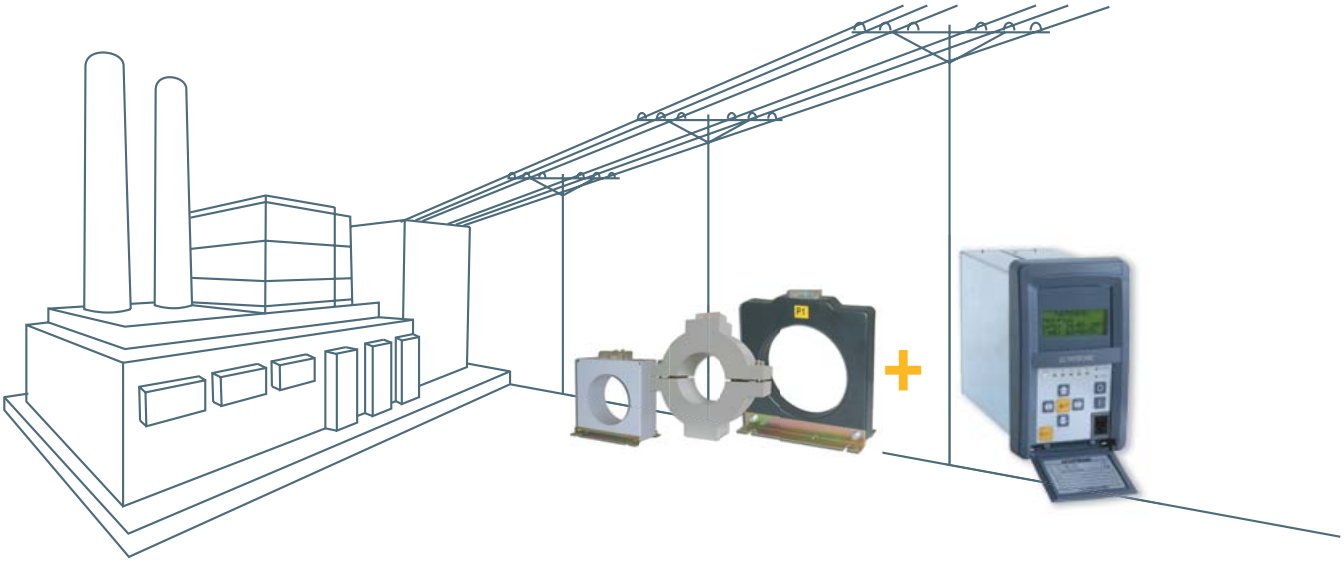
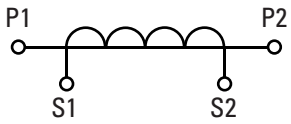


T110P -T200P RING CORE CURRENT TRANSFORMER

General

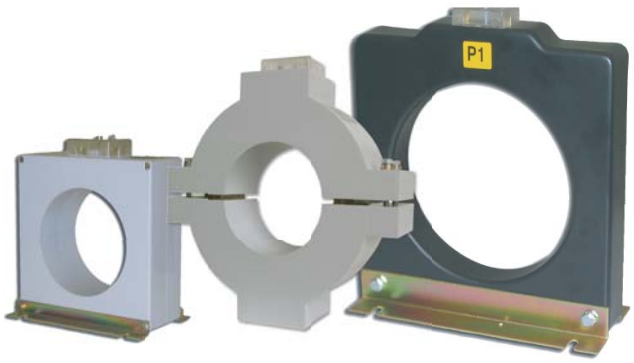
The current transformers features the following main characteristis:

- Primary ratio100/1 A
- Insulated plastic case
- Connecting terminals with protecting case
- Two diameters are available (110-200 mm)
- Open and close core (110 mm).



Application

Ring core current transformers are used in conjunction with Thytronic protection relays to detect the residual current as well for insulated neutral as for impedance or resistance earthed systems.
Thanks to high accuracy in a extended current range, the correct operation of the protection relay is guaranteed in all condition.



