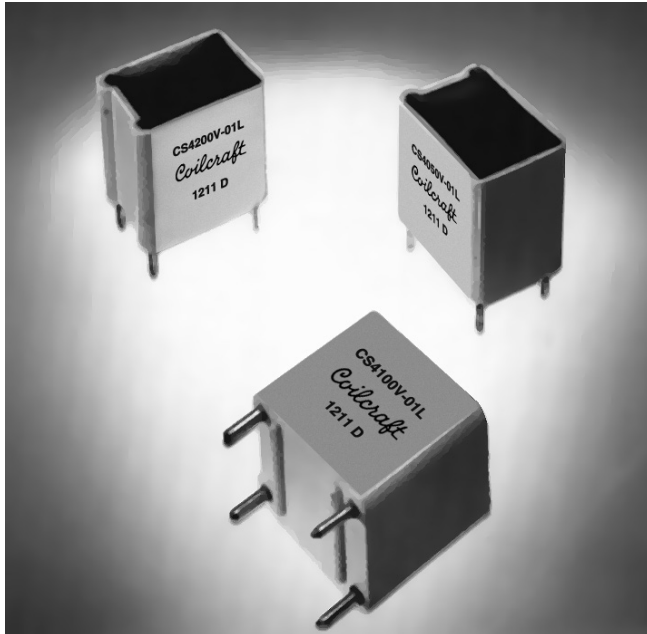


# Current Sensing Transformers



These low cost Coilcraft current sensing transformers are designed for use up to 100 kHz. They incorporate the current and sense windings in one small, encapsulated package requiring minimum board space.

Varying the terminating resistance allows sensitivities of 1 to 100 Volts output per Ampere input.

Coilcraft current sensing transformers are designed to meet UL/CSA/IEC 60950 Reinforced Insulation specification and provide 3 mm creepage/clearance between primary and secondary windings. Winding to winding isolation is 3750 Vrms.

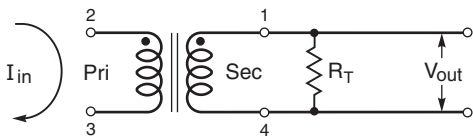
Applications include feedback control, overload sensing, detecting load drop or shutdown, and proportional output.

Coilcraft **Designer's Kit P403** contains the three standard current sensing transformers, sensor-only versions of each, plus two 50/60Hz current sensors. To order, contact Coilcraft or visit <http://order.coilcraft.com>.

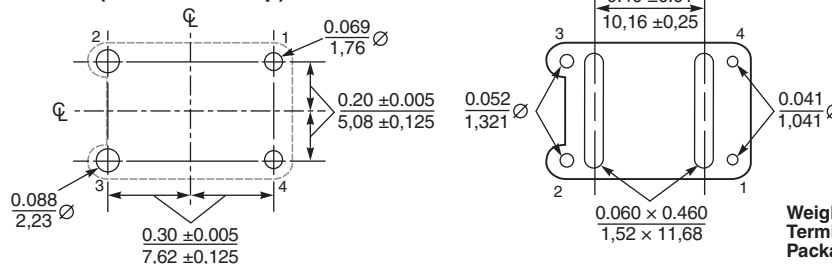
Part number	Turns (N) pri : sec	Inductance <sup>1</sup> min (mH)	DCR max (Ohms)		Frequency range <sup>2</sup> (kHz)	Sensed current range $I_{in}$	Terminating resistance $R_T$ <sup>3</sup> range (Ohms)	$R_T$ for 1 $V_{out}$ from 1 A $I_{in}$
			pri	sec				
CS4050V-01L	1:50	5	0.007	0.7	5 – 25	2 mA – 10 A	50 – 5000	50 Ohms
CS4100V-01L	1:100	20	0.007	1.4	5 – 50	5 mA – 24 A	100 – 10,000	100 Ohms
CS4200V-01L	1:200	80	0.001	4.0	1 – 100	5 mA – 35 A	200 – 20,000	200 Ohms

1. Inductance is for the secondary, measured at 15.75 kHz, 1 Vrms.
2. Square wave response deteriorates above and below this frequency.
3. 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  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ .
5. Electrical specifications at  $25^{\circ}\text{C}$ .

## Typical Circuit



## Recommended PC Board Layout (viewed from top)



**Weight:** 8.8 – 9.3 g  
**Terminations:** Tin-silver over copper  
**Packaging:** 29 per tube



[www.coilcraft.com](http://www.coilcraft.com)

**US** +1-847-639-6400 [sales@coilcraft.com](mailto:sales@coilcraft.com)  
**UK** +44-1236-730595 [sales@coilcraft-europe.com](mailto:sales@coilcraft-europe.com)  
**Taiwan** +886-2-2264 3646 [sales@coilcraft.com.tw](mailto:sales@coilcraft.com.tw)  
**China** +86-21-6218 8074 [sales@coilcraft.com.cn](mailto:sales@coilcraft.com.cn)  
**Singapore** + 65-6484 8412 [sales@coilcraft.com.sg](mailto:sales@coilcraft.com.sg)

Document 132 Revised 11/06/12

© Coilcraft Inc. 2014

This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.