

DESCRIPTION

The CTA Signal Conditioner provides the excitation current required by the CTL family of Hall-effect sensors, as well as amplifying the low-level (mV) output signal to more typical levels.

Both Direct and RMS types are available:

Direct models provide an output that is a proportionately scaled replica of the measured input. These models are typically used in dc applications.

RMS models provide an output that is proportional to the true RMS value of the input. The output is a positive dc value regardless of whether the input is ac, dc or ac/dc. These models are typically used in ac or ac/dc applications.

The table on the following page shows appropriate CTL/CTA combinations with available CTA output options.

5 YEAR WARRANTY



ORDERING INFORMATION

Example: 0-2000A dc, split-core, size E sensor, $\pm 0.5\%$ F.S. accuracy, 4-20mA direct output, 24Vdc instrument power
CTL-202S/2000 and CTA212P-24

CTA SPECIFICATIONS

INPUT (from CTL)

Standard (no option letter in model).....	0-50mV
Option "R".....	0-35mV
Option "F".....	0-40mV
Option "G".....	0-60mV
Option "H".....	0-75mV
Option "J".....	0-80mV
Option "W".....	0-90mV
Option "P".....	0-100mV
Option "N".....	0-120mV
Option "K".....	0-150mV
Option "L".....	0-200mV
Frequency Range (of CTA Signal Conditioner only).....	dc-5000Hz

OUTPUT

Field-adjustable Span.....	$\pm 25\%$
Loading	
1mA output.....	0-10k Ω
10V or 5V output.....	$\geq 2k\Omega$
4-20mA output.....	0-500 Ω
Response time (to 90%)	
Direct models.....	80 μ s
RMS models.....	300ms

INSTRUMENT POWER

Standard.....	115Vac, $\pm 15\%$, 50/60Hz, 10VA
Option "-22".....	230Vac, $\pm 15\%$, 50/60Hz, 10VA
Option "-12".....	9-18Vdc, 5W
Option "-24".....	18-36Vdc, 5W
Option "-48".....	36-60Vdc, 5W

ACCURACY

Linearity.....	$\pm 0.1\%$ F.S.
Output Ripple (RMS Models).....	$\leq 1.0\%$ F.S.

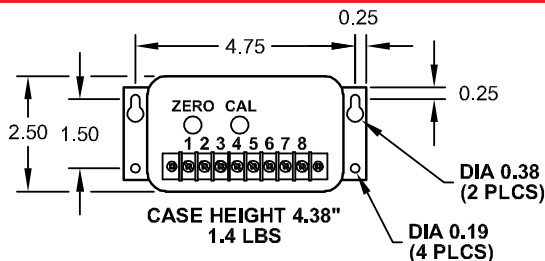
DIELECTRIC TEST

Options: Standard, "-22"	
Instrument power to Input/Output/Excitation Current.....	2200Vac
Can to Input/Output/Excitation Current.....	500Vac
Options: "-12", "-24", "-48"	
Instrument power to Input/Output/Excitation Current.....	1000Vdc
Can to Input/Output/Excitation Current.....	500Vdc

