



# Crompton Instruments Catalyst Preferred Range Catalogue and Price List Edition 5

# 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 and price list 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](http://www.crompton-instruments.com)

Prices are valid until 1st Jan 2015.



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# NEW Products

## Dual Load Wiring Solution



## Q2C Wiring Solution Now up to 800 Amps



## MID Energy Meters

## Mini Clip CTs



## Paladin Advantage Transducers



## Integra Ri3 digital metering system





## Dual Load Wiring Solution

### 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 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).

#### Displayed Parameters

##### Lighting (Load 1)

- Current L1
- Current L2
- Current L3
- kW L1
- kW L2
- kW L3
- Average System Volts
- Average System Current
- Average System kWh
- kWh Import

##### Lighting (Load 2)

- Current L1
- Current L2
- Current L3
- kW L1
- kW L2
- kW L3
- Average System Volts
- Average System Current
- Average System kWh
- kWh Import

##### System

- Current L1
- Current L2
- Current L3
- Voltage L1
- Voltage L2
- Voltage L3
- Average System Volts
- Average System Current
- Average System kWh
- kWh Import - Power
- kWh Import - Lighting
- kWh Import - Total
- Frequency
- Power Factor (PF)

- DIN-rail - 4 module
- User programmable CT
- RS485 built-in as standard
- RJ12 connection

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

### 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 35mm aperture centre

Part number	Ratio	Burden VA	Aperture (mm)
		Class 0.5	
DL3N1-35-60/0.1	60/0.1	0.25	3 @ 21x22
DL3N1-35-125/0.1	125/0.1	0.25	3 @ 21x22
DL3N1-35-250/0.1	250/0.1	0.25	3 @ 21x22



# Q2C Wiring Solution

## Integra Ci5 Digital Metering System

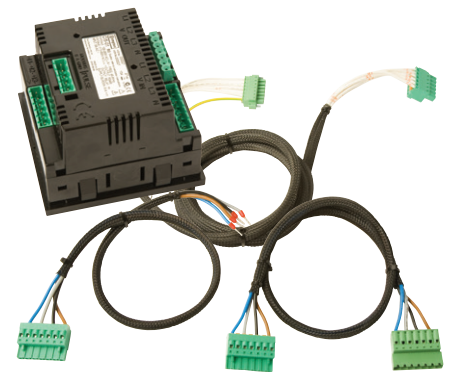
- Voltage In and Out connection
- Pulsed and Modbus RTU RS485 fitted as standard
- Programmable CT ratio
- True rms/THD measurement
- Self powered, no need for additional auxiliary supply for screen display operation
- User programmable, single-phase or 3-phase 4-wire system configuration
- Easy 'clip-in' panel mounting
- New blue on black backlit LCD screen



Description	Part number
Integra Ci5 meter (Pulsed & Modbus RTU RS485)	CI5-01
Ci5 terminal/connector pack (optional for user to produce own looms)	CI5-TERM-01

## Wiring Looms

Loom	Description	Length (m)	Part number
1	Fuses to voltage loom	0.5	QCFV-01
1	Fuses to voltage loom	1	QCFV-02
2	Voltage to voltage loom	0.6	QCVV-01
2	Voltage to voltage loom	0.9	QCVV-02
2	Voltage to voltage loom	1.2	QCVV-03
3	CT to meter loom	1.5	QCCTM-01
3	CT to meter loom	1.25	QCCTM-02
3	CT to meter loom	2.5	QCCTM-03
3	CT to meter loom	0.5	QCCTM-04
3	Open ended loom/harness CT fixed/open at meter connection	1.5	QCCTO-01
3	Open ended loom/harness CT fixed/open at meter connection	0.5	QCCTO-02
3	Open ended loom/harness CT fixed/open at meter connection	2.5	QCCTO-04
3	Open ended loom/harness CT open/fixed at meter connection	1.5	QCMCTO-01
3	Open ended loom/harness CT open/fixed at meter connection	0.5	QCMCTO-02

