



# Low Voltage Current Transformers ME Series



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## Application

Low voltage current transformers are intended for supplying measuring instruments and protection circuits of electrical power devices with a maximum operating voltage of 0.72 kV and frequency of 50 Hz (or 60 Hz after prior arrangement with the manufacturer). Transformers of power utility installations. The transformers are manufactured for secondary currents 5 A (other specification on request). The range of primary currents depends on the transformer ratio and can range from 5 A up to 4000 A. The transformers are designed for operation in indoor equipment in climatic conditions: temperate or tropical. The long-term thermal rated current and limits of deviations of these transformers correspond to an extended current range of 120% of  $I_p$  within the ambient temperature from  $-5^{\circ}\text{C}$  to  $+55^{\circ}\text{C}$ . It is possible to produce some transformers with a 150%  $I_p$ .

## Design

The low voltage current transformers are single phase, low power transformers, operating in short circuit conditions and transforming the current flowing through the primary circuit to the current in the secondary circuit with a level of accuracy specified in relevant standards. Its insulation class is E. The plastic housing and covers are made of nonflammable PC plastic. The windings of the current transformers are enclosed in the housings made of heat and fire-resistant material. The current transformers are produced for different types of primary circuits: busbar or cable according to the transformer. The range of primary currents is from 5A up to 4000A. Transformer type ME has offered the option of a sealing cover for secondary terminals. Name plate are permanently marked on the casing. They have different methods for mounting on the current circuits.

## Technical data

Frequency	50 Hz
Rated Input	5A - 4000A
Measuring range	5% $I_p$ – 120% $I_p$
Rated Output	1A, 5A
System Voltage	0.72KV (AC)
Dielectric strength	3.0KV / 1mA / 1min
Case	PC/UL94 - V0
Operating Temp	$-5^{\circ}\text{C} \sim +55^{\circ}\text{C}$
Operating Humidity	$\leq 85\%$
Output Connection	Terminal
Short Time Thermal Current $I_{th}^*$	60 x $I_p$
Dynamic Current $I_{dyn}^*$	150 x $I_p$
Standards	IEC 61869-1&2

\* Other specifications on request

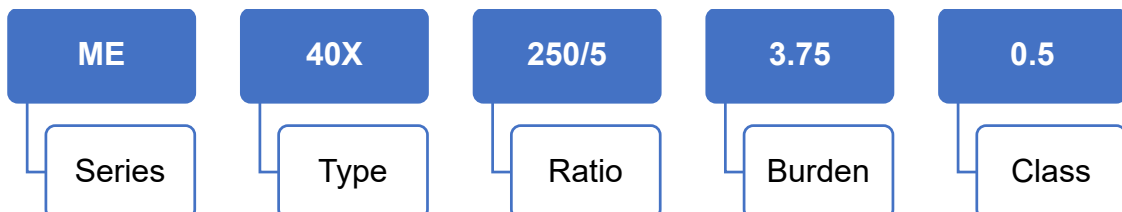
## Series features

- Covers primary current from 5 ~ 4000 A
- Compact sizes.
- Different types for different requirements.
- Unique serial number (upon customer request)
- Engraved data
- Sealable body
- Sealable cover



#	Type	Primary Current (A)	Application for	Outline Dimensions (mm)
1	ME B	5 up to 150	Primary terminal 2.5 x 14 mm	78.5 x 63 x 35
2	ME 14	40 up to 100	Cable $\Phi = 14$ mm	65 x 45 x 30
3	ME 20	30 up to 200	Cable $\Phi = 20$ mm	78.5 x 63 x 35
4	ME 30S	100 up to 500	Busbar 30 x 10 mm, up to $\Phi = 25$ mm	70 x 49 x 36
5	ME 30	30 up to 200	Busbar 30 x 10 mm, up to $\Phi = 30$ mm	78.5 x 63 x 35
6	ME 30X	30 up to 150	Busbar 30 x 10 mm, up to $\Phi = 30$ mm	87.5 x 80 x 41
7	ME 40	150 up to 600	Busbar 40 x 10 mm, up to $\Phi = 30$ mm	78.5 x 63 x 35
8	ME 40X	100 up to 800	Busbar 40 x 10 mm, up to $\Phi = 30$ mm	87.5 x 80 x 41
9	ME 60	250 up to 1600	Busbar 60 x 12 mm, up to $\Phi = 49$ mm	109.5 x 87.5 x 41
10	ME 60X	400 up to 2000	Busbar 60 x 12 mm, up to $\Phi = 49$ mm	118 x 101 x 41
11	ME 80	600 up to 2000	Busbar 80 x 12 mm, up to $\Phi = 65$ mm	126 x 104 x 41
12	ME 100	800 up to 4000	Busbar 100 x 30 mm, up to $\Phi = 85$ mm	155 x 140 x 38
13	ME 125	1000 up to 6000	Busbar 125 x 58 mm, up to $\Phi = 126.5$ mm	225.5 x 192 x 42
14	ME 816	1000 up to 6000	Busbar 160 x 80 mm, up to $\Phi = 80$ mm	247 x 189 x 52

