

CTC SERIES  
Signal Converters

CTC Series Signal Converters allow you to use an existing standard 5 A secondary or low-voltage ProteCT™ current transformer over a conductor to produce an industry standard 4–20 mA two-wire, loop-powered signal. The signal is proportional to the current in the primary circuit. The CTC series snaps onto a standard DIN rail. The sensor output is connected to the load (PLC or panel meter, etc.) and a 24 VDC power source, and the current transformer is connected to the input terminals.



Signal Converter Applications

Adding Current Monitoring for System Upgrades

- Measure an entire plant current consumption or individual machine usage.

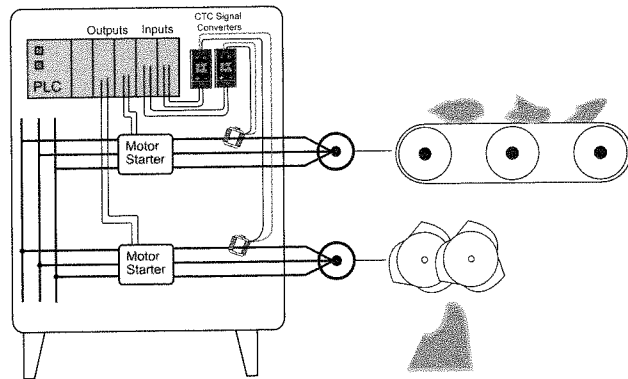
Detect Problems Before Failure Occur

- Detect bearing failures on drive motors and open discharge lines on pumps.

Tool Monitoring and Jam Protection

- Measure drive motor HP to determine tool travel or contact with work.
- Monitor motor current use to provide an indication of motor jams.
- Use existing current transformers to monitor the current, and transmit 4–20 mA industry standard output.

Crusher/Grinder/Shredder Motor Interlocks



For additional Application Examples, go to [www.nktechnologies.com/applications](http://www.nktechnologies.com/applications)

Signal Converter Features

Uses any Standard 5 A Current Transformer or the Safer ProteCT™ Low Voltage Design

- Produces a 4–20 mA signal proportional to the AC current through the CT based on CT ratio.
- Two wires in, two wires out: Couldn't be easier.

Fast and Easy Installation

- DIN rail mounted\* and 24 VDC loop-powered supply allows for quick and easy two-wire installation.

No Calibration Needed

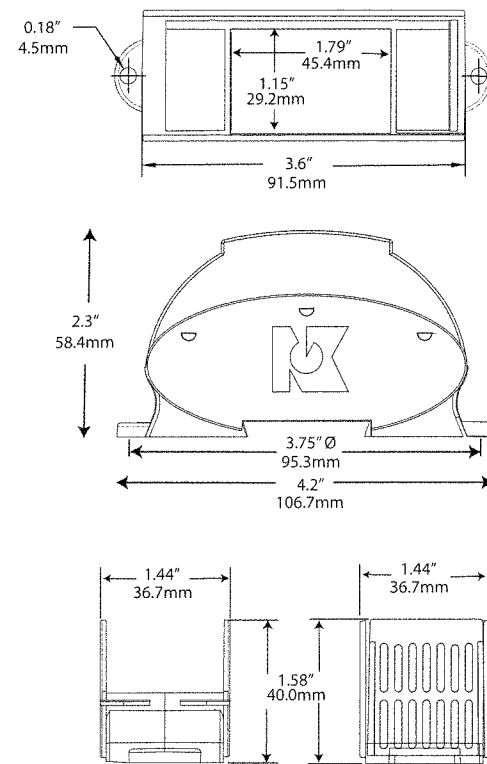
- The primary current transformer ratio provides the scaling required without any other installer intervention.

UL/cUL Approved

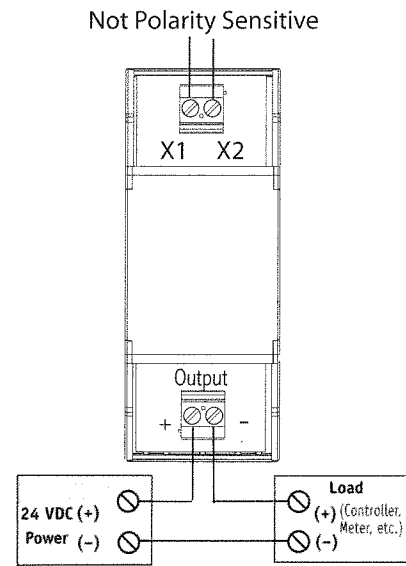
- Accepted worldwide.

\*For information on the DIN rail accessories kit, see page 140.

Signal Converter Dimensions



Signal Converter Connections



Notes:

With 5 A secondary current transformers, the secondary must be connected to a load (NK Technologies' CTC converter or other load) when energized.

With ProteCT™ type (low voltage output) current sensors, there is no chance that dangerous voltages will result if the secondary is open when there is current through the sensing window.

**OEMs** Test & Evaluation Units for OEMs  
Free program expedites evaluation process. See page 3 for details.

Signal Converter Specifications

Power Supply	24 VDC loop-powered (12–30 V)
Output	4–20 mA proportional to max. current
Output Impedance	<500Ω
Input Range	Based on current sensor ratio
Input Burden	1.67 VA max. for stated accuracy
Accuracy	1.0% FS
Response Time	100 ms (to 90% step change)
Max. Inrush Current	300% FS (6 sec. duration)
Frequency Range	10–100 Hz
Environmental	–4 to 122°F (–20 to 50°C) 0–95% RH, non-condensing
Listings	UL/cUL

Signal Converter Ordering Information

Sample Model Number: CTC333-420-24L-DIN  
Transducer accepts 333 VAC inputs from ProteCT™ current sensors, and produces a corresponding 4–20 mA signal.

	(1)	(2)	(3)	(4)
CTC	333	420	24L	DIN
(1) Input CT Type	333	0.333 VAC low voltage ProteCT™		
	05 A	5 A secondary		
(2) Output Signal	420	4–20 mA		
(3) Power Supply	24L	24 VDC loop-powered		
(4) Case Style	DIN	DIN rail mounting		