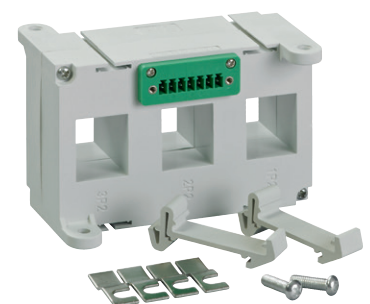


- High pull resistance connectors for durable use
- Pre-cut specific to application for easier cable dressing
- Voltage looms are multipurpose - can be used for first incoming voltage supply and for additional meter looping

## QC 3-in-1 Current Transformers

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

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
QC3N1-25-160/5	160/5	1.5	1.5	2.5	3 @ 15x25
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
QC3N1-45-250/5	250/5	-	2.5VA	-	3@ 32x27
QC3N1-45-400/5	400/5	-	2.5VA	-	3@ 32x27
QC3N1-45-600/5	600/5	2.5VA	5VA	-	3@ 32x27
QC3N1-70-400/5	400/5	-	2.5VA	-	3@ 52x40
QC3N1-70-600/5	600/5	2.5VA	5VA	-	3@ 52x40
QC3N1-70-800/5	800/5	2.5VA	5VA	-	3@ 52x40



- Reversible mounting LHS and RHS
- Internal grounding/earthing facility
- Supplied with connector



# Integra Digital Metering Systems

## Integra Ri3 Digital Metering System

The Integra Ri3 dms is an accurate and cost effective solution for measurement and display of all major electrical and power quality parameters with easy programming and user friendly navigation in DIN 43880 enclosure. The product features a DIN-rail enclosure, backlit LCD display and user programmable CT ratios. Integra Ri3 dms measures 17 electrical parameters including total harmonic distortion (THD) measurement up to the 31st harmonic.

- Pulsed output and Modbus as standard
- Programmable CT ratio
- True rms measurement
- User programmable system configuration
- Simple navigation
- UK manufactured

### Ri3/Ci3/Ci5 Parameters

Button	Screen	Parameters
CT	1	CT ratio
V/Hz	1	Volts L1 - N Volts L2 - N Volts L3 - N
	2	Volts L1 - L2 Volts L2 - L3 Volts L3 - L1
	3	Frequency
	4	Volts L1 - N THD% Volts L2 - N THD% Volts L3 - N THD%
	5	Volts L1 - L2 THD% Volts L2 - L3 THD% Volts L3 - L1 THD%
A	1	Current L1 Current L2 Current L3
	2	Neutral current
	3	L1 Current max demand L2 Current max demand L3 Current max demand
	4	Neutral current max demand
	5	Current L1 THD% Current L2 THD% Current L3 THD%
P/PF	1	kW kVAr kVA
	2	kW Max demand
	3	Power factor
E	1	kWh
	2	kVArh
	3	Import kVArh*
	4	Export kVArh*

\*Ri3 only

Description	Part number
Integra Ri3 meter (Pulsed & Modbus RTU RS485)	RI3-01
Panel mounting bezel 96X96mm 4 modules	DR96-4MOD-GRAY

## Integra Ci3 Digital Metering System

The Integra Ci3 digital metering system is an accurate and cost effective solution for measurement and display of all major electrical and power quality parameters. Its easy programming, mounting and user-friendly navigation make the Integra Ci3 dms an ideal choice for customers who require reliable energy measurement.

