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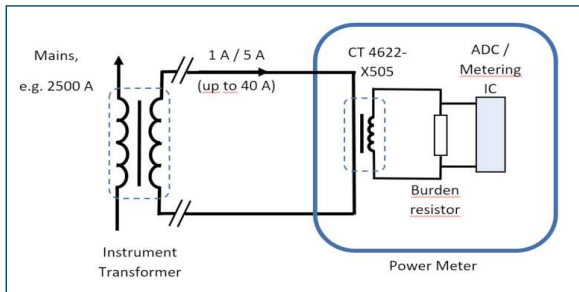
PRECISION AC CURRENT TRANSFORMER FOR 5...40 A METERING / MONITORING



Expanding its line of low phase error and high linearity Current Transformers (CTs), VAC introduces T60404-E4622-X505. This CT combines the following characteristics in a compact PTH package for PCB mounting:

- Lower phase error than e.g. 4622-X501
- Extended primary current range up to 40 A_{rms}
- -40 °C ... 85 °C ambient temperature range
- Small footprint 24.5 x 12.3 mm, height 25.3 mm

Monitoring AC with high precision is important in revenue meters and power monitoring. Industrial meters are often connected indirectly to the mains grid via an Instrument (Current) Transformer (ICT). The ICT output current is typically 1 A or 5 A, and it is proportional to the much higher mains current according to the ICT turns ratio.



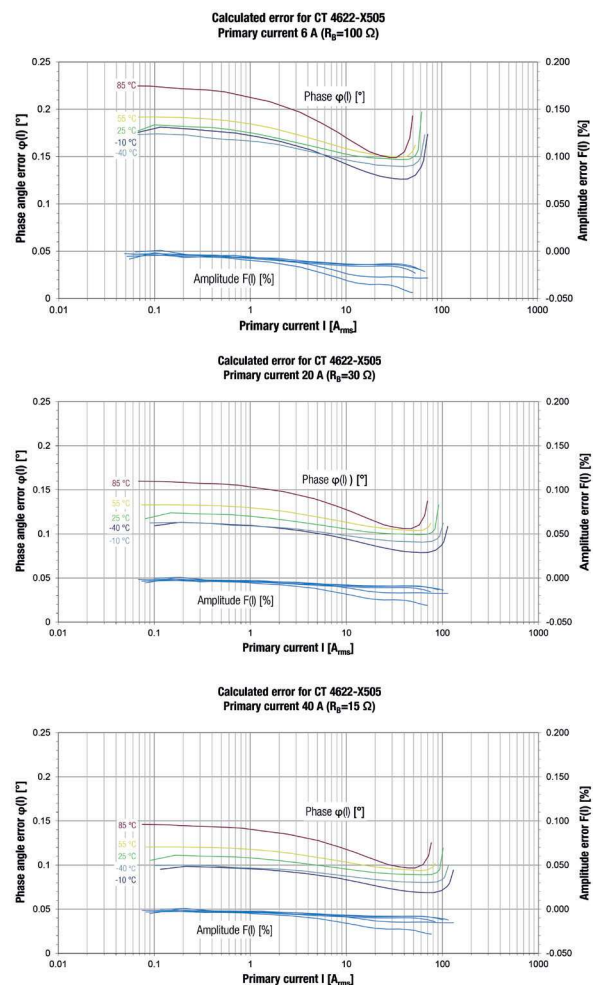
Application example: power meter with CT 4622-X505 connects to mains via an instrument transformer.

Using a CT is a simple, non-intrusive method to measure these currents. With an external burden resistor the current range can be extended up to 40 A_{rms} (output voltage 300 mV):

Burden R _B Ω	Max. AC A _{rms}	Phase error room temperature 25 °C
100	6	0.17 °
30	20	0.15 °
15	40	0.12 °

With proper error compensation and calibration this CT is suitable for meters according to IEC62053-22¹⁾. Such meters are installed at an increasing number of electricity grid access points, e.g. at commercial/industrial PV power plants, or at EV charging stations.

The calculated phase and amplitude error curves for three different rated currents 6 / 20 / 40 A_{rms} and corresponding burden values are shown below.



¹⁾IEC 62053-22:2020, Electricity metering equipment - Particular requirements - Part 22: Static meters for AC active energy (classes 0,1S, 0,2S and 0,5S)

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