

# OSI HALL-EFFECT DC CURRENT TRANSDUCER MODEL CTH-

## CURRENT SENSOR WITH OUTPUT AMPLIFIER 4-20mA, 5Vdc OR 10Vdc OUTPUT

### DESCRIPTION

The CTH Series Current Transducer is a Hall-effect sensor integrated with an output amplifier. The CTH Series Current Transducer offers a 4-20mA, 4-12-20mA, 5V, or 10V output and can be operated from either a 24Vdc source or a low-cost 24Vac control transformer. Available options are split-core, extended temperature range, ruggedized design and 12Vdc or 15Vdc instrument power.

### FEATURES

- **ACCURACY 0.5%**
- Sensor & Amplifier in one package
- Output is proportional in direction and magnitude to the current flow through the window. (ac input yields ac output, dc input yields dc output)
- Available in split-core configurations
- Replaces shunts. No insertion loss.

**5 YEAR WARRANTY**

### ORDERING INFORMATION

Example: 0-300Adc Input, 4-20mA Output, Split-Core Option and Extended Temperature Range, with 15Vdc Instrument Power.

**CTH-301LST-15**

Power supply available by using the PS-4753-5 or -6.

### SPECIFICATIONS

#### INPUT

Current ..... See Tables ..... dc or Peak ac  
Over-current ..... 10 X rating

#### INSTRUMENT POWER

Standard ..... 24Vdc (only), ±10%  
Instrument Current ..... 25mA + load current

#### DIELECTRIC TEST

Bare Bus to Output ..... 3750Vac

#### OUTPUT

Load ..... 4-20mA models ..... 0-500Ω  
5 & 10V models ..... >2KΩ  
Response Time (to 90%) ..... 500µs, typical

#### TEMPERATURE

Temperature Effects..(0°C to +40°C) ..... ±0.025%/°C  
Temperature Range ..... 0°C to +40°C  
Extended Temp. Range ..... -40°C to +60°C

#### ACCURACY AND LINEARITY

CTH-050, CTH-050M, CTH-050X5, CTH-050D ..... ±1.0% F.S.  
CTH-025, CTH-025M, CTH-025X5, CTH-025D ..... ±2.0% F.S.  
All Other Models ..... ±0.5% F.S.

#### AVAILABLE OPTIONS

Add Suffix in order shown:  
Split-Core ..... Add suffix "S"  
Extended Temperature Range ..... Add Suffix "T"  
Ruggedized (potted) ..... Add Suffix "R"  
Instrument Power ..... 12Vdc, ±10% ..... Add Suffix "-12"  
15Vdc, ±10% ..... Add Suffix "-15"  
Consult factory for low voltage ac, (i.e. 24Vac)  
instrument power options.

### MODEL SELECTION

#### Circular Window Models



STANDARD OUTPUT		MODEL CTH-			
Input DC Current	4-20mA dc Output	4-12-20mA dc Output	±5Vdc Output	±10Vdc Output	Sensor Size
0-25	025	025M	025X5	025D	B
0-50	050	050M	050X5	050D	B
0-100	101	101M	101X5	101D	B
0-100	101L	101LM	101LX5	101LD	D
0-200	201L	201LM	201LX5	201LD	D
0-300	301L	301LM	301LX5	301LD	D
0-400	401L	401LM	401LX5	401LD	D
0-500	501L	501LM	501LX5	501LD	E
0-500	501FLS	501FLMS	501FSX5	501FSD	F
0-600	601L	601LM	601LX5	601LD	E
0-600	601FLS	601FLMS	601FSX5	601FSD	F
0-800	801L	801LM	801LX5	801LD	E
0-800	801FLS	801FLMS	801FSX5	801FSD	F
0-1000	102L	102LM	102LX5	102LD	E
0-1000	102FLS	102FLMS	102FSX5	102FSD	F
0-1000	102EELS	102EELMS	102EESX5	102EESD	EE
0-1200	122L	122LM	122LX5	122LD	E
0-1200	122FLS	122FLMS	122FSX5	122FSD	F
0-1200	122EELS	122EELMS	122EESX5	122EESD	EE
0-1500	152L	152LM	152LX5	152LD	E
0-1500	152FLS	152FLMS	152FSX5	152FSD	F
0-1500	152EELS	152EELMS	152EESX5	152EESD	EE

Split-Core option "S" is available except for sensor size B.  
All sensor size F, EE, and Z are standard split-core.  
Consult factory if solid core is desired in these models.