- Bezel depth 6.1mm
- Plug-in output modules
- Programmable CT ratio
- True rms measurement
- User programmable system configuration
- UK manufactured
- Easy 'clip-in' panel mounting

Description	Part number
Integra Ci3 base unit	CI3-01
<b>Options</b>	
Pulsed output	CI-PUL-01
Modbus RTU RS485 communication output	CI-MOD-01
<b>Accessories</b>	
IP65 protective cover	3 G365 02
IP54 panel gasket	3 C345 01



## Integra Ci5 Digital Metering System

- New backlit LCD screen
- Voltage In and Out connection
- Pulsed & Modbus RTU RS485 fitted as standard
- Programmable CT ratio
- True rms measurement
- User programmable system configuration
- Intuitive navigation
- UK manufactured
- Easy 'clip-in' panel mounting

Description	Part number
Integra Ci5 meter (Pulsed & Modbus RTU RS485)	CI5-01
Ci5 Terminal/connector pack (optional for user to produce own looms)	CI5-TERM-01



## Integra 1630 Digital Metering System

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.

- 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
- Removable bezel for very low profile applications

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



### Measured 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)
- kWh import (7-digit resolution)
- kWh export (7-digit resolution)
- kWh export (7-digit resolution)
- kW demand current demand
- Maximum kW demand Maximum current demand
- Hours run

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

Please consult customer services for further information. Customer service 0870 870 7500.



Running icon indicates Wh and VAhr accumulation.



## kWh Meters

### Integra Ci1 kWh Meter

The Integra Ci1 energy meter is specially designed and developed as a cost effective Watt hour and VAR hour meter to complement the current Integra Ci series. The Integra Ci1 self-contained 96mm DIN panel mounted Watt hour, VAR hour meter measures the real consumption of active and reactive energy to Class 1.0 accuracy.

- DIN 96 enclosure
- Backlit LCD screen
- Bezel depth 6.1mm
- Plug-in output modules
- Programmable CT ratio
- User programmable system configuration
- Phase diagnostic indication
- System running indication
- Removable energy threshold (1%)

#### Product Code

Description	Part number
Integra Ci1 base unit	CI1-01
<b>Options</b>	
Pulsed output	CI-PUL-01
Modbus RTU RS485 communication output	CI-MOD-01
<b>Accessories</b>	
IP65 protective cover	3 G365 02
IP54 panel gasket	3 C345 01

#### Parameters

Button	Screen	Parameters
CT	1	CT ratio
Wh	2	IMPORT Wh
	3	EXPORT Wh
VArh	4	IMPORT VArh
	5	EXPORT VArh
TEST	6	Phase sequence diagnostic

### DRK kWh Meters

Self-contained energy metering system which is ideal for switchgear, plant instrumentation and process control. The range has significant advantages over the traditional energy meters with pulsed outputs, and direct connection as standard.



#### Single-phase: 230V - Direct Connected 63A

Description	Part number
1-phase 230V-63A direct connected, pulsed output (Opto) LCD screen	DRK-1P-230-D63

#### Three-phase: 230V (400V) - Direct Connected 100A

Description	Part number
3-phase 230V L-N (400V L-L) - 100A direct connected, pulsed output (Opto), LCD screen	DRK-3P-400-D100



## MID Energy Meters

The MID approved energy meters range is available for single and three phase systems and the range features include a blue backlit LCD screen, direct or CT connection capability, sealable terminal covers, and tariff identifier display. Energy consumption can be remotely monitored via SO pulse outputs or can be communicated with Modbus RS 485 RTU, M-Bus, KNX and SD card datalogger interfaces.

### Energy meter single-phase with IR side coms. option (DRM- Comms)

Description	DIN mod.	Cat. no.
kWh, 1 tariff, 1SO, 32 A	1	DRM-32-1P
kWh, 1 tariff, 1SO, 40 A	1	DRM-40-1P
kWh/kVArh, 2 tariffs, 2SO, 80 A	3	DRM-80-1P
kWh/kVArh, 2 tariffs, 2SO, 125 A	3	DRM-125-1P

### Energy meter single-phase with coms

Description	DIN mod.	Cat. no.
kWh/kVArh, 2 tariffs, 2SO, 125 A	3, Modbus	DRM-125-1P-MOD
kWh/kVArh, 2 tariffs, 2SO, 125 A	3, M-bus	DRM-125-1P-M

