



**THE DATASHEET OF  
CR8420-1000-A**



# High Ratio Wire Lead Transformers

CR Magnetics **CR8400** Series of Wire Lead Current Transformers are available in a wide range of sizes and materials to meet any AC current sensing needs. Our **General Purpose** designs are made from the highest quality silicon steel cores available, and meet most of the common AC current measurement needs. Our **Revenue Grade (-N)** are made from a nickel alloy core which provides the most linear response over temperature and current level. A line of **Ground Fault (-G)** are for measuring low AC currents including electrical shields.

**Nanocrystalline (-A)** is the most versatile providing accuracy, high saturation point and a linear response in high frequency applications. The **High Frequency (-F)** products are designed for high frequency applications such as high frequency power supplies and motor drives.

## CR8400 SERIES



### Applications

- Motor Load Measurement
- Power Meters
- High Frequency Current Sensing
- Ground Fault Sensing

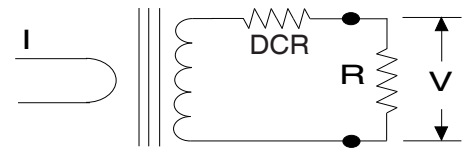
### Features

- High Ratio
- Custom Lead Lengths Available

### Specifications

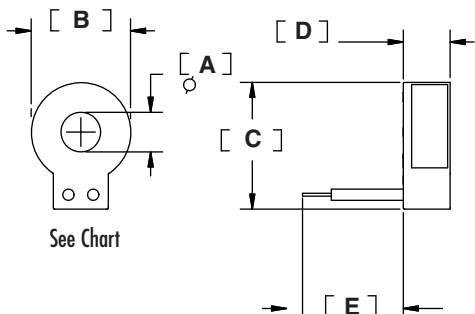
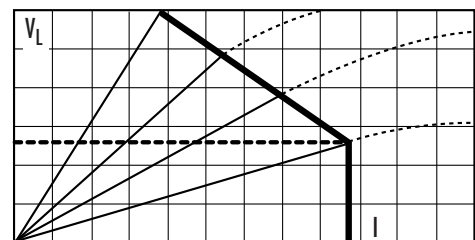
Maximum Continuous Primary Current	4 X I <sub>r</sub>
Insulation Voltage	3500 Vac/1 min
Storage Temp.	-45°C thru +85 °C
Operating Temp. General Purpose & Nickel	-40°C thru +85 °C
Operating Temp. High Frequency	-40°C thru +65 °C

### Regulatory Agencies



$$V_L = V_{max} - \left[ \frac{I \times DCR}{T_e} \right] \quad V = \frac{I \times R}{T_e}$$

