

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 a 24Vdc source. 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, ±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 Range 0°C to +40°C
Extended Temp. Range ... ("T") -40°C to +60°C
Temperature Effects ±0.025%/°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

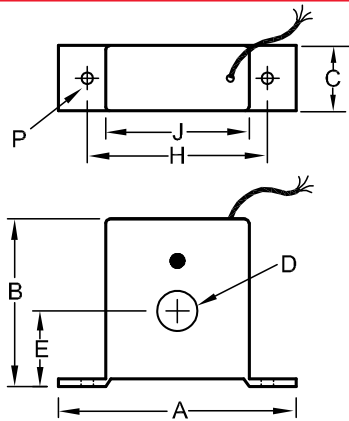


| STANDARD OUTPUT | | MODEL CTH- | | | |
|------------------|------------------|---------------------|--------------|---------------|-------------|
| Input DC Current | 4-20mA dc Output | 4-12-20mA dc Output | ±5Vdc Output | ±10Vdc Output | Sensor Size |
| 0-500 | 501HS | 501HMS | 501HX5S | 501HDS | 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 |

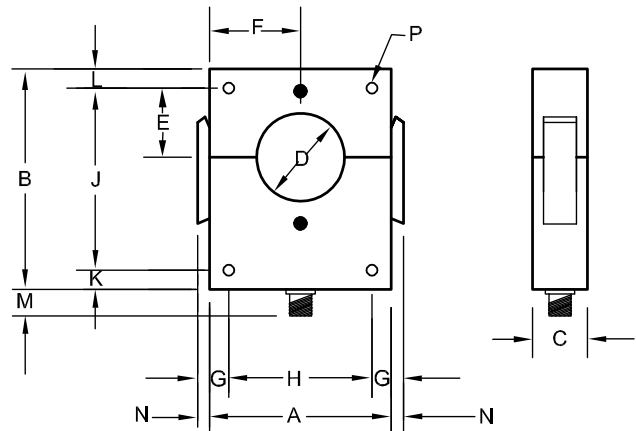
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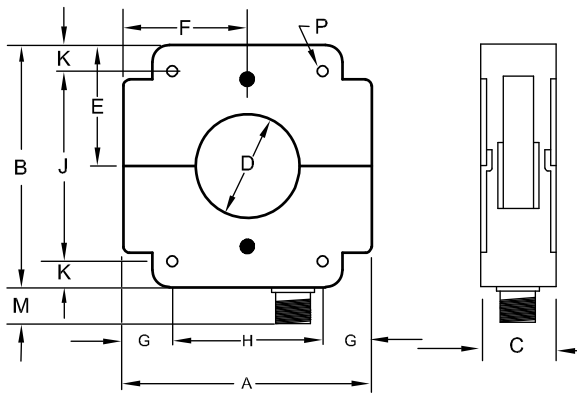
CASE DIMENSIONS B



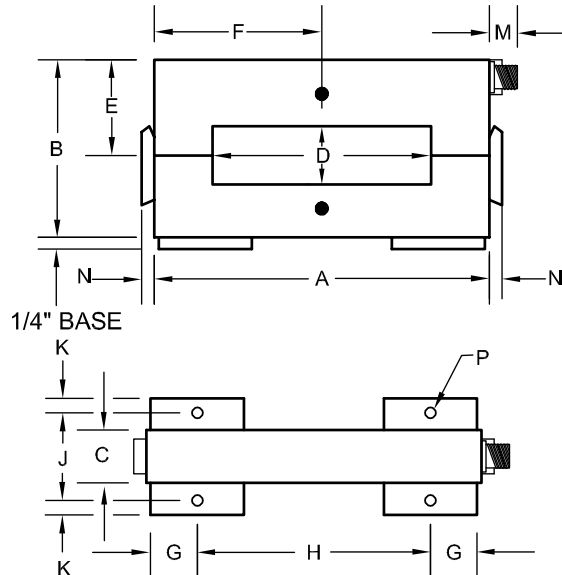
CASE DIMENSIONS D & E



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.

Do not tie white & black wires together.