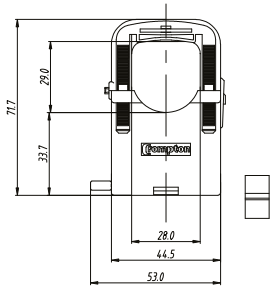
Model Type	Primary Current	Class	Burden VA
MSC1-60/1	60/1	3	0.1
MSC1-75/1	75/1	3	0.1
MSC1-80/1	80/1	3	0.15
MSC1-100/1	100/1	1	0.2



MSC2

Case: 44.5 mm wide x 61.5 mm deep x 72.7 mm high
Aperture: 18mm, Cable length: 1m

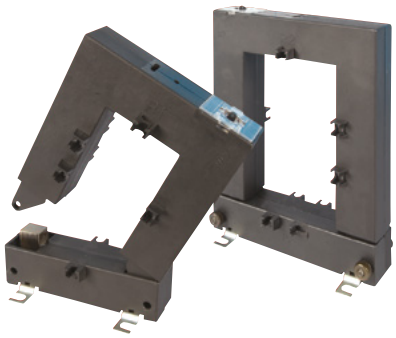
Model Type	Primary Current	Lead Length (m)	VA at Cl 1	VA at Cl 3
MSC2-100/5	100/5	1	1	-
MSC2-125/5	125/5	1	1	-
MSC2-150/5	150/5	1	1	-
MSC2-200/5	200/5	1	1	-
MSC2-250/5	250/5	1	1	-



MSC3

Case: 44.5 mm wide x 62.2 mm deep x 71.7 mm high
Aperture: 28mm, Cable length: 1m

Model Type	Primary Current	Lead Length (m)	VA at Cl 1	VA at Cl 3
MSC3-300/5	300/5	2.5	1.5	-
MSC3-400/5	400/5	2.5	2.5	-
MSC3-500/5	500/5	2.5	2.5	-



Case size	Aperture
Case 1	20x30
Case 2	50x80
Case 3	80x80
Case 4	80x120
Case 5	80x160

Split Core CTs

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.

Accuracy Class

Part number		Ratio	Burden VA against Class index		
			0.5	1	3
Case 1	SC1-100/5A	100/5A	-	-	1.5
	SC1-150/5A	150/5A	-	-	2
	SC1-200/5A	200/5A	-	1.5	2.5
	SC1-250/5A	250/5A	-	2	4
Case 2	SC2-250/5A	250/5A	1	2	4
	SC2-300/5A	300/5A	1.5	3	6
	SC2-400/5A	400/5A	1.5	3	10
	SC2-500/5A	500/5A	2.5	5	15
	SC2-600/5A	600/5A	2.5	5	15
	SC2-800/5A	800/5A	3	7.5	20
Case 3	SC3-600/5A	600/5A	2.5	5	15
	SC3-800/5A	800/5A	3	7.5	20
Case 4	SC4-1000/5A	1000/5A	5	10	20
	SC4-1200/5A	1200/5A	6	12.5	25
	SC4-1250/5A	1250/5A	7.5	15	30
	SC4-1600/5A	1600/5A	8	17	30
Case 5	SC5-2000/5A	2000/5A	15	20	25
	SC5-2500/5A	2500/5A	15	20	25
	SC5-3000/5A	3000/5A	20	25	30

Dimensions and Connections

Model type	A Inside diameter	B Outside diameter
MR-28	28	70
MR-42	42	80
MR-45	45	80
MR-60	60	100
MR-85	85	120
MR-125	125	165

Ring CTs

MR transformers accurately measure high primary currents, converting the primary current into a proportional 5 Amp secondary current.

Part number	Ratio range	VA at Class 3	VA at Class 1	VA at Class 0.5
MR-28-40/5A	40/5	1.5	-	-
MR-28-60/5A	60/5	2.5	-	-
MR-42-100/5A	100/5	3.75	1.25	-
MR-42-150/5A	150/5	5	2.5	1
MR-42-200/5A	200/5	7.5	5	2.5
MR-42-250/5A	250/5	10	5	2.5
MR-45-300/5A	300/5	10	7.5	3.75
MR-45-400/5A	400/5	15	7.5	5
MR-60-400/5A	400/5	15	7.5	5
MR-60-500/5A	500/5	15	10	5
MR-60-600/5A	600/5	20	10	7.5
MR-85-800/5A	800/5	20	10	7.5
MR-85-1000/5A	1000/5	30	15	10
MR-85-1200/5A	1200/5	30	15	10
MR-85-1500/5A	1500/5	30	15	10
MR-85-1600/5A	1600/5	30	15	10
MR-125-2000/5A	2000/5	30	20	15
MR-125-2500/5A	2500/5	30	20	15

