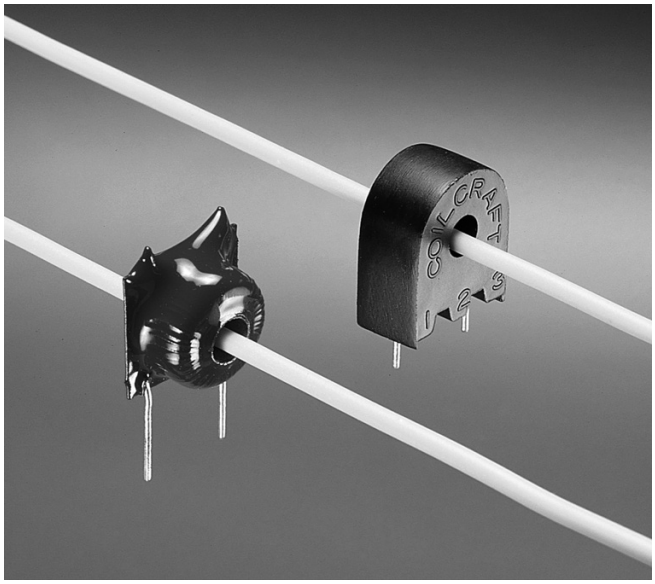
Current Sensors – D18xx, CS1xxx



These sensors function as the secondaries of a current transformer. The conductor carrying the current to be measured is the "one turn primary." Voltage per Ampere can be adjusted by varying the terminating resistor (see note 3). Applications include sensing branch circuit overload, switcher feedback, and detecting load drop or shutdown.

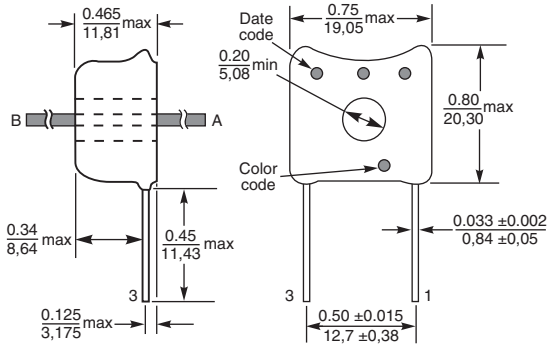
They come in a molded version (CS1xxx Series) or encapsulated model (D18xx Series).

Coilcraft **Designer's Kit P403** contains samples of the CS1050, CS1100 and CS1200 sensors, current transformer versions with equivalent ratings, plus two 50/60 Hz current sensors. To order, contact Coilcraft or visit **http://order.coilcraft.com.**

Part number	Turns (N)	Inductance[1] min (mH)	DCR max (Ohms)	Frequency range (kHz)	Volt-time product[2] (Vμsec)	Sensed current I_{in} max (A)	Terminating resistance R_T[3] (Ohms)	Color code
D1869L	50	5	0.7	3 – 1000	149	35	1.4	Green
D1870L	100	20	1.4	2 – 1000	298	35	2.9	Brown
D1871L	200	80	4.5	1 – 1000	596	35	5.7	Red
CS1050L	50	5	0.7	3 – 1000	149	35	1.4	
CS1100L	100	20	1.4	2 – 1000	298	35	2.9	
CS1200L	200	80	4.5	1 – 1000	596	35	5.7	
CS1750L	750	1125	62.0	0.2 – 1000	2235	35	21.4	

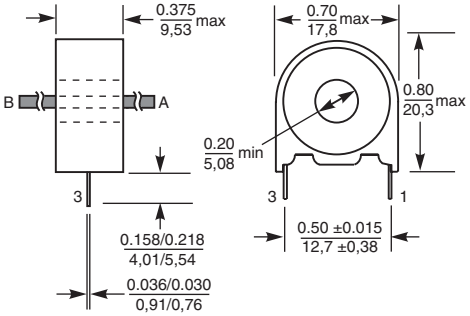
1. Inductance is measured at 1 kHz, 0.05 Vrms.
2. Volt-time product is based on 2000 Gauss.
3. Terminating resistance (R_T) value is based on 1 Volt output with 35 Amps flowing through the primary. Varying terminating resistance increases or decreases output Voltage/Ampere according to the following equation: $R_T = V_{out} \times N_{sec} / I_{in}$
4. Ambient temperature range –40°C to +85°C.
5. Electrical specifications at 25°C.

D18xx Series



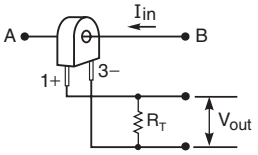
Terminations: Tin-silver over copper
Weight: 4.0 – 4.5 g

CS1xxx Series



Terminations: Tin-silver over copper
Weight: 5.3 – 5.8 g

Typical Circuit



Leads 3 and A are in phase per orientation shown above.

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