

Tape Wound, Split Core and Ebony
Current Transformers

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Split Core Current Transformers


3-in-1 Current Transformers

## Tape Wound Measuring and Protection Current Transformers

## MR Series Measuring Range

A comprehensive range of measuring ring current transformers for installation where reliability, accuracy and quality are required.

## Construction

High grade silicon iron cores are carefully selected, then insulated and protected by a polypropylene covering on which the secondary winding is toroidally wound by precision winding machines. Multi layers of polyester and PVC are then applied to provide a tough moisture resistant coating.

## Specifications

| System voltage: | 720 V maximum |
| :--- | :--- |
| Test voltage: | 3 kV for 1 minute |
| System frequency: | $50 / 60 \mathrm{~Hz}$ |
| Overload withstand: | $1.2 \times$ rated current continuously |
| Short circuit thermal <br> current (Ith)*: | $60 \times$ rated primary current for 1 second |
| Dynamic current (Idyn)*: | $=2.55 \times$ Ith |
| Service temperature: | $-20^{\circ} \mathrm{C}$ to $70^{\circ} \mathrm{C}$ |
| Secondary current: | 5 A or 1 A |
| Complies with: | IEC60044-1, BSEN60044-1 |
| Saturation coefficient: | $<6$ |
| Humidity: | Up to 95\% RH (non condensing) |
| Insulation class: | $\mathrm{BSEN60085}$ Class Y |
| Mounting hardware: | Foot mounted |

Loss in copper wires between instrument and CT for 5A secondary

| Wire section <br> in $\mathbf{m m}^{2}$ | $\mathbf{1 m}$ | $\mathbf{2 m}$ | $\mathbf{4 m}$ | $\mathbf{6 m}$ | $\mathbf{8 m}$ | $\mathbf{1 0 m}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{1 . 5}$ | 0.60 | 1.19 | 2.38 | 3.57 | 4.76 | 5.95 |
| 2.5 | 0.36 | 0.71 | 1.43 | 2.14 | 2.86 | 3.57 |
| 4 | 0.22 | 0.45 | 0.89 | 1.34 | 1.79 | 2.23 |
| 6 | 0.15 | 0.30 | 0.60 | 1.89 | 1.19 | 1.49 |
| 10 | 0.09 | 0.18 | 0.36 | 0.54 | 0.71 | 0.89 |

Loss in copper wires between instrument and CT for 1A secondary

| Wire section <br> in $\mathbf{m m}^{2}$ | $\mathbf{1 0 m}$ | $\mathbf{2 0 m}$ | $\mathbf{4 0 m}$ | $\mathbf{6 0 m}$ | $\mathbf{8 0 m}$ | $\mathbf{1 0 0 m}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1 | 0.36 | 0.71 | 1.43 | 2.14 | 2.86 | 3.57 |
| 1.5 | 0.24 | 0.48 | 0.95 | 1.43 | 1.90 | 2.38 |
| 2.5 | 0.14 | 0.29 | 0.57 | 0.86 | 1.14 | 1.43 |
| 4 | 0.09 | 0.18 | 0.36 | 0.54 | 0.71 | 0.89 |
| 6 | 0.06 | 0.12 | 0.24 | 0.36 | 0.48 | 0.60 |
| 10 | 0.04 | 0.07 | 0.14 | 0.21 | 0.29 | 0.36 |



## Features

- Available in a wide range of transformer ratings
- Accuracy up to Class 0.5
- Measuring or protective types


## Benefits

-Long product life

## Applications

- Switchgear
- Control panels
- Overload protection
- Control devices


## Dimensions



* Thermal current (Ith) \& dynamic current (Idyn).
Ith is the highest primary current (effective value), the Idyn is the highest primary current (peak value) that the CT can support for 1 second without damage, owing to excessive overloads with secondary short circuits.



## MR Series Measuring Range

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

| Part number | Ratio range | Class 3 | Class 1 | Class 0.5 | A | B | c | D | Approx. weight |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MR-28-40/5A | 40/5 | 1.5 | - | - | 28 | 70 | 40 | 77.5 | 0.5 |
| MR-28-50/5A | 50/5 | 2 | - | - | 28 | 70 | 40 | 77.5 | 0.5 |
| MR-28-60/5A | 60/5 | 2.5 | - | - | 28 | 70 | 40 | 77.5 | 0.5 |
| MR-28-40/1A | 40/1 | 1.5 | - | - | 22 | 60 | 50 | 70 | 0.5 |
| MR-28-50/1A | 50/1 | 2 | - | - | 22 | 60 | 40 | 70 | 0.5 |
| MR-28-60/1A | 60/1 | 2.5 | - | - | 22 | 60 | 40 | 70 | 0.5 |
| MR-42-80/5A | 80/5 | 1.5 | - | - | 42 | 80 | 30 | 86 | 0.5 |
| MR-42-100/5A | 100/5 | 3.75 | 1.25 | - | 42 | 80 | 30 | 86 | 0.5 |
| MR-42-150/5A | 150/5 | 5 | 2.5 | 1 | 42 | 80 | 30 | 86 | 0.5 |
| MR-42-200/5A | 200/5 | 7.5 | 5 | 2.5 | 42 | 80 | 30 | 86 | 0.5 |
| MR-42-250/5A | 250/5 | 10 | 5 | 2.5 | 42 | 80 | 30 | 86 | 0.5 |
| MR-42-80/1A | 80/1 | 1.5 | - | - | 40 | 72 | 26 | 70 | 0.5 |
| MR-42-100/1A | 100/1 | 5 | 1.5 | - | 40 | 72 | 45 | 70 | 0.5 |
| MR-42-150/1A | 150/1 | 5 | 3 | - | 40 | 72 | 40 | 70 | 0.5 |
| MR-42-200/1A | 200/1 | 7.5 | 5 | 3 | 40 | 72 | 40 | 70 | 0.5 |
| MR-42-250/1A | 250/1 | 10 | 7.5 | 2.5 | 40 | 72 | 40 | 70 | 0.5 |
| MR-45-300/5A | 300/5 | 10 | 7.5 | 3.75 | 45 | 80 | 30 | 86 | 0.5 |
| MR-45-400/5A | 400/5 | 15 | 7.5 | 5 | 45 | 80 | 30 | 86 | 0.5 |
| MR-45-300/1A | 300/1 | 10 | 10 | 5 | 45 | 83 | 32 | 100 | 0.5 |
| MR-45-400/1A | 400/1 | 15 | 10 | 5 | 45 | 83 | 32 | 100 | 0.5 |
| MR-60-400/5A | 400/5 | 15 | 7.5 | 5 | 60 | 100 | 30 | 86 | 0.5 |
| MR-60-500/5A | 500/5 | 15 | 10 | 5 | 60 | 100 | 30 | 86 | 0.5 |
| MR-60-600/5A | 600/5 | 20 | 10 | 7.5 | 60 | 100 | 30 | 86 | 0.5 |
| MR-60-400/1A | 400/1 | 15 | 7.5 | 5 | 58 | 100 | 30 | 100 | 0.5 |
| MR-60-500/1A | 500/1 | 20 | 15 | 5 | 58 | 100 | 32 | 100 | 0.5 |
| MR-60-600/1A | 600/1 | 20 | 15 | 10 | 58 | 100 | 32 | 100 | 0.5 |
| MR-85-800/5A | 800/5 | 20 | 10 | 7.5 | 85 | 124 | 30 | 86 | 0.5 |
| MR-85-1000/5A | 1000/5 | 30 | 15 | 10 | 85 | 124 | 30 | 86 | 1 |
| MR-85-1200/5A | 1200/5 | 30 | 15 | 10 | 85 | 124 | 30 | 86 | 1 |
| MR-85-1500/5A | 1500/5 | 30 | 15 | 10 | 85 | 124 | 30 | 86 | 1 |
| MR-85-1600/5A | 1600/5 | 30 | 15 | 10 | 85 | 124 | 30 | 86 | 1 |
| MR-85-800/1A | 800/1 | 20 | 15 | 10 | 84 | 122 | 30 | 100 | 0.5 |
| MR-85-1000/1A | 1000/1 | 25 | 20 | 15 | 94 | 135 | 30 | 100 | 1 |
| MR-85-1200/1A | 1200/1 | 25 | 20 | 15 | 94 | 135 | 30 | 100 | 1 |
| MR-85-1500/1A | 1500/1 | 25 | 20 | 15 | 94 | 135 | 30 | 100 | 1 |
| MR-85-1600/1A | 1600/1 | 25 | 20 | 15 | 94 | 135 | 30 | 100 | 1 |
| MR-125-2000/5A | 2000/5 | 30 | 20 | 15 | 125 | 160 | 30 | 86 | 1 |
| MR-125-2500/5A | 2500/5 | 30 | 20 | 15 | 125 | 160 | 30 | 861 | - |
| MR-125-3000/5A | 3000/5 | 30 | 20 | 15 | 125 | 160 | 30 | 86 | 1 |
| MR-125-4000/5A | 4000/5 | 30 | 20 | 15 | 125 | 160 | 30 | 86 | 1 |
| MR-125-2000/1A | 2000/1 | 25 | 20 | 15 | 132 | 175 | 30 | 150 | 1.5 |
| MR-125-2500/1A | 2500/1 | 25 | 20 | 15 | 132 | 175 | 30 | 150 | 1.5 |
| MR-125-3000/1A | 3000/1 | 25 | 20 | 15 | 125 | 180 | 32 | 150 | 1.5 |
| MR-125-4000/1A | 4000/1 | 25 | 20 | 15 | 140 | 215 | 45 | 150 | 4.5 |

