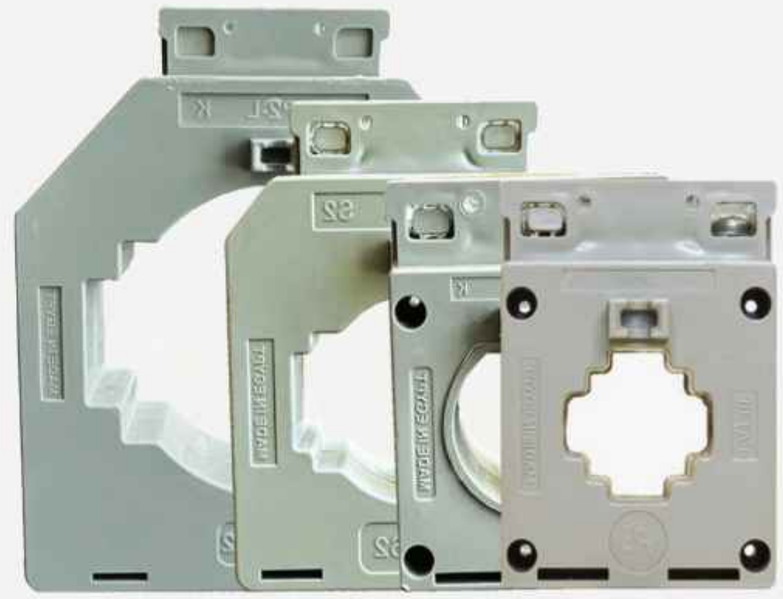


Electrical Parameter	
Rated Frequency	50Hz +/¬ 1%
Rated Input	1A-5000A
Rated continuous thermal current I_{cth}	120%In
Rated Output	1A,5A
Accuracy Class	0.2 / 1.0
Operating Voltage	720V (AC)
Dielectric strength (insulation)	3.0KV/50 HZ /1min
Insulation Resistance	DC500V/100MΩ min
Short-time thermal current	40 x In for Wound type CT and 60 x In for Bus Bar type C (max.100 kA), 1 s
Dynamic current	2.5 Ith
Thermal current	> 60 In
Overcurrent limiting factor FS	FS< 5
Rated Burden	2.5 – 5 – 10 – 15 V A
Standard approval: IEC	60044-1 / 61869-1/61869-2
	VDE0414-44-1, DIN57414, BS3938, Bs7626 EN60044-1GB1208-2009

Mechanical Parameter	
Case	PA – ABS -
Flame Resistance	UL94-V0 - Fair resistance
Bobbin	PBT
Core	CRGO Silicon steel -Losses 0.75 W/ 1.7 T
Construction	Ultrasonic
Ambient operating temperature	-5 °C ... +50 °C
Storage temperature K	-25 °C ... +70 °C
Operating Humidity 1 M	≤ 90%
Relative Humidity 24H	> 95%
Output Connection	Copper Terminal
Insulation Category	E
GUARANTE	18 M

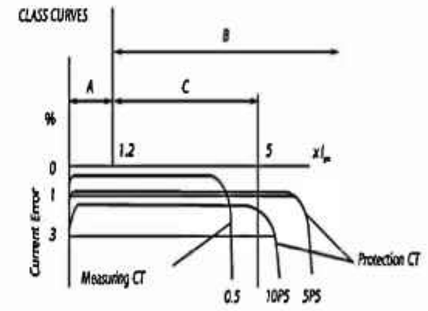
Low voltage current transformer

Class of accuracy

0.2 ,0.2S	for Laboratory and power measurement
0.5 ,0.5S	for accuracy measuring and KWH
1.0	for genralmeasurement
3.0	for indicating instuments

Accuracy	- + Percentage current (ratio) error at percentage of rated current						- + Phase displacement at percentage of rated current				
	1%	5%	20%	50%	100%	120%	1%	5%	20%	100%	120%
Class 0.1		0.4	0.2		0.1	0.1		15	8	5	5
Class 0.2		0.75	0.35		0.2	0.2		30	15	10	10
Class 0.5	----	1.5	0.75		0.5	0.5	----	90	45	30	30
Class 1.0	-----	3.0	1.5		1.0	1.0	----	180	90	60	60
Class 0.2S	0.75	0.35	0.2		0.2	0.2	30	15	10	10	10
Class 0.5S	1.5	0.75	0.5		0.5	0.5	90	45	30	30	30
Class 3.0				3.0	3.0						
Class 5.0				5.0	5.0						

FIG.1



A: Rated Current Zone.
B: Overcurrent zone for protectiong CT.
C: Max. Overcurrent zone for measuring CT.

