



TE'S CROMPTON INSTRUMENTS CORE PRODUCT CATALOGUE

Edition 8

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Integra DMS



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.

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Energy Meters



DIN-rail mounted or self-contained panel meters measure combined kWh or kVAh with pulsed or analogue output options and selectable CT and VT ratios. Microprocessor controlled circuitry provides up to Class 1.0 accuracy.

13

Current Transformers



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.

14

Programmable Transducer



Transducers provide measurement, isolation and conversion of electrical parameters into industry standard DC output signals, offering single or multiple analogue outputs within a single case housing.

24

Protector Trip Relays



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.

26

Analogue Instruments



Traditional range of analogue instruments includes switchboard meter and panel indicators and complementary selector switches for line-to-line and line-to-neutral readings.

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Shunts



Shunts provides an accurate dc millivolt signal, exactly proportional to the system current, to drive ammeter indicators, overload protection and control devices.

32

Selector Switches



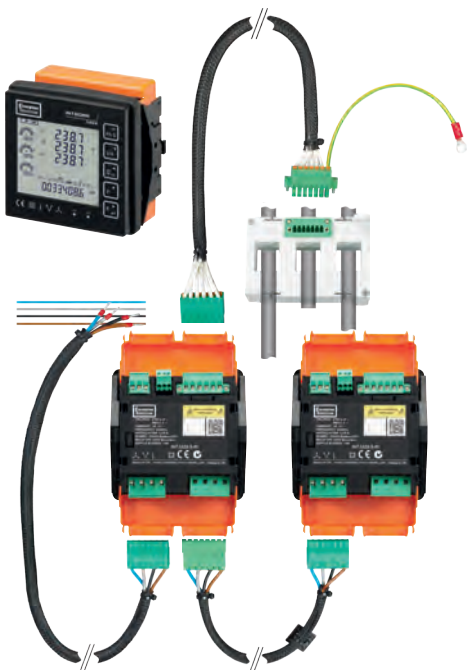
Panel mounted selector switches offer a 7-position voltmeter switch and a 4-position ammeter switch for reading line-to-line or line-to-neutral voltage and phase current.

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Complete Product Range

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NEW PRODUCTS



Q2C WIRING LOOM SOLUTION

INTEGRA 1221 DMS



INTEGRA 1222 DMS



INTEGRA 0230 / 1232 DMS



DRS ENERGY METERS



MINI CLIP CTS



INTEGRA DL1 DUAL LOAD DMS

Integra DMS - Panel Mounted - DIN 96 Integra 1221, 1222, 1232

FEATURES

- 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
- Non-volatile memory 1MB

BENEFITS

- 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
- Auxiliary or self powered
- Graphic petal array icons show total system load and phase balance

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 Reactive Energy L1
	5	Watts L2 Volts L2 Current L2 Reactive Energy L2
	6	Watts L3 Volts L3 Current L3 Reactive 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

INTEGRA-1221 - RJ12 CT CONNECTION

Integra 1221 dms and the 3-in-1 CTs (DL3N1) include RJ12 current connectors for 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 CTs.



INTEGRA-1222 - Q2C CT CONNECTION

Integra 1222 dms and the 3-in-1 CTs (QC3N1) provide our Q2C wiring solution. Pre-wired voltage and current looms reduce connectivity errors and provide a complete, easy and reliable solution. Integra 1222 dms can also be used with any Crompton Instruments CTs.



INTEGRA-1232 - MID APPROVED, Q2C CT CONNECTION

The MID approved Integra 1232 dms combined with the 3-in-1 CTs (QC3N1) supports our Q2C wiring solution. Pre-wired voltage and current looms reduce connectivity errors and provide a complete, easy and reliable solution. Integra 1232 dms can also be used with any Crompton Instruments CTs.

PRODUCT CODES

Description	Part number
Integra 1221 multifunction panel meter LCD Input L-L, 100 mA AC. 2 pulsed outputs, Modbus RS485 output. RJ12 CT connectivity	INT-1221-S-010
Integra 1221 multifunction panel meter LCD Display Input 480 V L-L Modbus RS485 Auxiliary powered	INT-1221-M-010
Integra 1222 multifunction panel meter LCD Input 480 V L-L, 5 A / 1 A AC. 2 pulsed outputs, Modbus RS485 output. Optional Q2C plug and socket connectivity	INT-1222-S-010
Integra 1222 multifunction panel meter LCD Display Input 480 V L-L Modbus RS485 Auxiliary powered	INT-1222-M-010
Integra 1232 multifunction panel meter - MID approved LCD Input 480 V L-L, 5 A / 1 A AC. 2 pulsed outputs, Modbus RS485 output. Optional Q2C plug and socket connectivity	INT-1232-S-01

Integra DMS - Q2C Wiring Loom Solution

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	600 mm
Q2C-VFO-1000-01	1000 mm
Q2C-VFO-1200-01	1200 mm
Q2C-VFO-1500-01	1500 mm

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	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

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	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

Loom is opened at the CT end to allow hard wired connection to any CT and wired at the meter end.