## PR Series Protection Range

IEC60044-1/BSEN60044-1 commonly define protection current transformers in terms of composite error at an accuracy limit factor. In simple terms this means how accurate the current transformer will remain when the primary current flowing is many times higher than in normal conditions i.e. in a fault situation.

The classification of protection current transformers follows the following simple formula:


Number after letter indicates factor of primary current up to which composite error will be achieved indicates composite error achieved in percentage terms
'P' for Protection


Manufacturers of protection devices will normally specify the classification for the protection current transformer intended to operate the particular protection device concerned.

In addition the classification of protection current transformers indicates accuracy class:
5P - current transformer will have a ratio error of $1 \%$ and phase error not exceeding 60 minutes.
10P - current transformer will have a ratio error of $3 \%$ (no level of phase error specified).
The PR series is a range of two of the most popular classifications of protection current transformers, 5P10 and 10P10. Other classifications are possible (such as 5P20 or 10P20). Please consult factory for a quotation should you require an alternative classification or a current transformer with dimensions different to those set out below.

| Part number | Ratio range | VA burden | Accuracy class | A | B | C | D | Approx. weight |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| PR-35-100/5A-2.5 | 100/5 | 2.5 | 10P10 | 35 | 98 | 60 | 100 | 2 |
| PR-35-100/5A-5 | 100/5 | 5 | 10P10 | 35 | 98 | 90 | 100 | 3 |
| PR-35-120/5A-2.5 | 120/5 | 2.5 | 10 P 10 | 35 | 98 | 55 | 100 | 2 |
| PR-35-120/5A-5 | 120/5 | 5 | $10 \mathrm{P10}$ | 35 | 98 | 85 | 100 | 3 |
| PR-35-150/5A-2.5 | 150/5 | 2.5 | 5P10 \& 10P10 | 35 | 98 | 50 | 100 | 1.5 |
| PR-35-150/5A-5 | 150/5 | 5 | 5P10 \& 10P10 | 35 | 98 | 70 | 100 | 2.5 |
| PR-35-200/5A-2.5 | 200/5 | 2.5 | 5P10 \& 10P10 | 35 | 98 | 40 | 100 | 1 |
| PR-35-200/5A-5 | 200/5 | 5 | 5P10 \& 10P10 | 35 | 98 | 60 | 100 | 2 |
| PR-35-250/5A-2.5 | 250/5 | 2.5 | 5P10 \& 10P10 | 35 | 98 | 35 | 100 | 1 |
| PR-35-250/5A-5 | 250/5 | 5 | 5P10 \& 10P10 | 35 | 98 | 55 | 100 | 1.5 |
| PR-55-300/5A-5 | 300/5 | 5 | 5P10 \& 10P10 | 55 | 98 | 75 | 100 | 1.5 |
| PR-55-300/5A-15 | 300/5 | 15 | 5P10 \& 10P10 | 55 | 125 | 90 | 100 | 4 |
| PR-55-400/5A-5 | 400/5 | 5 | 5P10 \& 10P10 | 55 | 98 | 60 | 100 | 1.5 |
| PR-55-400/5A-15 | 400/5 | 15 | 5P10 \& 10P10 | 55 | 125 | 65 | 100 | 3 |
| PR-55-500/5A-5 | 500/5 | 5 | 5P10 \& 10P10 | 55 | 98 | 55 | 100 | 1 |
| PR-55-500/5A-15 | 500/5 | 15 | 5P10 \& 10P10 | 55 | 125 | 60 | 100 | 2.5 |
| PR-55-600/5A-5 | 600/5 | 5 | 5P10 \& 10P10 | 55 | 98 | 50 | 100 | 1 |
| PR-55-600/5A-15 | 600/5 | 15 | 5P10 \& 10P10 | 55 | 125 | 55 | 100 | 2.5 |
| PR-65-800/5A-5 | 800/5 | 5 | 5 P 10 \& 10P10 | 65 | 110 | 40 | 100 | 1 |
| PR-65-800/5A-15 | 800/5 | 15 | 5P10 \& 10P10 | 65 | 110 | 80 | 100 | 3 |
| PR-80-1000/5A-15 | 1000/5 | 15 | 5P10 \& 10P10 | 80 | 125 | 70 | 100 | 2 |
| PR-80-1200/5A-15 | 1200/5 | 15 | 5 P 10 \& 10P10 | 80 | 125 | 65 | 100 | 2.5 |
| PR-90-1500/5A-15 | 1500/5 | 15 | 5 P 10 \& 10P10 | 90 | 140 | 55 | 100 | 2.5 |
| PR-90-1600/5A-15 | 1600/5 | 15 | 5P10 \& 10P10 | 90 | 140 | 55 | 100 | 2.5 |
| PR-100-2000/5A-15 | 2000/5 | 15 | 5P10 \& 10P10 | 100 | 155 | 55 | 100 | 3 |
| PR-110-2500/5A-15 | 2500/5 | 15 | 5P10 \& 10P10 | 110 | 165 | 45 | 100 | 3 |
| PR-120-3000/5A-15 | 3000/5 | 15 | 5P10 \& 10P10 | 120 | 180 | 45 | 150 | 3 |

Consult factory for availability and lead time on 1A secondary for protection range.
1A current transformer dimensions may vary by up to 10\%.


## Ring type (P)



Foot mounting option (F)


## Dimensions

$A=16 \mathrm{~mm}$ transformer ratings
Fixing centres $30 \mathrm{~mm} \times 30 \mathrm{~mm}$ M3.5 terminal screw and clamp


## Class PX Current Transformers

In some balanced protection systems where sensitivity and stability levels required are high, classes 5P10 or 10P10 may not be adequate. In these situations a Class PX current transformer will usually be specified. Class PX as defined in IEC60044-1/BSEN60044-1 allows the manufacturer of a protection device to detail more specific requirements of the current transformer so as to achieve a more sensitive protection scheme. Typically this will involve specifying the following information for the current transformer:

1) Turns ratio
2) Minimum kneepoint voltage
3) Maximum secondary resistance

To enquire about Class PX current transformers consult the factory with the above information together with any physical limiting dimensions and the aperture size required. If not all the above information is available, details of relay type, lead run from current transformer to relay and the fault current expected to flow through the zone protected by the current transformers will be required in order to provide a quotation.

## Miniature Current Transformers

A range of Wedding ring Miniature Tape wound Current transformers whose size permits PCB mounting. Designed to convert high currents to low level electronic signals. Available in tape wound with ring or foot mounting versions or in a moulded case.

