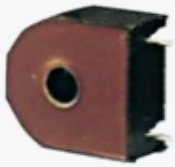
RECTIFIERS
The Custom Power Specialist

TA - For Measurement Applications

Purpose



They are used to measure alternate currents at 50-60 Hz, up to 50 Arms. They are typically used in energy metering applications, where high accuracy and small dimensions are required at the same time.

Features

For this kind of component the choice of the magnetic material of the core is the most critical issue, as it makes possible to have high accuracy (see Application Note **AN-TA002** and **AN-TA003**) and a low output to input phase displacement in extremely compact dimensions.

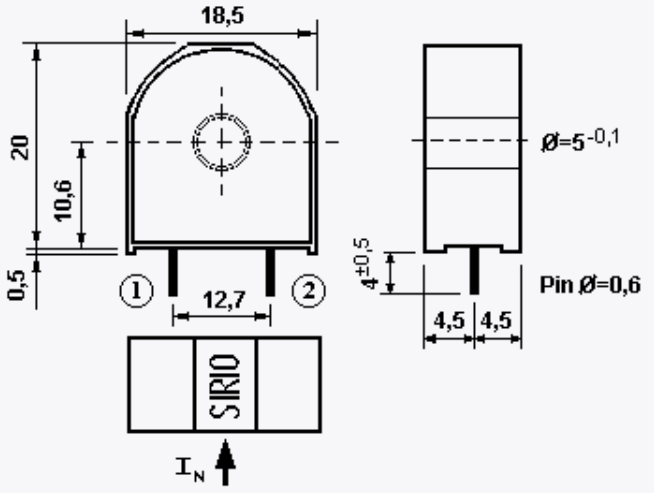
These are criticale features in case of equipments for alternate currents measurement, for example to measure rms and peak values, to detect waveforms, to perform harmonic analysis. By connecting a burden resistance to the secondary side, you can read a proportional voltage signal, isolated from the mains, however many different amplification techniques (see Application Note AN-TA001) and signal processing are possible, depending on the application. Current transformers for measurement applications are available in two different versions: with passing-through hole and with the primary turn inside: this one was developed by Sirio in order to get an easy assembling process on the PCB.

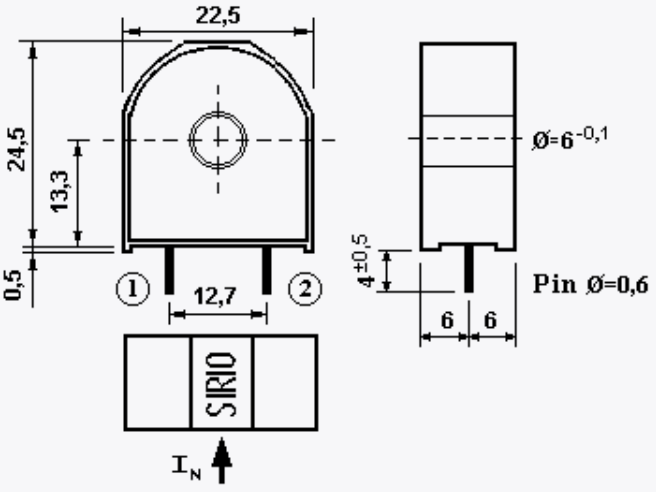
Typical working temperature is from -25 to +85°C.
The plastic material of the case is UL94-HB.

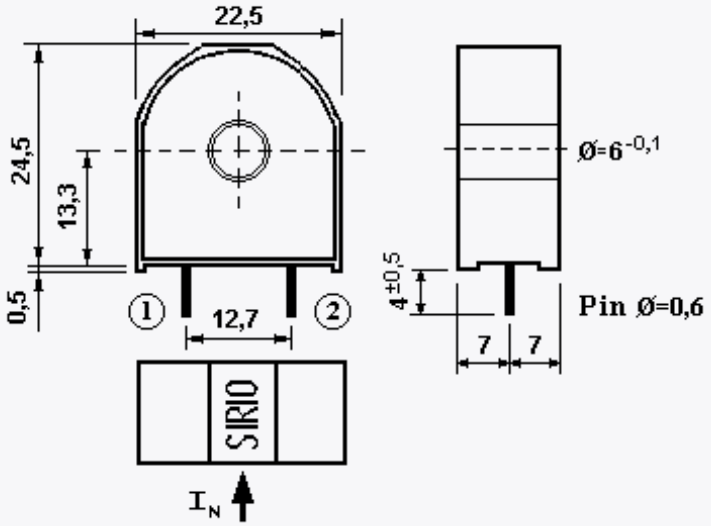
Main features of measuring current transformers are the following ones.

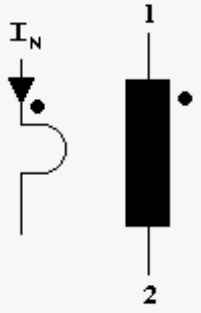
- **n** secondary to primary turns ratio, that is the number of secondary turns
- R_S secondary winding's resistance
- I_p rated primary current (rms value)
- f_n optimum working frequency (or optimum working frequency range)
- R_C rated burden resistance
- U_{OUT} output voltage at the rated primary current and with rated burden resistance
- Φ typical primary to secondary phase displacement
- **E** measurement'saccuracy at the rated primary current and with rated burden resistance
- **D** central hole diameter/primary turn diameter
- U_{is} maximum working voltage primary/secondary
- U_p isolation voltage primary/secondary

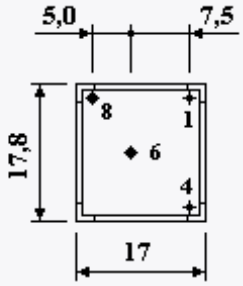
Passing through hole version										
Code	Ip [Arms]	n	R_c [Ω]	f_n [Hz]	R_s [Ω]	E [%]	Φ [°]	D [mm]	Drawing	Up [Vrms]
TA 150800	15	(1) : 1000	7	50-60	21	0,2%	1°	5,0	1508FA	4200
TA 150815	50	(1) : 1000	4	50-60	14	0,1%	1°	6,0	1508FC	4200
TA 150810	50	(1) : 1000	50	50-60	36	1,0%	2°	6,0	1508FB	4200
Inserted primary wire version										
Code	Ip [Arms]	n	R_c [Ω]	f_n [Hz]	R_s [Ω]	E [%]	Φ [°]	D [mm]	Drawing	Up [Vrms]
TA 150830	15	(1) : 1000	7	50-60	21	0,2%	1°	0,8	1508SA	4200
TA 150811	50	(1) : 1000	50	50-60	36	1,0%	2°	2,0	1508SB	5000

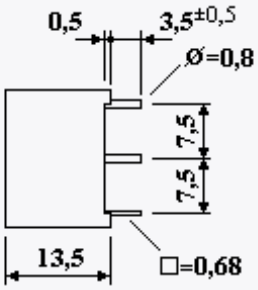


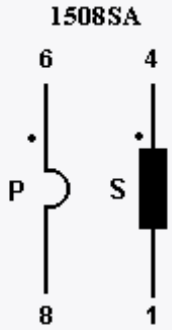












Pins side view - Vista lato pin