Input Parameters

Parameter	Id	Description
Voltage	VL1	Volts L1 - N
	VL2	Volts L2 - N
	VL3	Volts L3 - N
	2VL12	Volts L1 - L2
	VL23	Volts L2 - L3
	VL31	Volts L3 - L1
	AVG V12	Average Vvlt
	V23 V31	- age (L-L)
	AVG V1N	Average Vvlt-
	V2N V3N	age (L-N)
	DELTA V	Volts diff L-L
	DELTA VN	Volts diff L-N
Current	IL1	Current L1
	IL2	CurrentL2
	IL3	Current L3
	IN	Neutral I
	AVG I1 I2 I3	Average Current
	DELTA I	Current diff
	I1 MAX	I1 Max demand
	I2 MAX	I2 Max demand
	I3 MAX	I3 Max demand
	I1 AVG	Average I1
	I2 AVG	Average I2
	I3 AVG	Average I3
Active Power	P	System power
	P1	Power L1
	P2	Power L2
	P3	Power L3
	PMAX	Max power
	PAVG	Average power
Reactive Power	Q	System VAr
	Q1	System VAr L1
	Q2	System VAr L2
	Q3	System VAr L3
Apparent Power	S	System VA
	S1	System VA L1
	S2	System VA L2
	S3	System VA L3
Power Factor	PF	Power factor
	PF AVG	Average PF
	PF1	PF L1
	PF2	PF L2
	PF3	PF L3
ANGLE	SYS ANGLE	System angle
	ANGLE L1	Phase angle L1
	ANGLE L2	Phase angle L2
	ANGLE L3	Phase angle L3
	FREQ	Frequency
THD	THDV1	THD V1
	THDV2	THD V2
	THDV3	THD V3
	THD I1	THD I1
	THD I2	THD I2
	THD I3	THD I3
COSPHI	COSPHI 1	Displacement P.F
	COSPHI 2	Displacement P.F
	COSPHI 3	Displacement P.F

The Paladin Advantage 254-XZZ, programmable transducer provides measurement isolation and conversion of all main electrical parameters into an industry standard DC output signal. The 254-XZZ can be used in single and three-phase balanced or unbalanced three or four-wire electrical systems. The 254-XZZ has an accuracy of CL0.2 and includes RS485 Modbus RTU communications protocol and pulse/alarm output as standard.

The Paladin Advantage 254-XZZ transducer is an accurate device for the conversion of all main electrical parameters into a Voltage ormA output and provides measurement, isolation and conversion of up to four user defined inputs and outputs. The device is supplied programmed to the users requirements but can be easily be reprogrammed to suit any application.

Designed, developed and manufactured in the EU, with integrated microprocessor for exceptional waveform handling of distorted waveforms. The 254-XZZ is ideal for low, medium and high voltage applications and provides a high protection against continuous and short circuit protection as well as galvanically isolated inputs and outputs.

Product Codes

Product codes	Part number
Paladin Advantage Aux: 20-60V AC/DC (+/- 10%) 45-66Hz, 6VA. two outputs	254-XZZ-L-02
Paladin Advantage Aux: 80-260V AC/DC (+/- 10%) 45-66Hz, 6VA. two outputs	254-XZZ-M-02
Paladin Advantage Aux: 20-60V AC/DC (+/- 10%) 45-66Hz, 6VA. four outputs	254-XZZ-L-04
Paladin Advantage Aux: 80-260V AC/DC (+/- 10%) 45-66Hz, 6VA. four outputs	254-XZZ-M-04

Protector trip relays provide continuous monitoring and protection of any electrical parameter. DIN-rail protectors offer numerous trip functions for single and three-phase power systems, including over and under voltage, current, frequency, phase sequence/ failure or balance, reverse power, synchro-check, speed sensing and finally DC inputs.