How to Reduce Error in Current Transformer

It is desirable to reduce these errors, for better performance. For achieving minimum error in current transformer, one can follow the following,

1. Using a core of high permeability and low hysteresis loss magnetic materials.
2. Keeping the rated burden to the nearer value of the actual burden.
3. Ensuring minimum length of flux path and increasing cross-sectional area of the core, minimizing joint of the core.
4. Lowering the secondary internal impedance.

$$L = \frac{0.4\pi\,\mu\,N^2 A_e}{X_e} \times 10^{-8}\ \text{Henries}$$

$$B = \frac{E}{4.44\,A_e\,N\,f} \times 10^{8}\ \text{Gauss}$$

The error with a transformer introduces into the measurement of a current and which arises from the fact that the actual transformation ratio is not equal to the rated transformation ratio .The current error expressed in percent is given by the formula:

$$\text{Current error, percent} = \frac{(K_a \cdot I_s - I_p) \times 100}{Ip}$$

Where K_a = rated transformation

, I_p = actual primary current, and

I_s = actual secondary current when I_p is flowing under the conditions of measurement.

Class 0.5					
5%	1.5%	$(K_a \cdot I_s - I_p)$	Current error, percent stander×5%Ip /100	1.5% × 5% Ip /100	0.015 × 5 *Ip/100*
20%	0.75%	$(K_a \cdot I_s - I_p)$	Current error, percent stander×20% Ip /100	0.75% × 20% Ip /100	0.075×20 *Ip*/100
100%	0.5%	$(K_a \cdot I_s - I_p)$	Current error, percent stander×100% Ip /100	0.5% × 100% Ip /100	0. 5 × Ip /100
120%	0.5%	$(K_a \cdot I_s - I_p)$	Current error, percent stander×120% Ip/100	0.5% × 120% Ip /100	0.6 × Ip /100
Class 1.0					
5%	3.0%	$(K_a \cdot I_s - I_p)$	Current error, percent stander× 5% Ip / 100	3.0% × 5% / 100 Ip	0. 030 ×5 *Ip/100*
20%	1.5%	$(K_a \cdot I_s - I_p)$	Current error, percent stander× 20% Ip /100	1.5 %× 20% / 100 Ip	0. 150 ×5 *Ip/100*
100%	1.0%	$(K_a \cdot I_s - I_p)$	Current error, percent stander×100% Ip/100	1.0 %×100% /100 Ip	1..0 × Ip /100
120%	1.0%	$(K_a \cdot I_s - I_p)$	Current error, percent stander×120% Ip/100	1.0% ×120% /100 Ip	1.20 × Ip /100

%	min	Class0.5	50	60	80	100	150	200	250	300	400	500
5%	90	1.5%	0.037	0.045	0.06	0.075	0.112	0.15	0.187	0.225	0.30	0.37
20%	45	0.75%	0.075	0.090	0.12	0.15	0.225	0.30	0.375	0.45	0.60	0.75
100%	30	0.5%	0.25	0.30	0.40	0.50	0.75	1.0	1.25	1.5	2.0	2.5
120%	30	0.5%	0.30	0.36	0.48	0.60	0.90	1.2	1.5	1.8	2.4	3.0
%	min	Class1.0	50	60	80	100	150	200	250	300	400	500
5%	180	3.0%	0.075	0.090	0.12	0.15	0.225	0.30	0.375	0.45	0.6	0.75
20%	90	1.5%	0.15	0.18	0.24	0.30	0.45	0.60	0.75	0.90	1.2	1.5
100%	60	1.0%	0.50	0.6	0.8	1.0	1.5	2.0	2.5	3.0	4.0	5.0
120%	60	1.0%	0.60	0.72	0.96	1.2	1.8	2.4	3.0	3.6	4.8	6.0

