Power Analyzer Accessories

PA4000

Fixed core Hall-effect transducers

Tektronix provides a variety of fixed core and split core current transducers matched to our power analyzers to fit your application and measurement needs. Fixed core transducers provide the highest accuracy available for both AC and DC current measurements, whilst the split core devices are ideally suited to making measurements in less accessible applications.

CT-xxxx-S Series

The CT-xxxx-S series offer the highest accuracy and linearity when uncompromised measurements are required. These transducers are sourced from LEM, a high-quality component company.

Features –

- Very high accuracy (< 0.035%)
- Excellent linearity (< 20 ppm)
- Extremely low temperature drift (<2.5 ppm/K)
- Wide frequency bandwidth (DC to 100 kHz)
- Closed loop (compensated) current transducer using an extremely accurate zero flux detector
- Electrostatic shield between primary and secondary circuit
- No insertion losses
- High immunity to external electrostatic and magnetic fields interference
- Low noise on output signal
- Tektronix custom cable assembly included for easy connection to the PA4000 power analyzer
- Compatible with optional PA4000 internal transducer supply (except CT-1000-S; order optional external power supply, Keithley model 2220)

Applications –

- Calibration
- Precision and high-stability inverters
- Energy measurement

CT-xxxx-M Series

The CT-xxxx-M series are designed for general purpose measurement applications where accuracy requirements are less stringent. These transducers are sourced from LEM, a high-quality component company.

Features –

- Very good accuracy (0.4 to 0.6%)
- Very good linearity (<0.1%)
- Wide frequency bandwidth (DC to 150 kHz)
- Closed loop (compensated) current transducer using the Hall Effect
- Insulated plastic case recognized according to UL 94-V0.
- Low temperature drift
- Compatible with optional PA4000 internal transducer supply
- Tektronix custom cable assembly included for easy connection to PA4000

- No insertion losses
- High immunity to external interference

Applications –

- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)

Current clamps

For quick connections in an environment where it is not possible to break the current path, a current clamp offers an easy way to measure AC current. The CL series current clamps are sourced from AEMC.

CL200

The CL200 is the latest in compact AC current probes. It is designed to provide quick connection to medium current circuits often found in industrial applications.

Features –

- 0.5 A_{RMS} to 240 A_{RMS} measurement range
- 1000:1 transform ratio
- 40 Hz to 10 kHz response
- 1.0% to 3.0% accuracy, based on primary signal level
- Small, compact size
- Connects directly to Tektronix power analyzers
- Large jaw opening accommodates conductors up to 250 MCM
- Designed to EN61010, 600 V Cat. III safety standard

Applications –

- Measuring in breaker panels
- Low-power industrial loads
- HVAC

CL1200

The CL1200 is an AC current clamp designed for use in industrial and higher power environments. The ergonomic design allows it to easily clamp onto cables or small bus bars.

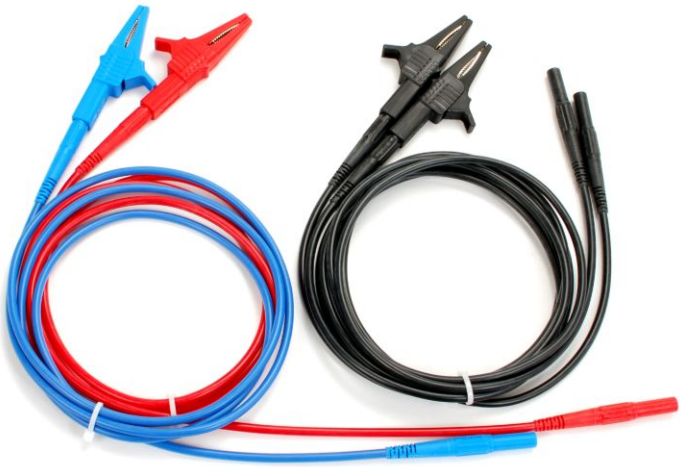
Features –

- 100 mA_{RMS} to 1200 A_{RMS} measurement range
- 1000:1 transform ratio
- 30 Hz to 5 kHz response
- 0.5% to 1.5% accuracy, based on primary signal level
- Connects directly to Tektronix power analyzers
- Large jaw opening accommodates up to two 500 MCM conductors
- Ergonomic design and easy operation
- Conforms to EN61010, 600 V Cat. III safety standard
- Low phase shift for power measurements