### Energy meter single-phase with IR side coms. option (DRM- Comms)

Description	DIN mod.	Cat. no.
kWh/kVArh ..5A CT connected, 2 tariffs, 2SO	4	DRM-5-3P
kWh/kVArh 80A, 2 tariffs, 2SO	-	DRM-80-3P
LCD kWh/kVArh 125A, 2 tariffs, 2SO	6	DRM-125-3P

### Communication system (DRM-Comms)

Description	DIN mod.	Cat. no.
Modbus-RTU/ASCII, full reading	1	DRM-MOD
M-BUS, full reading	1	DRM-M
EIB-KNX, full reading	1	DRM-KNX
SD-card data logger (must be used with the power supply below)	1	DRM-LOG
Power supply transformer 230VAC/12VAC/DC for data logger	1	DRM-LOG-PS

### Energy meter three-phase basic

Description	DIN mod.	Cat. no.
LCD kWh ..5A CT connected, 2 tariffs, 2SO	4	DRB-5-3P
LCD kWh 80A, 2 tariffs, 2SO	4	DRB-80-3P

### Energy meter three-phase basic, with integral Modbus, full reading

Description	DIN mod.	Cat. no.
LCD kWh ..5A CT connected, 2 tariffs	4	DRB-5-3P-MOD
LCD kWh 80A, 2 tariffs	4	DRB-80-3P-MOD

### Energy meter three-phase basic, with integral M-bus, full reading

Description	DIN mod.	Cat. no.
LCD kWh ..5A CT connected, 2 tariffs	4	DRB-5-3P-M
LCD kWh 80A, 2 tariffs	4	DRB-80-3P-M

### Option Panel mounting kit

Description	Cat. no.
MID adaptor kit 96x96mm for 3 modules grey	DR-96-3MOD-GRAY
MID adaptor kit 96x96mm for 4 modules grey	DR-96-4MOD-GRAY





## Miniature Split Core Current Transformers

A range of miniature split core current transformers that offers a cost effective and efficient method by which the current can be measured without the need to break the conductor, each current transformer is supplied with colour coded leads of up to 3 meters for connection to the monitoring device. The MSC range of current transformers offers primary currents between 100-500A with 5A secondaries with class 1 accuracy performance. Available with 1A secondaries between ratio's 60-500A on request.

### 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



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

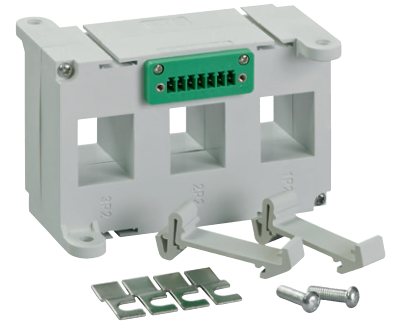
Case: 44.5 mm wide x 62.2 mm deep x 71.7 mm high  
 Aperture: 28mm

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	-

## Q2C 3-in-1 Current Transformers

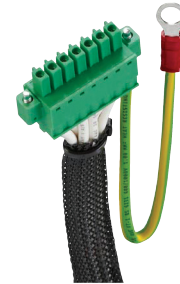
A range of 3-in-1 current transformers for use with or without the Q2C solution. The 3-in-1 current transformers combine three traditional current transformers in one moulded case with a pluggable locking connector for simple and easy installation.

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
QC3N1-35-100/5	100/5	-	1.5	2	3 @ 21x25
QC3N1-35-125/5	125/5	-	1.5	2.5	3 @ 21x2
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
QC3N1-45-250/5	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
QC3N1-70-400/5	400/5	-	2.5VA	-	3@ 52x40
QC3N1-70-630/5	630/5	2.5VA	5VA	-	3@ 52x40
QC3N1-70-800/5	800/5	2.5VA	5VA	-	3@ 52x40



## Open Ended Meter Wiring Looms

Loom description	Length (m)	Part number
Open ended loom/harness CT fixed/open at meter connection	1.5	QCCTO-01
Open ended loom/harness CT fixed/open at meter connection	0.5	QCCTO-02
Open ended loom/harness CT fixed/open at meter connection	2.5	QCCTO-04



## 3-in-1 Current Transformers

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.