TEMPERATURE

Operating Range.....	0°C to +70°C
Effect.....	$\pm 0.005\%/^{\circ}\text{C}$

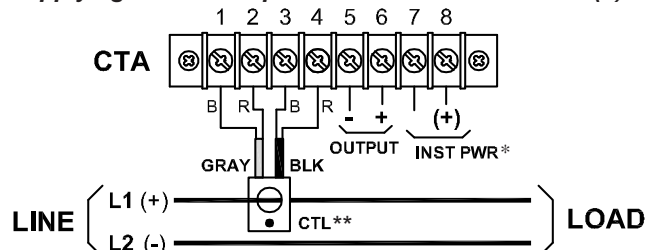
CTA CASE DIMENSIONS



DIMENSIONS ARE IN INCHES
 TOLERANCE = ± 0.03 UNLESS NOTED. Dwg# 0902-00922-B Rev --

CONNECTION DIAGRAMS

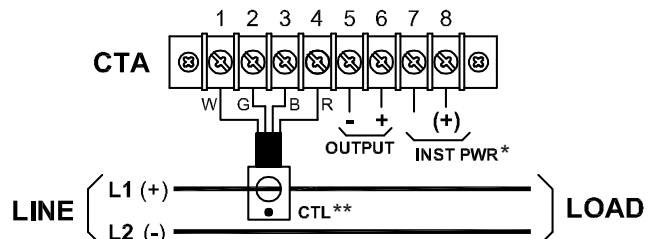
Caution: Connect CTL to CTA terminals 1, 2, 3, & 4 before applying instrument power to CTA terminals 7 & 8(+).



"RED DOT" SIDE OF CTL MUST FACE POSITIVE SUPPLY.
 *DC Instrument Power positive on terminal 8.
 **All shields tied to terminal 3.

CTL SENSOR SIZES A, C, D (solid core)

CABLE	WIRE	SIGNAL
GRAY.....	BLACK.....	OUTPUT (-)
GRAY.....	RED.....	OUTPUT (+)
SHIELD.....	SHIELD.....	SHIELD
BLACK.....	BLACK.....	EXCITATION (-)
BLACK.....	RED.....	EXCITATION (+)



"RED DOT" SIDE OF CTL MUST FACE POSITIVE SUPPLY.
 *DC Instrument Power positive on terminal 8.
 **All shields tied to terminal 3.

CTL SENSOR SIZES E, EE, F, G, H & HH

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

CTL SENSOR SIZES D (split core), Z, & ZZ


PIN	COLOR	SIGNAL
1.....	WHITE.....	OUTPUT (-)
2.....	GREEN.....	OUTPUT (+)
4.....	SHIELD.....	SHIELD
6.....	BLACK.....	EXCITATION (-)
8.....	RED.....	EXCITATION (+)

When ordered together, CTL/CTA combinations are factory-calibrated as a set. To select the proper CTA model, locate the preferred CTL model and move to the right, selecting either "Direct" or "RMS" style and the desired output signal.
 *For bidirectional calibration, use direct model CTA and CTL with "Y12Z" suffix.

