## M HALL-EFFECT CURRENT TRANSDUCER

# CURRENT SENSOR WITH OUTPUT AMPLIFIER 5VDC OR 10VDC OUTPUTS

## DESCRIPTION

The CTG Current Transducer is a Hall-effect sensor integrated with an output amplifier. The CTG series offers a number of current ranges, outputs and sensor dimensions. Hall-effect current measurement is a non-contact technique that measures the magnetizing effects of current flowing in a conductor. This measurement type offers a number of benefits not afforded by conventional direct or contact (in-line) measurement. Some of these benefits are high electrical isolation between conductor and sensor output, high overload capability, fast response to input changes and no power consumption on measured circuit.

5 YEAR

WARRANT

#### **FEATURES**

- Accuracy of ±1% F.S.
- 2200Vac line-to-output dielectric test.
- DC to 400Hertz response.
- · Sensor and amplifier in one package.
- Available in split-core configurations.
- Output is proportional in direction and magnitude to the current flow through the window.
- Overload capability to 10 times rating (at 60Hz).
- Stability maintained during severe vibration.
- Models available to 5.000A.
- Response time less than 500 microseconds.
- · 8-foot cable length.

#### **APPLICATIONS**

- · Replaces shunts. No insertion loss.
- Ideal for use on ac systems with dc components and/or chopped waveforms.

#### ORDERING INFORMATION

Example: 300Amp Split-Core Current Sensor with ±5V Output.

CTG-301X5S

#### **SPECIFICATIONS**

OI LOII IOATIONO
INPUT
Currentdc/Peak ac
Over-current (without damage) 10 X rating
INSTRUMENT POWER Nominal±15Vdc
Range ±13Vdc to ±18Vdc
Current<±20mAdc
DIELECTRIC TEST
Conductor Through Window/Output2200Vac
Sensor size "D" (split-core)1000Vdc
OUTPUT
Load on output>2kΩ
Response Time (typical) 500µs
SaturationApprox13.5V @±15Vdc
ACCURACY AND LINEARITY±1.0% F.S.
TEMPERATURE
Temperature RangeStandard0°C to +40°C
Extended Temp. Range . add "T" suffix20°C to +60°C
Temperature Effects±0.05%/°C
PHYSICAL
Insulation600Vac
Option "Solit-core
Sensor size "D" - split-core models are not UL listed.

## Circular Window Models





Measuring Equipment 7N93

Current Range	±10Vdc Output	±5Vdc Output	Sensor Size
0 - 100A	CTG-101	CTG-101X5	D
0 - 200A	CTG-201	CTG-201X5	D
0 - 300A	CTG-301	CTG-301X5	D
0 - 400A	CTG-401	CTG-401X5	D
0 - 500A	CTG-501	CTG-501X5	E
	CTG-501FS	CTG-501FSX5	F
0 - 600A	CTG-601	CTG-601X5	Е
	CTG-601FS	CTG-601FSX5	F
0 - 800A	CTG-801	CTG-801X5	Е
	CTG-801FS	CTG-801FSX5	F
0 - 1000A	CTG-102	CTG-102X5	Е
	CTG-102FS	CTG-102FSX5	F
	CTG-102EES	CTG-102EESX5	EE
0 - 1500A	CTG-152	CTG-152X5	Е
	CTG-152FS	CTG-152FSX5	F
	CTG-152EES	CTG-152EESX5	EE
0 - 2000A	CTG-202	CTG-202X5	Е
	CTG-202FS	CTG-202FSX5	F
	CTG-202EES	CTG-202EESX5	EE
0 - 2500A	CTG-252	CTG-252X5	Е
	CTG-252FS	CTG-252FSX5	F
	CTG-252EES	CTG-252EESX5	EE
0-3000A	CTG-302EES	CTG-302EESX5	EE

## Rectangular Window Models



Current Range	±10Vdc Output	±5Vdc Output	Sensor Size
0 - 500A	CTG-501H	CTG-501HX5	Z
0 - 600A	CTG-601H	CTG-601HX5	Z
0 - 800A	CTG-801H	CTG-801HX5	Z
0 - 1000A	CTG-102H	CTG-102HX5	Z
0 - 1500A	CTG-152H	CTG-152HX5	Z
0 - 2000A	CTG-202H	CTG-202HX5	Z
0 - 3000A	CTG-302H	CTG-302HX5	Z
0 - 4000A	CTG-402H	CTG-402HX5	Z
0 - 5000A	CTG-502H	CTG-502HX5	Z

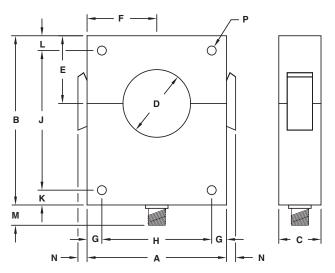
OHIO SEMITRONICS, INC.

