

## 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.

### FEATURES

- Accuracy of  $\pm 1\%$  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.

**5 YEAR WARRANTY**

### Circular Window Models



Measuring Equipment  
7N93

### 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  $\pm 5V$  Output.  
**CTG-301X5S**

### SPECIFICATIONS

#### INPUT

Current..... (See table) ..... dc/Peak ac  
Over-current (without damage)..... 10 X rating

**INSTRUMENT POWER** .... Nominal.....  $\pm 15Vdc$   
Range .....  $\pm 13Vdc$  to  $\pm 18Vdc$   
Current.....  $< \pm 20mA$ dc

#### DIELECTRIC TEST

Conductor Through Window/Output ..... 2200Vac  
Sensor size "D" (split-core) ..... 1000Vdc

#### OUTPUT

Load on output .....  $> 2k\Omega$   
Response Time ..... (typical) 500 $\mu s$   
Saturation..... Approx. .... 13.5V @  $\pm 15Vdc$

**ACCURACY AND LINEARITY** .....  $\pm 1.0\%$  F.S.

#### TEMPERATURE

Temperature Range ..... Standard.....  $0^{\circ}C$  to  $+40^{\circ}C$   
Extended Temp. Range . add "T" suffix .....  $-20^{\circ}C$  to  $+60^{\circ}C$   
Temperature Effects .....  $\pm 0.05\%/^{\circ}C$

#### PHYSICAL

Insulation..... 600Vac  
Option "S" ..... Split-core

Sensor size "D" - split-core models are not UL listed.  
Sensor size "F" & "EE" are available in split-core only

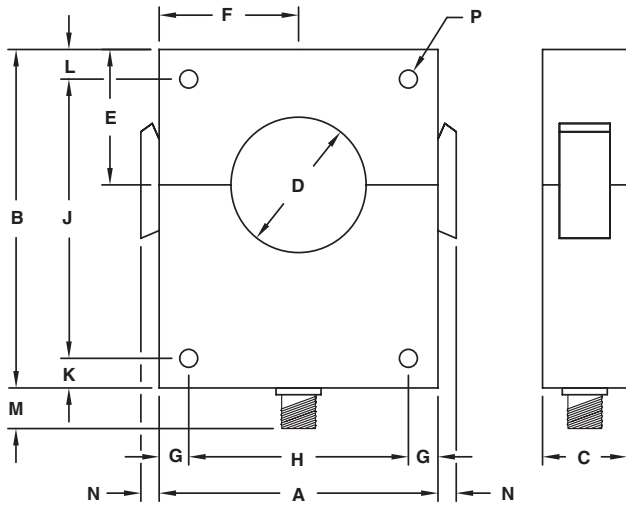
Current Range	$\pm 10Vdc$ Output	$\pm 5Vdc$ Output	Sensor Size
0 - 100A	CTG-101	CTG-101X5	D
0 - 200A	CTG-201	CTG-201X5	D
0 - 300A	CTG-301	CTG-301X5	D
0 - 400A	CTG-401	CTG-401X5	D
0 - 500A	CTG-501	CTG-501X5	E
	CTG-501FS	CTG-501FSX5	F
0 - 600A	CTG-601	CTG-601X5	E
	CTG-601FS	CTG-601FSX5	F
0 - 800A	CTG-801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

### Rectangular Window Models

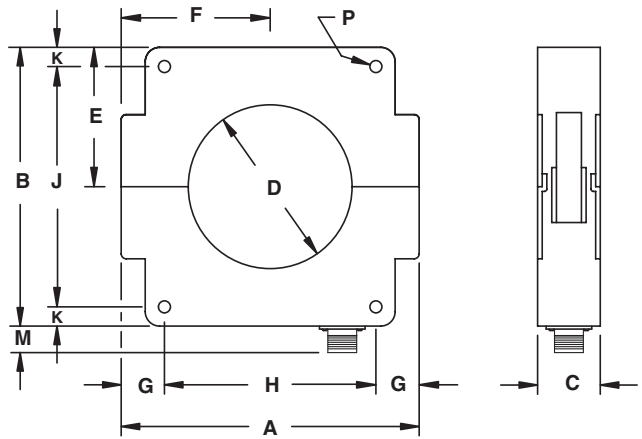


Current Range	$\pm 10Vdc$ Output	$\pm 5Vdc$ Output	Sensor Size
0 - 500A	CTG-501H	CTG-501HX5	Z
0 - 600A	CTG-601H	CTG-601HX5	Z
0 - 800A	CTG-801H	CTG-801HX5	Z
0 - 1000A	CTG-102H	CTG-102HX5	Z
0 - 1500A	CTG-152H	CTG-152HX5	Z
0 - 2000A	CTG-202H	CTG-202HX5	Z
0 - 3000A	CTG-302H	CTG-302HX5	Z
0 - 4000A	CTG-402H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

**CASE DIMENSIONS D & E**



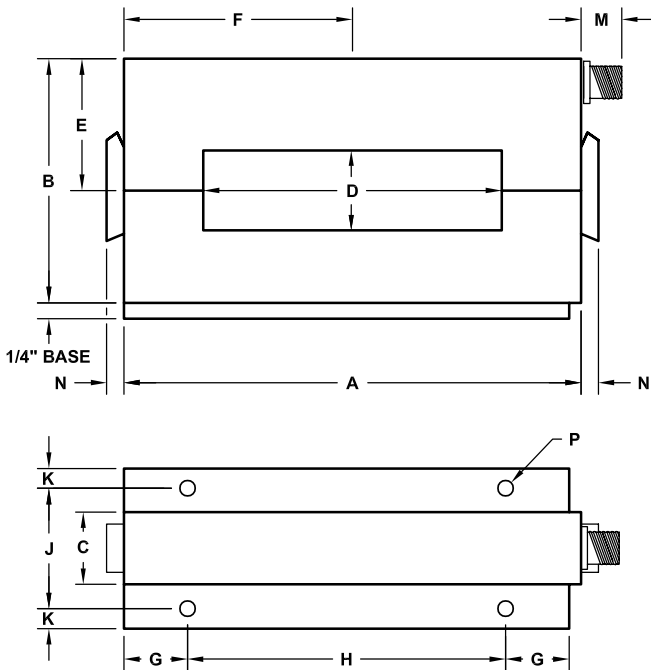
**CASE DIMENSIONS F & EE**



SENS. SIZE	SENSOR DIMENSIONS														WT. LBS.
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	
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
E	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 x 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**



**CONNECTIONS**

TABLE 1 SENSOR SIZES D, Z			
Plastic Connector			
8' Rubber Cable			
Pins	Leads		
1	WHITE	-	OUTPUT *
2	GREEN	+	
6	BLACK	-15V	
8	RED	+15V	INPUT
1	WHITE	COM	

TABLE 2 SENSOR SIZES E, EE, F			
Metal Connector			
8' Rubber Cable			
Pins	Leads		
A	WHITE	-	OUTPUT *
B	GREEN	+	
C	BLACK	- 15V	
D	RED	+15V	INPUT
A	WHITE	COM	

\* For positive output, positive current cable must enter window through "Red Dot" side of sensor. Power supply available by using CTA800-P.