CTA MODEL SELECTION

INPUT CURRENT (THROUGH CTL WINDOW)	MODEL CTL CURRENT TRANSDUCER	ACC (% OF F.S.)	SENS. SIZE	DIRECT MODELS - AC/DC OUTPUT PROPORTIONAL TO AC/DC INPUT					RMS MODELS - DC OUTPUT PROPORTIONAL TO RMS OR DC INPUT			
				STANDARD OUTPUT MODEL CTA					STANDARD OUTPUT MODEL CTA			
				±5V*	±10V*	4-20mA	4/12/20mA*	±1mA*	0-5Vdc	0-10Vdc	4-20mAdc	0-1mAdc
0-35A	CTL-51(T)/35	±0.5	A	201RX5	201R	212R	212RY42	201RA	213RX5	213R	215R	214R
0-50A	CTL-51(T)/50	±0.5	A	201X5	201	212	212Y42	201A	213X5	213	215	214
0-50A	CTL-101(TS)/50	±0.5	C	201X5	201	212	212Y42	201A	213X5	213	215	214
0-75A	CTL-101(TS)/75	±0.5	C	201HX5	201H	212H	212HY42	201HA	213HX5	213H	215H	214H
0-100A	CTL-101(TS)/100	±0.5	C	201PX5	201P	212P	212PY42	201PA	213PX5	213P	215P	214P
0-150A	CTL-201(TS)/150	±0.5	D	201HX5	201H	212H	212HY42	201HA	213HX5	213H	215H	214H
0-200A	CTL-201(TS)/200	±0.5	D	201PX5	201P	212P	212PY42	201PA	213PX5	213P	215P	214P
0-300A	CTL-401(TS)/300	±0.5	D	201HX5	201H	212H	212HY42	201HA	213HX5	213H	215H	214H
0-400A	CTL-401(TS)/400	±0.5	D	201PX5	201P	212P	212PY42	201PA	213PX5	213P	215P	214P
0-500A	CTL-601(TS)/500	±0.5	E	201FX5	201F	212F	212FY42	201FA	213FX5	213F	215F	214F
0-500A	CTL-601F(T)S/500	±0.5	F	201FX5	201F	212F	212FY42	201FA	213FX5	213F	215F	214F
0-500A	CTL-202H(T)S/500	±1	Z	201X5	201	212	212Y42	201A	213X5	213	215	214
0-600A	CTL-601(TS)/600	±0.5	E	201X5	201	212	212Y42	201A	213X5	213	215	214
0-600A	CTL-601F(T)S/600	±0.5	F	201X5	201	212	212Y42	201A	213X5	213	215	214
0-800A	CTL-202(TS)/800	±0.5	E	201FX5	201F	212F	212FY42	201FA	213FX5	213F	215F	214F
0-800A	CTL-202F(T)S/800	±0.5	F	201FX5	201F	212F	212FY42	201FA	213FX5	213F	215F	214F
0-1000A	CTL-202(TS)/1000	±0.5	E	201X5	201	212	212Y42	201A	213X5	213	215	214
0-1000A	CTL-202F(T)S/1000	±0.5	F	201X5	201	212	212Y42	201A	213X5	213	215	214
0-1000A	CTL-202EE(T)S/1000	±0.5	EE	201PX5	201P	212P	212PY42	201PA	213PX5	213P	215P	214P
0-1000A	CTL-202H(T)S/1000	±1	Z	201PX5	201P	212P	212PY42	201PA	213PX5	213P	215P	214P
0-1000A	CTL-202ZZ(T)S/1000	±1	ZZ	201PX5	201P	212P	212PY42	201PA	213PX5	213P	215P	214P
0-1500A	CTL-202(TS)/1500	±0.5	E	201HX5	201H	212H	212HY42	201HA	213HX5	213H	215H	214H
0-1500A	CTL-202F(T)S/1500	±0.5	F	201HX5	201H	212H	212HY42	201HA	213HX5	213H	215H	214H
0-1500A	CTL-202EE(T)S/1500	±0.5	EE	201KX5	201K	212K	212KY42	201KA	213KX5	213K	215K	214K
0-1500A	CTL-202H(T)S/1500	±1	Z	201KX5	201K	212K	212KY42	201KA	213KX5	213K	215K	214K
0-1500A	CTL-202ZZ(T)S/1500	±1	ZZ	201KX5	201K	212K	212KY42	201KA	213KX5	213K	215K	214K
0-2000A	CTL-202(TS)/2000	±0.5	E	201PX5	201P	212P	212PY42	201PA	213PX5	213P	215P	214P
0-2000A	CTL-202F(T)S/2000	±0.5	F	201PX5	201P	212P	212PY42	201PA	213PX5	213P	215P	214P
0-2000A	CTL-202EE(T)S/2000	±0.5	EE	201LX5	201L	212L	212LY42	201LA	213LX5	213L	215L	214L
0-2000A	CTL-202H(T)S/2000	±1	Z	201LX5	201L	212L	212LY42	201LA	--	--	--	--
0-2000A	CTL-502H(T)S/2000	±1	Z	--	--	--	--	--	213GX5	213G	215G	214G
0-2000A	CTL-202ZZ(T)S/2000	±1	ZZ	201LX5	201L	212L	212LY42	201LA	--	--	--	--
