CAENels
Gear For Science

Precision Current Transducers

FLUCS

CT-600
CT-1000

Current or Voltage Output

CT-600/CT-1000

- **Closed-loop current transformer technology allows accurate monitoring of DC and AC bipolar currents up to ±600A (CT-600) and to ±1000A (CT-1000).**
- **Galvanic isolation between primary and secondary conductor for simple current sensing at different potential.**
- **Standard current output and voltage output ("V"-version) available.**

FEATURES

- **Monitoring of DC and AC currents**
- **Excellent Linearity**
- **Closed-loop detection**
- **Galvanically isolated from primary**
- **Low Temperature Drift**
- **Current-output or Voltage-output versions**
- **Wide Bandwidth**
- **High Accuracy**
- **UL 94 V-0 flammability grade**
- **LED indicates correct operation**
- **DB-9 Connector for rack/panel mounting**

APPLICATIONS

- **Power Supplies**
- **Sensing Element in Calibration Systems**
- **Biomedical Devices**
- **Nuclear Magnetic Resonance (NMR)**
- **Test & Measurement Setups**

The 0-FLUCS (0-FLUx Current Sensor) family is based on a closed loop technology that allows accurate and precise monitoring of DC and AC currents with high bandwidth.

The CT-600 and CT-400 transducers are rated at a maximum bipolar primary current of 600A and 1000A with a transform ratio of 1:1500 and 1:2000.

Galvanic isolation between the primary and the secondary circuits allows to measure currents at a different potential and simplifies interfacing when using the 0-FLUCS as the feedback element of current regulated power supplies.

Output from the 0-FLUCS transducers can be chosen between two different versions: secondary current output or buffered voltage output (low TC shunt resistor and low-noise amplifier are embedded in the device).

A standard DB-9 connector is used for the transducer connections.

Main characteristics of the 0-FLUCS current transformers are negligible temperature coefficient on the secondary output current, excellent linearity and extremely low noise.

DC current transformers represents the ideal replacement for systems where Hall-effect sensors are used as current sensing elements and better performances are needed.

All CT-600 and CT-1000 devices also have different mounting holes in order to be easily installed in different configurations. Both self-threading screws and normal ones can be used.

Main application fields for these current transducers are precise and extremely stable regulated power supplies and power inverters.

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About Us

CAEN ELS is a leading company in the design of power supplies and state-of-the-art complete electronic systems for the Physics research world, having its main focus on dedicated solutions for the particle accelerator community and high-end industrial applications.

- Power Supply Systems
- Precision Current Measurements
- Beamline Electronics Instrumentation
- FMC and MicroTCA

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Due to the excellent characteristics, the CT-600 and CT-1000 transducers can be used in a variety of calibration, acceptance testing and quality control applications in industrial, power generation and automotive fields.

Commercially available versions of the CT-600 and CT-1000 current sensors are the standard current-output CT-600 and CT-1000 and the voltage-output version CT-600V and CT-1000V.

Different output voltage ratings – e.g. ±2.5 V or ±5 V – are available upon request for a minimum quantity.

Technical Specifications	**CT-600**	**CT-1000**
Current Transform Ratio - N	1:1500	1:2000
Maximum DC Primary Current - $I_{P(DC)}$	±600 A	±1000 A
Maximum RMS Primary Current - $I_{P(RMS)}$	424 A	707 A
Current Polarity	Bipolar	
Maximum DC Secondary Current - $I_{S(DC)}$	±400 mA	±500 mA
Maximum RMS Secondary Current - $I_{S(RMS)}$	283 mA	354 mA
External Shunt Resistor Value – R_S	0…5 Ω	0…2 Ω
Small Signal Bandwidth (-1 dB) – typ. BW	> 150 kHz	
Noise (RMS) – typ.	< 1.5 ppm (@200 Hz) < 7 ppm (@50 kHz)	< 1.5 ppm (@200 Hz) < 10 ppm (@50 kHz)
Output Voltage ("V"-version) -V_{OUT}	±10 V	
Output Voltage Ratio ("V" version) - $V_{OUT}/I_{P(DC)}$	(1/60) V/A	0.01 V/A
Maximum Output Current – "V"-version	±15 mA	
Temperature Coefficient - TC (typ.)	< 0.5 ppm/K < 2 ppm/K ("V"-version)	
Induction into Primary (typ.)	<25 µV (RMS)	
Linearity	< 3 ppm < 15 ppm ("V"-version)	
Offset (with factory trimming)	< 10 ppm/FS	
Protection Signal	Yes - Primary Over-Current	
Supply Voltage (± 6%)	±15 V	
Maximum Current Consumption	50 mA + I_S	
Connections	DB-9 Connector	
Mechanical (Outer) Dimensions	107 × 91 × 50 mm	
Primary Conductor Hole Diameter – Ø	30 mm	
Maximum Weight	450 g	600 g

FLUCS DCCT SERIES

0-FLUCS Closed–Loop Technology

The PS1215 models are designed for optimal operation for the CAEN ELS 0-FLUCS current transducers.

PS1215I – PS1215V
Low-Noise Power Supplies for current transducers

FLUCS
Status LED and signal

Ordering Code	Acronym	Description
WCT600XAAAAA	CT-600	600 A Primary Current 0-FLUCS , DB-9 connector
WCT600VXAAAA	CT-600V	600 A Primary Current 0-FLUCS , DB-9 connector, Voltage-Output
WCT1000XAAAA	CT-1000	1000 A Primary Current 0-FLUCS , DB-9 connector
WCT1000VXAAA	CT-1000V	1000 A Primary Current 0-FLUCS , DB-9 connector, Voltage-Output

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