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

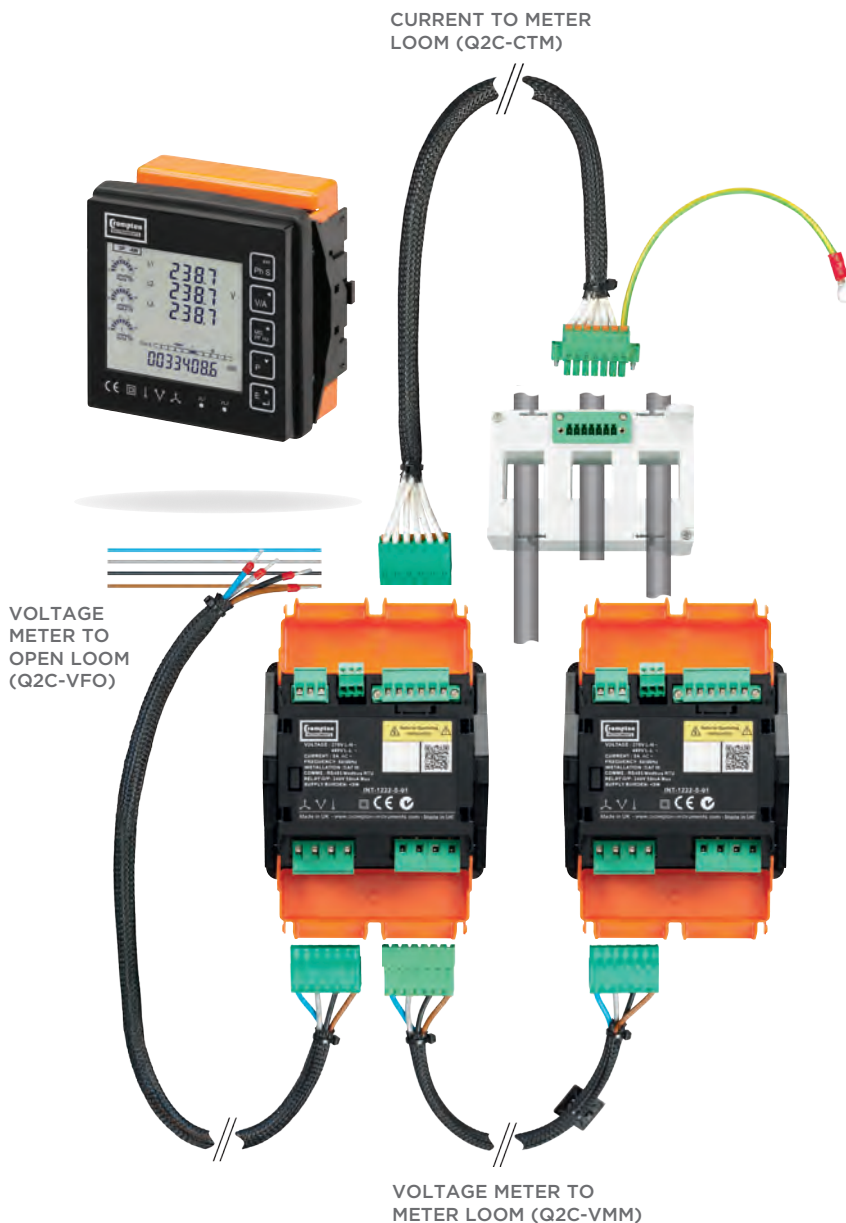
Other lengths available

FEATURES

- 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

BENEFITS

- Reduced installation time
- Eliminates potential cost of errors in electrical connections or programming
- Tidy solution for cable management



MADE IN UK

Integra DMS - Q2C 3-in-1 Current Transformers

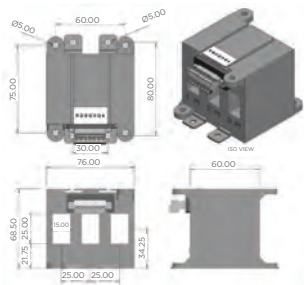


FEATURES

- 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 1223 meters
- Integral connector

BENEFITS

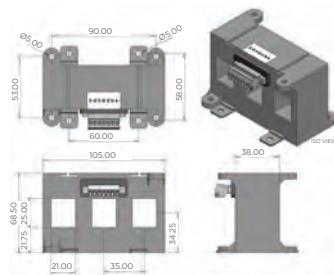
- Simple, easy and error free installation and wiring
- Applicable for most standard MCCB manufacturers



QC3N1-25 - 25 MM CENTRES BETWEEN PHASES

76 mm wide x 60 mm deep x 68 mm high

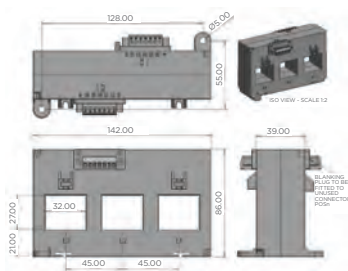
Part number	Ratio	Burden VA against class index			Aperture (mm)
		Class 0.5	Class 1	Class 3	
QC3N1-25-60/5	60/5	-	1	2	3@15x25
QC3N1-25-100/5	100/5	-	1.5	2.5	3@15x25
QC3N1-25-125/5	125/5	-	1.5	2.5	3@15x25
QC3N1-25-160/5	160/5	1.5	1.5	2.5	3@15x25



QC3N1-35 - 35 MM CENTRES BETWEEN PHASES

105 mm wide x 38 mm deep x 68.5 mm high

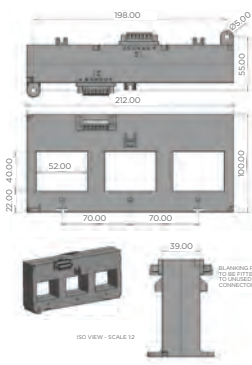
Part number	Ratio	Burden VA against class index			Aperture (mm)
		Class 0.5	Class 1	Class 3	
QC3N1-35-100/5	100/5	-	1.5	2	3@21x25
QC3N1-35-125/5	125/5	-	1.5	2.5	3@21x25
QC3N1-35-160/5	160/5	1.5	1.5	2.5	3@21x25
QC3N1-35-250/5	250/5	1.5	1.5	2.5	3@21x25



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

Integra DMS - RJ12 CTs and Wiring Looms



LOOMS FOR 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	600 mm
Q2C-VMM-0900-01	900 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-0900-01	900 mm
Q2C-VFO-1200-01	1200 mm
Q2C-VFO-1500-01	1500 mm
Other lengths available	

Integra DMS - 3-in-1 Current Transformers



FEATURES

- DIN-rail - 4 module
- RJ12 connection
- Self-Powered

BENEFITS

- User programmable CT
- RS485 built-in as standard
- Modbus RTU as standard

DL3N1-35 - 35 MM CENTRES BETWEEN PHASES

Part number	Primary Current	VA at Class 1	VA at Class 0.5
DL3N1-35-60/0.1	60 A	0.25	-
DL3N1-35-125/0.1	125 A	0.5	0.25
DL3N1-35-160/0.1	160 A	0.35	0.25
DL3N1-35-250/0.1	250 A	0.5	0.25

DL3N1-45 - 45 MM CENTRES BETWEEN PHASES

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

DL3N1-70 - 70 MM CENTRES BETWEEN PHASES

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

Integra DMS - DIN-rail Mounted Integra 0220 / 0230



FEATURES

- DIN-rail enclosure DIN 43880
- Programmable backlit LCD screen
- CT current measurement 5 / 1 A
- Directly wired
- Total harmonic distortion (THD) and individual, up to the 31st harmonic