Part number	Protection	System
AC current with adjustable time delay		
PAU-5	Under current	1-phase, 5A AC, 50/60Hz, Aux 24/240V AC/DC
PAO-5	Over current	1-phase, 5A AC, 50/60Hz, Aux 24/240V AC/DC
PAD-5	Under/over current (2 output relays)	1-phase, 5A AC, 50/60Hz, Aux 24/240V AC/DC
PAP/V-5	Under/over current (2 output relays)	3-phase, 3 or 4-wire, 5A AC, 50/60Hz, Aux 24/240V AC/DC
AC voltage with adjustable differential and time delay		
PVU/Z-173/240	Under voltage	1-phase, 100/139V L-N AC, 50/60Hz
PVU/Z-380/480	Under voltage	1-phase, 220/277V L-N AC, 50/60Hz
PVO/H-173/240	Over voltage	1-phase, 100/139V L-N AC, 50/60Hz
PVO/H-380/480	Over voltage	1-phase, 220/277V L-N AC, 50/60Hz
PVB-173/240	Under/over voltage (2 output relays)	1-phase, 100/139V L-N AC, 50/60Hz
PVB-380/480	Under/over voltage (2 output relays)	1-phase, 220/277V L-N AC, 50/60Hz
PVK/J-100/120	Under voltage	3-phase 3-wire, 100/120V L-L AC, 50/60Hz
PVK/J-380/480	Under voltage	3-phase 3-wire, 380/480V L-L AC, 50/60Hz
PVA/C-100/120	Over voltage	3-phase 3-wire, 100/120V L-L AC, 50/60Hz
PVA/C-380/480	Over voltage (2 output relays)	3-phase 3-wire, 380/480V L-L AC, 50/60Hz
PVM-100/120	Under/over voltage (2 output relays)	3-phase 3-wire, 100/120V L-L AC,50/60Hz
PVM-380/480	Under/over voltage (2 output relays)	3-phase 3-wire, 380/480V L-L AC, 50/60Hz
PVV/X-100/120	Under voltage	3-phase 4-wire, 57.7/69.3V L-N (100/120V L-L) AC, 50/60Hz
PVV/X-173/240	Under voltage	3-phase 4-wire, 100/139V L-N (173/240V L-L) AC, 50/60Hz
PVV/X-380/480	Under voltage (2 output relays)	3-phase 4-wire, 220/277V L-N (380/480V L-L) AC, 50/60Hz
PVP/S-380/480	Over voltage (2 output relays)	3-phase 4-wire, 220/277V L-N (380/480V L-L) AC, 50/60Hz
PVE-380/480	Under/over voltage (2 output relays)	3-phase 4-wire, 220/277V L-N (380/480V L-L) AC, 50/60Hz
Frequency with adjustable differential and time delay		
PHD-100/120	Under/over frequency (2 relays)	1-phase, 57.7/69.3V L/N L/L AC (50, 60 and 400Hz)
PHD-173/240	Under/over frequency (2 relays)	1-phase, 100/139V L/N L/L AC (50, 60 and 400Hz)
PHD-380/480	Under/over frequency (2 relays)	1-phase, 220/277V L/N L/L AC (50, 60 and 400Hz)
PHD-280/860	Under/over frequency (2 relays)	1-phase, 161-500V L/N L/L AC (50, 60 and 400Hz)
Phase sequence and phase failure		
PVR3-100/120	Phase sequence under voltage	3-phase 3-wire, 100/120V L-L AC, 50/60Hz
PVR3-380/480	Phase sequence under voltage (2 output relays)	3-phase 3-wire, 380/480V L-L AC, 50/60Hz
PVR4-100/120	Phase sequence under voltage	3-phase 4 -wire, 100/120V L-L AC, 50/60Hz
PVR4-380/480	Phase sequence under voltage (2 output relays)	3-phase 4-wire, 380/480V L-L AC, 50/60Hz
Phase balance and under relay with adjustable time delay and unbalance		
PSF/G3-100/120	Phase loss, unbalanced and under voltage	3-phase 3-wire, 100/120V L-L AC, 50/60Hz
PSF/G3-173/240	Phase loss, unbalanced and under voltage	3-phase 3-wire, 173/240V L-L AC, 50/60Hz
PSF/G3-380/480	Phase loss, unbalanced and under voltage	3-phase 3-wire, 380/480V L-L AC, 50/60Hz
Reverse power (current) with adjustable time delay		
PAS-380/480	Reverse power	Single or 3-phase, 4-wire, 220/277V L-N (380/480V L-L) AC, 0-6A AC, 50/60Hz
PAT-380/480	Reverse power	3-phase, 3-wire, 380-480V AC, 0-6A AC, 50/60Hz

