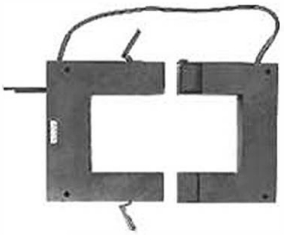
Hall Effect Current Sensors CTH Types G, 10 and 11

RECTANGULAR WINDOW (BUS BAR)

Type G



Type 10

Type 11

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Measuring Equipment 7N93

5 YEAR WARRANTY

SPECIFICATIONS

Accuracy and Linearity
- 2500A to 20000A ..... ±1% F.S.
- 20000A to 40000A ..... ±2% F.S.

Excitation Current 200mA

Temperature Range
- Standard ..... -10°C to +40°C
- Extended ..... -40°C to +65°C

Add suffix "T" to part number.

Temperature Effects ..... ±1% F.S.
- 20,000A & up Extended Range ..... ±2% F.S.

Input Resistance (Ohms)
- 500-5000A models ..... 23 Ohms ±5
- 6000A + models ..... 12 Ohms ±5

Output Resistance (Ohms)
- 500-5000A models ..... 25 Ohms ±15
- 6000A + models ..... 32 Ohms ±10
- Initial Offset ..... ≤ ±2mV

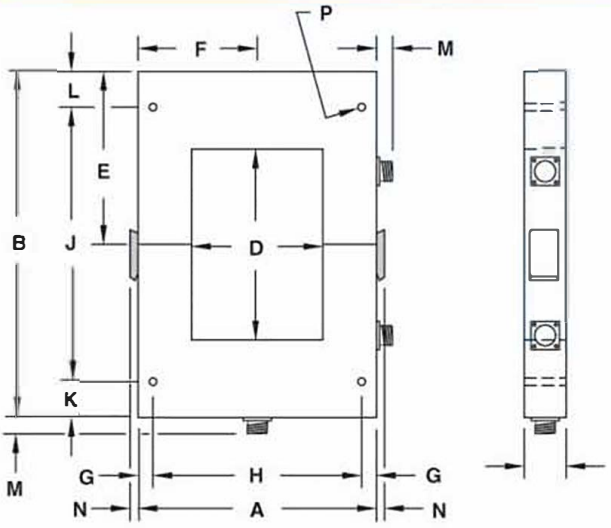
Options

Extended temperature range (-40°C to +65°C)
Add suffix "T" to model number.

Current range is listed in dc/peak ac.
Cable Insulation 600Vac
Dielectric Test
(conductor through window/output) ... 2200Vac

Sensor size 10 & 11 above 12000A available in split-core only

CASE DIMENSIONS G, 10, 11



For Ordering Information please see page 3

Note: To take apart Type 11 units the red screws must be removed in addition to opening the latches.

CABLE LENGTHS
All units are supplied with detachable 8 foot cable
Custom cable lengths available upon request
See page 2 for cable connections

SENS SIZE	SENSOR DIMENSIONS													WT.
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	LBS.
G	7 3/4	12	1 3/4	3 X 6 1/2	6	3 7/8	5/8	6 1/2	10 3/4	5/8	5/8	5/8	5/16	9/32	12.3
10	10	13 3/4	1 3/4	5 1/2 X 8	6 1/2	5	5/8	8 3/4	11 1/2	3/4	1 1/2	5/8	5/16	9/32	13
11	21	21	2	13 X 13	10 1/2	10 1/2	1 1/2	18	18	1 1/2	1 1/2	5/8	11/16	3/8	22

All dimensions in inches

Powertek

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Rev-C 012907

CTH Signal Conditioners — CTH Types G, 10 and 11

DESCRIPTION

The CTH Signal Conditioner provides the excitation current (instrument power) that the CTH Hall effect sensor requires as well as amplifying the low level (mV) signal into a more typical signal. The CTH is calibrated to the output of the specific CTH Type selected for the application. Each CTH conditioner has a specific input range (mV) which corresponds to the output of the CTH Sensor.

The CTH family has two different types, Instantaneous and RMS (CTHR). Instantaneous models provide an isolated output that is directly proportional to the amplitude and frequency of the input signal. If the input signal is ac, then the output signal is ac. If the input signal is dc, then the output signal is dc. The RMS output models provide a dc output which is directly proportional to the RMS of the input signal. The output is dc regardless of whether the input is ac or dc. Each type has four output options: 1mA, 4-20mA, 4-12-20mA, 10V or 5V. DC instrument power options are available from 12 to 48Vdc along with 125Vdc, 115Vac and 230Vac, see specifications.

To select the proper CTH model you will need to refer to the ordering examples on the following page.

Caution: Connect CTH Sensor to terminals 1, 2, 3 & 4 before applying instrument power to terminals 7 & 8.

