Powertek

DC current sensors, dc current transducers, dc current probes

Converting dc current to an isolated 0-100mV, 0-1V, 0-2V, 0-5V, 0-10V, 0-20mA, 4-20mA or 5-25mA

The CTH sensors convert dc current to an isolated voltage output with the ability to track ac waveshapes. The CTH output is a faithful reproduction of the measured current, whether ac or dc. All popular process control voltage and current loop outputs are available. Through hole or split core options mean that connection is non-intrusive and straightforward. The available input range of the CTH sensors is any value from 1A to 40000Adc. Optional dc offset control allows nulling of residual dc current to ensure best use of the output span. The sensor power input is designed to operate over a wide voltage range associated with process control and sub-station auxiliary dc supply systems. Active Hall Effect sensor technology allows measurement from DC-150kHz (depending on the sensor type) along with fast step response. The CTH can be used to provide an instantaneous output for ac currents. Typical applications are found in process control systems like PLC or SCADA, transportation, telecommunications, dc drives, welding and circuit breaker trip coils. For all CTH models, a NIST/NPL (UKAS) traceable calibration certificate and certificate of conformance is supplied.

CTH Type 5 split core

Type 5 current range
DC-25kHz 20A - 400A.
21mm hole
As standard the sensor is supplied connected via a 90cm (36" cable)

CTH Type 1 through hole

Type 1 current ranges:
1A through 100A
10 x 13.5mm hole
Type 2 current ranges:
0-5A to 0-600A, 25.5mm

Sensor is box or cable mounted.

CTH Type 2 through hole

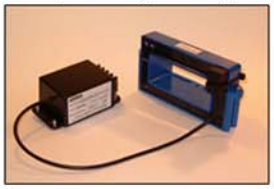
Type 2 current range 2A - 600A
24-5mm hole via a 90cm (36") cable. As standard the sensor is supplied connected via cable.

CTH Type 4 mini

Type 8 mini split core
DC-400Hz

Type 8 mini Hole: 28.5mm (1.125") round hole.
Current ranges:
100A through 1000A
240cm (8') cable.

CTH split core Type 6 & Type 7



Hole: 104 (4.09") x 40 mm (1.57")
Current ranges:
From 200A to 4000A

CTH split core Type 7
Hole: 163mm (6.42") x 50mm (2")
Current ranges:
From 500A to 4000A

As standard the sensor is supplied connected via a 90cm (36") cable.

ISCTH Type 8 ATEX and UL approved for Instrinsically safe environments

Model ISCTH type 8 intrinsically safe, models from 100A to 2500A

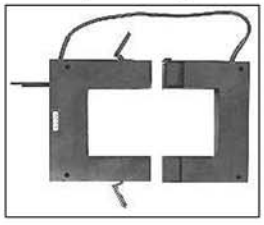
Molded integral cable for intrinsically safe connection

50mm (2") round hole Outer: 127mm (5") x 105mm (4.125") x 31.75mm (1.25")
Current ranges: 100A through 2500A

CTH Type 4 and CTH split core Type 8

Hole: 50mm (2") round hole
Current ranges:
CTH 200A through 2500A
240cm (8') cable.

CTH split core Type 10



CTH Hole size 140mm (5.5") x 203mm (8"). Current ranges 5000A through 20000A
240cm (8') cable.

CTH split core Type 11
CTH aperture 330mm (13") x 330mm (13"). Current ranges: 25000A through 40000Adc
240cm (8') cable.

CTH Type 9z

Hole: 115mm x 33mm (4.5" x 1.25") rectangular hole

Current ranges:
CTH 200A through 3000A
240cm (8') cable.