Part number	Protection	System
Syncro-check with dead bus facility		
PLL/D-100/120	Phase angle and voltage dead bus	Single or 3-phase, 4-wire, 57.7/69.3V L-N L/L AC, 50/60Hz
PLL/D-173/240	Phase angle and voltage dead bus	Single or 3-phase, 4-wire, 100/139V L-N L/L AC, 50/60Hz
PLL/D-380/480	Phase angle and voltage dead bus	Single or 3-phase, 4-wire, 220/277V L-N L/L AC, 50/60Hz
PLL/D-277/500	Phase angle and voltage dead bus	Single or 3-phase, 4-wire, 277/500V L-N L/L AC, 50/60Hz
Thermistor trip with over trip relay and manual/remote reset		
PMM/T-24/240	Over temperature	Input PTC thermistors, 24/240V AC/DC Aux
DC Millivolts with adjustable time delay		
PBT/S-24/240	High/low trip (2 output relays)	50, 75, 100mV DC, 24/240V AC/DC Aux
DC Milliamps with adjustable time delay		
PBV-24/240	High/low trip (2 output relays)	0/1, 0/10, 0/20, 4/20mA DC, 24/240V, AC/DC Aux
Speed sensing		
PH3-12/24	3 Setpoints, 1 relay	Input Magnetic pickup, 12/24V DC Aux

Earth Leakage Relay – Standard (DPCO)

Part number	Description
ELRP/S-24/240	24-240V AC/DC
ELRP/S-12/24	12-24V DC

Earth Leakage Relays – Core Balanced Current Transformers

Part number	Description
CBT-94F-035	Aperture diameter 35mm
CBT-94F-070	Aperture diameter 70mm
CBT-94F-105	Aperture diameter 105mm

The range offers DIN instruments, ANSI switchboard meters, panel indicators, sealed and ruggedised instruments and complementary selector switches for line-to-line and line-to neutral readings. Instruments are precision engineered and robust in design, ensuring accurate measurement and display in the most demanding of environments.

DIN48

DIN48 - AC Ammeters 90°

Moving Iron Shortscale AC Ammeters CT Operated

Description	Cat. no.
5A CT operated, scaled 0-60A, 50/60Hz	E242-75A-G-LS-NW-C7
5A CT operated, scaled 0-100A, 50/60Hz	E242-75A-G-LS-PK-C7
5A CT operated, scaled 0-150A, 50/60Hz	E242-75A-G-LS-PZ-C7
5A CT operated, scaled 0-200A, 50/60Hz	E242-75A-G-LS-RL-C7
5A CT operated, scaled 0-250A, 50/60Hz	E242-75A-G-LS-RS-C7
5A CT operated, scaled 0-300A, 50/60Hz	E242-75A-G-LS-RX-C7
5A CT operated, scaled 0-400A, 50/60Hz	E242-75A-G-LS-SC-C7

Moving Iron Shortscale AC Ammeters x 6 Overload CT Operated

Description	Cat. no.
5A CT operated, scaled 0-60/360A, 50/60Hz	E242-756A-G-LS-NW-C7
5A CT operated, scaled 0-100/600A, 50/60Hz	E242-756A-G-LS-PK-C7
5A CT operated, scaled 0-150/900A, 50/60Hz	E242-756A-G-LS-PZ-C7
5A CT operated, scaled 0-200/1200A, 50/60Hz	E242-756A-G-LS-RL-C7
5A CT operated, scaled 0-250/1500A, 50/60Hz	E242-756A-G-LS-RS-C7
5A CT operated, scaled 0-300/1800A, 50/60Hz	E242-756A-G-LS-RX-C7
5A CT operated, scaled 0-400/2400A, 50/60Hz	E242-756A-G-LS-SC-C7

Moving Iron Shortscale AC Ammeters Direct Connected

Description	Cat. no.
10A direct connected, scaled 0-10A, 50/60Hz	E242-75A-G-MT-MT-C7
15A direct connected, scaled 0-15A, 50/60Hz	E242-75A-G-ND-ND-C7
25A direct connected, scaled 0-25A, 50/60Hz	E242-75A-G-NJ-NJ-C7
40A direct connected, scaled 0-40A, 50/60Hz	E242-75A-G-NP-NP-C7