For best linearity, choose R such that  $V < 0.8 V_L$



GENERAL PURPOSE CURRENT TRANSFORMERS					
Part Number	I <sub>r</sub>	V <sub>max</sub> RMS	T <sub>e</sub> (typ.)	DCR Ω	Frequency
CR8401-1000	10	2.2	1009	49	20 Hz- 1 KHz
CR8410-1000	20	3.1	1012	41	20 Hz- 1 KHz
CR8420-1000	50	5.2	1018	22	20 Hz- 1 KHz
CR8420-2000	75	9.0	1983	90	20 Hz- 1 KHz
CR8448-1000	30	6.3	990	26	20 Hz- 1 KHz
CR8448-2000	50	13.7	2046	106	20 Hz- 1 KHz
CR8449-1000	50	11.6	1016	35	20 Hz- 1 KHz
CR8449-2000	75	23	2046	150	20 Hz- 1 KHz
CR8450-1000	100	16.5	1021	21	20 Hz- 1 KHz
CR8450-2000	200	32	2037	73	20 Hz- 1 KHz
REVENUE GRADE CURRENT TRANSFORMERS					
Part Number	I <sub>r</sub>	V <sub>max</sub> RMS	T <sub>e</sub> (typ.)	DCR Ω	Frequency
CR8448-2500-N	40	6.6	2510	134	20 Hz- 1 KHz
CR8449-2500-N	50	10.0	2490	187	20 Hz- 1 KHz
CR8450-2500-N	75	12.0	2512	143	20 Hz- 1 KHz
CR8459-2000-N	200	11.5	2011	74	20 Hz- 1 KHz
GROUND FAULT CURRENT TRANSFORMERS					
Part Number	I <sub>r</sub>	V <sub>max</sub> RMS	T <sub>e</sub> (typ.)	DCR Ω	Frequency
CR8401-1000-G	4	0.6	1005	49	20 Hz- 1 KHz
CR8410-1000-G	7	0.8	1007	38	20 Hz- 1 KHz
CR8420-1000-G	20	1.4	1011	44	20 Hz- 1 KHz
NANOCRYSTALLINE CURRENT TRANSFORMERS					
Part Number	I <sub>r</sub>	V <sub>max</sub> RMS	T <sub>e</sub> (typ.)	DCR Ω	Frequency
CR8401-1000-A	4	2.2	1034	43	50 Hz- 50 KHz
CR8410-1000-A	7	2.5	1015	39	50 Hz- 50 KHz
CR8420-1000-A	20	1.3	1023	43	50 Hz- 50 KHz
CR8420-2000-A	75	7.0	2010	89	50 Hz- 50 KHz
CR8448-1000-A	20	6.0	1000	25	50 Hz- 50 KHz
CR8448-2000-A	50	13.0	2000	103	50 Hz- 50 KHz
CR8448-2500-A	50	16.0	2524	131	50 Hz- 50 KHz
CR8449-1000-A	75	11.0	1002	35	50 Hz- 50 KHz
CR8449-2000-A	75	16.0	2013	144	50 Hz- 50 KHz
CR8449-2500-A	75	27.0	2501	182	50 Hz- 50 KHz
CR8450-1000-A	100	15.0	1003	21	50 Hz- 50 KHz
CR8450-2000-A	100	26.0	2000	72	50 Hz- 50 KHz
CR8450-2500-A	100	28.0	2501	134	50 Hz- 50 KHz
CR8459-2000-A	100	27.0	2001	73	50 Hz- 50 KHz
HIGH FREQUENCY CURRENT TRANSFORMERS					
Part Number	I <sub>r</sub>	V <sub>max</sub> RMS	T <sub>e</sub> (typ.)	DCR Ω	Frequency
CR8448-2000-F	50	3.9	2015	90	20 Hz- 200 KHz
CR8449-2000-F	75	7.4	2017	109	20 Hz- 200 KHz
CR8450-2000-F	100	8.5	2020	63	20 Hz- 200 KHz

I<sub>r</sub> = Maximum AC Input Current to be linearly sensed    V<sub>max</sub> = Maximum VAC (Saturation) CT will develop

T<sub>e</sub> = Effective turns ratio including losses (+/- 10%) (All Specifications tested at 60 Hz)

### PACKAGE DIMENSIONS AND OUTLINE (mm/in)

Part Number Prefix	A	B	C	D	E
	min	max	max	max	Typ
<b>CR8401</b>	6.99	17.53	22.35	8.26	75.08
	.275	.690	.880	.325	2.275
<b>CR8410</b>	9.0	22	27.8	8.20	73
	.35	.87	1.09	.323	2.87
<b>CR8420</b>	15.0	30.0	36.0	9.2	100
	.59	1.18	1.41	.36	3.94
<b>CR8448</b>	7.11	23.42	29.46	11.05	100
	.280	.922	1.16	.435	3.94
<b>CR8449</b>	9.14	26.0	31.8	17.0	100
	.354	1.02	1.25	.67	3.94
<b>CR8450</b>	13.08	36.83	43.18	13.97	88.9
	.515	1.45	1.70	.55	3.50
<b>CR8459</b>	19	48	60	17.5	200
	.75	1.89	2.36	.67	7.88



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Current Transformers

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