### 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

### 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

### 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



# Moulded Case Current Transformers

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)

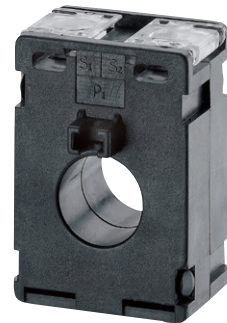
## M55E Range

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](http://www.crompton-instruments.com)

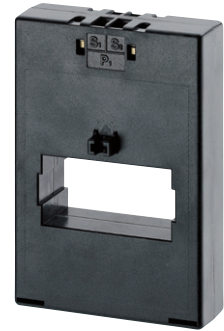
## M93R Range

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	100
M93R-1500/5	1500/5	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: M93S-1000/1  
 M30-DINCLIP DIN-rail mounting clip for DIN-rail mounting option (2 required)



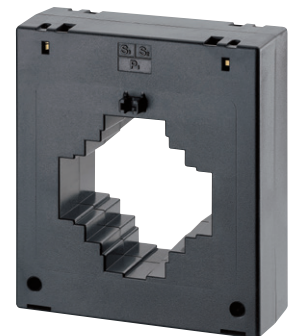
## MB5D Range

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)



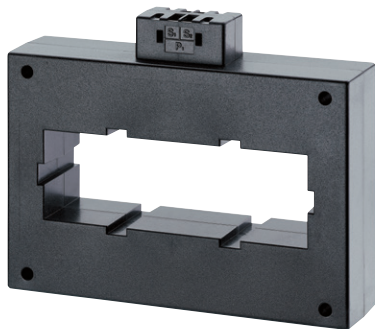
### MC5T Range

Case Size: 140mm wide x 50mm deep x 238mm high 5.5" 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-6000/5	6000/5	60	45	30

#### Ordering Codes

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



## Ring Current Transformers

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



### Dimensions and Connections

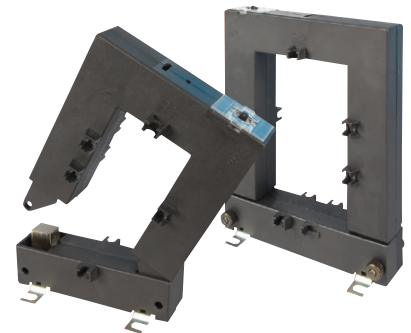
Model type	A Inside diameter	B Outside diameter
MR-28	28	70
MR-42	42	80
MR-45	45	80
MR-60	60	100
MR-85	85	120
MR-125	125	165

## Split Core Current Transformers

A range of split core current transformers that offers a cost effective and efficient method by which the current can be measured without the need to break the conductor, thereby reducing installation and commissioning time.

### 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
	SC2-250/5A	250/5A	1	2	4
Case 2	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



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



# Paladin Advantage Universal Programmable Transducer

The Paladin Advantage 254-XZZ, is a programmable transducer which 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 CLO.2 and includes RS485 Modbus RTU communications protocol and pulse/alarm output as standard.

The Paladin Advantage 254-XZZ 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.

## Input Parameters

Button	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 VIN	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 Power		P	System power
		P1	Power L1
	P2	Power L2	
	P3	Power L3	
	P MAX	Max power	
	PAVG	Average power	
Reactive Power	Q	System VAR	
	Q1	Systme 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	Displacemnt P.F	
	COSPHI 2	Displacemnt P.F	
	COSPHI 3	Displacemnt P.F	

## 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

# Paladin AT1 Transducers

## True RMS Voltage and Current, Auxiliary Powered

The range provides measurement, isolation and conversion of electrical parameters into industry standard DC output signals with protection against high voltage and overload, as well as resistance to vibration in harsh electrical environments.

The AT series of Paladin transducers offer individual measurement of current and voltage in a single housing with user selectable analogue output.