## Order example



### ME B

For Primary terminal 2.5 x 14 mm

Type	Ratio (A)	Burden (VA)		Item Code
		Class 0.5	Class 1	
ME B	5/5	1.5	2.5	100B00055
	10/5	1.5	2.5	100B00105
	15/5	1.5	2.5	100B00155
	20/5	1.5	2.5	100B00205
	25/5	1.5	2.5	100B00255
	30/5	1.5	2.5	100B00305
	40/5	1.5	2.5	100B00405
	50/5	1.5	2.5	100B00505
	60/5	1.5	2.5	100B00605
	75/5	1.5	2.5	100B00755
	100/5	1.5	2.5	100B01005
	150/5	1.5	2.5	100B01505



- Other specifications on request

### ME 14

Up to  $\Phi = 14$  mm

Type	Ratio (A)	Burden (VA)		Item Code
		Class 1	Class 3	
ME 14	40/5	-	1.25	101400405
	50/5	-	1.25	101400505
	60/5	1.25	2.5	101400605
	80/5	1.25	2.5	101400805
	100/5	1.5	2.5	101401005



- Other specifications on request

### ME 20

Up to  $\Phi = 20$  mm

Type	Ratio (A)	Burden (VA)		Item Code
		Class 0.5	Class 1	
ME 20	30/5	2.5	3.75 (5T)	102000305
	40/5	2.5	3.75 (4T)	102000405
	50/5	2.5	3.75 (3T)	102000505
	60/5	2.5	3.75 (3T)	102000605
	75/5	2.5	3.75 (2T)	102000755
	80/5	2.5	3.75 (2T)	102000805
	100/5	-	2.5	102001005
	150/5	2.5	3.75	102001505
	200/5	2.5	3.75	102002005



- Other specifications on request

### ME 30S

For Busbar 30 x 10 mm, up to  $\Phi = 25$  mm

Type	Ratio (A)	Burden (VA)			Item Code
		Class 0.5	Class 1	Class 3	
ME 30S	50/5	-	-	1.25	1031005053
	60/5	-	-	1.25	1031006053
	80/5	-	1.5		103100805
	100/5	-	1.5		103101005
	150/5	1.5	2.5		103101505
	200/5	2.5	2.5		103102005
	250/5	2.5	5		103102505
	300/5	5	5		103103005
	400/5	5	5		103104005
	500/5	5	5		103105005



- Other specifications on request

### ME 30

For Busbar 30 x 10 mm, up to  $\Phi = 30$  mm

Type	Ratio (A)	Burden (VA)		Item Code
		Class 0.5	Class 1	
ME 30	30/5	1.8	2.5 (4T)	103000305
	40/5	1.8	2.5 (3T)	103000405
	50/5	1.8	2.5 (2T)	103000505
	60/5	1.8	2.5 (2T)	103000605
	75/5	2.5	3.75 (2T)	103000755
	100/5	-	2.5	103001005
	150/5	2.5	3.75	103001505
	200/5	3.75	5	103002005



- Other specifications on request

### ME 30X

For Busbar 30 x 10 mm, up to  $\Phi = 30$  mm

Type	Ratio (A)	Burden (VA)		Item Code
		Class 0.5	Class 1	
ME 30X	30/5	2.5	3.75(4T)	103100305
	50/5	2.5	3.75(2T)	103100505
	60/5	2.5	3.75(2T)	103100605
	75/5	1.5	2.5	103100755
	100/5	2.5	3.75	103101005
	150/5	2.5	5	103101505