BENEFITS

- 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 500 V L-L, 5 A / 1 A AC 2 pulsed outputs, Modbus RS485	INT-0220-S-01



FEATURES

- MID B + D Certified
- DIN-rail enclosure DIN 43880
- Programmable backlit LCD screen
- CT current measurement 5 / 1 A
- Directly wired
- Total harmonic distortion (THD) and individual, up to the 31st harmonic

BENEFITS

- Programmable VT, CT ratios
- Modbus™ RTU as standard
- 2 pulsed outputs
- 3P4W, 3P3W, 1P2W system types

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

PRODUCT CODES

Description	Part number
Integra 0230 DIN-rail multifunction meter LCD Input 500 V L-L, 5 A / 1 A 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 96x96 mm for 4 modules grey	DR-96-4MOD-GREY

Integra DMS - DIN-rail Mounted Integra DL1 DMS / DL3-in-1 CT



FEATURES

- DIN-rail - 4 module
- RJ12 connection
- Self-Powered

BENEFITS

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

FEATURES

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

BENEFITS

- RJ12 socket for fast connection eliminates wiring errors

DL3N1-35 - 35 MM CENTRES BETWEEN PHASES

Part number	Primary Current	VA at Class 1	VA at Class 0.5
DL3N1-35-60/0.1	60 A	0.25	-
DL3N1-35-125/0.1	125 A	0.5	0.25
DL3N1-35-160/0.1	160 A	0.35	0.25
DL3N1-35-250/0.1	250 A	0.5	0.25

DL3N1-45 - 45 MM CENTRES BETWEEN PHASES

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

DL3N1-70 - 70 MM CENTRES BETWEEN PHASES

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

Integra DMS - TL 1 TRI Load DMS / DL3-in-1 CT



FEATURES

- DIN-rail enclosure
- Single meter for 3x three phase loads
- Multiple display modes
- Modbus RTU RS485 as standard
- User-programmable CT ratio and system configuration
- True rms measurement
- Continuous busbar or individual busbar metering
- Can be programmed for individual power loads when required
- RJ12 socket for fast connection
- Optional DIN 96 mm panel mounting bezel can be supplied

BENEFITS

- Cost-effective, single meter solution
- UK manufactured
- CL1.0 accuracy for Energy
- Modbus communications
- Fully configurable
- Additional facility to accumulate the total system power/kWhs -displaying the combined system total parameters

DISPLAYED PARAMETERS

Load 1	Load 2
Current L1	Current L1
Current L2	Current L2
Current L3	Current L3
kW L1	kW L1
kW L2	kW L2
kW L3	kW L3
Average System Volts	Average System Volts
Average System Current	Average System Current
Average System kW	Average System kW
kWh Import	kWh Import

Load 3	System
Current L1	Current L1
Current L2	Current L2
Current L3	Current L3
kW L1	Voltage L1
kW L2	Voltage L2
kW L3	Voltage L3
Average System Volts	Average System Volts
Average System Current	Average System Current
Average System kW	Total System kWh
kWh Import	kWh Import - Load 1
	kWh Import - Load 2
	kWh Import - Load 3
	Frequency
	Power Factor (PF)

PRODUCT CODE

Description	Part number
Integra TL1 DMS	TL1-01

FEATURES

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

BENEFITS

- RJ12 socket for fast connection eliminates wiring errors

DL3N1-35 - 35 MM CENTRES BETWEEN PHASES

Part number	Primary Current	VA at Class 1	VA at Class 0.5
DL3N1-35-60/0.1	60 A	0.25	-
DL3N1-35-125/0.1	125 A	0.5	0.25
DL3N1-35-160/0.1	160 A	0.35	0.25
DL3N1-35-250/0.1	250 A	0.5	0.25

DL3N1-45 - 45 MM CENTRES BETWEEN PHASES

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

DL3N1-70 - 70 MM CENTRES BETWEEN PHASES

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

Integra DMS - Panel Mounted DIN96 LED Integra 1630 DMS



FEATURES

- DIN 96 mm enclosure
- LED display
- 0.2% accuracy
- LED annunciators for each measured parameter
- Total harmonic distortion (THD) up to the 31st harmonic
- Selectable single-phase, three-phase three-wire and three-phase four-wire capability

BENEFITS

- User programmable system configuration (4-wire default)
- Fully programmable VT and CT ratios
- Current demand per phase
- Elapsed time counter for connected loads

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)

kVA_r kVA kW

kWh import (7-digit resolution)

kVA_rh import (7-digit resolution)

kWh export (7-digit resolution)

kVA_rh export (7-digit resolution)

kW demand current demand

Maximum kW demand

Maximum current demand

Hours run

PRODUCT CODES

Description	Part number
Integra 1630 low profile DMS LED display, DIN 96 mm panel mounted user selectable system configuration Input. 241-480 V L-L 3~ 140-277 V L-N 3~ Input. 5 A Ct operated 3~ 45-66 Hz Auxiliary. 100-250 V 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 48 V DC auxiliary
- Voltage input 100-240 V L-L
- Current input 1 A
- Lonworks
- Analogue outputs
- True neutral current measurement
- Bacnet MSTP

Integra Power Quality Metering System - Panel Mounted DIN96 Integra 2170 / 2270



The new Integra 2270 power quality meter monitors the quality of incoming electricity with a 0.25% 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

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 0.55% (reading)
- Sub cycle transient monitoring

FEATURES (INT-2270 ONLY)

- Waveform capture 8 cycles per phase
- Sags/swells monitoring to BS EN 50160
- Accuracy to 0.25% (reading)

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 120/230 V 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: 0.55%	INT-2170-M-01

PRODUCT CODES

Description	Part number
Integra 2270 Power quality meter Accuracy: 0.25% Waveform capture	INT-2270-M-01

Energy Meters - DIN-rail Mounted - MID Energy Metering

FEATURES

- MID approved, direct connected energy meters
- Single and three phase systems
- Import and export energy parameters
- DIN-rail enclosure
- Backlit LCD display

