



DC Current Transformer Series



CT-PCB
Current or Voltage Output

Closed-loop current transformer technology allows accurate monitoring of DC and AC bipolar currents up to $\pm 52A$ with a small PCB-mount device.

Galvanic isolation between primary and secondary conductor for simple current sensing at different potential.

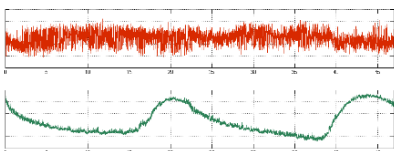
Standard current output and voltage output ("V"-version) available.

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
- Status Signal
- PCB Mount versions

Applications

- Power Supplies
- Sensing Element in Calibration Systems
- Biomedical Devices
- Nuclear Magnetic Resonance (NMR)



Low Temperature Coefficient
Secondary current measured over 2K temperature-cycling interval (48h measuring period), 15A primary current

The O-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 metal casing guarantees higher noise immunity and reduces undesired noise pick-up from external sources.

The transducers CT-13, CT-26 and CT-52 are PCB-mount devices rated at maximum currents of 13A, 26A and 52A with primary to secondary ratio of 1:250, 1:500 and 1:1000 respectively.

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

Output from the CT-PCB sensors can be chosen between two different versions: standard secondary current output or buffered voltage output (low temperature coefficient shunt resistor

and low-noise amplifier are embedded in the CT-13V, CT-26V and CT-52V).

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

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

The compact mechanical dimensions of this transducer series and its limited weight allow for easy mounting on printed circuit boards with a Through Hole (TH) topology. A plastic cover is placed on the bottom side of the device to allow for easier mounting on the PCB.

Main applications for these current transducers are precise and stable regulated power supplies and power inverters

About CAENels

CAENels is a dynamic company that provides power supplies and state-of-the-art dedicated electronic systems to the particle accelerator community – e.g. synchrotron light sources and Free Electron Laser (FEL) facilities.

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

CAEN ELS d.o.o.

Kraška ulica, 2
6210 – Sežana
Slovenija
Phone +386 (0)5 7313 585
Fax +386 (0)5 7313 587
info@caenels.com



www.caenels.com



0-FLUCS Closed-Loop Technology

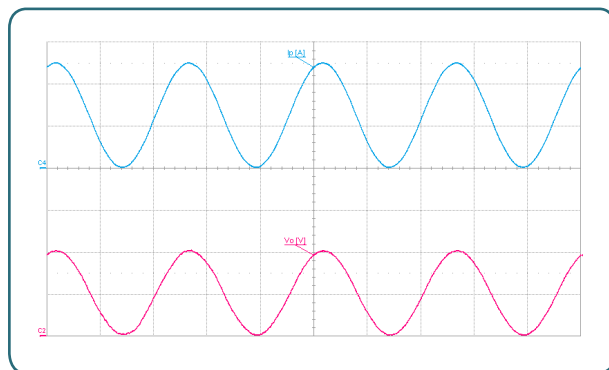
The CT-PCB current transducer series is based on the CAEN ELS 0-FLUCS Closed-Loop Technology.

Due to the excellent characteristics, the CT PCB 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-13, CT-26 and CT-52 with their respective "V" voltage-output versions CT-13V, CT-26V and CT-52V.

Technical Specifications

	CT-13	CT-26	CT-52
Current Transform Ratio - N	1:250	1:500	1:1000
Maximum DC Primary Current - $I_{P(DC)}$	±13 A	±26 A	±52 A
Maximum RMS Primary Current - $I_{P(RMS)}$	9.2 A	18.4 A	36.8 A
Current Polarity	Bipolar		
Maximum DC Secondary Current - $I_{S(DC)}$	±52 mA		
Maximum RMS Secondary Current - $I_{S(RMS)}$	37 mA		
Small Signal Bandwidth (±3 dB) - BW	> 200 kHz		
Noise RMS – typ.	< 1 ppm (@200 Hz) < 10 ppm (@50 kHz)		
Output Voltage ("V"-version) - V_{OUT}	±10 V		
Output Voltage Ratio ("V" version) – $V_{OUT}/I_{P(DC)}$	0.8 V/A	0.4 V/A	0.2 V/A
Maximum Output Current – "V"-version	±15 mA		
Temperature Coefficient – TC (typ.)	< 0.5 ppm/K < 2 ppm/K ("V"-version)		
Protection Signal	Yes – OK Status		
Supply Voltage (± 6%)	±15 V		
Connections	16-pin through-hole PCB mounting		
Mechanical (Outer) Dimensions	66 × 68 × 48 mm		
Primary Conductor	Internal		
Maximum Weight	300 g		



CT-PCB Voltage Output – "V" Version

DC + 20-kHz sine-wave primary current – i.e. I_P [A] – and output voltage of a CT-13V version – i.e. V_O [V]

Ordering Options

WCT13XAAAAA	CT-13	13A Primary Current O-FLUCS, PCB-Mounting
WCT26XAAAAA	CT-26	26A Primary Current O-FLUCS, PCB-Mounting
WCT52VAAAAA	CT-52	52A Primary Current O-FLUCS, PCB-Mounting, Voltage-Output
WCT13VAAAAA	CT-13V	13A Primary Current O-FLUCS, PCB-Mounting, Voltage-Output
WCT26VAAAAA	CT-26V	26A Primary Current O-FLUCS, PCB-Mounting, Voltage-Output
WCT52VAAAAA	CT-52V	52A Primary Current O-FLUCS, PCB-Mounting, Voltage-Output