## Specifications

| Primary current range: | $10 \mathrm{~A}-100 \mathrm{~A}$ |
| :--- | :--- |
| Secondary output: | $10 \mathrm{~mA}-100 \mathrm{~mA}$ |
| VA output: | $0.015 \mathrm{VA}-0.15 \mathrm{VA}$ |
| System frequency: | $50 / 60 \mathrm{~Hz}$ |
| Service temperature: | $0^{\circ} \mathrm{C}$ to $+80^{\circ} \mathrm{C}$ |
| Insulation class: | BSEN 60085 Class Y |
| Operating voltage: | 720 V AC |
| Test voltage: | 2 kV DC |
| Accuracy | $1.5 \%$ |
| $20-80 \%:$ | $1 \%$ |
| $81-120 \%:$ |  |


| Part number | Ratio range | Type |
| :--- | :--- | :--- |
| $773-01-P-F L$ | 10A-100A/10mA-100mA | Ring type, flexible lead 150mm |
| $773-02-\mathrm{P}-\mathrm{FL}$ | 10A-100A/10mA-100mA | Ring type, flexible lead 450mm |
| $773-01-\mathrm{F}-\mathrm{FL}$ | $10 \mathrm{~A}-100 \mathrm{~A} / 10 \mathrm{~mA}-100 \mathrm{~mA}$ | Ring type, foot mounting, flexible lead 150mm |

## Moulded Case (MC)

## Specifications

| Service temperature: | $-20^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ |
| :--- | :--- |
| Insulation class: | BSEN60085 Class Y |


| Part number | Ratio range | Type |
| :--- | :--- | :--- |
| $773-01-\mathrm{MC}$ | 10A-100A/10mA-100mA | Moulded case |

## SC Series 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.

## Specifications

| System voltage: | $720 \mathrm{~V}(0.72 \mathrm{kV})$ maximum |
| :--- | :--- |
| Test voltage: | 3 kV for 1 minute |
| System frequency: | $50 / 60 \mathrm{~Hz}$ |
| Insulation class: | E |
| Overload withstand: | 1.2 times rated current continuously |
| Short circuit thermal: | $100 \times$ rated primary for 1 second |
| Operating temperature: | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| Relative humidity: | $0-90 \%$ (non condensing) |
| Compliant with: | IEC/EN60044-1, BS7626 |
| Accuracy: | $\mathrm{Class} 3,1 \& 0.5$ |
| Mounting hardware: | Plug-in metal feet for wall or base mounting |
| Rated dynamic current: | $=2.55 \times$ Iht |
| Enclosure: | Flame retardant grade classified UL 94V-O |



| Model | Case 1 | Case 2 | Case 3 | Case 4 | Case 5 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{A}$ | 20 | 50 | 80 | 80 | 80 |
| B | 30 | 80 | 80 | 120 | 160 |
| C | 51 | 78 | 108 | 108 | 120 |
| D | 89 | 114 | 144 | 144 | 184 |
| E | 111 | 145 | 145 | 185 | 245 |
| F | 34 | 32 | 32 | 32 | 52 |
| G | 47 | 32 | 32 | 32 | 52 |
| H | 40 | 32 | 32 | 32 | 52 |
| I | 32 | 33 | 33 | 33 | 38 |
| Weight $\mathbf{( K g )}$ | 0.75 | 0.90 | 1.05 | 1.25 | 4.30 |

## Product Codes



## Mini Clip

A range of miniature split core current transformers that offers a cost effective and efficient method by which the current can be measured without the need to break the conductor, each current transformer is supplied with colour coded leads of up to 3 meters for connection to the monitoring device. The MSC range of current transformers offers primary currents between 60-500A with 1 or 5A secondaries with class 1 accuracy performance. (Class 3 for 60-80A range).

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 | $60 \times$ rated primary current (Ith): for 1 sec |
| Overload withstand | $1.2 \times$ rated current continuously |
| Rated dynamic current | $=2.55 \times$ Iht |
| Secondary leads | $1 \mathrm{~A},($ Length 3 m$), 5 \mathrm{~A}$ (Length 1 m$) 2.5 \mathrm{~mm}$ Wire |
| Enclosure | Flame retardant grade classified UL 94V-O |
| Aperture holes centres | 18 mm upto $250 \mathrm{~A}, 28 \mathrm{~mm}$ from 300A -500 A |
| Operating temperature | $-20^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ |
| Accuracy Class | 1,3 |
| Compliant with | $\mathrm{IEC} / \mathrm{EN} 60044-1$ |

MSC1


## Features

- Cost effective moulded case
- Ratio's ranging from 60/1 to 500/5
- Fast cable clamp connection
- Multiple fixing options
- Safety plug in shorting link


## Benefits

- Faster installation
- Compact size profile applications


## Accessories



Shorting link for safe installation, (CT will not operate until removed).


Fixing kit supplied

MSC2


## MSC3



Product Codes

| Part number | Ratio | Class | $\begin{aligned} & \text { Burden } \\ & \text { VA } \end{aligned}$ | Aperture | Lead length | Case | Wire colour | Dimensions H, W, D \& A |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MSC1-60/1 | 60/1 | 3 | 0.1 | 18 mm | 3 m | Size 1 | White S1 and Black S2 | 57.3, 31, 53, 18 |
| MSC1-75/1 | 75/1 | 3 | 0.1 | 18 mm | 3 m | Size 1 | White S1 and Black S2 | 57.3, 31, 53, 18 |
| MSC1-80/1 | 80/1 | 3 | 0.15 | 18 mm | 3 m | Size 1 | White S1 and Black S2 | 57.3, 31, 53, 18 |
| MSC1-100/1 | 100/1 | 1 | 0.2 | 18 mm | 3 m | Size 1 | White S1 and Black S2 | 57.3, 31, 53, 18 |
| MSC2-100/1 | 100/1 | 1 | 1 | 18 mm | 3 m | Size 2 | White S1 and Black S2 | 72.7, 44.5, 61.5, 18 |
| MSC2-100/5 | 100/5 | 1 | 1 | 18 mm | 1 m | Size 2 | White S1 and Black S2 | 72.7, 44.5, 61.5, 18 |
| MSC2-150/1 | 150/1 | 1 | 1 | 18 mm | 3 m | Size 2 | White S1 and Black S2 | 72.7, 44.5, 61.5, 18 |
| MSC2-150/5 | 150/5 | 1 | 1 | 18 mm | 1 m | Size 2 | White S1 and Black S2 | 72.7, 44.5, 61.5, 18 |
| MSC2-200/1 | 200/1 | 1 | 1 | 18 mm | 3 m | Size 2 | White S1 and Black S2 | 72.7, 44.5, 61.5, 18 |
| MSC2-200/5 | 200/5 | 1 | 1 | 18 mm | 1 m | Size 2 | White S1 and Black S2 | 72.7, 44.5, 61.5, 18 |
| MSC2-250/1 | 250/1 | 1 | 1 | 18 mm | 3 m | Size 2 | White S1 and Black S2 | 72.7, 44.5, 61.5, 18 |
| MSC2-250/5 | 250/5 | 1 | 1 | 18 mm | 1 m | Size 2 | White S1 and Black S2 | 72.7, 44.5, 61.5, 18 |
| MSC3-300/1 | 300/1 | 1 | 1.5 | 28 mm | 3 m | Size 3 | White S1 and Black S2 | 71.7, 44.5, 62.2, 28 |
| MSC3-300/5 | 300/5 | 1 | 1.5 | 28 mm | 1 m | Size 3 | White S1 and Black S2 | 71.7, 44.5, 62.2, 28 |
| MSC3-400/1 | 400/1 | 1 | 2.5 | 28 mm | 3 m | Size 3 | White S1 and Black S2 | 71.7, 44.5, 62.2, 28 |
| MSC3-400/5 | 400/5 | 1 | 2.5 | 28 mm | 1 m | Size 3 | White S1 and Black S2 | 71.7, 44.5, 62.2, 28 |
| MSC3-500/1 | 500/1 | 1 | 2.5 | 28 mm | 3 m | Size 3 | White S1 and Black S2 | 71.7, 44.5, 62.2, 28 |
| MSC3-500/5 | 500/5 | 1 | 2.5 | 28 mm | 1 m | Size 3 | White S1 and Black S2 | 71.7, 44.5, 62.2, 28 |