The DRS-100-1P has two communication interfaces

- Modbus™ RTU protocol

BENEFITS

- Easy programming
- Easy mounting
- User-friendly navigation

- Two pulsed outputs

DRS-45-1P-MOD

PRODUCT CODES

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



DRS-45-1P-PLS

PRODUCT CODES

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



DRS-100-1P

PRODUCT CODES

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



DRS-100-3P

PRODUCT CODES

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



Current Transformers - 3-in-1 Current Transformers

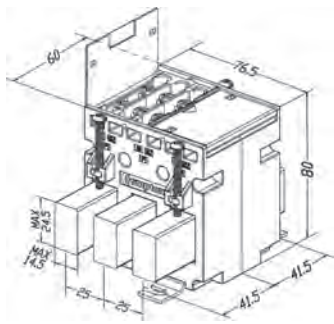


FEATURES

- 3-in-1 combine three traditional CTs in one moulded case
- Primary currents between 60-630 A
- 5A secondaries
- Up to Class 0.5 accuracy

BENEFITS

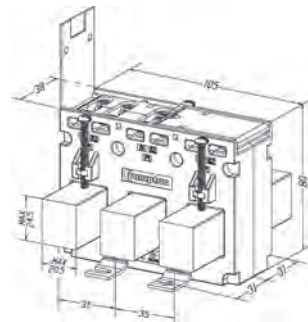
- Saving installation time where fitting three standard individual current transformers would be required
- Plug-in metal feet, DIN-rail clips and busbar mounting supplied as standard



M3N1-25 25 MM CENTRES BETWEEN PHASES

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

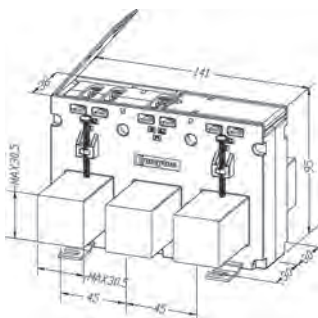
Part number	Ratio	Burden VA against Class index			Aperture (mm)
		Class 0.5	Class 1	Class 3	
M3N1-25-60/5	60/5	-	1	2	3@15 x 25 mm
M3N1-25-100/5	100/5	-	1.5	2.5	3@15 x 25 mm
M3N1-25-125/5	125/5	-	1.5	2.5	3@15 x 25 mm
M3N1-25-160/5	160/5	1.5	1.5	2.5	3@15 x 25 mm



M3N1-35 35 MM CENTRES BETWEEN PHASES

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	-	1.5	2	3@21 x 25 mm
M3N1-35-125/5	125/5	-	1.5	2.5	3@21 x 25 mm
M3N1-35-150/5	150/5	-	1.5	2.5	3@21 x 25 mm
M3N1-35-160/5	160/5	1.5	1.5	2.5	3@21 x 25 mm
M3N1-35-200/5	200/5	1.5	1.5	2.5	3@21 x 25 mm
M3N1-35-250/5	250/5	1.5	1.5	2.5	3@21 x 25 mm



M3N1-45 45 MM CENTRES BETWEEN PHASES

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@31 x 31 mm
M3N1-45-300/5	300/5	2.5	2.5	3.75	3@31 x 31 mm
M3N1-45-400/5	400/5	2.5	2.5	3.75	3@31 x 31 mm
M3N1-45-500/5	500/5	2.5	2.5	3.75	3@31 x 31 mm
M3N1-45-600/5	600/5	2.5	2.5	3.75	3@31 x 31 mm
M3N1-45-630/5	630/5	2.5	2.5	3.75	3@31 x 31 mm

Current Transformers - DIN-rail Mounted 3-in-1 Current Transformers

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
- 5 A secondaries with up to class 0.5 accuracy performance



APPLICATIONS

- Switchgear
- Distribution systems
- Generator sets
- Control panels

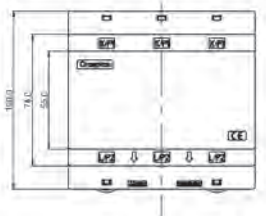
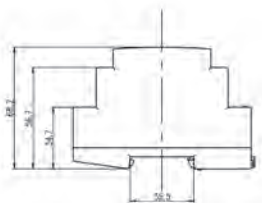
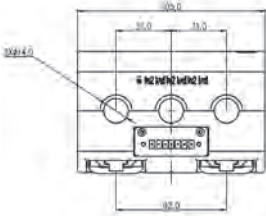
BENEFITS

- Long product life
- Faster installation
- Compact size
- Low profile DIN-rail enclosure

SPECIFICATIONS

System voltage:	720 V maximum
Test voltage:	3 kV for 1 minute
System frequency:	50 Hz or 60 Hz
Primary ratings:	50 A to 160 A
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, 1 mm ² LSZH cable (lengths specified in part number table)
Enclosure:	Flame retardant grade classified UL 94V-0
Aperture holes centres:	31 mm (cable through 13.5 mm) up to 150 A, 36 mm (cable through 20 mm) from 160-250 A
Operating temperature:	-20°C to +85°C
Accuracy class:	0.5, 1, 3
Compliant with:	IEC/EN 60044-1

DR3N1-50/5A - 150/5A

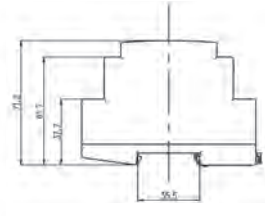
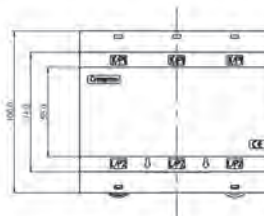
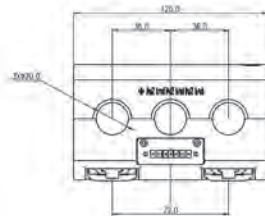