TECHNICAL DATA

Mechanical data

Mounting	panel
Protection degree	IP20
Terminals	screw connection M4
• T110P#A1B1	5.8 kg
• T110P#C5B1	2.0 kg
• T110P#C1B1	2.6 kg
• T200P#C1B1	7.1 kg

Insulation test

Reference standard	EN60255-5
AC voltage test 50Hz (1 min)	3 kV 60s
Impulse voltage test (1.2/50 µs)	5 kV
Insulation resistance	>100 MΩ

Environmental conditions

Ambient temperature	
• Nominal range	-5...+40 °C
• Extreme range	-10...+55 °C
Storage temperature	-25...+60 °C
Relative umidity	10...95 %
Atmospheric pressure	70...110 kPa

Reference standards

Instrument transformers Part 1: current transformers
CEI EN 60044-1

ELECTRICAL CHARACTERISTICS

Rated frequency f_n	50, 60 Hz
Rated primary current I_{pn}	100 A
Rated secondary current I_{sn}	1 A
Rated continous thermal current	5 I_{PN}
Rated short-time thermal current I_{th} (1s)	125 I_{PN}
Rated dynamic current I_{dyn}	40 kA
Insulation reference voltage U_m	0.72 kV [1]
Class of insulation	E
Accuracy class	5P
Accuracy limit factor F_l	20
Accuracy within range 0.002...20 I_n (0.2...2000 A primary) :	
• Composite error	< 5%
• Current error (ratio error)	< 2%
• Phase displacement	< 2°
Rated burden	0.5 VA
• T110P#A1B1	1 VA
• T110P#C5B1	0.5 VA
• T110P#C1B1	1 VA
• T200P#C1B1	1 VA
Winding resistance (75°C):	
• T110P#A1B1	187 mΩ
• T110P#C5B1	150 mΩ
• T110P#C1B1	138 mΩ
• T200P#C1B1	88 mΩ

Note 1: in MV installation the CTs may be only used on insulated cables

COMMISSIONING

Nota: ***for MT installation CTs may be only used on insulated cables***

Before proceed to installation, care must be taken that any earthing connection are made upstream the core balance CT.
The exact placement of a balance core CT is shown below (Fig. 1a, 1b).
All live conductors must pass through the toroid.
In case the protected line be an armored cable, the armor must be connected to earth downstream the summing; therefore if the transformer is istalled downstream the shield of the cable, the earth connection must pass through the transformer (Fig. 1b).
Shielded twisted pair cabling is advisable for connections to the protection relay.

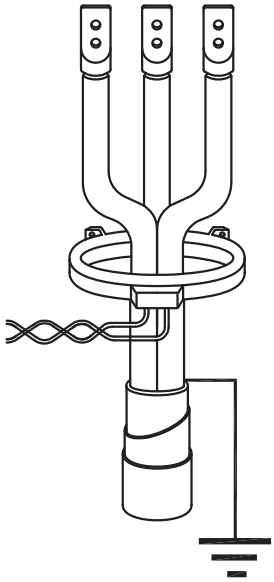


Fig. 1a

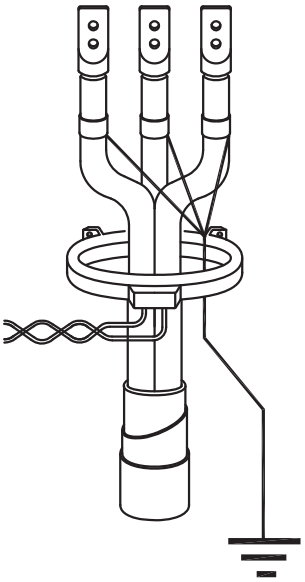


Fig. 1b

A ring with twice larger diameter than necessary for cables insertion must be used.
To ensure a linear measure of the residual current, the live conductors must be properly centered so that their magnetic effects are exacly compensed when the residual current is zero (Fig.2a).
Incorrect centering of cables in the summing CT (Fig.2b) must be avoided; phase L3 causes a local magnetic saturation with a false residual current output.
Same consideration applies if the transformer is placed near the cable bend (Fig.2c).
Placement of the toroid as far as possible fron cable bend is raccomanded.