Moving Iron Shortscale AC Ammeters x 6 Overload Direct Connected

Description	Cat. no.
10A direct connected, scaled 0-10/60A, 50/60Hz	E242-756A-G-MT-MT-C7
15A direct connected, scaled 0-15/90A, 50/60Hz	E242-756A-G-ND-ND-C7
25A direct connected, scaled 0-25/150A, 50/60Hz	E242-756A-G-NJ-NJ-C7

DIN48 - AC Voltmeters 90°

Description	Cat. no.
0-150V direct connected, scaled 0-150V, 50/60Hz	E242-75V-G-PZ-PZ-C7
0-300V direct connected, scaled 0-300V, 50/60Hz	E242-75V-G-RX-RX-C7
0-500V direct connected, scaled 0-500V, 50/60Hz	E242-75V-G-SF-SF-C7
0-600V direct connected, scaled 0-600V, 50/60Hz	E242-75V-G-SJ-SJ-C7

DIN48 - Frequency Meters 90°

Description	Cat. no.
45-65Hz 200-250V, scaled 45/55/65Hz	E242-41S-G-RN-AJ-AJ

DIN48 - DC Ammeters Shunt Operated

Description	Cat. no.
60mV shunt operated, scaled 0-40A	E242-89A-G-EF-NP
60mV shunt operated, scaled 0-60A	E242-89A-G-EF-NW
60mV shunt operated, scaled 0-80A	E242-89A-G-EF-PD
60mV shunt operated, scaled 0-100A	E242-89A-G-EF-PK
60mV shunt operated, scaled 0-150A	E242-89A-G-EF-PZ
60mV shunt operated, scaled 0-200A	E242-89A-G-EF-RL
60mV shunt operated, scaled 0-250A	E242-89A-G-EF-RS
60mV shunt operated, scaled 0-400A	E242-89A-G-EF-SC

DIN48 - DC Indicators Standard Scale as Required

Description	Cat. no.
1mA DC indicator	E242-89A-G-FA-**
10mA DC indicator	E242-89A-G-GZ-**
20mA DC indicator	E242-89A-G-HF-**
4-20mA DC indicator	E242-89R-G-HG-**

DIN48 - DC Voltmeters

Description	Cat. no.
0-10V DC voltmeter - standard scale as required	E242-89V-G-MT-**
0-15V direct connected, scaled 0-15V	E242-89V-G-ND-ND
0-30V direct connected, scaled 0-30V	E242-89V-G-NL-NL

DIN72

DIN72 - DC Ammeters Shunt Shunt Operated

Description	Cat. no.
60mV shunt operated, scaled 0-40A	E243-01A-G-EF-NP
60mV shunt operated, scaled 0-60A	E243-01A-G-EF-NW
60mV shunt operated, scaled 0-80A	E243-01A-G-EF-PD
60mV shunt operated, scaled 0-100A	E243-01A-G-EF-PK
60mV shunt operated, scaled 0-150A	E243-01A-G-EF-PZ
60mV shunt operated, scaled 0-200A	E243-01A-G-EF-RL
60mV shunt operated, scaled 0-250A	E243-01A-G-EF-RS
60mV shunt operated, scaled 0-400A	E243-01A-G-EF-SC

DIN72 - DC Indicators

Description	Cat. no.
1mA DC indicator	E243-01A-G-FA-**
10mA DC indicator	E243-01A-G-GZ-**
20mA DC indicator	E243-01A-G-HF-**
4-20mA DC indicator	E243-01R-G-HG-**

DIN72 - DC Voltmeters

Description	Cat. no.
0-10V DC voltmeter - standard scale as required	E243-01V-G-MT-**
0-15V direct connected, scaled 0-15V	E243-01V-G-ND-ND
0-30V direct connected, scaled 0-30V	E243-01V-G-NL-NL

DIN72 - AC Ammeters 90°

Moving Iron Shortscale AC Ammeters CT Operated

Description	Cat. no.
5A CT operated, scaled 0-60A, 50/60Hz	E243-02A-G-LS-NW-C7
5A CT operated, scaled 0-100A, 50/60Hz	E243-02A-G-LS-PK-C7
5A CT operated, scaled 0-150A, 50/60Hz	E243-02A-G-LS-PZ-C7
5A CT operated, scaled 0-200A, 50/60Hz	E243-02A-G-LS-RL-C7
5A CT operated, scaled 0-250A, 50/60Hz	E243-02A-G-LS-RS-C7
5A CT operated, scaled 0-300A, 50/60Hz	E243-02A-G-LS-RX-C7
5A CT operated, scaled 0-400A, 50/60Hz	E243-02A-G-LS-SC-C7