Part number	Ratio	Class 0.5 VA	Class 1 VA	Class 3 VA	Aperture (mm)	No. of modules	Cable length (M)
DR3N1-50/5	50/5A	-	1	1.5	3@13.5x31	6	1
DR3N1-60/5	60/5A	-	1	1.5	3@13.5x31	6	1
DR3N1-75/5	75/5A	-	1.5	2	3@13.5x31	6	1
DR3N1-80/5	80/5A	-	1.5	2.5	3@13.5x31	6	1
DR3N1-100/5	100/5A	2.5	3	3.75	3@13.5x31	6	2
DR3N1-125/5	125/5A	2.5	3	3.75	3@13.5x31	6	2
DR3N1-150/5	150/5A	2.5	3.75	5	3@13.5x31	6	2
DR3N1-160/5	160/5A	1.5	2.5	3.75	3@20x36	7	2
DR3N1-180/5	180/5A	2.5	3	3.75	3@20x36	7	2
DR3N1-200/5	200/5A	2.5	3.75	5	3@20x36	7	2
DR3N1-250/5	250/5A	3.75	5	6.25	3@20x36	7	2

DIMENSIONS

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

DR3N1-160/5A - 250/5A



Current Transformers - RJ12 3-in-1 Current Transformers for use with Integra 1221 and Integra DL-01 DMS

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 60 A ratio for more energy efficient loads
- Aperture hole centres 35 mm



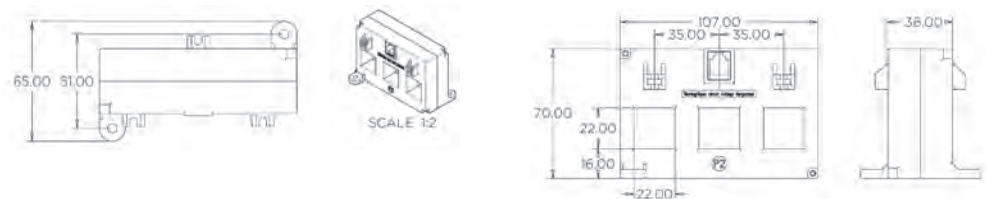
STANDARDS

- IEC 60044-1:2003

BENEFITS

- RJ12 connection for simple and easy error free installation

DL3N1-35 - 35 MM CENTRES BETWEEN PHASES



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

DL3N1-45 - 45 MM CENTRES BETWEEN PHASES

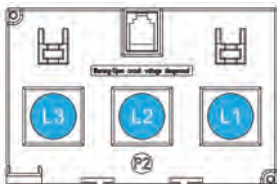


Part number	Primary Current	VA at Class 1	VA at Class 0.5	Aperture (mm)
DL3N1-45-250/0.1	250 A	0.25	-	3@27x32
DL3N1-45-400/0.1	400 A	-	0.25	3@27x32
DL3N1-45-600/0.1	600 A	-	0.25	3@27x32

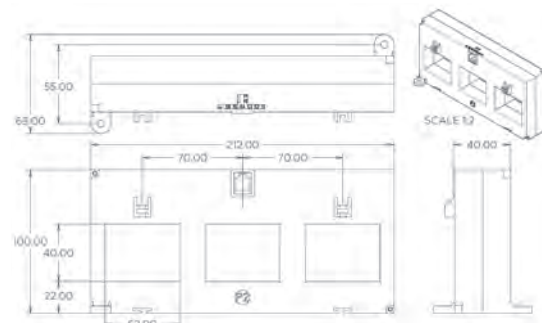
All current transformers are supplied with a 1.5 m connecting cable, with RJ12 connector termination at each end.



DUAL LOAD CT PHASE ORIENTATION



DL3N1-70 - 70 MM CENTRES BETWEEN PHASES



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

Current Transformers - RJ12 3-in-1 Current Transformers for use with Integra 1221 and Integra DL-01 DMS

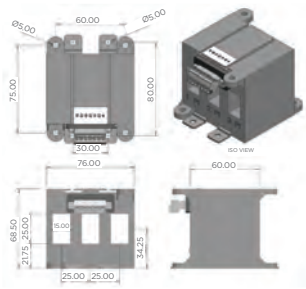


FEATURES

- 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 1223 meters
- Integral connector

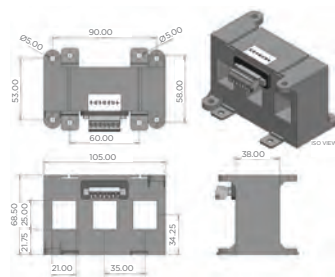
BENEFITS

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



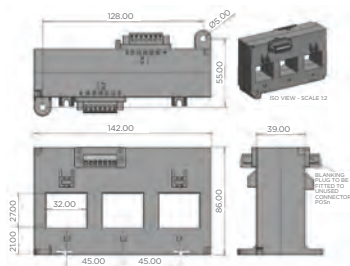
QC3N1-25 - 25 MM CENTRES BETWEEN PHASES 76 mm wide x 60 mm deep x 68 mm high

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



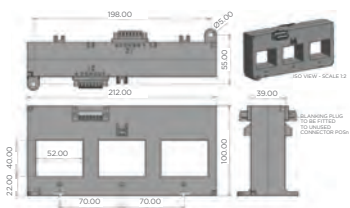
QC3N1-35 - 35 MM CENTRES BETWEEN PHASES 105 mm wide x 38 mm deep x 68.5 mm high

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	-	2.5 VA	-	3@32x27
QC3N1-45-400/5	400/5	-	2.5 VA	-	3@32x27
QC3N1-45-630/5	630/5	2.5 VA	5 VA	-	3@32x27



QC3N1-70 - 70 MM CENTRES BETWEEN PHASES 21 mm wide x 3 mm deep x 10 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	-	2.5 VA	-	3@52x40
QC3N1-70-630/5	630/5	2.5 VA	2.5 VA	-	3@52x40
QC3N1-70-800/5	800/5	2.5 VA	5 VA	-	3@52x40

Current Transformers - Ebony Moulded Case Current Transformers

FEATURES

- Wide system current ratings, apertures and case sizes
- Ratio rating from 5/5 to 4000/5
- Accuracy up to Class 0.5

BENEFITS

- Integral terminal cover for safety and multiple mounting options.