## 3-in-1 Current Transformers

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

## 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 630 A |
| Short circuit thermal current: | $60 \times$ rated primary current (Ith): for 1 sec |
| Overload withstand: | $1.2 \times$ rated current continuously |
| Rated dynamic current: | $=2.55 \times$ Ith |
| Secondary terminals: | M 4 screw terminals |
| Enclosure: | Flame retardant grade classified UL 94V-O |
| Aperture holes centres: | $25,35,45 \mathrm{~mm}$ |
| Operating temperature: | $-20^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ |
| Accuracy: | $\mathrm{Class} 0.5,1,3$ |
| Mounting hardware: | Plug-in metal feet for wall or base mounting |
| Compliant with: | Busbar and DIN-rail mounting |


| Part number | Ratio | Burden VA against <br> class index |  |  | Aperture <br> $(\mathbf{m m})$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  |  | Class <br> $\mathbf{0 . 5}$ | Class <br> $\mathbf{1}$ | Class <br> $\mathbf{3}$ |  |
| M3N1-25-60/5 | $60 / 5$ | - | 1 | 2 | $3 @ 14.5 \times 24.5 \mathrm{~mm}$ |
| M3N1-25-100/5 | $100 / 5$ | - | 1.5 | 2.5 | $3 @ 14.5 \times 24.5 \mathrm{~mm}$ |
| M3N1-25-125/5 | $125 / 5$ | - | 1.5 | 2.5 | $3 @ 14.5 \times 24.5 \mathrm{~mm}$ |
| M3N1-25-150/5 | $150 / 5$ | 1.5 | 1.5 | 2.5 | $3 @ 14.5 \times 24.5 \mathrm{~mm}$ |
| M3N1-25-160/5 | $160 / 5$ | 1.5 | 1.5 | 2.5 | $3 @ 14.5 \times 24.5 \mathrm{~mm}$ |
| M3N1-35-100/5 | $100 / 5$ | - | 1.5 | 2 | $3 @ 20.5 \times 24.5 \mathrm{~mm}$ |
| M3N1-35-125/5 | $125 / 5$ | - | 1.5 | 2.5 | $3 @ 20.5 \times 24.5 \mathrm{~mm}$ |
| M3N1-35-150/5 | $150 / 5$ | - | 1.5 | 2.5 | $3 @ 20.5 \times 24.5 \mathrm{~mm}$ |
| M3N1-35-160/5 | $160 / 5$ | 1.5 | 1.5 | 2.5 | $3 @ 20.5 \times 24.5 \mathrm{~mm}$ |
| M3N1-35-200/5 | $200 / 5$ | 1.5 | 1.5 | 2.5 | $3 @ 20.5 \times 24.5 \mathrm{~mm}$ |
| M3N1-35-250/5 | $250 / 5$ | 1.5 | 1.5 | 2.5 | $3 @ 20.5 \times 24.5 \mathrm{~mm}$ |
| M3N1-45-250/5 | $250 / 5$ | 1.5 | 1.5 | 2.5 | $3 @ 30.5 \times 30.5 \mathrm{~mm}$ |
| M3N1-45-300/5 | $300 / 5$ | 2.5 | 2.5 | 3.75 | $3 @ 30.5 \times 30.5 \mathrm{~mm}$ |
| M3N1-45-400/5 | $400 / 5$ | 2.5 | 2.5 | 3.75 | $3 @ 30.5 \times 30.5 \mathrm{~mm}$ |
| M3N1-45-500/5 | $500 / 5$ | 2.5 | 2.5 | 3.75 | $3 @ 30.5 \times 30.5 \mathrm{~mm}$ |
| M3N1-45-600/5 | $600 / 5$ | 2.5 | 2.5 | 3.75 | $3 @ 30.5 \times 30.5 \mathrm{~mm}$ |
| M3N1-45-630/5 | $630 / 5$ | 2.5 | 2.5 | 3.75 | $3 @ 30.5 \times 30.5 \mathrm{~mm}$ |

M3N1-25


M3N1-35



## Features

- Cost effective three-phase moulded case
- Ratio's ranging from 60/5 to 630/5
- Integrated wire sealable terminal cover
- Busbar, DIN-rail and metal feet mounting hardware supplied
- Combined M4 posi/slot screw


## Benefits

- Isolated output for safety
- Faster installation
- Compact size
- Ex-stock delivery


## Applications

- Switchgear
- Distribution systems
- Generator sets
- Control panels

M3N1-45



## Features

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


## Benefits

- Long product life
- Faster installation
- Compact size


## Applications

- Switchgear
- Distribution systems
- Generator sets
- Control panels


## DIN-rail Enclosure 3-in-1 Current Transformers

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

## Specifications

| System voltage 720V maximum | Test voltage 3 kV for 1 minute |
| :--- | :--- |
| System frequency | 50 Hz or 60 Hz |
| Primary ratings | 50 A to 16 OA |
| Short circuit thermal current | $60 \times$ rated primary current (Ith): for 1 sec |
| Overload withstand | $1.2 \times$ rated current continuously |
| Rated dynamic current | $=2.55 \times$ Iht |
| Secondary terminals | 7 way screw clamp connector |
| Cable assembly | Open ended loom/harness CT fixed/open at <br> meter connection, 1mm2 LSZH cable <br> (lengths specified in part number table) |
| Enclosure | Flame retardant grade classified UL 94V-O <br> Aperture holes centres <br> $31 m m ~(c a b l e ~ t h r o u g h ~ 13.5 m m) ~ u p t o ~ 150 A, ~$ <br> Operating temperature |
| Accuracy Class | $-20^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ |
| Compliant with | $\mathrm{O.5,1,3}$ |


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

DR3N1-50/5A - 150/5A


## Dimensions

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

DR3N1-160/5A - 250/5A


## Ebony Moulded Case Current Transformers

The range of Crompton Instruments Ebony current transformers offers wide system current ratings, apertures, busbar and case sizes to suit every application. Manufactured to meet EN60044 the range benefits include ratio rating from $1 / 5$ to 6000/5, accuracy up to Class 0.5 , integral terminal cover for safety and multiple mounting options.

## Construction

The toroidal core and secondary winding is encapsulated by a self-extinguishing polycarbonate moulded case cover providing excellent mechanical strength and electrical insulation. The material is halogen free thus reducing risk of halogen emissions in case of fire. The integral covered secondary terminals offer protection to IP20B and the enclosure is protected to IP40.

## Installation Options

- Plug-in metal feet for wall or base mounting
- Plastic DIN-rail clips for DIN-rail mounting
- Moulded busbar mounting
- Primary copper busbar mounting
- Multi busbar mounting for two busbars


## Specifications

| System voltage: | 720 V maximum |
| :--- | :--- |
| Test voltage: | 3 kV for 1 minute |
| System frequency: | $50 / 60 \mathrm{~Hz}$ |
| Short circuit thermal | $60 \times$ rated primary current for 1 second |
| current (Ith)*: |  |
| Overload withstand: | $1.2 \times$ rated current continuously |
| Dynamic current (Idyn)*: | $=2.55 \times$ Ith |
| Saturation coefficient: | $<5$ for through aperture models |
|  | $<10$ for wound primary |
| Service temperature: | $-20^{\circ} \mathrm{C}$ to $85^{\circ} \mathrm{C}$ |
| Insulation class: | $\mathrm{Class} \mathrm{E} \mathrm{BS2757}$ IEC85 |
| Enclosure code: | IP40 |
| Integral terminal cover: | IP2OB |
| Complies with: | IEC60044-1:2003 |
| Humidity: | Up to 95\% RH (non condensing) |
| Secondary terminals | Up to 10mm ${ }^{2}$ cable |
| screw clamp: | 6.3 mm type |
| 'Fast On': |  |

Loss in copper wires between instrument and CT for 5A secondary

| Wire section <br> in $\mathbf{m m}^{2}$ | $\mathbf{1 m}$ | $\mathbf{2 m}$ | $\mathbf{4 m}$ | $\mathbf{6 m}$ | $\mathbf{8 m}$ | $\mathbf{1 0 m}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{1 . 5}$ | 0.60 | 1.19 | 2.38 | 3.57 | 4.76 | 5.95 |
| 2.5 | 0.36 | 0.71 | 1.43 | 2.14 | 2.86 | 3.57 |
| 4 | 0.22 | 0.45 | 0.89 | 1.34 | 1.79 | 2.23 |
| 6 | 0.15 | 0.30 | 0.60 | 1.89 | 1.19 | 1.49 |
| 10 | 0.09 | 0.18 | 0.36 | 0.54 | 0.71 | 0.89 |

