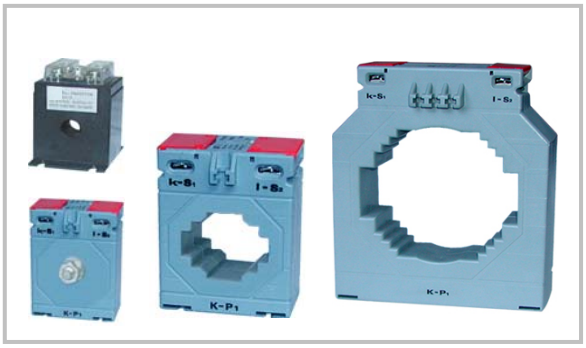


- Encapsulated current transformer.
- Tough resilient flame retardant UL-94V0.
- Temperature range –20°C to 70°C
- Metering class 1.0, 0.5
- Test voltage 4Kv 50Hz. 1min.
- IEC44-1,IEC185,BS3938,DIN42600
- Insulation Class F , 105°C
- Tropicalised design with Insulation Class E and thermal 120°C
- Operating voltage 0.72KV

Introduction

Current transformers are used to measure or monitor the current in an AC power circuit. The ratio of the primary current to the secondary current is a function of the turns ratio and the loss associated with the conversion.
For example, copper losses in a voltage transformer affect the voltage regulation. In a current transformer, copper losses cause an increase in core loss, or a reduction in accuracy.

Accuracy

$I_S N_2 = I_P N_1 – I_M N_1$

Where:
$I_S N_2$ = the secondary current X the number of turns
$I_P N_1$ = primary current X the number of turns
$I_M N_1$ = ampere-turns required for core loss
The excitation current, (I_M), determines the maximum accuracy that can be achieved with a current transformer. This current is defined as that portion of the primary current which satisfies the core losses. While the excitation current can never be eliminated, it can, in some cases, be compensated by adjusting the turns ratio. If it were not for the core losses, the primary and secondary cur-rents would be exactly inversely proportional to the number of turns in the two windings. The error due to leakage flux is negligible in most current transformers using toroidal cores, and utilizing proper winding methods.

Burden

The total impedance of the devices connected to the secondary terminals (leads, meters, relay coil, resistance, etc.) of a current transformer is defined as its burden. Burden is expressed in volt-amperes(VA) or in ohms impedance.
Burden resistance should be kept as low as possible, since an increase in burden increases the core flux density (B), thereby increasing the core loss. Utilizing Faraday's Law:

$$B = \frac{10^8 \times I_S (R + W_R)}{4.44 \times f \times N_2 \times A_C}$$

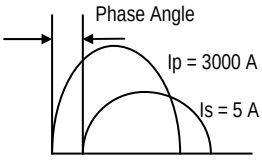
Where:
I_S = secondary current (amps)
R = burden (ohms)
W_R = winding resistance
f = frequency (Hz)
N_2 = burden (ohms)
A_c = cross section area (cm^2)
B = flux density (Gauss)

Note: $I_S = (I_P N_1 - I_M N_1)/ N_2$

Ratio-Correction Factor

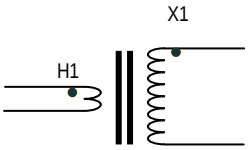
The ratio-correction factor indicates the percentage amount that the secondary current value differs from the correct value.

Phase Angle Error



The phase angle error is not applicable to current actuated devices but will affect the accuracy of devices that respond to the products, the sums or difference of currents.

Polarity



Current transformer polarity can be defined by permanent markings (typically $H_1 – X_1$) or polarity dots.

Short-Time Current Limits

Current transformers may have to carry very large currents in the event of short circuit, motor starting, etc. The windings heat very rapidly at a rate nearly proportional to the square of the current.The majority of the heat will be stored in the copper. The short-time cur-rent limit is the time to raise the temperature of the winding to 105°C, considering ambient temperature.