Moving Iron Shortscale AC Ammeters x 6 Overload CT Operated

Description	Cat. no.
5A CT operated, scaled 0-60/360A, 50/60Hz	E243-026A-G-LS-NW-C7
5A CT operated, scaled 0-100/600A, 50/60Hz	E243-026A-G-LS-PK-C7
5A CT operated, scaled 0-150/900A, 50/60Hz	E243-026A-G-LS-PZ-C7
5A CT operated, scaled 0-200/1200A, 50/60Hz	E243-026A-G-LS-RL-C7
5A CT operated, scaled 0-250/1500A, 50/60Hz	E243-026A-G-LS-RS-C7
5A CT operated, scaled 0-300/1800A, 50/60Hz	E243-026A-G-LS-RX-C7
5A CT operated, scaled 0-400/2400A, 50/60Hz	E243-026A-G-LS-SC-C7

Moving Iron Shortscale AC Ammeters Direct Connected

Description	Cat. no.
10A direct connected, scaled 0-10A, 50/60Hz	E243-02A-G-MT-MT-C7
15A direct connected, scaled 0-15A, 50/60Hz	E243-02A-G-ND-ND-C7
25A direct connected, scaled 0-25A, 50/60Hz	E243-02A-G-NJ-NJ-C7
40A direct connected, scaled 0-40A, 50/60Hz	E243-02A-G-NP-NP-C7

Moving Iron Shortscale AC Ammeters x 6 Overload Direct Connected

Description	Cat. no.
10A direct connected, scaled 0-10/60A, 50/60Hz	E243-026A-G-MT-MT-C7
15A direct connected, scaled 0-15/90A, 50/60Hz	E243-026A-G-ND-ND-C7
25A direct connected, scaled 0-25/150A, 50/60Hz	E243-026A-G-NJ-NJ-C7

DIN72 - AC Voltmeters 90°

Description	Cat. no.
0-150V direct connected, scaled 0-150V. 50/60Hz	E243-02V-G-PZ-PZ-C7
0-300V direct connected, scaled 0-300V. 50/60Hz	E243-02V-G-RX-RX-C7
0-500V direct connected, scaled 0-500V. 50/60Hz	E243-02V-G-SF-SF-C7
0-600V direct connected, scaled 0-600V. 50/60Hz	E243-02V-G-SJ-SJ-C7

DIN72 - Frequency Meters 90°

Description	Cat. no.
45-65Hz 200-250V, scaled 45/55/65Hz	E243-41S-G-RN-AJ-AJ

DIN96

DIN96 - AC Ammeters 90°

AC Ammeters Connect via CT X/5A with Fixed Dial Plate Normal Scaling

Description	Cat. no.
5A CT operated, scaled 0-60A, 50/60Hz	E244-02A-G-LS-NW-C7
5A CT operated, scaled 0-100A, 50/60Hz	E244-02A-G-LS-PK-C7
5A CT operated, scaled 0-150A, 50/60Hz	E244-02A-G-LS-PZ-C7
5A CT operated, scaled 0-200A, 50/60Hz	E244-02A-G-LS-RL-C7
5A CT operated, scaled 0-250A, 50/60Hz	E244-02A-G-LS-RS-C7
5A CT operated, scaled 0-300A, 50/60Hz	E244-02A-G-LS-RX-C7
5A CT operated, scaled 0-400A, 50/60Hz	E244-02A-G-LS-SC-C7

Moving Iron Shortscale AC Ammeters x 6 Overload CT Operated

Description	Cat. no.
5A CT operated, scaled 0-60/360A, 50/60Hz	E244-026A-G-LS-NW-C7
5A CT operated, scaled 0-100/600A, 50/60Hz	E244-026A-G-LS-PK-C7
5A CT operated, scaled 0-150/900A, 50/60Hz	E244-026A-G-LS-PZ-C7
5A CT operated, scaled 0-200/1200A, 50/60Hz	E244-026A-G-LS-RL-C7
5A CT operated, scaled 0-250/1500A, 50/60Hz	E244-026A-G-LS-RS-C7
5A CT operated, scaled 0-300/1800A, 50/60Hz	E244-026A-G-LS-RX-C7
5A CT operated, scaled 0-400/2400A, 50/60Hz	E244-026A-G-LS-SC-C7

