



CT-200
CT-300
CT-400
Current or
Voltage
Output



CT-200 / CT-300 / CT-400

- Closed-loop current transformer technology allows accurate monitoring of DC and AC bipolar currents up to $\pm 200\text{A}$ (CT-200), $\pm 300\text{A}$ (CT-300) or $\pm 400\text{A}$ (CT-400).
- 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-200/CT-300/CT-400 transducers are rated at a maximum bipolar primary current of 200A/300A/400A with a transform ratio of respectively 1:1000, 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-200/CT-300/CT-400 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 0-FLUCS transducers can be used in a variety of calibration, acceptance

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 Electronic Instrumentation
-  FMC & MTCA.4 – MicroTCA for Physics

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testing and quality control applications in industrial, power generation and automotive fields.

Commercially available versions of the CT-200/CT-300/CT-400 current

transformers are the standard current-output and the voltage-output “V” version.

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

Technical Specifications	CT-200	CT-300	CT-400
Current Transform Ratio - N	1:1000	1:1500	1:2000
Maximum DC Primary Current - $I_{P(DC)}$	± 200 A	± 300 A	± 400 A
Maximum RMS Primary Current - $I_{P(RMS)}$	141 A	212 A	283 A
Current Polarity	Bipolar		
Maximum DC Secondary Current - $I_{S(DC)}$	± 200 mA		
Maximum RMS Secondary Current - $I_{S(RMS)}$	141 mA		
External Shunt Resistor Value - R_s	0...40 Ω	0...30 Ω	0...20 Ω
Small Signal Bandwidth – typ. BW	> 200 kHz	> 200 kHz	> 200 kHz
Small Signal Bandwidth – “V” version – typ. BW	100 kHz	150 kHz	150 kHz
Noise (RMS) – typ.	< 1.5 ppm (@200 Hz) < 6 ppm (@50 kHz)	< 1.8 ppm (@200 Hz) < 7 ppm (@50 kHz)	< 2 ppm (@200 Hz) < 8 ppm (@50 kHz)
Output Voltage (“V”-version) - V_{OUT}	± 10 V		
Output Voltage Ratio (“V” version) - $V_{OUT}/I_{P(DC)}$	0.05 V/A	(1/30) V/A	0.025 V/A
Maximum Output Current – “V”-version	± 15 mA		
Temperature Coefficient – TC (typ.)	< 0.5 ppm/K < 2 ppm/K (“V”-version)		
Linearity	< 3 ppm < 15 ppm (“V”-version)		
Induction into Primary (typ.)	<20 μ V (RMS)	<25 μ V (RMS)	<30 μ V (RMS)
Offset (with factory trimming)	< 10 ppm/FS		
Protection Signal	Yes - Primary Over-Current		
Supply Voltage ($\pm 6\%$)	± 15 V		
Maximum Current Consumption	50 mA + I_s		
Connections	DB-9 Connector		
Mechanical (Outer) Dimensions	94 x 91 x 50 mm		
Primary Conductor Hole Diameter – ϕ	30 mm		
Maximum Weight	380 g		



0-FLUCS Closed-Loop Technology

The CT-200, CT-300 and CT-400 models are based on the CAEN ELS 0-FLUCS Closed-Loop Technology.



Status LED and signal

PS1215I – PS1215V
Low-Noise Power Supplies
for current transducers



Ordering Options

WCT200XAAAA	CT-200	200 A Primary Current 0-FLUCS, DB-9 connector
WCT200VXAAAA	CT-200V	200 A Primary Current 0-FLUCS, DB-9 connector, Voltage-Output
WCT300XAAAA	CT-300	300 A Primary Current 0-FLUCS, DB-9 connector
WCT300VXAAAA	CT-300V	300 A Primary Current 0-FLUCS, DB-9 connector, Voltage-Output
WCT400XAAAA	CT-400	400 A Primary Current 0-FLUCS, DB-9 connector
WCT400VXAAAA	CT-400V	400 A Primary Current 0-FLUCS, DB-9 connector, Voltage-Output