%	min	Class0.5	600	800	1000	1250	1500	1600	2000	2500	3200	4000
5%	90	1.5%	0.45	0.60	0.75	0.935	1.12	1.2	1.5	1.87	2.4	3.0
20%	45	0.75%	0.90	1.2	1.5	1.875	2.3	2.4	3.0	3.75	4.8	6.0
100%	30	0.5%	3.0	4.0	5.0	6.25	7.5	8.0	10	12.5	16	20.0
120%	30	0.5%	3.6	4.8	6.0	7.5	9.0	9.6	12	15	19.2	24.0
%	min	Class1.0	600	800	1000	1250	1500	1600	2000	2500	3200	4000
5%	180	3.0%	0.90	1.2	1.5	1.875	2.25	2.4	3.0	3.75	4.8	6.0
20%	90	1.5%	1.87	2.4	3.0	3.75	3.75	4.8	6.0	7.5	9.6	12.0
100%	60	1.0%	6.0	8.0	10	12.5	15	16	20	25	32	40.0
120%	60	1.0%	7.2	9.6	12	15	18	19.2	24	30	38.4	48.0

Low voltage current transformer

Current Error (Ratio Error)

The error with a transformer introduces into the measurement of a current and which arises from the fact that the actual transformation ratio is not equal to the rated transformation ratio.

Phase Displacement

The difference in phase between the primary and secondary current vectors, the direction of the vectors being so chosen that the angle is zero for a perfect transformer. The phase displacement is said to be positive when the secondary current vector leads the primary current vector. It is usually expressed in minutes.
NOTE — This definition is strictly correct for sinusoidal currents only.

Accuracy Class

A designation assigned to a current transformer the errors of which remain within specified limits under prescribed conditions of use.

Burden

The impedance of the secondary circuit in ohms and power factor.
NOTE — The burden is usually expressed as the apparent power in volt-amperes absorbed at a specified power-factor and at the rated secondary current.

Rated Outputs

The standard value of rated output up to 30VA are: 2.5, 5.0, 7.5, 10, 15 and 30VA.
NOTE — For a given transformer, provided one of the values of rated output is standard and associated with a standard accuracy class, the declaration of other rated outputs, which may be non-standard values, but associated with other standard accuracy classes, is not precluded.

Rated Frequency

The value of the frequency on which the requirements of this standard are based Unless otherwise specified, the rated frequency shall be 50 Hz

Standard Values of Rated Secondary Current

The value of the rated secondary current shall be 1A and 5A.

Rated Continuous Thermal Current

The value of the current which can be permitted to flow continuously in the primary winding, the secondary windings being connected to the rated burdens, without the temperature rise exceeding the specified values.

Rated Continuous Thermal Current

Unless otherwise specified, the rated continuous thermal current shall be the rated primary current.

Thermal Rating

A rated short-time thermal current (Ith) or a rated short-time factor (STF), for a rated time of one second (unless a different rated time is specified), shall be assigned to the current transformer.
NOTE — An assigned Ith for a rated time of one second is related to other values of Ith for different rated times.

Short-Time Current Ratings

Current transformers supplied with a fixed primary winding

Rated Short-Time Thermal Current (I_{TH})

The rms value of the primary current which the current transformer will withstand for a rated time, with their secondary winding short circuited, without suffering harmful effects.

Rated Short Time Factor (STF)

That factor which when multiplied by the rated primary current gives the rated short-time thermal current.

Rated Time

The time in seconds for which the current transformer shall withstand the rated short-time thermal current in accordance with the specification.

Rated Dynamic Current (I_{DYN})

The peak value of the primary current which a current transformer will withstand, without being damaged electrically or mechanically by the resulting electromagnetic forces, the secondary winding being short circuited.

Dynamic Rating

The peak value of the rated dynamic current (I_{dyn}) shall normally be 2.5 times the rated short-time thermal current (Ith), unless otherwise specified.

Highest System Voltage

The highest rms line-to-line voltage which can be sustained under normal operating conditions at any time and at any point on the system.
It excludes temporary voltage variations due to fault conditions and the sudden disconnection of large loads.

Nominal System Voltage

The rms line-to-line voltage by which the system is designated.
NOTE — The rated voltage of apparatus is not necessarily the same as the nominal system voltage.

