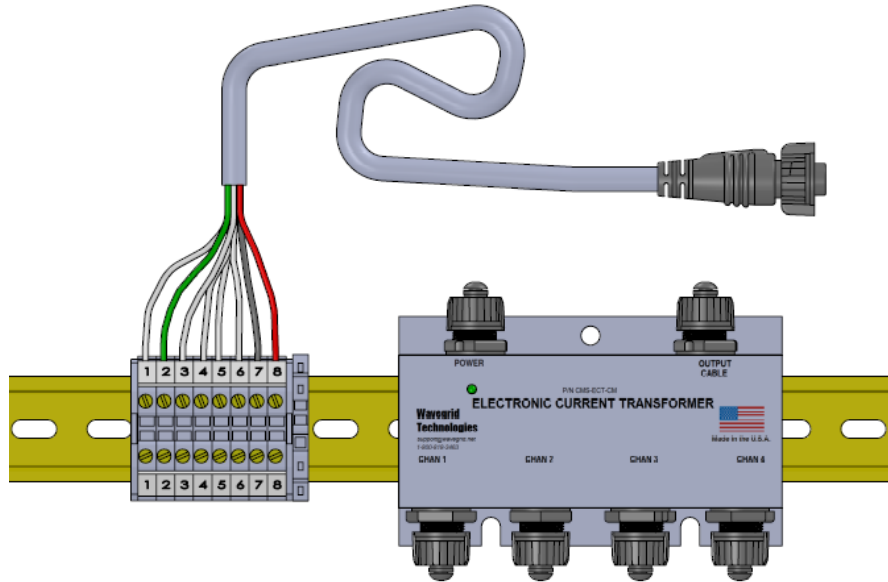


Electronic Current Transformer



Features and Benefits

PRC-002 Compliant

The North American Reliability Corporation (NERC) established the requirement (PRC-002) for the need to facilitate the analysis of disturbances on the power system for both generation and transmission assets. The Electronic Current Transformer (ECT) provides the hardware to capture the required digital fault record (FR) data.

Monitoring

The system provides lightweight sensors to measure AC current traces from existing primary instrument current transformers. These sensors are installed without disturbing existing wiring to provide waveforms to existing or new Intelligent Electronic Devices (i.e. DMEs, Numerical Relays, etc.).

Non-Intrusive Installation

The system provides an alternative approach by using an array of “intelligent electronic sensors” that deploy on live wires without having to take extensive system outages.

Accuracy

The ECT exceeds the requirements imposed on standard current transformers as seen in the IEEE Standard “Current Transformer (C57.13-2008)”. These “Electronic CTs” produce an accuracy of less than 500mA in current magnitude and less than 1° phase shift.

Reliable

All of the components in the system are designed to operate reliably in harsh environments and conform to IEEE C37.90 standards. The design for reliability and ruggedness means less downtime.

System Configuration

Control Module: The module can be panel mounted directly (with screws) using the mounting holes on the rear plate or it can be mounted on a din rail using the provided bracket. The module is equipped with 6 quick and easy to use connectors which simplify installation and replacement procedures. The connectors are used to connect 4 sensor modules, 1 power cable, and 1 output cable. The output cable is terminated onto an 8 terminal Phoenix sliding-link terminal block. The output cable provides 8 wires (#18) and the power cable provides 2 wires (#18).

Sensor Module: Each module is comprised of a molded sensor enclosure with a 10' sensor cable, a conductor stabilizer, a curved metallic shield, and a UV stabilized wide temperature range tie wrap. The conductor stabilizer is used to wedge the monitored conductor against the surface of the sensing chip. The curved metallic shield is used to protect against magnetic fields and to hold the conductor stabilizer in place. The tie wrap is to attach the sensor module to the monitored conductor.

System Description: The ECT, "Electronic CT", is classified as a component or accessory transformer for indoor or outdoor installations and meets the requirements of CSA/CAN IEC 60044-1 and IEEE C57.13-2008. Upon request, specific calibrations can be made for revenue metering applications. The units can be provided with either AC output (millivolt or milliamp). Several output options are available to emulate a "typical" current transformers turns ratio.

System Specifications

Operating Temperature:	-20 to 65°C
Power Supply:	3W, 125VDC
Power Supply Fuse:	0.5A Slow Blow
Input Voltage:	85 to 264VDC
Power Cable:	2Wire (#18 AWG)
Frequency Response:	DC to 100 kHz
Mold Material:	Nickel-Iron Alloy
Cable Connector Type:	IP68 (Watertight)
Min Operating Current:	20mA (AC)
Max Operating Current:	200A (AC)
Magnitude Accuracy:	<500mA
Phase Shift Accuracy:	<1°

Advantages

- ✓ Non-intrusive design
- ✓ Saturation does not occur
- ✓ Offset is eliminated
- ✓ Wide range frequency response
- ✓ Safety of field personnel
- ✓ CT turns ratios can be emulated
- ✓ Light weight design