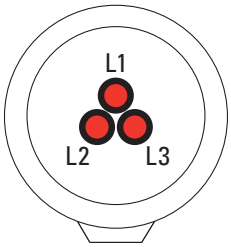


Fig. 2a

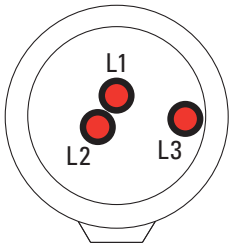


Fig. 2b

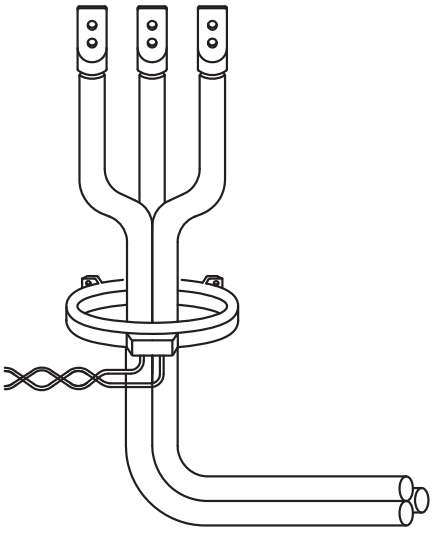
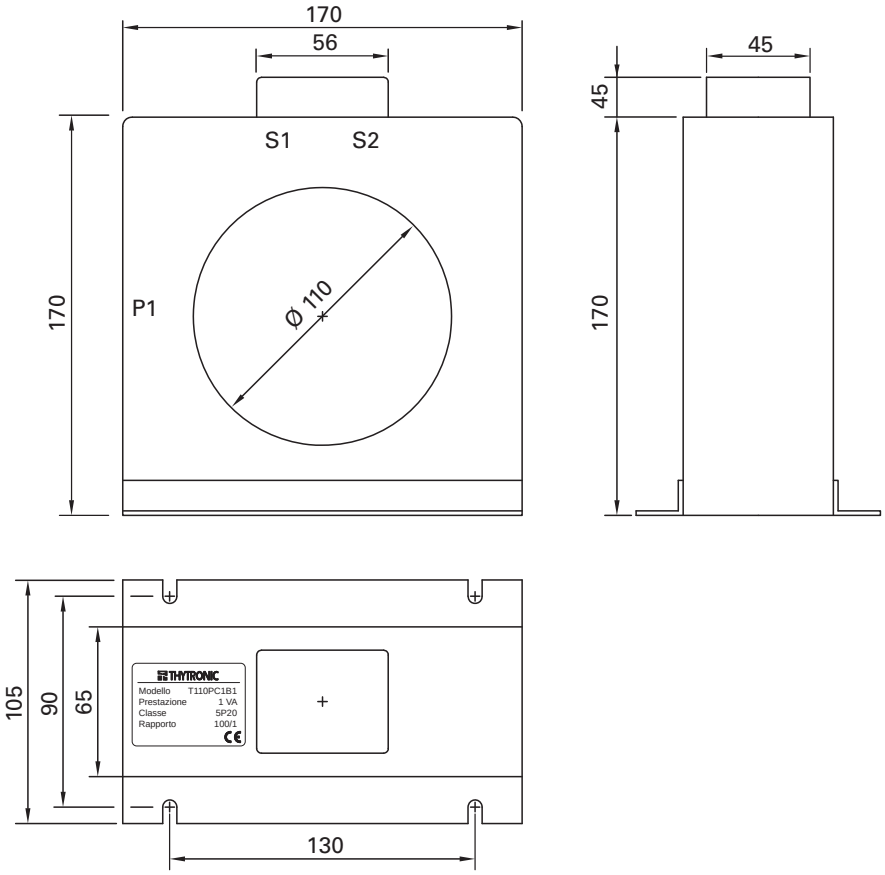


Fig. 2c

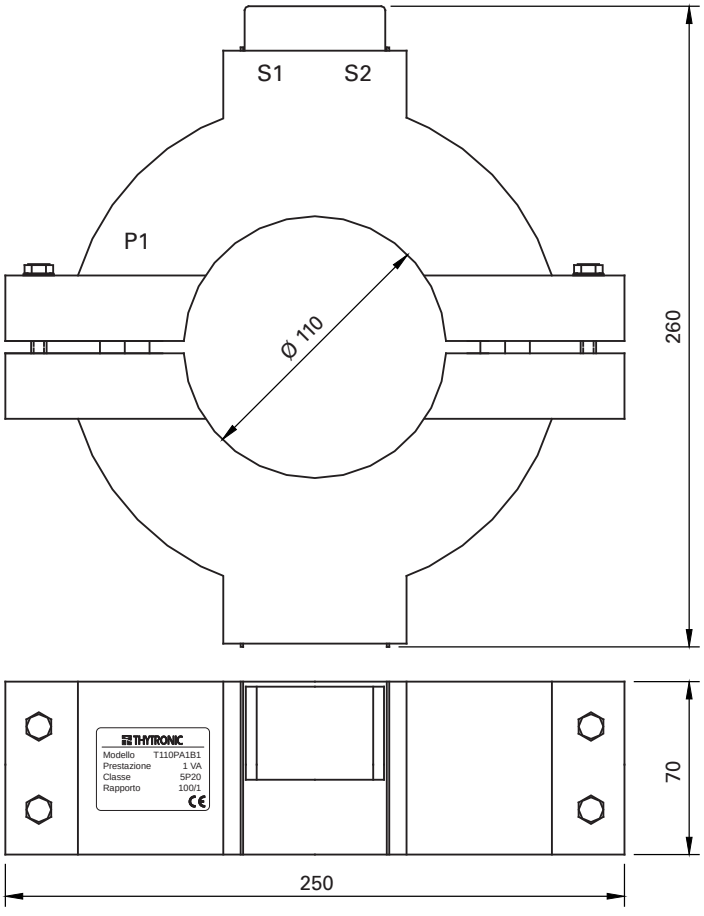
For directional earth fault functions (Ie: 67N), the correct polarity and mounting is essential; wrong connection will cause false behaviour of the protection relay (reverse operation).
Polarity is labeled “P1” for the primary circuit (line cables) and “S1” for the secondary circuit (output terminal).