Rated Voltage

The rms value of the voltage used to designate the current transformer for a particular highest system voltage.

Rated Insulation Level

That combination of voltage values (power frequency and lightning impulse, or where applicable, lightning and switching impulse) which characterizes the insulation of a transformer with regard to its capability to withstand dielectric stresses.

Isolated Neutral System

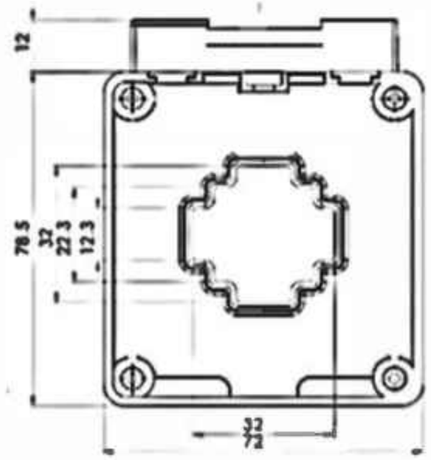
A system which has no intentional connection to earth except through indicating, measuring or protective devices of very high impedance.

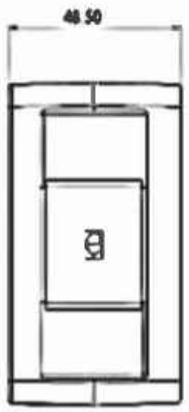
Rated Insulation Levels :

The rated insulation levels of current transformers having highest system voltages up to and including 72.5 kV, defined by the power frequency and the lightning impulse withstand voltage, shall be one of the sets of values given inTable1A

FAT 30

FAT 30.7	Clase 0.2	Clase 0.5S	Clase 0.5	Clase 1.0	Clase 3.0
100A	1.0 VA	5.0 VA	5.0 VA	10.0 VA	10.0 VA
125A	1.0 VA	5.0 VA	5.0 VA	10.0 VA	10.0 VA
150A	1.0 VA	5.0 VA	5.0 VA	10.0 VA	10.0 VA
200A	2.5 VA	10.0 VA	10.0 VA	10.0 VA	10.0 VA
250A	2.5 VA	10.0 VA	10.0 VA	10.0 VA	10..0 VA
300A	2.5 VA	10.0 VA	10.0 VA	10.0 VA	10..0 VA
400A	5.0 VA	10.0 VA	10.0 VA	10..0 VA	10.0 VA
600A	5.0 VA	10.0 VA	10.0 VA	10..0 VA	10.0 VA
800A	5.0 VA	10.0 VA	10.0 VA	10..0 VA	10.0 VA