Moving Iron Shortscale AC Ammeters Direct Connected

Description	Cat. no.
10A direct connected, scaled 0-10A, 50/60Hz	E244-02A-G-MT-MT-C7
15A direct connected, scaled 0-15A, 50/60Hz	E244-02A-G-ND-ND-C7
25A direct connected, scaled 0-25A, 50/60Hz	E244-02A-G-NJ-NJ-C7
40A direct connected, scaled 0-40A, 50/60Hz	E244-02A-G-NP-NP-C7

Moving Iron Shortscale AC Ammeters x 6 Overload Direct Connected

Description	Cat. no.
10A direct connected, scaled 0-10/60A, 50/60Hz	E244-026A-G-MT-MT-C7
15A direct connected, scaled 0-15/90A, 50/60Hz	E244-026A-G-ND-ND-C7
25A direct connected, scaled 0-25/150A, 50/60Hz	E244-026A-G-NJ-NJ-C7

DIN96 - AC Voltmeters 90°

Description	Cat. no.
0-150V direct connected, scaled 0-150V. 50/60Hz	E244-02V-G-PZ-PZ-C7
0-300V direct connected, scaled 0-300V.50/60Hz	E244-02V-G-RX-RX-C7
0-500V direct connected, scaled 0-500V.50/60Hz	E244-02V-G-SF-SF-C7
0-600V direct connected, scaled 0-600V.50/60Hz	E244-02V-G-SJ-SJ-C7

DIN96 - Frequency Meters 90°

Description	Cat. no.
45-65Hz 200-250V, scaled 45/55/65Hz	E244-41S-G-RN-AJ-AJ

DIN96 - DC Ammeters Shunt Operated

Description	Cat. no.
60mV shunt operated, scaled 0-40A	E244-01A-G-EF-NP
60mV shunt operated, scaled 0-60A	E244-01A-G-EF-NW
60mV shunt operated, scaled 0-80A	E244-01A-G-EF-PD
60mV shunt operated, scaled 0-100A	E244-01A-G-EF-PK
60mV shunt operated, scaled 0-150A	E244-01A-G-EF-PZ
60mV shunt operated, scaled 0-200A	E244-01A-G-EF-RL
60mV shunt operated, scaled 0-250A	E244-01A-G-EF-RS
60mV shunt operated, scaled 0-400A	E244-01A-G-EF-SC

DIN96 - DC Indicators

Description	Cat. no.
1mA DC indicator	E244-01A-G-FA-**
10mA DC indicator	E244-01A-G-GZ-**
20mA DC indicator	E244-01A-G-HF-**
4-20mA DC indicator	E244-01R-G-HG-**

DIN96 - DC Voltmeters

Description	Cat. no.
0-10V DC voltmeter - standard scale as required	E244-01V-G-MT-**
0-15V direct connected, scaled 0-15V	E244-01V-G-ND-ND
0-30V direct connected, scaled 0-30V	E244-01V-G-NL-NL

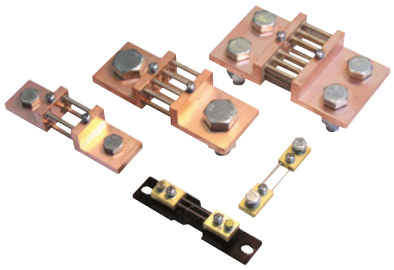
Elapsed time meters (ETM) or hours run meters monitor ON/RUN time allowing the user to effectively control production efficiency, cost estimation and service period monitoring for preventative maintenance. Time is measured in increments of 0.01h up to 99999.99 hours after which the meter automatically resets to zero. Meters are non resettable before this time to prevent accidental resetting.

