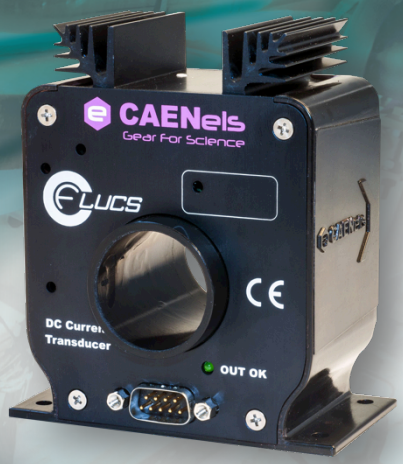
CAENels
Gear For Science



FLUCS

DC Current Transformer Series

CT-600
CT-1000

Current or Voltage Output

Closed-loop current transformer technology allows accurate monitoring of DC and AC bipolar currents up to ±600A and to ±1000A .

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 (O-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-1000 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 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.

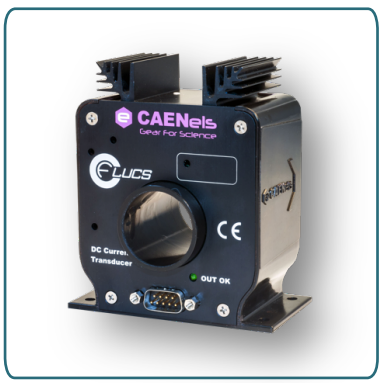
Due to the excellent characteristics, the CT-600 and CT-1000 transducers can be used in a variety of calibration,

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…30 Ω	0…20 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.)	5 µV (RMS)	10 µV (RMS)
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



0-FLUCS – CT-600 and CT-1000 Front View

0-FLUCS Closed–Loop Technology

The CT-600 and CT-1000 current transducer series is based on the CAEN ELS 0-FLUCS Closed-Loop Technology.

Ordering Options

WCT600CAAAAA	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

About CAEN ELS

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.

- Magnet Power Supply Systems
- Beamline Electronic Instrumentation
- Precision Current Transducers
- MTCA.4 – MicroTCA for Physics

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