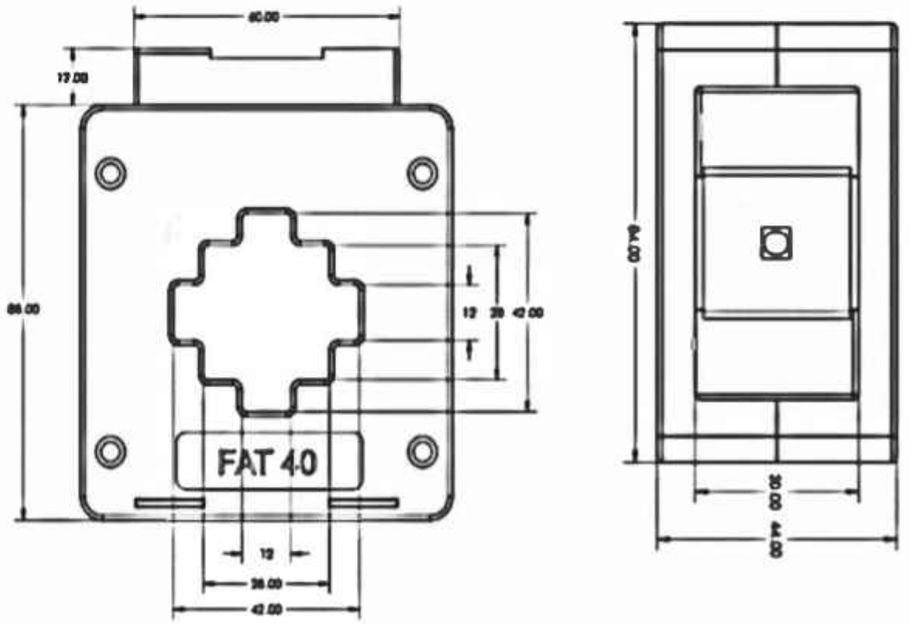




Low voltage current transformer

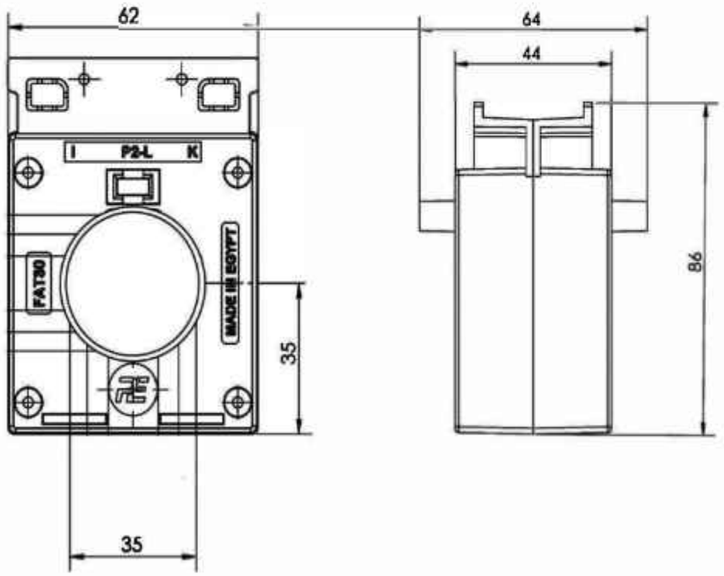
FAT 40

FAT 40	Clase 0.2	Clase 0.5S	Clase 0.5	Clase 1.0	Clase 3.0
100A	1.0 VA	2.5 VA	5.0 VA	10.0 VA	10.0 VA
125A	1.0 VA	2.5 VA	5.0 VA	10.0 VA	10.0 VA
150A	1.0 VA	2.5 VA	5.0 VA	10.0 VA	10.0 VA
200A	2.5 VA	5.0 VA	10.0 VA	10.0 VA	10.0 VA
250A	2.5 VA	5.0 VA	10.0 VA	10.0 VA	10..0 VA
300A	2.5 VA	5.0 VA	10.0 VA	10.0 VA	10..0 VA
400A	5.0 VA	10.0 VA	10.0 VA	10..0 VA	10.0 VA
500A	5.0 VA	10.0 VA	10.0 VA	10..0 VA	10.0 VA
600A	5.0 VA	10.0 VA	10.0 VA	10..0 VA	10.0 VA
800A	5.0 VA	10.0 VA	10.0 VA	10..0 VA	10.0 VA



FAT 30.6 R

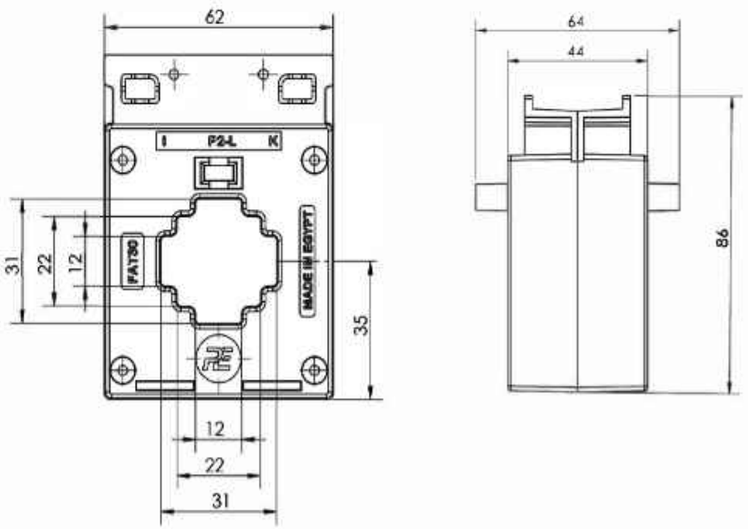
FAT 30.6 R	Clase 0.2	Clase 0.5S	Clase 0.5	Clase 1.0	Clase 3.0
250	2.5 VA	5.0 VA	10.0 VA	10.0 VA	10..0 VA
300A	2.5 VA	5.0 VA	10.0 VA	10.0 VA	10..0 VA
400A	5.0 VA	10.0 VA	10.0 VA	10..0 VA	10.0 VA
600A	5.0 VA	10.0 VA	10.0 VA	10..0 VA	10.0 VA
600A	5.0 VA	10.0 VA	10.0 VA	10..0 VA	10.0 VA