- Other specifications on request

**ME 40**For Busbar 40 x 10 mm, up to  $\Phi = 30$  mm

Type	Ratio (A)	Burden (VA)		Item Code
		Class 0.5	Class 1	
ME 40	150/5	1.8	2.5	104001505
	200/5	2.5	3.75	104002005
	250/5	3.75	5	104002505
	300/5	3.75	5	104003005
	400/5	3.75	5	104004005
	500/5	3.75	5	104005005
	600/5	3.75	5	104006005

- Other specifications on request

**ME 40X**For Busbar 40 x 10 mm, up to  $\Phi = 30$  mm

Type	Ratio (A)	Burden (VA)		Item Code
		Class 0.5	Class 1	
ME 40X	300/5	5	7.5	104103005
	400/5	10	12.5	104104005
	500/5	10	15	104105005
	600/5	10	15	104106005
	750/5	10	15	104107505
	800/5	10	15	104108005

- Other specifications on request

**ME 60**For Busbar 60 x 10 mm, up to  $\Phi = 49$  mm

Type	Ratio (A)	Burden (VA)		Item Code
		Class 0.5	Class 1	
ME 60	250/5	3.75	5	106002505
	300/5	5	7.5	106003005
	400/5	5	7.5	106004005
	500/5	5	7.5	106005005
	600/5	10	15	106006005
	750/5	10	15	106007505
	800/5	10	15	106008005
	1000/5	10	15	106010005
	1200/5	10	15	106012005
	1500/5	10	15	106015005
	1600/5	15	20	106016005

- Other specifications on request



## ME 60X

For Busbar 60 x 10 mm, up to  $\Phi = 49$  mm

Type	Ratio (A)	Burden (VA)		Item Code
		Class 0.5	Class 1	
ME 60X	400/5	7.5	10	106104005
	500/5	15	20	106105005
	600/5	15	20	106106005
	750/5	15	20	106107505
	800/5	15	20	106108005
	1000/5	15	20	106110005
	1200/5	15	20	106112005
	1500/5	15	20	106115005
	1600/5	15	20	106116005
	2000/5	15	20	106120005

- Other specifications on request



## ME 80

For Busbar 80 x 12 mm, up to  $\Phi = 65$  mm

Type	Ratio (A)	Burden (VA)		Item Code
		Class 0.5	Class 1	
ME 80	600/5	10	15	108006005
	750/5	10	15	108007505
	800/5	10	15	108008005
	1000/5	15	20	108010005
	1200/5	15	20	108012005
	1250/5	15	20	108012505
	1500/5	15	20	108015005
	1600/5	15	20	108016005
	2000/5	20	25	108020005

- Other specifications on request



## ME 100

For Busbar 100 x 30 mm, up to  $\Phi = 85$  mm

Type	Ratio (A)	Burden (VA)		Item Code
		Class 0.5	Class 1	
ME 100	800/5	15	20	110008005
	1000/5	15	20	110010005
	1200/5	15	20	110012005
	1250/5	15	20	110012505
	1500/5	15	20	110015005
	1600/5	15	20	110016005
	2000/5	15	25	110020005
	2500/5	15	25	110025005
	3000/5	15	25	110030005
	4000/5	15	25	110040005

- Other specifications on request





## ME 125

For Busbar 125 x 58 mm, up to  $\Phi = 126.5$  mm

Type	Ratio (A)	Burden (VA)		Item Code
		Class 0.5	Class 1	
ME 125	1000/5	5	10	112510005
	1200/5	7.5	10	112512005
	1500/5	10	15	112515005
	1600/5	10	15	112516005
	2000/5	15	20	112520005
	2500/5	15	20	112525005
	3000/5	15	20	112530005
	4000/5	15	20	112540005
	5000/5	20	20	112550005
	6000/5	20	20	112560005

