

SPLIT CORE CURRENT TRANSFORMERS

Features

- > Split core for easy installation; ideal for retrofit
- > No exposed metal parts when assembled
- > 0.333 VAC output at rated current
- > Safer to install and use than CTs with a current secondary
- > UL and CE recognized, and RoHS compliant



Split-Core Current Transformer, ACT Series

DESCRIPTION

These split-core current transformers (CTs) from Continental Control Systems offer an easy, safe, and inexpensive method for monitoring electrical energy usage.

Ideal for retrofit applications, the split core makes it possible to attach the CT without disturbing existing wiring. Just open the CT, slip it over the wire, and snap the CT closed. Once assembled, the CTs have no exposed metal parts.

The 0.333 VAC output of these CTs is low, making them much more safe to install and use than CTs with current secondaries. These CTs are also less expensive.

Part numbers with ACT in the middle (ACT series) are accurate to $\pm 0.75\%$ from 1% to 120% of rated primary current. They also have exceptionally low phase angle error, which is essential for accurate power and energy measurements. ACT series CTs comply with the linearity and accuracy requirements of IEEE/ANSI C57.13 for tenant submetering and billing. These CTs swing open for one-handed operation.

Part numbers with CTS in the middle (CTS series) are accurate to $\pm 1\%$ from 10% to 130% of rated current. This level of accuracy is suited to most energy monitoring applications.

Each CT has an internal precision burden resistor across the secondary. Each CT includes 8 ft (2.4 m), twisted-pair, 22 AWG leads.

See specifications and dimensions on the following pages.

Monitoring Energy

These split-core CTs are recommended for use with the **OptoEMU Sensor™ 3V** energy monitoring unit.

The OptoEMU Sensor 3V is a simple appliance that monitors the electrical energy used in your facility and then uses your existing wired or wireless Ethernet network to deliver that data to online software applications.

You can see real-time and historical use, eliminate guesswork, and pinpoint problem areas to reduce energy costs.

You can also use energy data from the OptoEMU Sensor in control systems and company databases. For more information, see form 1936, the [OptoEMU Sensor 3V Data Sheet](#).

These CTs are also recommended for use with the **SNAP-AIPM-3V** analog input module, which monitors power from a 3-phase load. The module measures voltage and current from each phase; it calculates watts and volt-amps for each phase plus true power sums for all phases.

Part of the SNAP PAC System, the SNAP-AIPM-3V mounts on a rack with other analog, digital, and serial modules and an I/O processor. For more information, see the [Power Monitoring Modules Data Sheet](#), form 1453.

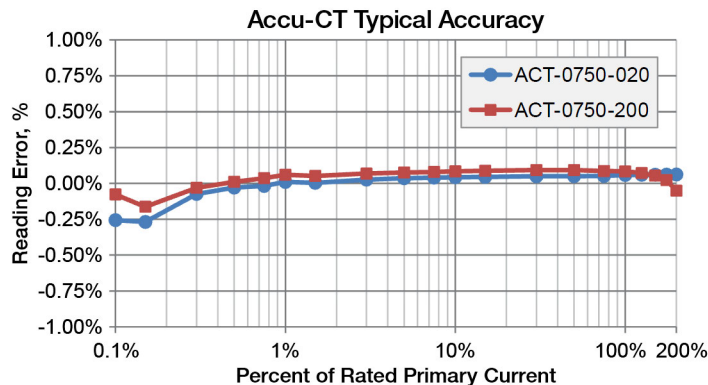
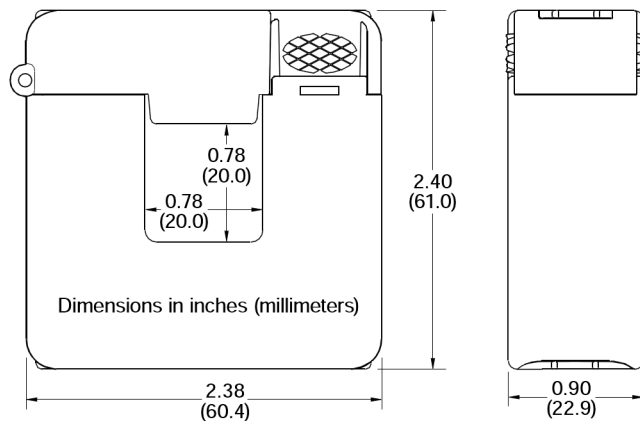
Part Numbers