MA5Y RANGE

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

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

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

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)

Current Transformers - Ebony Moulded Case Current Transformers



M53J RANGE

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

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

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

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

Current Transformers - Ebony Moulded Case Current Transformers



M93R RANGE

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

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)



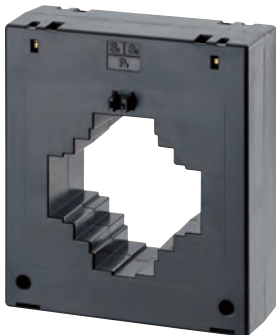
M93S RANGE

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

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

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)

Current Transformers - Ebony Moulded Case Current Transformers



MB5Z RANGE

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

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)



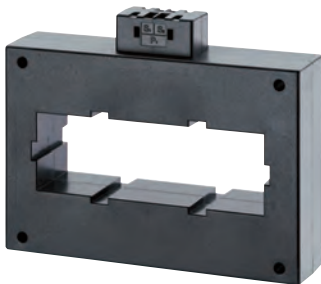
MC5T RANGE

Case Size: 140 mm wide x 50 mm deep x 238 mm high 5.5" wide x 2" deep x 9.3" high
 Aperture: 160 x 50 mm 6.3" x 2"
 Weight: +/-1.5 Kg

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
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MD5T RANGE

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

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
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Current Transformers - Miniature Split Core Current Transformers



FEATURES

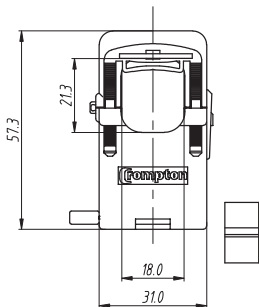
- Pre-wired with colour coded leads of up to 3 meters for connection
- Primary currents between 100-500 A
- 5 A secondaries, 1 A secondaries available between ratio's 60-500 A
- Class 1 accuracy performance

BENEFITS

- Supplied with removable shorting links
- No the need to break the conductor

GENERAL SPECIFICATIONS

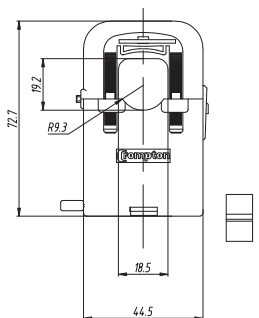
System voltage	720 V maximum
Test voltage	3 kV for 1 minute
System frequency	50 Hz or 60 Hz
Primary ratings	60 A to 500 A
Short circuit thermal current	60 x rated primary current (Ith): for 1 sec
Overload withstand	1.2 x rated current continuously
Rated dynamic current	= 2.55 x Iht
Secondary leads	5 A (Length 1 m) 2.5 mm Wire
Enclosure	Flame retardant grade classified UL 94 V-0
Aperture holes centres	18 mm up to 250 A, 28 mm from 300 A - 500 A
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: 18 mm, Cable length: 1 m

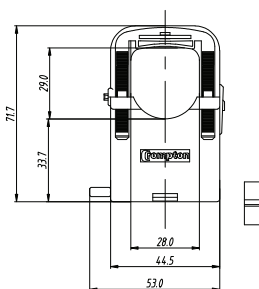
Model Type	Primary Current	Class	Burden VA
MSC1-60/1	60/1	3	0.1
MSC1-75/1	75/1	3	0.1
MSC1-80/1	80/1	3	0.15
MSC1-100/1	100/1	1	0.2



MSC2

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

Model Type	Primary Current	Lead Length (m)	VA at CI 1	VA at CI 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: 28 mm, Cable length: 1 m

Model Type	Primary Current	Lead Length (m)	VA at CI 1	VA at CI 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	-

Current Transformers - Split Core Current Transformers



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

FEATURES

- No need to break the conductor
- Cost effective and efficient

BENEFITS

- Reduced installation time

ACCURACY CLASS

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

Ring Current Transformers



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

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

Programmable Transducers - Paladin Advantage Universal Programmable Transducer



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

Programmable Transducers - Paladin Advantage Universal Programmable Transducer

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	Current L2
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		P	System power
Power		P1	Power L1
	P2	Power L2	
	P3	Power L3	
	PMAX	Max power	
	PAVG	Average power	
	Reactive	Q	System VAR
Power	Q1	System VAR L1	
	Q2	System VAR L2	
	Q3	System VAR L3	
Apparent	S	System VA	
Power	S1	System VA L1	
	S2	System VA L2	
	S3	System VA L3	
Power	PF	Power factor	
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	

Protector Trip Relays



FEATURES

- Continuous monitoring and protection of any electrical parameter
- DIN-rail enclosure
- Numerous trip functions 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, 5 A AC, 50/60 Hz, Aux 24/240 V AC/DC
PAO-5	Over current	1-phase, 5 A AC, 50/60 Hz, Aux 24/240 V AC/DC
PAD-5	Under/over current (2 output relays)	1-phase, 5 A AC, 50/60 Hz, Aux 24/240 V AC/DC
PAP/V-5	Under/over current (2 output relays)	3-phase, 3 or 4-wire, 5 A AC, 50/60 Hz, Aux 24/240 V AC/DC

Part number	Protection	System
AC voltage with adjustable differential and time delay		
PVU/Z-173/240	Under voltage	1-phase, 100/139 V L-N AC, 50/60 Hz
PVU/Z-380/480	Under voltage	1-phase, 220/277 V L-N AC, 50/60 Hz
PVO/H-173/240	Over voltage	1-phase, 100/139 V L-N AC, 50/60 Hz
PVO/H-380/480	Over voltage	1-phase, 220/277 V L-N AC, 50/60 Hz
PVB-173/240	Under/over voltage (2 output relays)	1-phase, 100/139 V L-N AC, 50/60 Hz
PVB-380/480	Under/over voltage (2 output relays)	1-phase, 220/277 V L-N AC, 50/60 Hz
PVK/J-100/120	Under voltage	3-phase 3-wire, 100/120 V L-L AC, 50/60 Hz
PVK/J-380/480	Under voltage	3-phase 3-wire, 380/480 V L-L AC, 50/60 Hz
PVA/C-100/120	Over voltage	3-phase 3-wire, 100/120 V L-L AC, 50/60 Hz
PVA/C-380/480	Over voltage (2 output relays)	3-phase 3-wire, 380/480 V L-L AC, 50/60 Hz
PVM-100/120	Under/over voltage (2 output relays)	3-phase 3-wire, 100/120 V L-L AC, 50/60 Hz
PVM-380/480	Under/over voltage (2 output relays)	3-phase 3-wire, 380/480 V L-L AC, 50/60 Hz
PVV/X-100/120	Under voltage	3-phase 4-wire, 57.7/69.3 V L-N (100/120 V L-L) AC, 50/60 Hz
PVV/X-173/240	Under voltage	3-phase 4-wire, 100/139 V L-N (173/240 V L-L) AC, 50/60 Hz
PVV/X-380/480	Under voltage (2 output relays)	3-phase 4-wire, 220/277 V L-N (380/480 V L-L) AC, 50/60 Hz
PVP/S-380/480	Over voltage (2 output relays)	3-phase 4-wire, 220/277 V L-N (380/480 V L-L) AC, 50/60 Hz
PVE-380/480	Under/over voltage (2 output relays)	3-phase 4-wire, 220/277 V L-N (380/480 V L-L) AC, 50/60 Hz