Safety Precautions

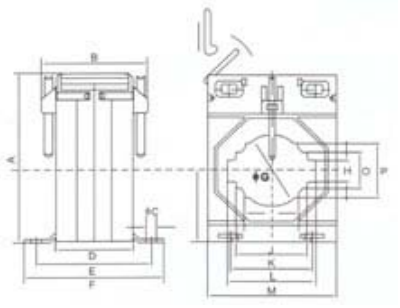
The secondary winding should always be loaded. If the secondary circuit is opened with primary current flowing, all the primary ampere-turns become magnetizing ampere-turns and usually will produce an excessively high secondary voltage across the open circuit. Magnetization of the core, due to excessive fault currents or acci-dental open circuiting of the secondary, has the effect of increas-ing the ratio errors

Current transformer alternating current system & direct indication of measuring input. They are suitable to use on the distribution panel, control panel, switchboard panel, power plant, machines and all metering system. The current transformer has designed for industrial applications which required precise, reliable and robust for the display and indicating.

- AC Current transformers with primary current upto 4000A and secondary current 1 A or 5 A
- Accuracy class 1.0 or 0.5
- more detail see ordering information.

Molded Case Encapsulate Current Transformer Square Type

Type	Ratio	Class1.0 (VA)	Class0.5 (VA)	Approx. Weight
CP62/30	50/5	1.5	1.5	0.31
	60/5	1.5	1.5	0.26
	100/5	5	5	0.27
	120/5	5	5	0.29
	150/5	5	5	0.35
	200/5	5	5	0.28
	250/5	5	5	0.27
	300/5	5	5	0.25
CP62/40	200/5	5	5	0.25
	300/5	5	5	0.25
	400/5	5	5	0.23
	500/5	10	10	0.23
	600/5	10	10	0.25
CP74/40	150/5	5	5	0.40
	200/5	5	5	0.40
	250/5	5	5	0.40
	300/5	5	5	0.45
	400/5	5	5	0.45
	500/5	10	10	0.50
	600/5	10	10	0.50
	800/5	10	10	0.50
CP74/50	250/5	5	5	0.30
	300/5	5	5	0.42
	400/5	5	5	0.39
	500/5	10	10	0.36
	600/5	10	10	0.30
	800/5	10	10	0.40
	1000/5	15	15	0.30
CP86/60	250/5	5	5	0.30
	300/5	5	5	0.42
	400/5	5	5	0.44
	500/5	10	10	0.35
	600/5	10	10	0.35
	800/5	10	10	0.45
	1000/5	15	15	0.35
	1200/5	15	15	0.48
CP104/80	600/5	10	10	0.55
	800/5	10	10	0.52
	1000/5	15	15	0.40
	1200/5	15	15	0.47
	1500/5	15	15	0.61
	1600/5	15	15	0.55
	2000/5	15	15	0.66



Model	A	B	C	D	E	F	G	H	I	J	K	L	M	O	P
CP62/30	78	36	6.6	36	55	71						21			
CP62/40	78	47	6.6	35	57	71	31	11	33	26	44	31	62	21	26
CP74/40	78	47	6.6	35	57	71	31	11	33	31	44	41	62	21	31
CP74/50	98	61	6.6	45	67	81	33	11	42	31	47	41	74	21	41
CP86/60	98	61	6.6	45	67	81	41	12	42	41	47	51	74	21	31
CP104/80	110	56	6.6	40	62	76	51	12	49	51	68	61	86	31	51

ORDERING INFORMATION

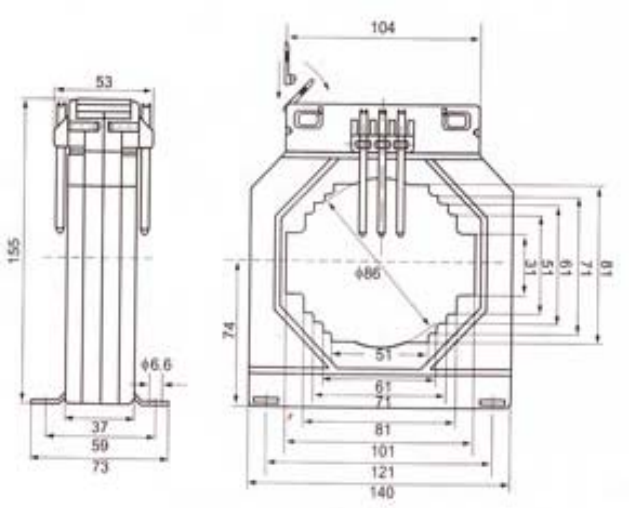
1) Ratio : Standard Ratio as listed
2) Class : 1, 0.5 etc
3) Burden : Standard as listed or specify
4) Type : CP62/20, CP62/30, CP74/40 etc.