Part	Description
OPTO-EMU-ACT-0750-050	Current Transformer, Split Core, 50 A, 0.333 VAC, 0.75 inch (1.91 cm) Inner Diameter
OPTO-EMU-ACT-0750-100	Current Transformer, Split Core, 100 A, 0.333 VAC, 0.75 inch (1.91 cm) Inner Diameter
OPTO-EMU-ACT-0750-250	Current Transformer, Split Core, 250 A, 0.333 VAC, 0.75 inch (1.91 cm) Inner Diameter
OPTO-EMU-CTS-1250-400	Current Transformer, Split Core, 400 A, 0.333 VAC, 1.25 inch (3.18 cm) Inner Diameter
OPTO-EMU-CTS-2000-600	Current Transformer, Split Core, 600 A, 0.333 VAC, 2 inch (5.08 cm) Inner Diameter

SPECIFICATIONS: ACT SERIES

	OPTOEMU-ACT-0750-050	OPTOEMU-ACT-0750-100	OPTOEMU-ACT-0750-250
Rated Current (primary)	50 amps	100 amps	250 amps
Output (secondary)	0.333 VAC	0.333 VAC	0.333 VAC
Dimensions	2.38 x 2.40 x 0.90 in. (6.04 x 6.10 x 2.29 cm)	2.38 x 2.40 x 0.90 in. (6.04 x 6.10 x 2.29 cm)	2.38 x 2.40 x 0.90 in. (6.04 x 6.10 x 2.29 cm)
Inner Diameter	0.78 in. (2.0 cm)	0.78 in. (2.0 cm)	0.78 in. (2.0 cm)
Leads	8 ft (2.4 m), 22 AWG, twisted pair	8 ft (2.4 m), 22 AWG, twisted pair	8 ft (2.4 m), 22 AWG, twisted pair
Accuracy	± 0.75% from 1% to 120% of rated primary current	± 0.75% from 1% to 120% of rated primary current	± 0.75% from 1% to 120% of rated primary current
Phase Angle	± 0.5 degrees (30 min) from 1% to 120% of rated current	± 0.5 degrees (30 min) from 1% to 120% of rated current	± 0.5 degrees (30 min) from 1% to 120% of rated current
Agency Approvals	UL, CE, RoHS	UL, CE, RoHS	UL, CE, RoHS
Warranty*	5 years*	5 years*	5 years*

* Original manufacturer's warranty applies. See <http://www.ccontrols.com/w/Warranty>



All diagrams courtesy of Continental Control Systems LLC

SPECIFICATIONS: CTS SERIES

Refer to dimensional diagram below.

	OPTOEMU-CTS-1250-400	OPTOEMU-CTS-2000-600
Rated Current (primary)	400 amps	600 amps
Output (secondary)	0.333 VAC	0.333 VAC
Dimension A (width)	3.25 in. (6.45 cm)	4.75 in. (12.1 cm)
Dimension B (depth)	3.35 in. (8.51 cm)	5.00 in. (12.7 cm)
Dimension C (height)	1.00 in. (2.54 cm)	1.20 in. (3.05 cm)
Inner Diameter (D, E)	1.25 in. (3.18 cm)	2.00 in. (5.08 cm)
Leads	8 ft (2.4 m), 22 AWG, twisted pair	8 ft (2.4 m), 22 AWG, twisted pair
Accuracy	± 1% from 10% to 130% of rated current	± 1% from 10% to 130% of rated current
Agency Approvals	UL, CE, RoHS	UL, CE, RoHS
Warranty*	5 years*	5 years*

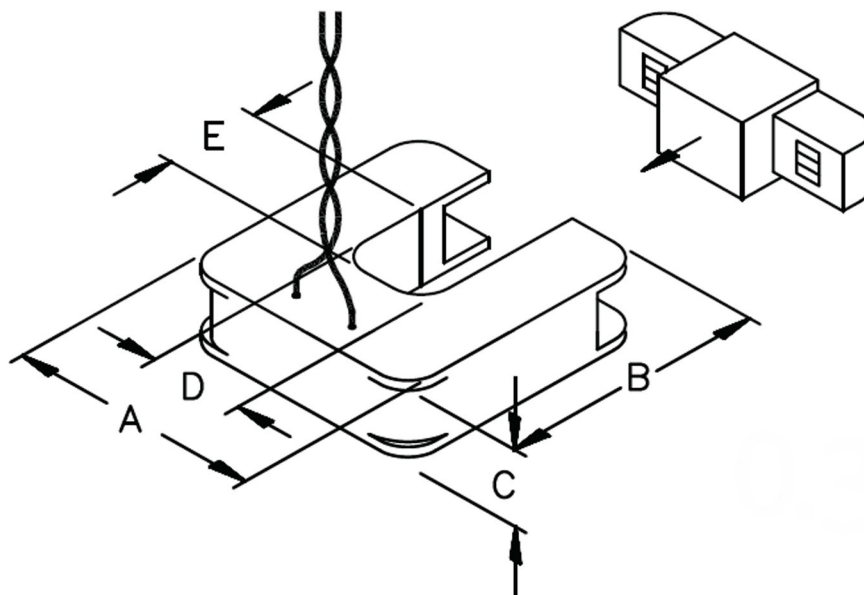
* Original manufacturer's warranty applies. See <http://www.ccontrols.com/w/Warranty>

WIRING NOTES

Install CTs on the phase conductor that corresponds to the voltage input phase.