0-2500A	CTL-302EE(T)S/2500	±0.5	EE	201JX5	201J	212J	212JY42	201JA	--	--	--	--
0-2500A	CTL-502H(T)S/2500	±1	Z	201HX5	201H	212H	212HY42	201HA	213HX5	213H	215H	214H
0-2500A	CTL-302ZZ(T)S/2500	±1	ZZ	201NX5	201N	212N	212NY42	201NA	--	--	--	--
0-2500A	CTL-502(TS)/2500	±1	G	201HX5	201H	212H	212HY42	201HA	213HX5	213H	215H	214H
0-3000A	CTL-302EE(T)S/3000	±0.5	EE	201PX5	201P	212P	212PY42	201PA	--	--	--	--
0-3000A	CTL-502H(T)S/3000	±1	Z	201WX5	201W	212W	212WY42	201WA	213WX5	213W	215W	214W
0-3000A	CTL-302ZZ(T)S/3000	±1	ZZ	201KX5	201K	212K	212KY42	201KA	--	--	--	--
0-3000A	CTL-502(TS)/3000	±1	G	201WX5	201W	212W	212WY42	201WA	213WX5	213W	215W	214W
0-4000A	CTL-502H(T)S/4000	±1	Z	201NX5	201N	212N	212NY42	201NA	--	--	--	--
0-4000A	CTL-502(TS)/4000	±1	G	201NX5	201N	212N	212NY42	201NA	--	--	--	--
0-5000A	CTL-502H(T)S/5000	±1	Z	201KX5	201K	212K	212KY42	201KA	--	--	--	--
0-5000A	CTL-502(TS)/5000	±1	G	201KX5	201K	212K	212KY42	201KA	--	--	--	--
0-5000A	CTL-103(T)S/5000	±1	H	201X5	201	212	212Y42	201A	213X5	213	215	214
0-6000A	CTL-103(T)S/6000	±1	H	201GX5	201G	212G	212GY42	201GA	213GX5	213G	215G	214G
0-7000A	CTL-103(T)S/7000	±1	H	201HX5	201H	212H	212HY42	201HA	213HX5	213H	215H	214H
0-8000A	CTL-103(T)S/8000	±1	H	201JX5	201J	212J	212JY42	201JA	213JX5	213J	215J	214J
0-9000A	CTL-103(T)S/9000	±1	H	201WX5	201W	212W	212WY42	201WA	--	--	--	--
0-10000A	CTL-103(T)S/10000	±1	H	201PX5	201P	212P	212PY42	201PA	--	--	--	--
0-12000A	CTL-203(T)S/12000	±2	H	201GX5	201G	212G	212GY42	201GA	213GX5	213G	215G	214G
0-15000A	CTL-203(T)S/15000	±2	H	201HX5	201H	212H	212HY42	201HA	--	--	--	--
0-18000A	CTL-203(T)S/18000	±2	H	201WX5	201W	212W	212WY42	201WA	--	--	--	--
0-20000A	CTL-203(T)S/20000	±2	H	201PX5	201P	212P	212PY42	201PA	--	--	--	--
0-25000A	CTL-303(T)S/25000	±2	HH	201JX5	201J	212J	212JY42	201JA	--	--	--	--
0-30000A	CTL-303(T)S/30000	±2	HH	201PX5	201P	212P	212PY42	201PA	--	--	--	--
0-35000A	CTL-403(T)S/35000	±2	HH	201WX5	201W	212W	212WY42	201WA	--	--	--	--
0-40000A	CTL-403(T)S/40000	±2	HH	201PX5	201P	212P	212PY42	201PA	--	--	--	--

INSTALLATION INSTRUCTIONS

1. Installation should be performed by qualified electricians only!
2. Verify that 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. Attach the Protective Ground Point () to earth ground by mounting to a grounded enclosure or by attaching a ground wire. Paint barrier on can must be broken by using an internal-tooth lock-washer or similar device.

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. The output signal is intended to be "Not accessible to the user." To prevent contact with live circuits, the transducer is required to be mounted in an enclosure that requires the use of a tool for access.
4. 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.
5. Maximum relative humidity 80 percent for temperatures up to 31°C decreasing linearly to 50 percent relative humidity at 40°C.
6. Maximum operating temperature range is 0°C to +70°C.

WARRANTY STATEMENT

Ohio Semitronics Inc. 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.