#### Rectangular Window Models

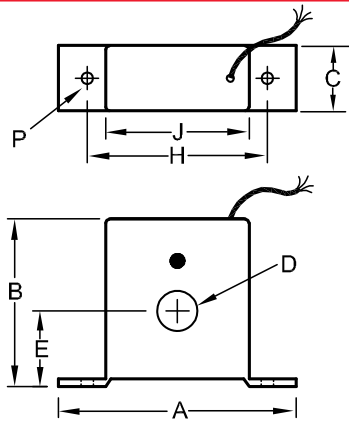


STANDARD OUTPUT		MODEL CTH-			
Input DC Current	4-20mA dc Output	4-12-20mA dc Output	±5Vdc Output	±10Vdc Output	Sensor Size
0-500	501HS	501HMS	501HX5S	501HDS	Z
0-600	601HS	601HMS	601HX5S	601HDS	Z
0-800	801HS	801HMS	801HX5S	801HDS	Z
0-1000	102HS	102HMS	102HX5S	102HDS	Z
0-1200	122HS	122HMS	122HX5S	122HDS	Z
0-1500	152HS	152HMS	152HX5S	152HDS	Z

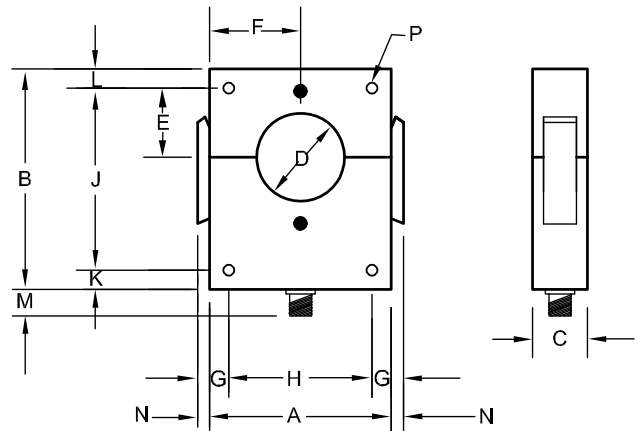
# OHIO SEMITRONICS, INC.

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

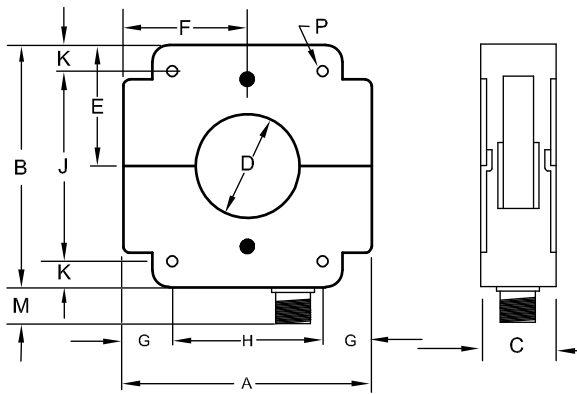
### CASE DIMENSIONS B



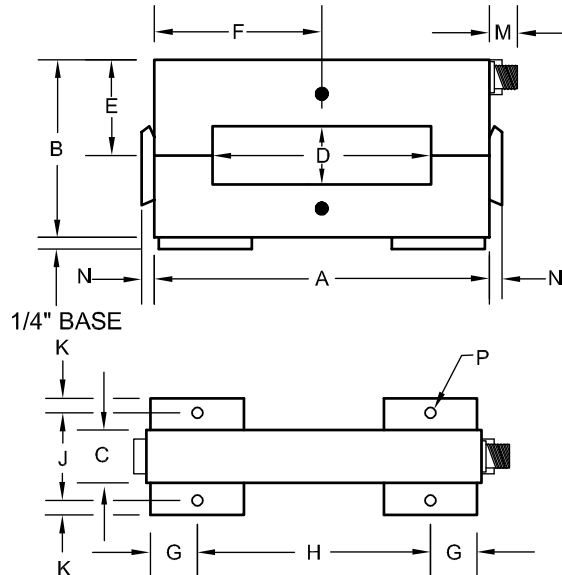
### CASE DIMENSIONS D & E



### CASE DIMENSIONS F & EE



### CASE DIMENSIONS Z



Dwg# 0902-01061-B Rev --

SENS. SIZE	SENSOR CASE DIMENSIONS (inches)														WT. LBS.
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	
B	3 5/8	2 9/16	1	5/8	1 5/32	NA	NA	2 3/4	2 3/16	NA	NA	NA	NA	3/16	0.2
D	3 1/8	4	25/32	1 1/8	1 1/2	1 9/16	1/2	2 1/8	NA	1/2	NA	3/8	1/4	11/64	0.75
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	2.0
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 15/16	1 5/16	1 1/4 x 4 1/2	2 9/64	3 1/2	1	5	1 7/8	5/16	NA	1/2	5/16	3/16	2.8

CONNECTIONS (8 ft., NON-DETACHABLE, 22AWG) B SENSOR CABLE					
CONNECTIONS (8 ft., DETACHABLE, 18 AWG) D, E, F, EE, Z SENSOR CABLE					
SENSOR SIZE B, D, Z			SENSOR SIZE E, EE, F		
CONN. PINS	WIRE COLOR	IDENTIFICATION	CONN. PINS	WIRE COLOR	IDENTIFICATION
1	WHITE	-	A	WHITE	-
2	GREEN	+	B	GREEN	+
6	BLACK	COM	C	BLACK	COM
8	RED	+24V	D	RED	+24V
		OUTPUT*			OUTPUT*
		INST. PWR.			INST. PWR.

\*For positive output, insert positive current cable through "red dot" side of sensor.

Power supply available by using the PS-4753-5 or -6.