- Other specifications on request



## ME 816

For Busbar 160 x 80 mm, up to  $\Phi = 80$  mm, Split type

Type	Ratio (A)	Burden (VA)		Item Code
		Class 0.5	Class 1	
ME 125	1000/5	5	10	181610005
	1500/5	7.5	10	181615005
	2000/5	10	10	181620005
	2500/5	15	20	181625005
	3000/5	20	20	181630005
	4000/5	20	20	181640005
	5000/5	20	20	181650005
	6000/5	20	20	181660005

- Other specifications on request



Dimensions drawings (All dimensions in mm)

<p><b>ME B</b></p>	<p><b>ME 14</b></p>	<p><b>ME 20</b></p>	<p><b>ME 30S</b></p>
<p><b>ME 30</b></p>	<p><b>ME 30X</b></p>	<p><b>ME 40</b></p>	<p><b>ME 40X</b></p>
<p><b>ME 60</b></p>	<p><b>ME 60X</b></p>	<p><b>ME 80</b></p>	<p><b>ME 100</b></p>
<p><b>ME 125</b></p>	<p><b>ME 816</b></p>		

## Mounting and accessories

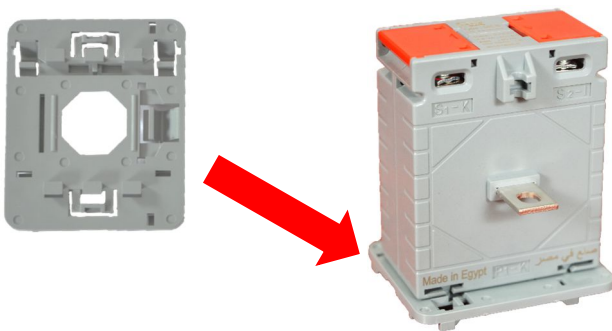
Low voltage current transformers can be mounted on:

- Current busbars.
- TS35 mounting busbars.
- Solid cables or cores of multicore cables.
- Plates.

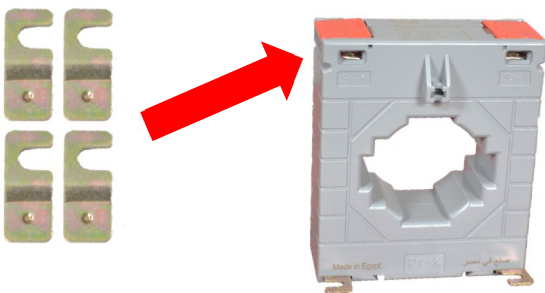
The current transformer can be mounted in any position. In order to mount a given type of transformer it should be drawn onto the busbar; next it should be fastened with the holders or mounting bolts to be found on both sides of the transformer. Mounting of the transformer on a plate, depending on the type, is made possible by two or four slides with which the device is furnished. A special base allows mounting on the TS35 mounting busbar. When mounting a transformer equipped with its own busbar, it should be fastened to the current circuit with the supplied bolt terminals with which the transformer busbar is furnished. Low voltage current transformers cannot be used as support elements for current busbars (they cannot replace support insulators).

### Primary Installation:

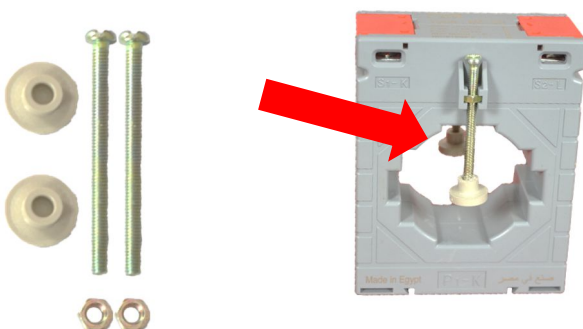
1. Using the plastic base B01



2. Using the metal base B02



3. Using the contactor holder B03

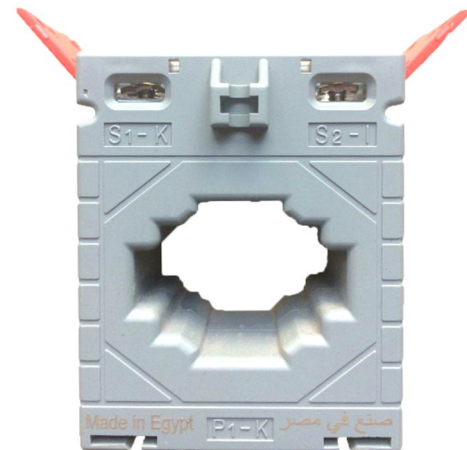


### Recommendation:

For primary cable use method 1, 2

For primary busbar use method 1, 2, 3

### Secondary Installation:



# Customized Current Transformer

Type ME L / W (L : Inner length; W : Inner width)