T110P DIMENSIONS

☐ T110P#C5B1 and T110P#C1B1

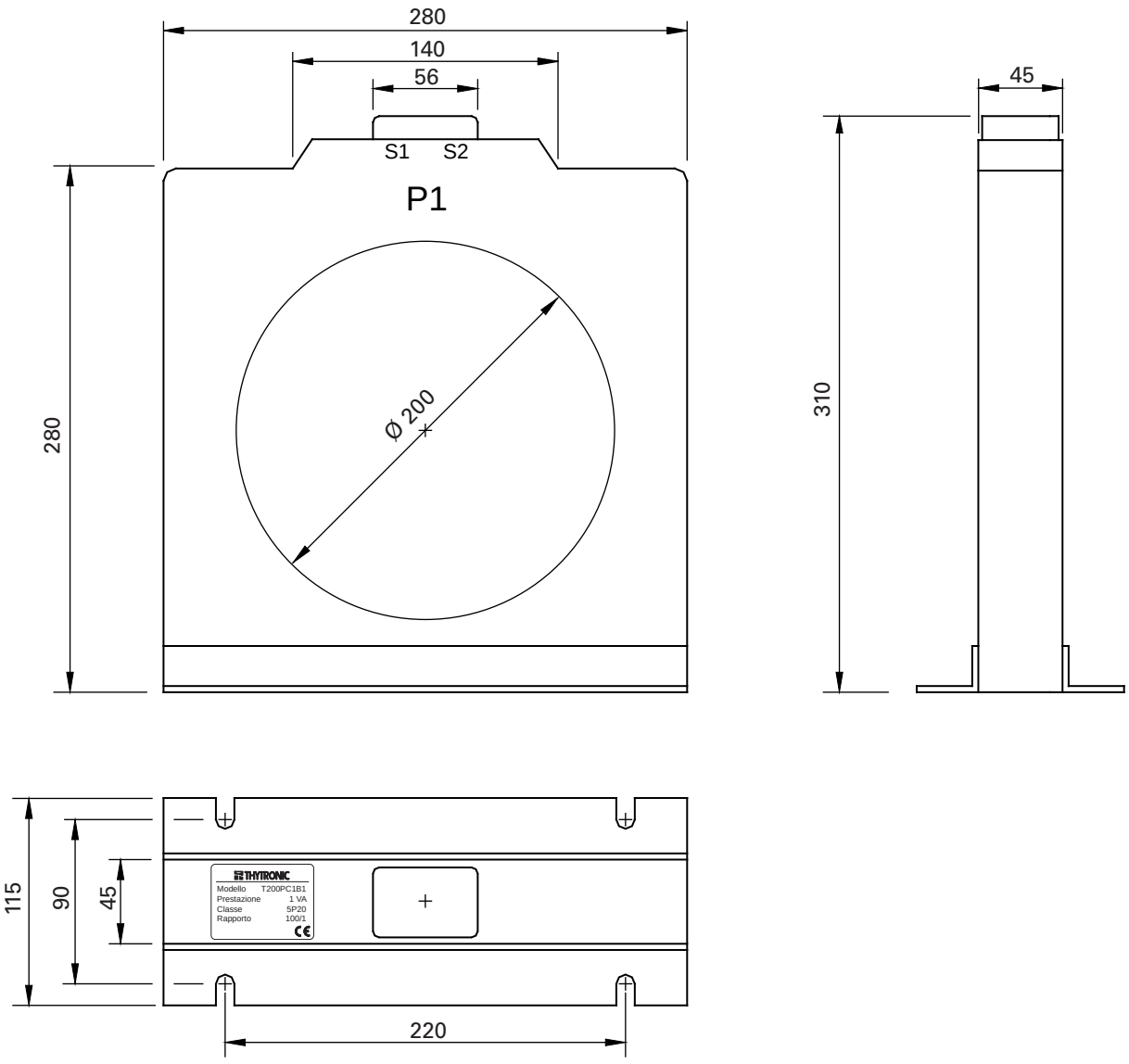


☐ T110P#A1B1



T200P DIMENSIONS

☐ **T200P#C5B1**



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