Loss in copper wires between instrument and CT for 1A secondary

| Wire section <br> in $\mathbf{m m}^{2}$ | $\mathbf{1 0 m}$ | $\mathbf{2 0 m}$ | $\mathbf{4 0 m}$ | $\mathbf{6 0 m}$ | $\mathbf{8 0 m}$ | $\mathbf{1 0 0 m}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1 | 0.36 | 0.71 | 1.43 | 2.14 | 2.86 | 3.57 |
| 1.5 | 0.24 | 0.48 | 0.95 | 1.43 | 1.90 | 2.38 |
| 2.5 | 0.14 | 0.29 | 0.57 | 0.86 | 1.14 | 1.43 |
| 4 | 0.09 | 0.18 | 0.36 | 0.54 | 0.71 | 0.89 |
| 6 | 0.06 | 0.12 | 0.24 | 0.36 | 0.48 | 0.60 |
| 10 | 0.04 | 0.07 | 0.14 | 0.21 | 0.29 | 0.36 |



## Features

- CT ratios from 1A to 6000A with

5A and 1A secondaries

- Accuracy up to Class 0.5
- Integral terminal cover
- High impact, flame retardant moulded case
- Busbar, DIN-rail or foot mounting options


## Benefits

- Wide range of apertures and case sizes
- Reduction of high currents for ease of metering
- Long product life


## Approvals

- BSEN61010-1
- EN60044-1
- UL Recognized file no: E257877
* Thermal current (Ith) \& dynamic current (Idyn)
Ith is the highest primary current (effective value), the Idyn is the highest primary current (Peak Value) that the CT can support for 1 second without damage, owing to excessive overloads with secondary short circuits.

- Mounting feet centres $26 \mathrm{~mm} \times 51 \mathrm{~mm}$

- Mounting feet centres $33 \mathrm{~mm} \times 71 \mathrm{~mm}$

M53Q Range
Case Size: 45 mm wide $\times 30 \mathrm{~mm}$ deep $\times 65 \mathrm{~mm}$ high
$1.8^{\prime \prime}$ wide $\times 1.2^{\prime \prime}$ deep $\times 2.5^{\prime \prime}$ high
Aperture: $20 \times 6 \mathrm{~mm}$ and 21 mm diameter $0.8^{\prime \prime} \times 0.2^{\prime \prime}$ and $0.8^{\prime \prime}$ diameter
Weight: $\quad 0.25 \mathrm{Kg}$

| Model type | Primary current | VA at Class 3 | VA at Class 1 |
| :--- | :--- | :--- | :--- |
| M53Q-50/5 | 50 | 1 | - |
| M53Q-60/5 | 60 | 1.25 | - |
| M53Q-75/5 | 75 | 1.5 | - |
| M53Q-80/5 | 80 | 1.25 | - |
| M53Q-100/5 | 100 | 2.5 | 1.5 |
| M53Q-125/5 | 125 | 3 | 2.5 |
| M53Q-150/5 | 150 | 3.75 | 2.5 |
| M53Q-200/5 | 200 | 5 | 3.75 |
| M53Q-250/5 | 250 | - | 5 |
| M53Q-300/5 | 300 | 7.5 | 5 |

## Ordering Codes

| As above | Change end suffix to depict required secondary. <br> For example: $M 53 Q-50 / 1$ |
| :--- | :--- |
| M30-DINCLIP | DIN-rail mounting clip for DIN-rail mounting option <br> (2 required) |

## M55E Range

Case Size: 50 mm wide $\times 50 \mathrm{~mm}$ deep $\times 80 \mathrm{~mm}$ high $2^{\prime \prime}$ wide $\times 2^{\prime \prime}$ deep $\times 3.1^{\prime \prime}$ high
Aperture: $15 \times 5 \mathrm{~mm}$ and 16 diameter
$0.6^{\prime \prime} \times 0.2^{\prime \prime}$ diameter
Weight: $\quad 0.4 \mathrm{Kg}$

| Model type | Primary current | VA at Class 3 | VA at Class 1 |
| :--- | :--- | :--- | :--- |
| M55E-30/5 | 30 | 1.25 | - |
| M55E-40/5 | 40 | 2.5 | - |
| M55E-50/5 | 50 | 2.5 | - |
| M55E-60/5 | 60 | 3.75 | 2.5 |
| M55E-75/5 | 75 | 5 | 3.75 |
| M55E-80/5 | 80 | 5 | 3.75 |
| M55E-100/5 | 100 | 7.5 | 5 |

Ordering Codes

| As above | Change end suffix to depict required secondary. <br> For example: M55E-50/1 |
| :--- | :--- |
| M50-DINCLIP | (2 required) | (2 required)

## M53J Range

Case Size: 50 mm wide $\times 30 \mathrm{~mm}$ deep $\times 80 \mathrm{~mm}$ high
$2^{\prime \prime}$ wide $\times 1.2^{\prime \prime}$ deep $\times 3.1^{\prime \prime}$ high
Aperture: $30 \times 10 \mathrm{~mm}, 25 \times 15 \mathrm{~mm}$ and $20 \times 20 \mathrm{~mm}$ and 25 mm diameter $1.2^{\prime \prime} \times 0.4^{\prime \prime}, 1^{\prime \prime} \times 0.6^{\prime \prime}$ and $0.8^{\prime \prime} \times 0.8^{\prime \prime}$ and $1.0^{\prime \prime}$ diameter
Weight: $\quad 0.22 \mathrm{Kg}$

| Model type | Primary current | VA at Class 3 | VA at Class 1 |
| :--- | :--- | :--- | :--- |
| M53J-100/5 | 100 | 1.25 | - |
| M53J-125/5 | 125 | 1.25 | - |
| M53J-150/5 | 150 | 2.5 | - |
| M53J-160/5 | 160 | 2.5 | - |
| M53J-200/5 | 200 | 2.5 | 2.5 |
| M53J-250/5 | 250 | 3.75 | 2.5 |
| M53J-300/5 | 300 | 5 | 3.75 |
| M53J-400/5 | 400 | 7.5 | 3.75 |

## Ordering Codes

| As above | Change end suffix to depict required secondary. <br> For example: M53J-150/1 |
| :--- | :--- |
| M3O-DINCLIP | DIN-rail mounting clip for DIN-rail mounting option <br> (2 required) |

## M65F Range

Case Size: 60 mm wide $\times 50 \mathrm{~mm}$ deep $\times 94 \mathrm{~mm}$ high
$2.4^{\prime \prime}$ wide $\times 2^{\prime \prime}$ deep $\times 3.7^{\prime \prime}$ high
Aperture: $20 \times 10 \mathrm{~mm}$ and 23 mm diameter
$0.8^{\prime \prime} \times 0.4^{\prime \prime}, 0.9^{\prime \prime}$ diameter
Weight: $\quad 0.4 \mathrm{Kg}$

| Model type | Primary current | VA at <br> Class 3 | VA at <br> Class 1 | VA at <br> Class 0.5 |
| :--- | :--- | :--- | :--- | :--- |
| M65F-30/5 | 30 | 1.25 | - | - |
| M65F-40/5 | 40 | 2.5 | - | - |
| M65F-50/5 | 50 | 2.5 | - | - |
| M65F-60/5 | 60 | 3.75 | - | - |
| M65F-75/5 | 75 | 5 | 2.5 | - |
| M65F-80/5 | 80 | 5 | 2.5 | - |
| M65F-100/5 | 100 | 7.5 | 5 | 2.5 |
| M65F-125/5 | 125 | 7.5 | 5 | 2.5 |
| M65F-150/5 | 150 | 15 | 10 | 5 |
| M65F-200/5 | 200 | 20 | 15 | 7.5 |
| M65F-250/5 | 250 | 20 | 20 | 10 |
| M65F-300/5 | 300 | 30 | 30 | 10 |

## Ordering Codes

| As above | Change end suffix to depict required secondary. <br> For example: M65F-150/1 |
| :--- | :--- |
| M50-DINCLIP | DIN-rail mounting clip for DIN-rail mounting option <br> (2 required) |