When properly oriented toward the source, the CT's black wire is positive and the white wire is neutral.

Install CTs with the arrow or label "THIS SIDE TOWARD SOURCE" facing toward the current source.



All diagrams courtesy of Continental Control Systems LLC

PRODUCTS

Opto 22 develops and manufactures reliable, easy-to-use, open standards-based hardware and software products. Industrial automation, process control, building automation, industrial refrigeration, remote monitoring, data acquisition, and industrial internet of things (IIoT) applications worldwide all rely on Opto 22.

groov EPIC® System

Opto 22's *groov Edge Programmable Industrial Controller (EPIC) system* gives you an industrially hardened system with guaranteed-for-life I/O, a flexible Linux®-based processor with gateway functions, and software for your automation and IIoT applications.

groov EPIC I/O

groov I/O connects locally to sensors and equipment with up to 24 channels on each I/O module. Modules have a spring-clamp terminal strip, integrated wireway, swing-away cover, and LEDs indicating module health and discrete channel status.

groov I/O is hot swappable, UL Hazardous Locations approved, and ATEX compliant.

groov EPIC Processor

The heart of the system is the *groov EPIC* processor. It handles a wide range of digital, analog, and serial functions for data collection, remote monitoring, process control, and discrete and hybrid manufacturing.

In addition, the EPIC provides secure data communications among physical assets, control systems, software applications, and online services, both on premises and in the cloud.

Configuring and troubleshooting I/O and networking is easier with the EPIC's integrated high-resolution color touchscreen. Authorized users can manage the system locally on the touchscreen or on a monitor connected via the HDMI or USB ports.

groov EPIC Software

Software included in the *groov EPIC* processor:

- PAC Control engine to run PAC Control and PAC Display
- CODESYS Runtime engine to run IEC61131-3 compliant programs built with CODESYS Development System
- Optional access to the Linux operating system through a secure shell (SSH) to download and run custom applications
- *groov View* for building your own device-independent HMI, viewable on the touchscreen, PCs, and mobile devices
- Node-RED for creating simple logic flows from pre-built nodes
- Ignition Edge® from Inductive Automation®, with OPC-UA drivers to Allen-Bradley®, Siemens®, and other control systems, and MQTT communications with Sparkplug for efficient IIoT data transfer

groov RIO®

groov RIO revolutionizes remote I/O by offering a single, compact, PoE-powered industrial package with web-based configuration, commissioning, and flow logic software built in, plus support for multiple OT and IT protocols.

Standing alone, it meets the needs of small, variable I/O count applications, especially those that require data logging or data communications, commonly found in IIoT applications. *groov RIO* can also be used with a Modbus/TCP master or as remote I/O for a *groov EPIC* system.

Older products

From solid state relays (our first products) to world-famous G4 and SNAP I/O, to SNAP PAC controllers, older Opto 22 products are still supported and still doing the job at thousands of installations worldwide. You can count on us to give you the reliability and service you expect, now and in the future.



QUALITY

Founded in 1974, Opto 22 has established a worldwide reputation for high-quality products. All are made in the U.S.A. at our manufacturing facility in Temecula, California.

Because we test each product twice before it leaves our factory rather than testing a sample of each batch, we can afford to guarantee most solid-state relays and optically isolated I/O modules for life.

FREE PRODUCT SUPPORT

Opto 22's California-based Product Support Group offers free, comprehensive technical support for Opto 22 products from engineers with decades of training and experience. Support is available in English and Spanish by phone or email, Monday–Friday, 7 a.m. to 5 p.m. PST.

Support is always available on our website, including [free online training](#) at OptoU, how-to [videos](#), [user's guides](#), the Opto 22 KnowledgeBase, troubleshooting tips, and [OptoForums](#). In addition, instructor-led, hands-on [Premium Factory Training](#) is available at our Temecula, California headquarters, and you can [register online](#).

PURCHASING OPTO 22 PRODUCTS

Opto 22 products are sold directly and through a worldwide network of distributors, partners, and system integrators. For more information, contact Opto 22 headquarters at **800-321-6786** (toll-free in the U.S. and Canada) or **+1-951-695-3000**, or visit our website at www.opto22.com.