Part number	Protection	System
Frequency with adjustable differential and time delay		
PHD-100/120	Under/over frequency (2 relays)	1-phase, 57.7/69.3 V L/N L/L AC (50, 60 and 400 Hz)
PHD-173/240	Under/over frequency (2 relays)	1-phase, 100/139 V L/N L/L AC (50, 60 and 400 Hz)
PHD-380/480	Under/over frequency (2 relays)	1-phase, 220/277 V L/N L/L AC (50, 60 and 400 Hz)
PHD-280/860	Under/over frequency (2 relays)	1-phase, 161-500 V L/N L/L AC (50, 60 and 400 Hz)

Part number	Protection	System
Phase sequence and phase failure		
PVR3-100/120	Phase sequence under voltage	3-phase 3-wire, 100/120 V L-L AC, 50/60 Hz
PVR3-380/480	Phase sequence under voltage (2 output relays)	3-phase 3-wire, 380/480 V L-L AC, 50/60 Hz
PVR4-100/120	Phase sequence under voltage	3-phase 4-wire, 100/120 V L-L AC, 50/60 Hz
PVR4-380/480	Phase sequence under voltage (2 output relays)	3-phase 4-wire, 380/480 V L-L AC, 50/60 Hz

Part number	Protection	System
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, 100/120 V L-L AC, 50/60 Hz
PSF/G3-173/240	Phase loss, unbalanced and under voltage	3-phase 3-wire, 173/240 V L-L AC, 50/60 Hz
PSF/G3-380/480	Phase loss, unbalanced and under voltage	3-phase 3-wire, 380/480 V L-L AC, 50/60 Hz

Part number	Protection	System
Reverse power (current) with adjustable time delay		
PAS-380/480	Reverse power	Single or 3-phase, 4-wire, 220/277 V L-N (380/480 V L-L) AC, 0-6 A AC, 50/60 Hz
PAT-380/480	Reverse power	3-phase, 3-wire, 380-480 V AC, 0-6 A AC, 50/60 Hz

Protector Trip Relays - Earth Leakage Relays



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



EARTH LEAKAGE RELAY - STANDARD (DPCO)

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

EARTH LEAKAGE RELAYS - CORE BALANCED CURRENT TRANSFORMERS

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

Analogue Instruments - DIN48

FEATURES

- DIN instruments
- Panel indicators
- Complementary selector switches for line-to-line and line-to neutral readings

BENEFITS

- Robust design
- Accurate measurement and display
- Suitable for most demanding of environments

DIN48

DIN48 - AC AMMETERS 90° MOVING IRON SHORTSCALE AC AMMETERS CT OPERATED

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

MOVING IRON SHORTSCALE AC AMMETERS X 6 OVERLOAD CT OPERATED

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

MOVING IRON SHORTSCALE AC AMMETERS DIRECT CONNECTED

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

MOVING IRON SHORTSCALE AC AMMETERS X 6 OVERLOAD DIRECT CONNECTED

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

DIN48 - AC VOLTMETERS 90°

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

DIN48 - FREQUENCY METERS 90°

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

DIN48 - DC AMMETERS SHUNT OPERATED

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



Analogue Instruments - DIN72



DIN48 - DC INDICATORS STANDARD SCALE AS REQUIRED

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

DIN48 - DC VOLTMETERS

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

DIN72

DIN72 - DC AMMETERS SHUNT SHUNT OPERATED

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



DIN72 - DC INDICATORS

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

DIN72 - DC VOLTMETERS

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



DIN72 - AC AMMETERS 90° MOVING IRON SHORTSCALE AC AMMETERS CT OPERATED

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

MOVING IRON SHORTSCALE AC AMMETERS X 6 OVERLOAD CT OPERATED

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

Analogue Instruments - DIN96



MOVING IRON SHORTSCALE AC AMMETERS DIRECT CONNECTED

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

MOVING IRON SHORTSCALE AC AMMETERS X 6 OVERLOAD DIRECT CONNECTED

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

DIN72 - AC VOLTMETERS 90°

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

DIN72 - FREQUENCY METERS 90°

Description	Cat. no.
45-65 Hz 200-250 V, scaled 45/55/65 Hz	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.
5 A CT operated, scaled 0-60 A, 50/60 Hz	E244-02A-G-LS-NW-C7
5 A CT operated, scaled 0-100 A, 50/60 Hz	E244-02A-G-LS-PK-C7
5 A CT operated, scaled 0-150 A, 50/60 Hz	E244-02A-G-LS-PZ-C7
5 A CT operated, scaled 0-200 A, 50/60 Hz	E244-02A-G-LS-RL-C7
5 A CT operated, scaled 0-250 A, 50/60 Hz	E244-02A-G-LS-RS-C7
5 A CT operated, scaled 0-300 A, 50/60 Hz	E244-02A-G-LS-RX-C7
5 A CT operated, scaled 0-400 A, 50/60 Hz	E244-02A-G-LS-SC-C7