- For low and medium voltage applications.
- System voltage 0.72/3 KV
- Primary current up to 6000 A
- Secondary current 5 / 1 / 2 A
- Customized inner and outer dimensions upon customer requested.
- For measuring CT, the accuracy class (0.5 / 1 / 3 / ....) and burden up to customer requested and our confirmation.
- For protection CT the accuracy class ( 5P.. / 10P... & class PX ) and burden up to customer requested and our confirmation.
- Each CT has a unique serial number and supplied with a routine test certificate.
- All CTs tested according to IEC 61869-1&2

Current Transformer  
Routine Tests Report

CT Data:

Production year	2020
Order No.	202049
Type	ME 190/60
Serial number	20204902
Rated ratio	5000/1
Accuracy class	PX
Knee Point Voltage ( $E_k$ )	1600 V
Exciting Current ( $I_e$ )	$\leq 15$ mA
Resistance	$\leq 35$ Ohm
$I_{ext}$	120 %
Highest Voltage	0.72/3 KV
Rated short-time thermal current	500 KA
Rated dynamic current	1250 KA
Rated frequency	50 Hz

Tests:

- 1.Verification of markings acc. To IEC61869-1 clause 7.3.6  
Conclusion: Satisfy
- 2.Power-frequency withstand test on primary winding acc. to IEC61869-1 clause 7.3.1  
Test value: -KV, -Hz, -min.  
Conclusion: -
- 3.Power-frequency voltage withstand test on secondary terminals acc. to IEC61869-1 clause 7.3.4  
Test value: 3KV, 50Hz, 1min.  
Conclusion: Satisfy
- 4.Tests for accuracy acc. To IEC61869-2 clause 7.3.5  
Conclusion: Satisfy

Status of the current transformer with tests required according to: IEC 61869 (1&2) are Complied

Results:

Error	-0.02 %
Phase Displacement	-3°
Exciting Current at Knee Point Voltage 1600 V	< 1 mA
Resistance	32.2 $\Omega$

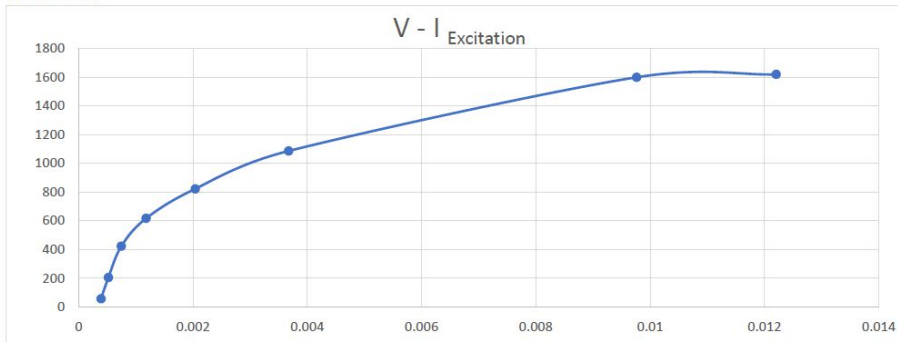
Approved by: Samir Saad  
Date: 16/12/2020