Low voltage current transformer

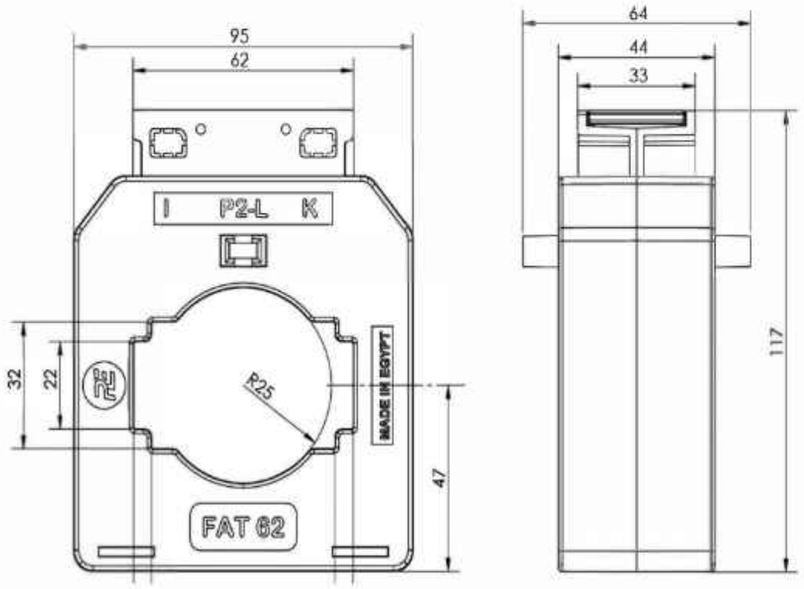
FAT 30.6

FAT 30.6	Clase 0.2	Clase 0.5S	Clase 0.5	Clase 1.0	Clase 3.0
100A	1.0 VA	2.5 VA	5.0 VA	10.0 VA	10.0 VA
125A	1.0 VA	2.5 VA	5.0 VA	10.0 VA	10.0 VA
150A	1.0 VA	2.5 VA	5.0 VA	10.0 VA	10.0 VA
200A	2.5 VA	5.0 VA	10.0 VA	10.0 VA	10.0 VA
250A	2.5 VA	5.0 VA	10.0 VA	10.0 VA	10..0 VA
300A	2.5 VA	5.0 VA	10.0 VA	10.0 VA	10..0 VA
400A	5.0 VA	10.0 VA	10.0 VA	10..0 VA	10.0 VA
600A	5.0 VA	10.0 VA	10.0 VA	10..0 VA	10.0 VA



FAT 62

FAT 62	Clase 0.2	Clase 0.5S	Clase 0.5
200A	2.5 VA	5.0 VA	10.0 VA
400A	2.5 VA	10.0 VA	10.0 VA
600A	2.5 VA	10.0 VA	15.0 VA
800A	2.5 VA	10.0 VA	15.0 VA
1000A	5.0 VA	10.0 VA	15.0 VA
1250A	5.0 VA	10.0 VA	15.0 VA
1600A	5.0 VA	10.0 VA	15.0 VA
2000A	5.0 VA	10.0 VA	15.0 VA



panorama electric

Low voltage current transformer

FAT 102	Clase 0.2	Clase 0.5S	Clase 0.5
400A	5.0 VA	10.0 VA	10.0 VA
600A	5.0 VA	10.0 VA	15.0 VA
800A	5.0 VA	10.0 VA	15.0 VA
1000A	5.0 VA	10.0 VA	15.0 VA
1250A	5.0 VA	10.0 VA	15.0 VA
1600A	10.0 VA	10.0 VA	15.0 VA
2000A	10.0 VA	10.0 VA	15.0 VA
2500A	10.0 VA	10.0 VA	15.0 VA
3200A	10.0 VA	10.0 VA	15.0 VA