

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

Your **DIGITAL**  
**POWER ELECTRONICS**  
Partner.



**CT-200/CT-300/CT-400**

- **Closed-loop current transformer technology allows accurate monitoring of DC and AC bipolar currents up to  $\pm 200A$  (CT-200),  $\pm 300A$  (CT-300) or  $\pm 400A$  (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 System**
- **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,



#### About Us

ELS Instruments (formerly 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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#### 0-FLUCS Closed-Loop Technology

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

the 0-FLUCS 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-200/CT-300/CT-400

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

Different output voltage ratings - e.g.  $\pm 2.5$  V or  $\pm 5$  V - are available upon request for a minimum quantity.

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



 Status LED and signal

PS1215I - PS1215V  
Low-Noise Power Supplies



Ordering Code	Acronym	Description
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