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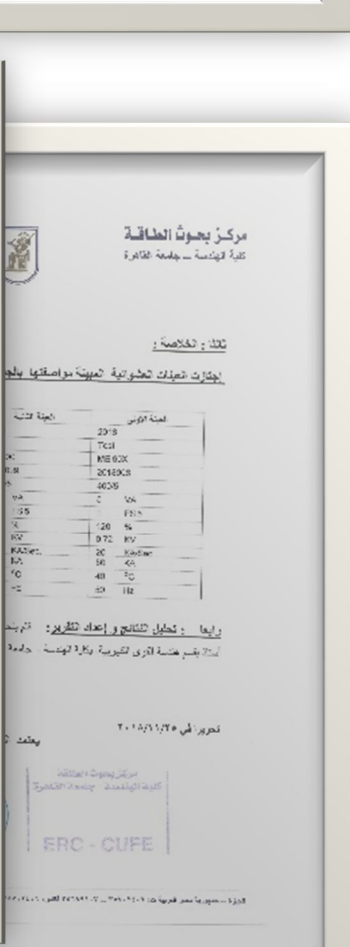
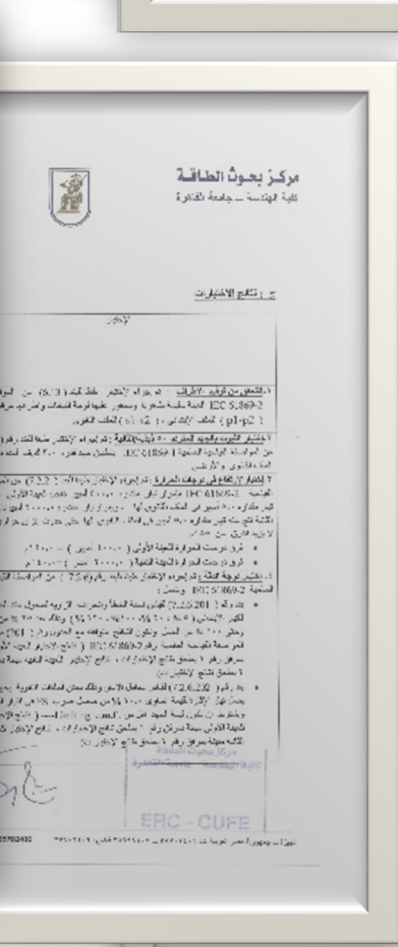
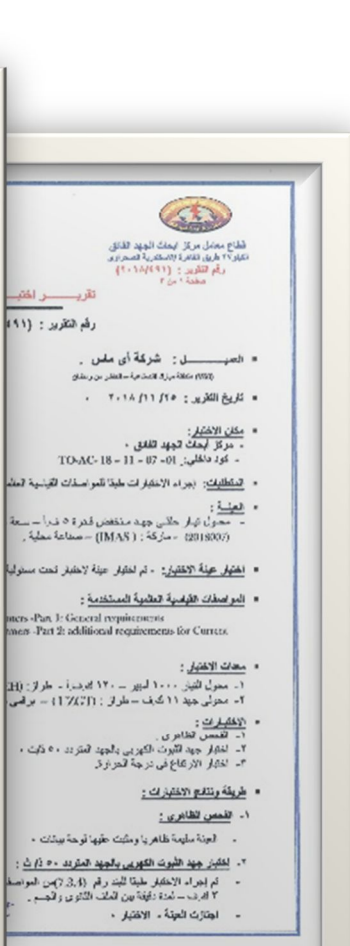
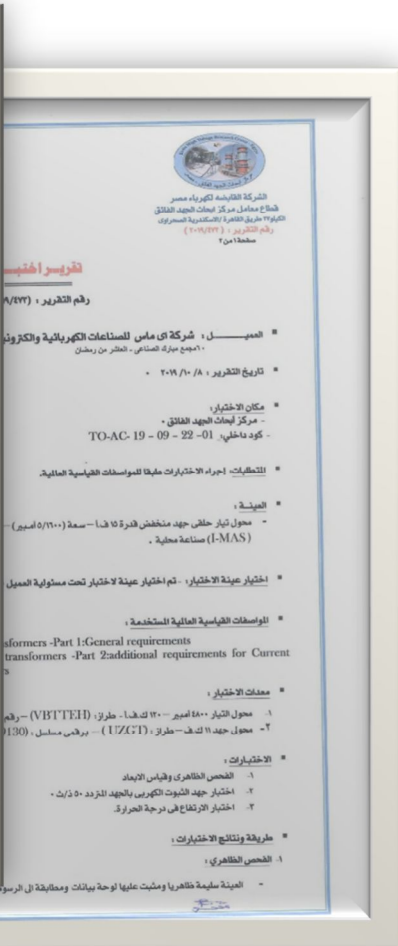
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### V-I Curve



# Certificates



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