SPECIFICATIONS

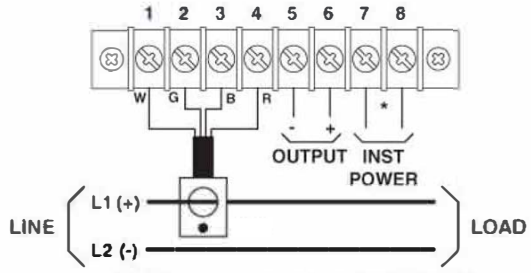
INPUT

Frequency Range ..... dc - 5000 Hz
Instrument Power ..... 115Vac, 50 - 400Hz, 2VA
Option "**-22**" ..... 230Vac, 50/60Hz, ±15%
DC Instrument Power
12Vdc 9-18Vdc
24Vdc 18-36Vdc
48Vdc 36-60Vdc
125Vdc Using external MDR **PSU**..... 90-250Vdc

OUTPUT

Linearity ..... ± 0.1% F.S.
Output Ripple ..... Less than 0.25% F.S.
Field Adjustable Gain 25%
Output Loading (Ohms)
1mA ..... 0 - 10K
10V, 5V ..... 2K min.
4 - 20mA ..... 0 - 500
Response time (to 90%)
Direct models ..... 40 microseconds
RMS models ..... 200 milliseconds
Temperature Effect ..... (0°C to +70°C) ..... ±0.005%/°C

CONNECTIONS



White ..... sensor output signal (-)
Green ..... sensor output signal (+)
Black ..... sensor excitation (-)
Red ..... sensor excitation (+)

*DC Inst. Pwr. positive on Term. 8 All shields tied to terminal 3

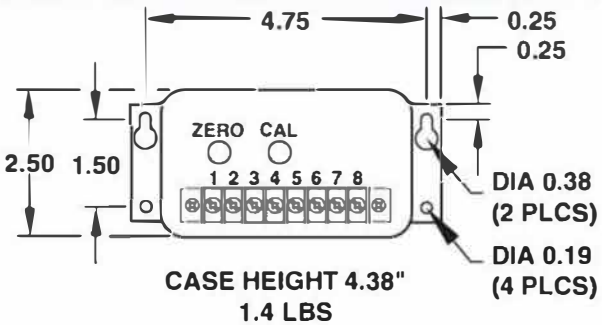
OUTPUT CABLE DESIGNATIONS

SENSOR SIZE
G, 10, 11

PINS	COLOR	SIGNAL
A	WHITE	OUTPUT (-)
B	GREEN	OUTPUT (+)
C	BLACK	EXCITATION (-)
D	RED	EXCITATION (+)
E	SHIELD	SHIELD

Red dot side of CTL must face positive supply.

CASE DIMENSIONS



CASE HEIGHT 4.38"
1.4 LBS
All dimensions in inches

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CTH ORDERING EXAMPLES

Input 0-2500Adc Output 4-20mA Split Core
Aperture size 76.2mm (3.0") x 165.1mm (6.5")
Type G Core 24V dc power
Part number = CTH/2500A/4-20/SC/24Vdc Type G

Input ±0-10000Adc Output ±0-5V Split Core
Aperture size 140mm (5.5") x 203mm (8")
Type 10 Core 24V dc power
Part number = CTH/10000A/5/SC/24Vdc Type 10

Input ±0-4000Adc Output ±0-10V Split Core
Aperture size 76.2mm (3.0") x 165.1mm (6.5")
Type G Core 12V dc power
Part number = CTH/4000A/10/SC/12Vdc Type G

Input ±0-25000Adc Output 4-12-20mA Split Core
Where 4mA = -25000A,12mA = 0A, 20mA = +25000A
Aperture size 330mm (13") x 330mm (13")
Type 11 Core 24V dc power
Part No. = CTH/25000A/4-12-20/SC/24Vdc Type 11

Input ±0-6000Adc Output 4-12-20mA Split Core
Where 4mA = -6000A,12mA = 0A, 20mA = +6000A
Aperture size 76.2mm (3.0") x 165.1mm (6.5")
Type G Core 24V dc power
Part No. = CTH/6000A/4-12-20/SC/24Vdc Type G

Input ±0-5000Adc Output ±0-10V Split Core
Hole size 140mm (5.5") x 203mm (8")
Type 10 Core 48V dc power
Part number = CTH/5000A/10/SC/48Vdc Type 10

Input 0-4000Arms Output 0-10V Split Core
DC Output proportional to Arms
Aperture size 76.2mm (3.0") x 165.1mm (6.5")
Type G Core 24V dc power
Part number = CTHR/4000A/10/SC/24Vdc Type G

INSTALLATION INSTRUCTIONS

1. Installation should be performed by qualified electricians only!
2. 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.
6. To prevent contact with live circuits, when installed on a bare bus bar, the transducer is required to be mounted in an enclosure that requires the use of a tool for access. When installed on an insulated cable this second enclosure is not required.

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. 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.
4. Maximum relative humidity 80 percent for temperatures up to 31° C decreasing linearly to 50 percent relative humidity at 40° C.
5. Maximum operating temperature range is -20°C to 60°C.

c UL us LISTED

UL approved for USA and Canada

⎓

Both Direct (dc) and Alternating (ac) current

WARRANTY STATEMENT

Powertek, 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.

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