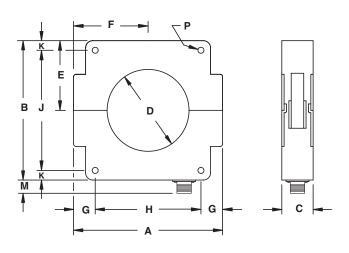
Sensor size "F" & "EE" are available in split-core only

4242 REYNOLDS DRIVE \* HILLIARD, OHIO \* 43026-1264 PHONE: (614) 777-1005 \* FAX: (614) 777-4511 WWW.OHIOSEMITRONICS.COM \* 1-800-537-6732

## **CASE DIMENSIONS D&E**

## **CASE DIMENSIONS F & EE**





SENS.						SENSO	R DIME	NSION	S						WT.
SIZE	Α	В	С	D	Е	F	G	Н	J	K	L	М	N	Р	LBS.
D	3 1/8	4	3/4	1 1/8	1 1/2	1 9/16	1/2	2 1/8	NA	1/2	NA	3/8	1/4	11/64	.75
Е	4 1/8	5	1 1/4	2	2	2 1/16	7/16	3 1/4	4 1/8	7/16	7/16	5/8	5/16	17/64	2
F	5 3/8	5 1/4	1 5/8	2 1/4	2 5/8	2 11/16	1 1/16	3 1/4	4 1/8	9/16	NA	5/8	NA	1/4	2.8
EE	7 3/4	7 1/4	1 5/8	4 1/4	3 5/8	3 7/8	1 1/8	5 1/2	6 1/4	1/2	NA	5/8	NA	5/16	4.5
Z	7 3/16	3 3/4	1 1/8	$1^{1}/4 \times 4^{1/2}$	2 1/16	3 1/2	1	5	1 7/8	5/16	NA	3/8	1/4	3/16	2.8

All Dimensions in Inches

## **CASE DIMENSIONS Z**

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## **CONNECTIONS**

	E1 SENS		, -
Plastic	Connector		
8' Rul	ober Cable		
Pins	Leads		
1	WHITE	-	OUTPUT *
2	GREEN	+	
6	BLACK	-15V	
8	RED	+15V	INPUT
1	WHITE	COM	
TABLI	E 2 SENSO	OR SIZES	S E, EE, F
Metal	Connector		
	Connector ober Cable		
			· · ·
8' Ruk	ober Cable		, ,
8' Rub Pins A B	ober Cable Leads	- +	, ,
8' Ruk Pins A	ber Cable Leads WHITE	- + - 15V	, ,
8' Rub Pins A B	ober Cable Leads WHITE GREEN		OUTPUT *

<sup>\*</sup> For positive output, positive current cable must enter window through "Red Dot" side of sensor.

Power supply available by using CTA800-P.

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# INSTALLATION & OPERATING INSTRUCTIONS MODEL CTG-

## **INSTALLATION INSTRUCTIONS**

- 1. Installation should be performed by qualified electricians only!
- Make sure electrical service is disconnected before making any electrical connections.
- 3. Branch circuit protection is required to be provided in accordance with the National and Local codes of the inspection authority.
- 4. Route wires as required and secure to terminals per connection diagram on this sheet and on the unit.
- 5. Transducers are suitable for installation on 600Vac lines.

#### **OPERATING INSTRUCTIONS**

- 1. This unit is intended for indoor use at altitudes up to 2000 meters.
- 2. Transient overvoltages according to Installation Category (overvoltage category) II, pollution Degree 2.
- 3. The output signal is intended to be "Not accessible to the user." To prevent contact with live circuits, the transducer is required to be mounted in an enclosure that requires the use of a tool for access.
- 4. If cleaning of the exterior surface is necessary, de-energize all services of supply (both measuring and instrument power circuits) and brush with a soft brush or blow off with low-pressure air. Use appropriate eye protection. Not suitable for hose-down cleaning.
- 5. Maximum relative humidity is 80 percent for temperatures up to 31°C decreasing linearly to 50 percent relative humidity at 40°C.
- 6. Maximum operating temperature range is -20°C to 60°C (refer to specifications for accuracy).



UL approved for USA and Canada

Direct Current (dc)

#### WARRANTY STATEMENT

Ohio Semitronics Inc. warrants this unit to be free of defects in material and workmanship for a period of five years from date of shipment. This unit must not be used in any manner other than as specified in this document.