MOVING IRON SHORTSCALE AC AMMETERS X 6 OVERLOAD CT OPERATED

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

MOVING IRON SHORTSCALE AC AMMETERS DIRECT CONNECTED

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

MOVING IRON SHORTSCALE AC AMMETERS X 6 OVERLOAD DIRECT CONNECTED

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

Analogue Instruments - DIN96, Run Hours Meter



DIN96 - AC VOLTMETERS 90°

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



DIN96 - FREQUENCY METERS 90°

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



DIN96 - DC AMMETERS SHUNT OPERATED

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

DIN96 - DC INDICATORS

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

DIN96 - DC VOLTMETERS

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

DIN48, DIN72

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

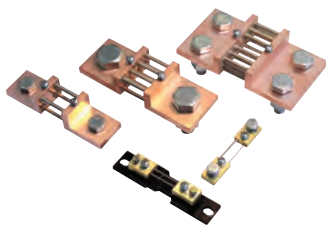
Description	Cat. no.
100-125 V AC 50 Hz	M242-155-G-PL-ZH-C5
200-250 V AC 50 Hz	M242-155-G-RN-ZH-C5
380-440 V AC 50 Hz	M242-155-G-RY-ZH-C5
6-30 V DC	M242-157-G-BU-ZH-DC
10-80 V DC	M242-157-G-NR-ZH-DC
110 V DC	M242-157-G-PM-ZH-DC

DIN72 - AC HOURS RUN METER

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



Shunts - DC DIN Shunts



DC DIN SHUNTS

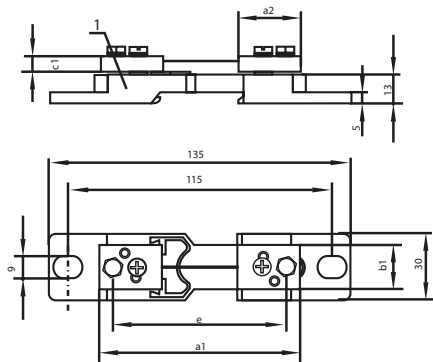
Ratio	Version as per drawings	Cat. no.
40 A-60 mV Class 0.5	A	ST1-40A/60MV
60 A-60 mV Class 0.5	A	ST1-60A/60MV
80 A-60 mV Class 0.5	A	ST1-80A/60MV
100 A-60 mV Class 0.5	A	ST1-100A/60MV
150 A-60 mV Class 0.5	A	ST1-150A/60MV
200 A-60 mV Class 0.5	B	ST1-200A/60MV
250 A-60 mV Class 0.5	B	ST2-250A/60MV
400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

Dimensions

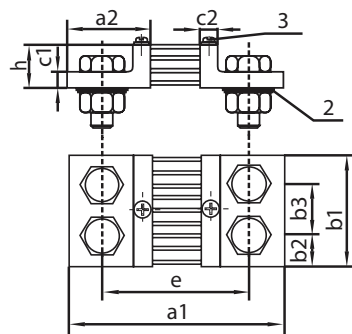
a1	a2	b1	b2	b3	c1	c2	e	h
90	28	20	-	-	8	-	78	-
90	28	20	-	-	8	-	78	-
90	28	20	-	-	8	-	78	-
115	33	25	-	-	8	-	95	-
115	33	25	-	-	8	-	95	-
115	33	25	-	-	8	-	95	-
115	33	25	-	-	8	-	95	-
160	55	30	15	-	10	10	120	30
160	55	30	15	-	10	10	120	30
160	55	40	20	-	10	10	120	30
160	55	40	20	-	10	10	120	30
180	65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

DIMENSIONS

VERSION A



VERSION B



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

Selector switches

FEATURES

- Compact size
- Reliable design
- Multi pole



APPROVALS

- IEC EN 60947-3
- VDE 0660 part 107

BENEFITS

- Cost effective
- Easy to install
- High protection class

Panel mounted selector switches offer a 7-position voltmeter switch and a 4-position ammeter switch for reading line-to-line or line-to-neutral voltage and phase current.

Each switch is supplied with both numbered and coloured annotation.

Description		Current Rating		
		6A	10A	16A
Ammeter Selector Switch 5 Position Line Current with OFF with Neutral		SWA-5P-6A ✓	SWA-5P-10A ✓	SWA-5P-16A ✓
Ammeter Selector Switch 4 Position Line Current with OFF		SWA-4P-6A ✓	SWA-4P-10A ✓	SWA-4P-16A ✓
Voltmeter Selector Switch 4 Position Voltage between Phases with OFF		SWV-4P-6A-LL ✓	SWV-4P-10A-LL ✓	SWV-4P-16A-LL ✓
Voltmeter Selector Switch 7 Position Voltage between Phases & Individual Phase to Neutral with OFF		SWV-7P-6A ✓	SWV-7P-10A ✓	SWV-7P-16A ✓
Voltmeter Selector Switch 4 Position Phase to Neutral Voltages with OFF		SWV-4P-6A-LN ✓	SWV-4P-10A-LN ✓	SWV-4P-16A-LN ✓

Rotary cam switches dimensional details											
Type	A	B	C (max)	D	M1	M2	M3	R	S	W1	W2
Cam 6A	29	9.7	4	32	36	4	8	48	48	13	7
Cam 10A	29	9.5	4	43	36	4	7	60	48	19	5

CROMPTON INSTRUMENTS COMPLETE PRODUCT RANGE

Integra Multi-function Metering Systems

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.

www.crompton-instruments.com/integra.html



Integra and Paladin Transducers

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.

www.crompton-instruments.com/transducer.html



Energy Meters

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.

www.crompton-instruments.com/kwh.html



Protector Trip Relays

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.

www.crompton-instruments.com/protector.html



Analogue Instruments

Traditional range of analogue instruments includes ANSI switchboard meters, panel indicators, sealed and ruggedised instruments, and complementary selector switches for line-to-line and line-to-neutral readings. All instruments are available in a range of styles, sizes and performance specifications.

www.crompton-instruments.com/analogue.html



Current Transformers

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.

www.crompton-instruments.com/ct.html



Meter Relays and Digital Indicators

Meter relays and digital indicators are ideal for monitoring, process control and load shedding applications. This range includes digital and analogue meter relays, digital bargraph indicators and controllers.

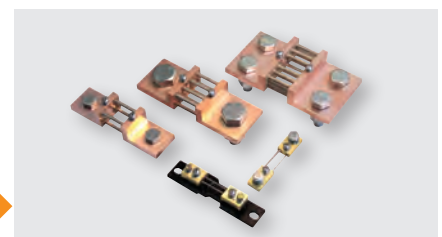
www.crompton-instruments.com/relay.html



Shunts

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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