- Mounting feet centres $42 \mathrm{~mm} \times 71 \mathrm{~mm}$

- Mounting feet centres $42 \mathrm{~mm} \times 51 \mathrm{~mm}$

- Mounting feet centres $58.5 \mathrm{~mm} \times 71 \mathrm{~mm}$


## M63N Range

```
Case Size: 60mm wide x 30mm deep x 94mm high
    2.3"}\mathrm{ wide x 1.2" deep x 3.7" high
Aperture: }40\times10\textrm{mm}\mathrm{ and 32mm diameter
    1.\mp@subsup{5}{}{\prime\prime}\times0.4" and 1.2" diameter
Weight: }0.3\textrm{Kg
```

| Model type | Primary current | VA at <br> Class 3 | VA at <br> Class 1 | VA at <br> Class 0.5 |
| :--- | :--- | :--- | :--- | :--- |
| $M 63 N-200 / 5$ | 200 | 2.5 | - | - |
| $M 63 N-250 / 5$ | 250 | 3.75 | 2.5 | - |
| $M 63 N-300 / 5$ | 300 | 5 | 3.75 | - |
| $M 63 N-400 / 5$ | 400 | 7.5 | 5 | - |
| $M 63 N-500 / 5$ | 500 | 10 | 7.5 | 3.75 |
| $M 63 N-600 / 5$ | 600 | 10 | 7.5 | 5 |
| $M 63 N-750 / 5$ | 750 | 15 | 10 | 7.5 |
| $M 63 N-800 / 5$ | 800 | 15 | 10 | 7.5 |

## Ordering Codes

As above
Change end suffix to depict required secondary. For example: M53J-150/1
M30-DINCLIP DIN-rail mounting clip for DIN-rail mounting option (2 required)

## MA5G Range

Case Size: 77 mm wide $\times 50 \mathrm{~mm}$ deep $\times 116 \mathrm{~mm}$ high $3^{\prime \prime}$ wide $\times 2^{\prime \prime}$ deep $\times 4.5^{\prime \prime}$ high
Aperture: $40 \times 10 \mathrm{~mm}, 30 \times 30 \mathrm{~mm}$ and 36 mm diameter $1.6^{\prime \prime} \times 0.4^{\prime \prime}, 1.2^{\prime \prime} \times 1.2^{\prime \prime}$ and $1.4^{\prime \prime}$ diameter
Weight: $\quad 0.6 \mathrm{Kg}$

| Model type | Primary current | VA at <br> Class 3 | VA at <br> Class $\mathbf{1}$ | VA at <br> Class 0.5 |
| :--- | :--- | :--- | :--- | :--- |
| MA5G-100/5 | 100 | 2.5 | - | - |
| MA5G-125/5 | 125 | 5 | 2.5 | - |
| MA5G-150/5 | 150 | 5 | 3.75 | - |
| MA5G-200/5 | 200 | 10 | 5 | 2.5 |
| MA5G-250/5 | 250 | 10 | 7.5 | 5 |
| MA5G-300/5 | 300 | 10 | 7.5 | 5 |
| MA5G-400/5 | 400 | 10 | 7.5 | 5 |
| MA5G-500/5 | 500 | 10 | 7.5 | 5 |
| MA5G-600/5 | 600 | 10 | 10 | 7.5 |
| MA5G-750/5 | 750 | 15 | 10 | 10 |
| MA5G-800/5 | 800 | 15 | 10 | 10 |
| MA5G-1000/5 | 1000 | 20 | 15 | 15 |

## Ordering Codes

| As above | Change end suffix to depict required secondary. <br> For example: MA5G-150/1 |
| :--- | :--- |
| M50-DINCLIP | DIN-rail mounting clip for DIN-rail mounting option <br> (2 required) |

Consult factory for availability and lead time on 1A secondary.

## MA5Y Range

| Case Size: | 77 mm wide $\times 50 \mathrm{~mm}$ deep $\times 116 \mathrm{~mm}$ high |
| :--- | :--- |
|  | $3^{\prime \prime}$ wide $\times 2^{\prime \prime}$ deep $\times 4.5^{\prime \prime}$ high |
| Fixing: | M 8 stud primary bar |
| Weight: | 0.45 Kg |


| Model type | Primary current | VA at Class 3 | VA at Class 1 |
| :--- | :--- | :--- | :--- |
| MA5Y-1/5 | 1 | 7.5 | 5 |
| MA5Y-5/5 | 5 | 7.5 | 5 |
| MA5Y-10/5 | 10 | 7.5 | 5 |
| MA5Y-15/5 | 15 | 7.5 | 5 |
| MA5Y-20/5 | 20 | 7.5 | 5 |
| MA5Y-30/5 | 30 | 7.5 | 5 |
| MA5Y-40/5 | 40 | 7.5 | 5 |

## Ordering Codes

| As above | Change end suffix to depict required secondary. <br> For example: MA5Y-1/1 |
| :--- | :--- |
| M50-DINCLIP | DIN-rail mounting clip for DIN-rail mounting option (2 required) |

## M93L Range

Case Size: 90 mm wide $\times 30 \mathrm{~mm}$ deep $\times 131 \mathrm{~mm}$ high
$3.5^{\prime \prime}$ wide $\times 1.2^{\prime \prime}$ deep $\times 5.1^{\prime \prime}$ high
Aperture: $50 \times 10 \mathrm{~mm}, 40 \times 30 \mathrm{~mm}$ and 42 mm diameter
$2^{\prime \prime} \times 0.4^{\prime \prime}, 1.5^{\prime \prime} \times 1.2^{\prime \prime}$ and $1.6^{\prime \prime}$ diameter
Weight: $\quad 0.45 \mathrm{Kg}$

| Model type | Primary current | VA at Class 3 | VA at Class 1 | VA at Class 0.5 |
| :--- | :--- | :--- | :--- | :--- |
| M93L-400/5 | 400 | 15 | 7.5 | 3.75 |
| M93L-500/5 | 500 | 20 | 15 | 5 |
| M93L-600/5 | 600 | 30 | 20 | 10 |
| M93L-750/5 | 750 | 20 | 15 | 7.5 |
| M93L-800/5 | 800 | 20 | 15 | 10 |
| M93L-1000/5 | 1000 | 20 | 20 | 15 |
| M93L-1200/5 | 1200 | 30 | 30 | 20 |
| M93L-1250/5 | 1250 | 30 | 30 | 20 |
| M93L-1500/5 | 1500 | 30 | 30 | 20 |
| M93L-1600/5 | 1600 | 30 | 30 | 20 |

## Ordering Codes

| As above | Change end suffix to depict required secondary. <br> For example: M93L-1000/1 |
| :--- | :--- |
| M30-DINCLIP | DIN-rail mounting clip for DIN-rail mounting option (2 required) |

## M93R Range

Case Size: 90 mm wide $\times 30 \mathrm{~mm}$ deep $\times 131 \mathrm{~mm}$ high $3.5^{\prime \prime}$ wide $\times 1.2^{\prime \prime}$ deep $\times 5.1^{\prime \prime}$ high
Aperture: $64 \times 12.6 \mathrm{~mm}, 60 \times 30 \mathrm{~mm}$
$2.5^{\prime \prime} \times 0.5^{\prime \prime}, 2.4^{\prime \prime} \times 1.2^{\prime \prime}$
Weight:
0.6 Kg

| Model type | Primary current | VA at Class 3 | VA at Class 1 | VA at Class 0.5 |
| :--- | :--- | :--- | :--- | :--- |
| M93R | $800 / 5$ | 10 | 10 | 5 |
| M93R | $1000 / 5$ | 10 | 10 | 7.5 |
| M93R | $1200 / 5$ | 10 | 15 | 10 |
| M93R | $1250 / 5$ | 10 | 15 | 10 |
| M93R | $1500 / 5$ | 10 | 20 | 15 |
| M93R | $1600 / 5$ | 10 | 20 | 15 |
| M93R | $2000 / 5$ | 10 | 20 | 20 |

## Ordering Codes

As above
Change end suffix to depict required secondary. For example: M93R-1000/1
M3O-DINCLIP $\quad$ DIN-rail mounting clip for DIN-rail mounting option (2 required)