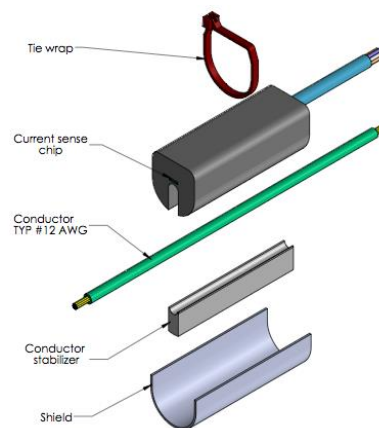


Figure 1: Sensor Module (Exploded View)

Control Module

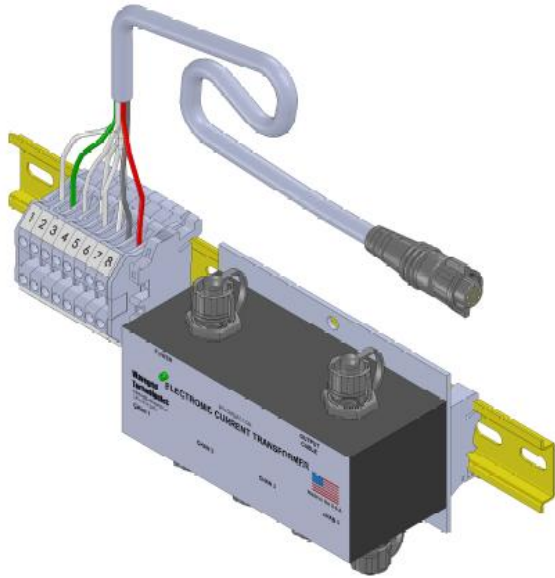


Figure 2: Control Module (Front View)

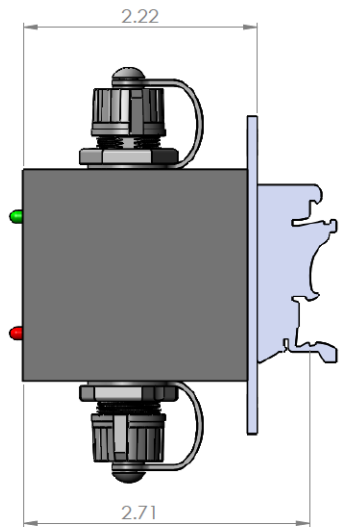


Figure 3: Control Module (Side View)

Sensor Module

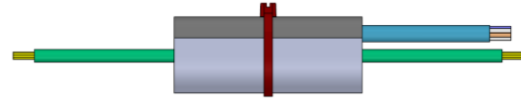


Figure 4: Sensor Module (Side View)

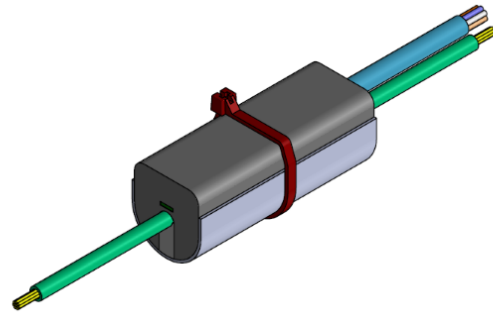


Figure 5: Sensor Module (Top View)

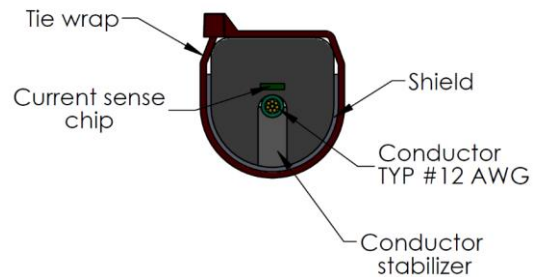


Figure 6: Sensor Module (Front View)

Ordering Information

<i>Item</i>	<i>Part Number</i>	<i>Description</i>
1	CMS-ECT-04	<u>Complete Package /w:</u> 1 CMS-ECT-CM (Control Module with Brackets and 1' Din Rail) 4 CMS-ECT-SM (Sensor Module with 10' Cable) 1 CMS-ECT-PC-10 (Power Cable – 10' – 2 Wire) 1 CMS-ECT-PTC-F (Output Cable – 1' Pig Tail – Female – 8 Wire) 1 CMS-ECT-TBK (Output Terminal Block – 8 I/O Terminals)
2	CMS-ECT-SEC	Accessory (Sensor Extension Cable – 10')
3	CMS-ECT-AEC	Accessory (Output Extension Cable – 50')
4	CMS-ECT-PTC-M	Accessory (Output Cable – 1' Pig Tail – Male)
5	CMS-ECT-PTC-F	Accessory (Output Cable – 1' Pig Tail – Female)

Contact Us

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