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Mess- und Prüftechnik. Die Experten.

CT-BOX

Digital Current Transducer Box
for the Highest Accuracy Current Measurements

Precision Current
Transducers

CT-BOX

0-FLUCS

- **Precise and accurate current measuring system includes current transducer and measuring unit in order to obtain best-in-class performances.**

- **Internal calibration and thermal stabilization to obtain excellent stability of current measurements.**

- **Data-logger and oscilloscope modes of operation**

FEATURES

- Digital Interface
  - Ethernet
  - USB
  - RS-232
- < 1 ppm/K Temperature Coefficient
- < 0.005 % Full-Scale Accuracy (with High-Accuracy Calibration Option)
- Configurable Recorder on microSD-Flash
- Trigger Input / Output and Alarm Output
- External Temperature Sensors
- Analog Monitor
- Local Display for Current Readings
- Desktop or Rack Mounting in 1U
- Integrated Fan-less AC/DC Power Supply
- Dedicated Software Application

APPLICATIONS

- Test & Measurement Setups
- Sensing Element in Calibration Systems
- Power Supplies
- Biomedical Devices

The CT-BOX is a stand-alone system designed to measure with the highest accuracy and precision DC and AC currents, providing the readings in different digital formats.

The CT-BOX system is developed to be used with the 0-FLUCS current output DCCTs allowing measurements of currents up to kA.

The system integrates a burden resistor and a conditioning network feeding a 24-bit temperature stabilized ADC in order to have < 1 ppm/K temperature dependence. The digital section interfaced to the ADC performs a calibrated measurement in order to eliminate the non-ideal behavior thus providing a 0.005% Full-scale current value accuracy (optional). The ADC sampling frequency can be configured up to 100 kHz allowing to acquire high frequency components and fast current transients.

Current readings can be triggered in different modes:

- by an external LVTTL or TTL signal;
- by a remote command sent to the digital interface;
- internally, setting the sampling period and the acquisition window.

The time-stamp, the current readings and the external temperature values are stored in a microSD Flash memory allowing long-term acquisitions.

The microSD memory can be either read via Ethernet, USB or RS-232 interfaces or removed from the system and transferred to other devices in order to download its content.

A temperature probe can be plugged on the back of the system if needed in order to also read and store external temperature values.

A local display showing current readings as well as other settings – e.g. IP address, mode of operation – is present.

A configurable alarm output can be used to signal to an external device if a pre-set current threshold has been exceeded.

An integrated function allows to compensate for measurement setup offset currents.

The unit integrates a low-noise mixed AC/DC power supply to connect the

CT-BOX directly to the AC mains.

The extremely compact design (1U–9") allows using the instrument as benchmark or to install the systems in a 1U-19" rack.

Technical Specifications	CT-BOX
AC Line Input	90-260 V(AC), 46-440 Hz
Maximum Power Consumption	25W
Current Accuracy	< 0.01 % (standard) < 0.005 % (High-Accuracy option)
Current Resolution	24-bit
Sampling Frequency	0.1 Hz – 100 kHz
Thermal Coefficient (typ.)	< 1 ppm/K
Current Ranges Available [A]	100, 150, 200, 300, 400, 600, 1000
Current Readings	7 ½ digits
Linearity	< 25 ppm/FS
Long Term Stability	< 10 ppm/FS
Noise	< 1 ppm (up to 10 Hz readout) < 5 ppm (up to 10 kHz readout)
Offset	< 1 ppm/FS (with Zero Offset function)
Number of Memory Readings	depending on microSD card capacity
LED Indicators	Power OK, DCCT connected , Status, SD reading/writing, Acquisition running
Temperature Probe Resolution	0.1 °C
Temperature Probe Accuracy	± 0.5 °C
Temperature Accuracy	0.05%
Digital Interfaces	Ethernet 10/100 Mbps TCP-IP USB 2.0 RS-232
Analog Monitor	±10 V (LEMO connector)
Trigger Inputs	Digital Interface (soft-trigger) TTL 5V – LVTTL compatible
Alarm Output	TTL 5V Solid State Relay
Mechanical Dimensions (L × W × H)	180 × 220 × 41 mm
Operating Temperature	0 … 40 °C

CT-BOX
also for 1U – 19'' installation

Ordering Options

WCTBOX100XAA	CT-BOX-100	100A Current Transducer Digital Box with Local Display and Ethernet, USB, RS-232 Communication Interfaces
WCTBOX150XAA	CT-BOX-150	200A Current Transducer Digital Box with Local Display and Ethernet, USB, RS-232 Communication Interfaces
WCTBOX200XAA	CT-BOX-200	200A Current Transducer Digital Box with Local Display and Ethernet, USB, RS-232 Communication Interfaces
WCTBOX300XAA	CT-BOX-300	300A Current Transducer Digital Box with Local Display and Ethernet, USB, RS-232 Communication Interfaces
WCTBOX400XAA	CT-BOX-400	400A Current Transducer Digital Box with Local Display and Ethernet, USB, RS-232 Communication Interfaces
WCTBOX600XAA	CT-BOX-600	600A Current Transducer Digital Box with Local Display and Ethernet, USB, RS-232 Communication Interfaces
WCTBOX1000XA	CT-BOX-1000	1000A Current Transducer Digital Box with Local Display and Ethernet, USB, RS-232 Communication Interfaces
WCTBOXMBXAAA	CT-BOX-MB	CT-BOX mounting brackets for 1U – 19" cabinet installation
WCTBOX1YXAAA	CT-BOX-YC	CT-BOX In-House Yearly Calibration Service (< 0.01% accuracy)
WCTBOXSICLXA	CT-BOX-HAC	CT-BOX High-Accuracy Calibration Service (<0.005% accuracy)