- Mounting feet centres $58.5 \mathrm{~mm} \times 71 \mathrm{~mm}$

- Mounting feet centres $71.5 \mathrm{~mm} \times 51 \mathrm{~mm}$




## S95P Range

Case Size: 90 mm wide $\times 50 \mathrm{~mm}$ deep $\times 144 \mathrm{~mm}$ high $3.5^{\prime \prime}$ wide $\times 2^{\prime \prime}$ deep $\times 5.7^{\prime \prime}$ high
Weight: $0.9 \mathrm{Kg}-1.11 \mathrm{Kg}$

| Model type | Primary current | VA at Class 1 |
| :--- | :--- | :--- |
| S95P-5/5 | $5+5=5$ | 5 |
| S95P-5/5/5 | $5+5+5=5$ | 5 |

Ordering Codes

| As above | Change end suffix to depict required secondary. <br> For example: S95P-1/1 |
| :--- | :--- |
| M50-DINCLIP | DIN-rail mounting clip for DIN-rail mounting option (2 required) |

## S97P Range

Case Size: 90 mm wide $\times 50 \mathrm{~mm}$ deep $\times 144 \mathrm{~mm}$ high
$3.5^{\prime \prime}$ wide $\times 2^{\prime \prime}$ deep $\times 5.7^{\prime \prime}$ high
Weight: $\quad 0.9 \mathrm{Kg}-1.11 \mathrm{Kg}$

| Model type | Primary current | VA at Class 1 |
| :--- | :--- | :--- |
| S97P-5/5/5/5 | $5+5+5+5=5$ | 5 |
| S97P-5/5/5/5/5 | $5+5+5+5+5=5$ | 5 |
| S97P-5/5/5/5/5/5 | $5+5+5+5+5+5=5$ | 5 |
|  |  |  |
| Ordering Codes | Change end suffix to depict required secondary. |  |
| As above | For example: S95P-1/1 |  |

Consult factory for availability and lead time on 1A secondary.

## MB5D Range

Case Size: 134 mm wide $\times 50 \mathrm{~mm}$ deep $\times 156 \mathrm{~mm}$ high
$5.2^{\prime \prime}$ wide $\times 2^{\prime \prime}$ deep $\times 6.1^{\prime \prime}$ high
Aperture: $80 \times 30 \mathrm{~mm}, 60 \times 30 \mathrm{~mm}, 50 \times 50 \mathrm{~mm}$ and 63 mm diameter $3.1^{\prime \prime} \times 1.2^{\prime \prime}, 2.3^{\prime \prime} \times 1.2^{\prime \prime}, 2 \times 2^{\prime \prime}$ and $2.4^{\prime \prime}$ diameter
Weight: $\quad 0.5 \mathrm{Kg}$

| Model type | Primary <br> current | VA at <br> Class 3 | VA at <br> Class 1 | VA at <br> Class 0.5 |
| :--- | :--- | :--- | :--- | :--- |
| MB5D-400/5 | 400 | 15 | 10 | 7.5 |
| MB5D-500/5 | 500 | 20 | 15 | 10 |
| MB5D-600/5 | 600 | 15 | 10 | 5 |
| MB5D-750/5 | 750 | 15 | 10 | 5 |
| MB5D-800/5 | 800 | 20 | 15 | 7.5 |
| MB5D-1000/5 | 1000 | 22.5 | 20 | 10 |
| MB5D-1200/5 | 1200 | 30 | 20 | 15 |
| MB5D-1250/5 | 1250 | 30 | 20 | 15 |
| MB5D-1500/5 | 1500 | 30 | 20 | 15 |
| MB5D-1600/5 | 1600 | 40 | 30 | 20 |
| MB5D-2000/5 | 2000 | 50 | 40 | 30 |

## Ordering Codes

Change end suffix to depict required secondary For example: MB5D-1600/1

## MB5Z Range

Case Size: 134 mm wide $\times 50 \mathrm{~mm}$ deep $\times 156 \mathrm{~mm}$ high $5.2^{\prime \prime}$ wide $\times 2^{\prime \prime}$ deep $\times 6.1^{\prime \prime}$ high
Aperture: $104 \times 35 \mathrm{~mm}, 35 \mathrm{~mm}$ diameter $4^{\prime \prime} \times 1.3^{\prime \prime}$ and $1.3^{\prime \prime}$ diameter
Weight: $\quad 0.7 \mathrm{Kg}$

| Model type | Primary <br> current | VA at <br> Class 3 | VA at <br> Class 1 | VA at <br> Class 0.5 |
| :--- | :--- | :--- | :--- | :--- |
| MB5Z-750/5 | 750 | 15 | 7.5 | 2.5 |
| MB5Z-800/5 | 800 | 20 | 10 | 2.5 |
| MB5Z-1000/5 | 1000 | 22.5 | 15 | 7.5 |
| MB5Z-1200/5 | 1200 | 30 | 20 | 10 |
| MB5Z-1250/5 | 1250 | 30 | 20 | 15 |
| MB5Z-1500/5 | 1500 | 30 | 20 | 15 |
| MB5Z-1600/5 | 1600 | 30 | 20 | 15 |
| MB5Z-2000/5 | 2000 | 30 | 20 | 15 |
| MB5Z-2400/5 | 2400 | 30 | 20 | 15 |
| MB5Z-2500/5 | 2500 | 30 | 20 | 15 |
| MB5Z-3000/5 | 3000 | 30 | 20 | 15 |
| MB5Z-4000/5 | 4000 | 30 | 20 | 15 |

## Ordering Codes

| As above | Change end suffix to depict required secondary. <br> For example: MB5Z-1600/1 |
| :--- | :--- |

Consult factory for availability and lead time on 1A secondary.

- Mounting feet centres $105 \mathrm{~mm} \times 71 \mathrm{~mm}$
- Mounting hole centres $110 \mathrm{~mm} \times 6.6 \mathrm{~mm}$

- Hole for M6 diameter screws or busbar mounting

- Hole for M6 diameter screws or busbar mounting


## MC5T Range

Case Size: 140 mm wide $\times 50 \mathrm{~mm}$ deep $\times 238 \mathrm{~mm}$ high
$5.5^{\prime \prime}$ wide $\times 2^{\prime \prime}$ deep $\times 9.3^{\prime \prime}$ high
Aperture: $160 \times 50 \mathrm{~mm}$
$6.3^{\prime \prime} \times 2^{\prime \prime}$
Weight: $\quad+/-1.5 \mathrm{Kg}$

| Model type | Primary <br> current | VA at <br> Class 3 | VA at <br> Class 1 | VA at <br> Class 0.5 |
| :--- | :--- | :--- | :--- | :--- |
| MC5T-1600/5 | 1600 | 45 | 30 | 20 |
| MC5T-2000/5 | 2000 | 45 | 30 | 20 |
| MC5T-2500/5 | 2500 | 60 | 45 | 30 |
| MC5T-3000/5 | 3000 | 60 | 45 | 30 |
| MC5T-3200/5 | 3200 | 60 | 45 | 30 |
| MC5T-4000/5 | 4000 | 60 | 45 | 30 |
| MC5T-5000/5 | 5000 | 60 | 45 | 30 |
| MC5T-6000/5 | 6000 | 60 | 45 | 30 |

Ordering Codes
As above
Change end suffix to depict required secondary. For example: MC5T-1600/1

## MD5T Range

Case Size: 213 mm wide $\times 50 \mathrm{~mm}$ deep $\times 165 \mathrm{~mm}$ high
$8.3^{\prime \prime}$ wide $\times 2^{\prime \prime}$ deep $\times 6.5^{\prime \prime}$ high
Aperture: $160 \times 50 \mathrm{~mm}$
$6.3^{\prime \prime} \times 2^{\prime \prime}$
Weight: $\quad+/-1.5 \mathrm{Kg}$

| Model type | Primary <br> current | VA at <br> Class 3 | VA at <br> Class 1 | VA at <br> Class 0.5 |
| :--- | :--- | :--- | :--- | :--- |
| MD5T-1600/5 | 1600 | 45 | 30 | 20 |
| MD5T-2000/5 | 2000 | 45 | 30 | 20 |
| MD5T-2500/5 | 2500 | 60 | 45 | 30 |
| MD5T-3000/5 | 3000 | 60 | 45 | 30 |
| MD5T-3200/5 | 3200 | 60 | 45 | 30 |
| MD5T-4000/5 | 4000 | 60 | 45 | 30 |
| MD5T-5000/5 | 5000 | 60 | 45 | 30 |
| MD5T-6000/5 | 6000 | 60 | 45 | 30 |