DIN48 - AC Hours Run Meter

Description	Cat. no.
100-125V AC 50Hz	M242-155-G-PL-ZH-C5
200-250V AC 50Hz	M242-155-G-RN-ZH-C5
380-440V AC 50Hz	M242-155-G-RY-ZH-C5
6-30V DC	M242-157-G-BU-ZH-DC
10-80V DC	M242-157-G-NR-ZH-DC
110V DC	M242-157-G-PM-ZH-DC

DIN72 - AC Hours Run Meter

Description	Cat. no.
100-125V AC 50Hz	M243-155-G-PL-ZH-C5
200-250V AC 50Hz	M243-155-G-RN-ZH-C5
380-440V AC 50Hz	M243-155-G-RY-ZH-C5
6-30V DC	M243-157-G-BU-ZH-DC
10-80V DC	M243-157-G-NR-ZH-DC
110V DC	M243-157-G-PM-ZH-DC

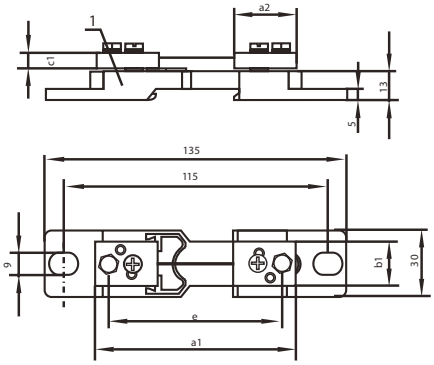


DC DIN Shunts

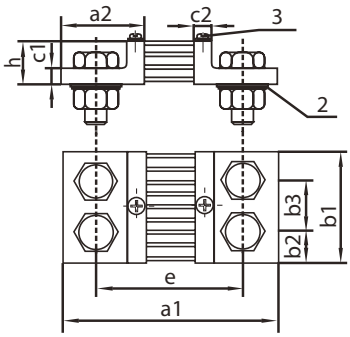
Ratio	Version as per drawings	Cat. no.
40A-60mV Class 0.5	A	ST1-40A/60MV
60A-60mV Class 0.5	A	ST1-60A/60MV
80A-60mV Class 0.5	A	ST1-80A/60MV
100A-60mV Class 0.5	A	ST1-100A/60MV
150A-60mV Class 0.5	A	ST1-150A/60MV
200A-60mV Class 0.5	B	ST1-200A/60MV
250A-60mV Class 0.5	B	ST2-250A/60MV
400A-60mV Class 0.5	B	ST2-400A/60MV

Dimensions

Version A



Version B



1 - Insulating base
2 - Spring washer
3 - Screw with cruciform cavity

Dimensions								
a1	a2	b1	b2	b3	c1	c2	e	h
90	28	20	-	-	8	-	78	-
90	28	20	-	-	8	-	78	-
90	28	20	-	-	8	-	78	-
115	33	25	-	-	8	-	95	-
115	33	25	-	-	8	-	95	-
115	33	25	-	-	8	-	95	-
115	33	25	-	-	8	-	95	-
115	33	25	-	-	8	-	95	-
160	55	30	15	-	10	10	120	30
160	55	30	15	-	10	10	120	30
160	55	40	20	-	10	10	120	30
160	55	40	20	-	10	10	120	30
180	65	60	30	-	10	10	130	30
180	65	120	30	60	10	-	130	30

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Integra range of multi-function metering systems measure, display and communicate over 100 parameters. Integra systems can be integrated into energy management and SCADA systems. Options include pulsed, analogue and RS485 communication protocols, a choice of DIN, DIN-rail and ANSI case-styles and LED or LCD displays.
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Extensive range of transducers providing measurement, isolation and conversion of electrical parameters into industry standard DC output signals, offering single or multiple analogue outputs within a single case housing.
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DIN-rail mounted or self-contained panel meters measure combined kWh or kVArh with pulsed or analogue output options and selectable CT and VT ratios. Microprocessor controlled circuitry provides up to Class 1.0 accuracy with outputs displayed directly on the instrument monitor or a remote PC.
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Trip relays continuously monitor and protect any electrical parameter within a set point limit. The range offers single and multi parameter units, earth leakage protection, ground fault relays, vector shift and ROCOF.
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Extensive range of current transformers for reducing high primary currents down to a consistent 5 or 1 Amp secondary current. Options include moulded case width, busbar and aperture sizes, tape wound, 3-in-1, balanced and split cores, current ratings and various mounting options.
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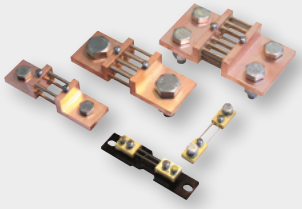
Shunts provides an accurate dc millivolt signal, exactly proportional to the system current, to drive ammeter indicators, overload protection and control devices. This range includes industrial, switchboard, DEF 66-13, DIN, base mounted, tag end, lightweight and panel meter shunts in a variety of formats and configurations.
www.crompton-instruments.com/shunt.html



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