DC current transducer general specifications	
Ranges	Depending on core type: 1A / 2A / 5A / 10A / 20A / 30A / 40A / 50A / 100A / 200A / 500A / 1000A / 2000A / 3000A / 4000A / 5000A / 6000A / 10000A / 20000A / 25000A / 30000A / 35000A / 40000A Amps peak
Outputs	0-100mV, 0-1V, 0-2V, 0-5V, 0-10V or 0-20mA, 4-20mA or 5-25mA outputs. All CTH outputs can be bipolar / instantaneous. Non-standard outputs are available.
Core type	Through hole or split core clamp type, based on dc Hall Effect sensing
Insulation voltage rating	Type 1, 2 & 5 rated insulation (Galvanic) 2.5kVpk 1 min 50/60Hz. Type 6 & 7 3kVpk 1 min 50/60Hz. Type 4 & 8 5kVpk 1 min 50/60Hz
Power input	5Vdc / 12Vdc / 24Vdc / wide range 9-36Vdc / 48Vdc / 72Vdc / 110Vdc / 125Vdc / 250Vdc / 115Vac / 230Vac - all fuse, polarity and surge protected
Accuracy	±0.5% for a non split core, ±1.0% for a split core. Conditions +23°C ±5°C, traceable to UKAS NPL/NIST USA
Working temperature range	Typically -20°C - 65°C (can be extended, check for exact model). Functional temperature range –20°C - 70°C (check for each model). CTH types 1 & 2 are –40°C - 85°C (sensor head only)
Protection	Input fuse, output fuse, power input polarity diode, spike suppression
Frequency response	Depending on sensor type/model. Type 1 & 2 DC-150kHz max. Type 4 mini, 4, 5, 6, 7, 8 mini, 8 maxi, 8, 9 & 9z split cores are DC-10kHz max. Standard HF cut-off filter is 1.5kHz (other values available)
Adjustment	Internal dc offset and gain controls
Mounting	All signal conditioners and sensors have fixing points. Current sensors up to 400A can be mounted on the signal conditioner case or via a cable.
Approvals	CE Marked, IEC1010 cat II & IEC348, UL/CSA rated materials. Self extinguishing materials to UL94V0
Warranty	2 year warranty

Type	Hole Dimensions	Outer Dimensions
1 through hole core	13.5mm (0.53″) x 10mm (0.39″)	145mm (5.71″) x 95mm (3.74″) x 38mm (1.50″)
2	24.5mm	67mm (2.625″) x 60mm (2.375″)
4 mini	28.5mm (1.125″) round hole	102mm (4″) x 80mm (3.125″) x 19mm (0.75″)
4 core	50mm (2″) round hole	127mm (5″) x 105mm (4.125″) x 31.75mm (1.25″)
5 split core	21mm (0.83″)	69mm (2.75″) x 46mm (1.8″) x 22mm (0.875″)
6 split core	104 (4.09″) x 40mm (1.57″)	159mm (6.26″) x 85mm (3.35″)
7 split core	163mm (6.42″) x 50mm (2″)	233mm (9.17″) x 95mm (3.74″)
8 mini split core	28.5mm (1.125″) round hole	102mm (4″) x 80mm (3.125″) x 19mm (0.75″)
8 split core	50mm (2″) round hole	127mm (5″) x 105mm (4.125″) x 31.75mm (1.25″)
8 maxi split core	57.15mm (2.25″) round hole	136.5mm (5.375″) x 133.35mm (5.25″) x 41.28mm (1.625″)
8 ATEX and UL approved	50mm (2″) round hole	127mm (5″) x 105mm (4.125″) x 31.75mm (1.25″)
9	76.2mm x 165mm (3″ x 6.5″) rectangular hole	196.85mm x (7.75″) x 304.8mm (12″) x 44.45mm (1.75″)
9z	115mm (4.5″) x 33mm (1.25″)	182.54mm (7.187″) x 95.25mm (3.75″)
10 split core	140mm (5.5″) x 203mm (8″)	254 (10″) x 350 (13.75″)
11 split core	330mm (13″) x 330mm (13″)	534mm (21″) x 534mm (21″)

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