Example
1500/5A, Class 1.0, 10VA, Type CP104/80

Molded Case Encapsulate Current Transformer Square Type

Type	Ratio		Class1.0 (VA)		Class0.5 (VA)	Approx. Weight
CP140/100	1000/5		15		15	0.69
	1200/5		15		15	0.84
	1250/5		15		15	0.60
	1500/5		15		15	0.86
	1600/5		15		15	0.87
	2000/5		15		15	0.78
	2500/5		15		15	1.82
	3000/5		15		15	0.78

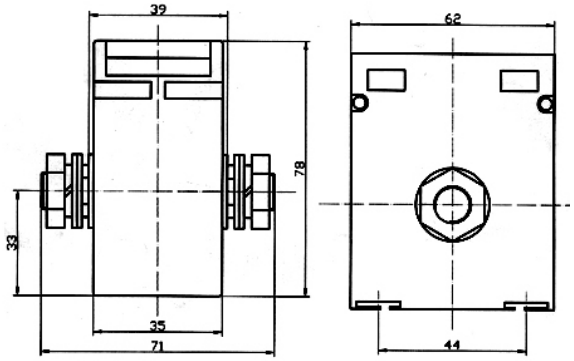
Example
3000/5A, Class 1.0, 15VA, Type CP140/100



Molded Case Encapsulate Current Transformer Square Type-Wound Primary

Type	Ratio		Class1.0 (VA)		Class0.5 (VA)	Approx. Weight
CP62/WS	5/1		3 or 5		3 or 5	0.40
	5/5		3 or 5		3 or 5	0.40
	10/5		3 or 5		3 or 5	0.40
	20/5		3 or 5		3 or 5	0.40
	30/5		3 or 5		3 or 5	0.40
	40/5		3 or 5		3 or 5	0.40
	50/5		3 or 5		3 or 5	0.40
	60/5		3 or 5		3 or 5	0.40
	80/5		3 or 5		3 or 5	0.40

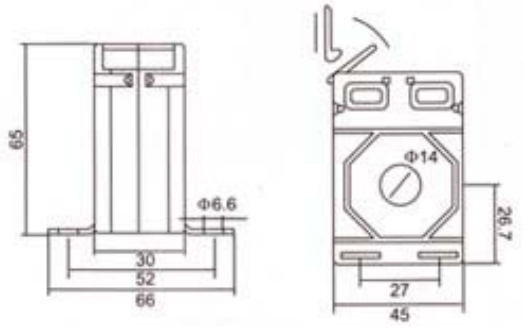
Example
20/5A, Class 1.0, 3VA, Type CP62/WS



Molded Case Encapsulate Current Transformer Square Type

Type	Ratio		Class1.0 (VA)		Class0.5 (VA)	Approx. Weight
CP45/14	30/5		3 or 5		3 or 5	0.44
	40/5		3 or 5		3 or 5	0.19
	50/5		3 or 5		3 or 5	0.20
	60/5		3 or 5		3 or 5	0.44
	80/5		3 or 5		3 or 5	0.44
	100/5		3 or 5		3 or 5	0.44

Example
100/5A, Class 1.0, 3VA, Type CP45/14



Molded Case Encapsulate Current Transformer Square Type

Type	Ratio		Class1.0 (VA)		Class0.5 (VA)	Approx. Weight
CP4	5/1		3 or 5		3 or 5	0.44
	4/1		3 or 5		3 or 5	0.44
	3/1		3 or 5		3 or 5	0.40
	2/1		3 or 5		3 or 5	0.42
	1/1		3 or 5		3 or 5	0.42
	5/5		3 or 5		3 or 5	0.31

Example
5/1A, Class 1.0, 3VA, Type CP4