Applications –

- Motor drive measuring
- Industrial loads
- Waveform analysis

Test Leads



PA-LEADSET Replacement lead set for Tektronix power analyzers. This insulated test lead set is rated for 1000 V, 32 A, CAT II, and is UL61010 compliant.

Specifications

All specifications are subject to change without notice.

CT-xxxx-S Series

Model	Nominal primary current (rms)	Nominal primary current (I_p, DC)	Nominal secondary current (I_s, rms)	Supply voltage	Supply consumption	Transform ratio	Accuracy	Bandwidth
CT-60-S	42 A	60 A	100 mA	±15 V	80 mA + Is	1:600	<270 ppm	DC to 100 kHz
CT-200-S	141 A	200 A	200 mA	±15 V	80 mA + Is	1:1000	<83 ppm	DC to 100 kHz
CT-400-S	282 A	400 A	200 mA	±15 V	80 mA + Is	1:2000	<43 ppm	DC to 100 kHz
CT-1000-S	707 A	1000 A	1 A	±15 V	80 mA + Is	1:1000	<53 ppm	DC to 100 kHz

Notes:

The CT-1000-S transducer requires a separate power supply. We recommend the Keithley model 2220, which can supply power for up to two CT-1000-S current transducers.

The secondary current (I_s) = $I_{measured}$ x the transform ratio.

CT-xxxx-M Series

Model	Nominal primary current (rms)	Nominal primary current (peak)	Nominal secondary current (rms)	Supply voltage	Supply consumption	Transform ratio	Accuracy	Bandwidth
CT-100-M	100 A	200 A	100 mA	±12 V to ±15 V	17 mA + Is	1:1000	±0.5%	DC to 100 kHz
CT-200-M	200 A	420 A	100 mA	±12 V to ±15 V	17 mA + Is	1:2000	±0.5%	DC to 100 kHz
CT-500-M	500 A	800 A	100 mA	±15 V to ±24 V	24 mA + Is	1:5000	±0.6%	DC to 100 kHz
CT-1000-M	1000 A	1500 A	200 mA	±15 V to ±24 V	28 mA + Is	1:5000	±0.4%	DC to 150 kHz

CL Series

Model	Measurement range	Transform ratio	Supply voltage	Accuracy	Bandwidth
CL200	0.5 A - 240 A_{RMS}	1000:1	Not needed	1.0% - 3.0%	40 Hz - 10 kHz
CL1200	100 mA - 1200 A_{RMS}	1000:1	Not needed	0.5% - 1.5%	30 Hz - 5 kHz

Ordering Information

Models

CT-S Series	CT-60-S, CT-200-S, CT-400-S, CT-1000-S
CT-M Series	CT-100-M, CT-200-M, CT-500-M, CT-1000-M
CL Series	CL200, CL1200
Test Leads	PA-LEADSET

Accessories

All CT series current transducers (except for CT-1000-S) include cabling that allows easy and direct connection to the optional ±15 V supply on the PA4000, and directly to the 1 A shunt.

The CT-1000-S transducer requires a separate power supply. We recommend the Keithley model 2220, which can supply power for up to two CT-1000-S current transducers.

Warranty

All parts warranted for 1 year.

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Tektronix is registered to ISO 9001 and ISO 14001 by SRI Quality System Registrar.

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For Further Information. Tektronix maintains a comprehensive, constantly expanding collection of application notes, technical briefs and other resources to help engineers working on the cutting edge of technology. Please visit www.tektronix.com.

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