Ordering Codes

| As above | Change end suffix to depict required secondary. |
| :--- | :--- |
| For example: MD5T-1600/1 |  |

## Busbar Mounting RS125

Dimensions: 110 mm wide $\times 62 \mathrm{~mm}$ deep $\times 182 \mathrm{~mm}$ high
Hole: $126 \times 36 \mathrm{~mm}$
Weight: $\quad 0.6 \mathrm{Kg}$

| Ratio <br> range | VA at <br> Class 3 | VA at <br> Class $\mathbf{1}$ | VA at <br> Class 0.5 | Cat. no. | Delivery |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $800 / 5$ | - | 30 | 15 | $\mathrm{RS} 125-800 / 5$ | C |
| $1000 / 5$ | - | 30 | 15 | $\mathrm{RS} 125-1000 / 5$ | C |
| $1200 / 5$ | - | 30 | 15 | $\mathrm{RS} 125-1200 / 5$ | A |
| $1250 / 5$ | - | 30 | 15 | $\mathrm{RS} 125-1250 / 5$ | A |
| $\mathbf{1 5 0 0 / 5}$ | - | 30 | 15 | $\mathrm{RS} 125-1500 / 5$ | A |
| $1600 / 5$ | - | 30 | 15 | $\mathrm{RS} 125-1600 / 5$ | A |
| $2000 / 5$ | - | 30 | 15 | $\mathrm{RS} 125-2000 / 5$ | A |
| $2500 / 5$ | - | 30 | 15 | $\mathrm{RS} 125-2500 / 5$ | A |
| $3000 / 5$ | - | 30 | 15 | $\mathrm{RS} 125-3000 / 5$ | A |
| $3500 / 5$ | - | 30 | 15 | $\mathrm{RS} 125-3500 / 5$ | A |
| $4000 / 5$ | - | 30 | 15 | $\mathrm{RS} 125-4000 / 5$ | A |



## Moulded Case Overview Range

| Type | MA5Y |  | M53@ |  | M55E |  | M53J |  | M65F |  | M63N |  | MA5G |  | M93L |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Inside diameter (mm) |  |  | 21 |  | 16.2 |  | 25 |  | 23 |  | 32 |  | 36 |  | 32 |  |
| Busbar | M8 Stud |  | 20x6 |  | $15 \times 5$ |  | $30 \times 10$ |  | $20 \times 10$ |  | $40 \times 10$ |  | $40 \times 10$ |  | $50 \times 10$ |  |
|  |  |  |  |  |  |  | $25 \times 15$ |  |  |  |  |  | $30 \times 30$ |  | $40 \times 30$ |  |
|  |  |  |  |  |  |  | $20 \times 20$ |  |  |  |  |  |  |  |  |  |
| Dimensions (mm) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Height | 116 |  | 65 |  | 80 |  | 80 |  | 94 |  | 94 |  | 116 |  | 131 |  |
| Width | 77 |  | 45 |  | 50 |  | 50 |  | 60 |  | 60 |  | 77 |  | 90 |  |
| Depth | 50 |  | 30 |  | 50 |  | 50 |  | 50 |  | 30 |  | 50 |  | 30 |  |
| DIN-rail mounting | $\times$ | X | $\times$ | X | $\times$ | x | $\times$ | X | $\times$ | X | $\times$ | $x$ | $\times$ | x | $\times$ | $x$ |
| Foot mounting | $\times$ | X | $\times$ | X | $\times$ | X | X | X | $\times$ | X | $\times$ | X | $\times$ | X | $\times$ | x |
| Integrated terminal cover | $\times$ | $\times$ | $\times$ | $\times$ | $\times$ | $\times$ | $\times$ | $\times$ | $\times$ | $\times$ | $\times$ | $\times$ | $\times$ | $\times$ | $\times$ | $\times$ |
| Secondary | 5 | 1 | 5 | 1 | 5 | 1 | 5 | 1 | 5 | 1 | 5 | 1 | 5 | 1 | 5 | 1 |
| Primary current |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 | $\times$ | $x$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | $\times$ | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10 | $\times$ | $\times$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 | $\times$ | $\times$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20 | $\times$ | $\times$ |  |  | $x$ | $x$ |  |  |  |  |  |  |  |  |  |  |
| 30 | $\times$ | X |  |  | $\times$ | $\times$ |  |  | $x$ | X |  |  |  |  |  |  |
| 40 | $\times$ | X |  |  | $\times$ | $\times$ |  |  | x | x |  |  |  |  |  |  |
| 50 |  |  | $x$ | x | x | X |  |  | $x$ | X |  |  |  |  |  |  |
| 60 |  |  | $\times$ | $\times$ | $\times$ | $\times$ |  |  | $\times$ | $\times$ |  |  |  |  |  |  |
| 75 |  |  | $\times$ | $\times$ | $\times$ | $\times$ |  |  | $\times$ | $\times$ |  |  |  |  |  |  |
| 80 |  |  | $\times$ | $\times$ | $\times$ |  |  |  | x | $\times$ |  |  |  |  |  |  |
| 100 |  |  | $\times$ | $\times$ | $\times$ | x | X |  | $\times$ | X |  |  | $\times$ | $\times$ |  |  |
| 125 |  |  | $\times$ | $\times$ |  |  | $\times$ |  | $\times$ | X |  |  | $\times$ | $\times$ |  |  |
| 150 |  |  | $\times$ | $\times$ |  |  | $\times$ |  | $\times$ | $\times$ |  |  | $\times$ | $\times$ |  |  |
| 160 |  |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |
| 200 |  |  | $\times$ | x |  |  | X |  | $x$ | x | $\times$ | x | $\times$ | X |  |  |
| 250 |  |  | $\times$ | X |  |  | X |  | $\times$ | x | $\times$ | $\times$ | $\times$ | X |  |  |
| 300 |  |  | $\times$ | $\times$ |  |  | $\times$ |  | $\times$ | $\times$ | $\times$ | $\times$ | $\times$ | $\times$ |  |  |
| 400 |  |  |  |  |  |  | $\times$ |  |  |  | $\times$ | $\times$ | $\times$ | $\times$ | $\times$ |  |
| 500 |  |  |  |  |  |  |  |  |  |  | $\times$ | $\times$ | $\times$ | $\times$ | $\times$ |  |
| 600 |  |  |  |  |  |  |  |  |  |  | $\times$ | $\times$ | $\times$ | $\times$ | $\times$ |  |
| 750 |  |  |  |  |  |  |  |  |  |  | $\times$ | $\times$ | $\times$ | $\times$ | $\times$ |  |
| 800 |  |  |  |  |  |  |  |  |  |  | $\times$ | $\times$ | $\times$ | $\times$ | $\times$ |  |
| 1000 |  |  |  |  |  |  |  |  |  |  |  |  | $\times$ | $\times$ | $\times$ |  |
| 1200 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\times$ |  |
| 1250 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1500 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\times$ |  |
| 1600 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\times$ |  |
| 2000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2500 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3200 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $5+5=5$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $5+5+5=5$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $5+5+5+5=5$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $5+5+5+5+5=5$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $5+5+5+5+5+5=5$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $1+1=1$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\underline{1+1+1=1}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1+1+1+1=1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1+1+1+1+1=1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\underline{1+1+1+1+1+1=1}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Consult factory for availability and lead time on 1A secondary.

Moulded Case Overview Range


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## Tyco Electronics UK Ltd

TE Energy
Freebournes Road
Witham，Essex CM8 3AH

## Registered office：

Faraday Road，Dorcan
Swindon，SN3 5HH
Reg．no． 550926

Phone：＋44（0）870 8707500
Fax：＋44（0）870 2405287
Email：crompton．info＠te．com
http：／／energy．te．com
www．crompton－instruments．com


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