### General Specifications

Input:	230V & 415V AC 110V, 120V, 130V, 150V, 200V, 220V, 240V, 250V, 380V, 400V, 440V, & 480V AC (available on request) 1A & 5A
Output:	0/1mA, 0/5mA, 0/10mA, 0/20mA, 4/20mA & 0/10V. User selectable via dip-switches, default 4/20mA
Frequency:	50/60Hz
Auxiliary:	100-250V AC/DC 12-48V DC

Description	Part number
<b>True RMS Voltage Transducer</b>	
User selectable output I/P 230V AC Aux 12-48V DC"	AT1V-230-L
User selectable output I/P 230V AC Aux 100-250V AC"	AT1V-230-M
User selectable output I/P 415V AC Aux 12-48V DC"	AT1V-415-L
User selectable output I/P 415V AC Aux 100-250V AC"	AT1V-415-M
<b>True RMS Current Transducer</b>	
User selectable output Input.5A Aux 12-48V DC"	AT1A-5-L
User selectable output Input.5A Aux 100-250V AC"	AT1A-5-M



## Protector Trip Relays

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
<b>AC current with adjustable time delay</b>		
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
<b>AC voltage with adjustable differential and time delay</b>		
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
<b>Frequency with adjustable differential and time delay</b>		
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)
<b>Phase sequence and phase failure</b>		
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
<b>Phase balance and under relay with adjustable time delay and unbalance</b>		
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
<b>Reverse power (current) with adjustable time delay</b>		
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
<b>Syncro-check with dead bus facility</b>		
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
<b>Thermistor trip with over trip relay and manual/remote reset</b>		
PMM/T-24/240	Over temperature	Input PTC thermistors, 24/240V AC/DC Aux
<b>DC Millivolts with adjustable time delay</b>		
PBT/S-24/240	High/low trip (2 output relays)	50, 75, 100mV DC, 24/240V AC/DC Aux
<b>DC Milliamps with adjustable time delay</b>		
PBV-24/240	High/low trip (2 output relays)	0/1, 0/10, 0/20, 4/20mA DC, 24/240V, AC/DC Aux
<b>Speed sensing</b>		
PH3-12/24	3 Setpoints, 1 relay	Input Magnetic pickup, 12/24V DC Aux

### Earth Leakage Relay - Standard (DPCO)

Description	Part number
12-48 Volts DC	373-ELRW-CBC5-A1-ST
100-250 volts AC and DC	373-ELRW-CBC5-A3-ST

### Earth Leakage Relays - Core Balanced Current Transformers

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



## Analogue Instruments

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 - 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
50/60Hz	
25A direct connected, scaled 0-25/150A, 50/60Hz	E242-756A-G-NJ-NJ-C7
50/60Hz	



### 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.
75mV shunt operated, scaled 0-40A	E242-89A-G-EJ-NP
75mV shunt operated, scaled 0-60A	E242-89A-G-EJ-NW
75mV shunt operated, scaled 0-80A	E242-89A-G-EJ-PD
75mV shunt operated, scaled 0-100A	E242-89A-G-EJ-PK
75mV shunt operated, scaled 0-150A	E242-89A-G-EJ-PZ
75mV shunt operated, scaled 0-200A	E242-89A-G-EJ-RL
75mV shunt operated, scaled 0-250A	E242-89A-G-EJ-RS
75mV shunt operated, scaled 0-400A	E242-89A-G-EJ-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 - 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

**DIN72 DC Ammeters Connect via Shunt X/75mV with Fitted Dial Plate - Normal Scaling**

Description	Cat. no.
75mV shunt operated, scaled 0-40A	E243-01A-G-EJ-NP
75mV shunt operated, scaled 0-60A	E243-01A-G-EJ-NW
75mV shunt operated, scaled 0-80A	E243-01A-G-EJ-PD
75mV shunt operated, scaled 0-100A	E243-01A-G-EJ-PK
75mV shunt operated, scaled 0-150A	E243-01A-G-EJ-PZ
75mV shunt operated, scaled 0-200A	E243-01A-G-EJ-RL
75mV shunt operated, scaled 0-250A	E243-01A-G-EJ-RS
75mV shunt operated, scaled 0-400A	E243-01A-G-EJ-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

**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 Connect via Shunt X/75mV with Fitted Dial Plate - Normal Scaling

Description	Cat. no.
75mV shunt operated, scaled 0-40A	E244-01A-G-EJ-NP
75mV shunt operated, scaled 0-60A	E244-01A-G-EJ-NW
75mV shunt operated, scaled 0-80A	E244-01A-G-EJ-PD
75mV shunt operated, scaled 0-100A	E244-01A-G-EJ-PK
75mV shunt operated, scaled 0-150A	E244-01A-G-EJ-PZ
75mV shunt operated, scaled 0-200A	E244-01A-G-EJ-RL
75mV shunt operated, scaled 0-250A	E244-01A-G-EJ-RS
75mV shunt operated, scaled 0-400A	E244-01A-G-EJ-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



## Hours Run Meters

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

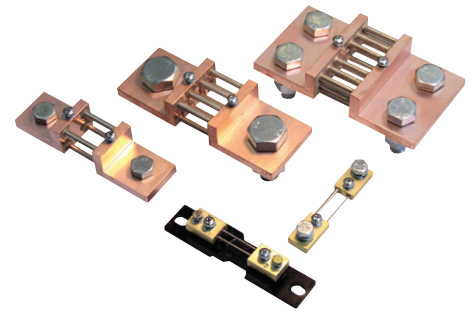
### DIN72 - AC Hours Run Meter

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

# Shunts

## Series ST

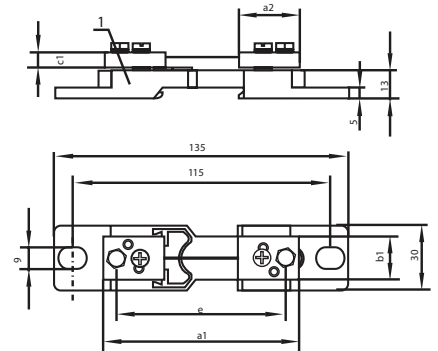
Ratio	Version as per drawings	Cat. no.
40A-75mV Class 0.5	A	ST1-40A/75MV
60A-75mV Class 0.5	A	ST1-60A/75MV
80A-75mV Class 0.5	A	ST1-80A/75MV
100A-75mV Class 0.5	A	ST1-100A/75MV
150A-75mV Class 0.5	A	ST1-150A/75MV
200A-75mV Class 0.5	B	ST1-200A/75MV
250A-75mV Class 0.5	B	ST2-250A/75MV
400A-75mV Class 0.5	B	ST2-400A/75MV



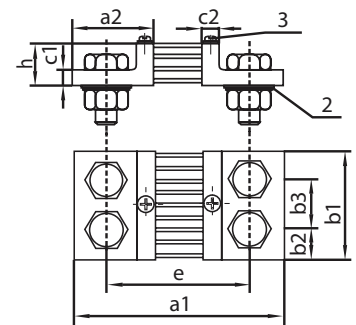
a1	a2	b1	b2	Dimensions		c2	e	h
				b3	c1			
90	28	20	-	-	8	-	78	-
90	28	20	-	-	8	-	78	-
90	28	20	-	-	8	-	78	-
115	33	25	-	-	8	-	95	-
115	33	25	-	-	8	-	95	-
115	33	25	-	-	8	-	95	-
115	33	25	-	-	8	-	95	-
115	33	25	-	-	8	-	95	-
160	55	30	15	-	10	10	120	30
160	55	30	15	-	10	10	120	30
160	55	40	20	-	10	10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

### Dimensions

#### Version A



#### Version B



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

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[www.crompton-instruments.com](http://www.crompton-instruments.com)

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