High Ratio Vertical PCB Mount Current Transformer

CR Magnetics **CR8300** Series of PCB Mounted 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. **Nanocrystalline Amorphous (-A)** is the most versatile providing accuracy, high saturation point and linear responses in high frequency applications. The **High Frequency (-F)** products are designed for high frequency applications such as high frequency power supplies and motor drives.

CR8300 SERIES

GENERAL PURPOSE VERTICAL PCB CURRENT TRANSFORMERS						
Part Number	I_r	Vmax RMS	Te (typ.)	DCR W	Frequency	Pin Diameter
CR8320-1600	10	1.8	1613	95	20 Hz- 1 KHz	0.8 X 4.0 MM
CR8348-1000	20	7.0	1023	24	20 Hz- 1 KHz	1.0 X 3.0 MM
CR8348-2000	50	13.7	2046	106	20 Hz- 1 KHz	1.0 X 3.0 MM
CR8349-1000	50	11.6	1016	35	20 Hz- 1 KHz	1.0 X 6.0 MM
CR8349-1500	75	15.5	1520	80	20 Hz- 1 KHz	1.0 X 4.0 MM
CR8350-1000	100	16.5	1021	22	20 Hz- 1 KHz	1.0 X 3.0 MM
CR8350-2000	200	31.0	2037	73	20 Hz- 1 KHz	1.0 X 3.0 MM
REVENUE GRADE VERTICAL PCB CURRENT TRANSFORMERS						
Part Number	I_r	Vmax RMS	Te (typ.)	DCR Ω	Frequency	Pin Diameter
CR8348-2500-N	40	7.5	2510	134	20 Hz- 1 KHz	1.0 X 3.0 MM
CR8349-1000-N	50	5.1	1009	32	20 Hz- 1 KHz	1.0 X 3.0 MM
CR8349-2500-N	75	11.2	2512	190	20 Hz- 1 KHz	1.0 X 3.0 MM
CR8350-2500-N	100	10.5	2511	57	20 Hz- 1 KHz	1.0 X 6.0 MM
NANOCRYSTALLINE VERTICAL PCB CURRENT TRANSFORMERS						
Part Number	I_r	Vmax RMS	Te (typ.)	DCR Ω	Frequency	Pin Diameter
CR8320-1600-A	10	3.0	1600	85	50 Hz- 50 KHz	0.8 X 4.0 MM
CR8348-1000-A	20	7.0	1000	24	50 Hz- 50 KHz	1.0 X 3.0 MM
CR8348-2000-A	50	13.0	2000	102	50 Hz- 50 KHz	1.0 X 3.0 MM
CR8348-2500-A	50	16.0	2578	130	50 Hz- 50 KHz	1.0 X 3.0 MM
CR8349-1000-A	50	4.1	1002	35	50 Hz- 50 KHz	1.0 X 3.0 MM
CR8349-1500-A	75	16.0	1503	77	50 Hz- 50 KHz	1.0 X 3.0 MM
CR8349-2000-A	75	22.0	2002	145	50 Hz- 50 KHz	1.0 X 3.0 MM
CR8349-2500-A	75	26.0	2502	181	50 Hz- 50 KHz	1.0 X 3.0 MM
CR8350-1000-A	100	13.0	1006	20	50 Hz- 50 KHz	1.0 X 3.0 MM
CR8350-2000-A	100	29.0	2001	71	50 Hz- 50 KHz	1.0 X 3.0 MM
CR8350-2500-A	100	27.0	2508	134	50 Hz- 50 KHz	1.0 X 3.0 MM
HIGH FREQUENCY VERTICAL PCB CURRENT TRANSFORMERS						
Part Number	I_r	Vmax RMS	Te (typ.)	DCR Ω	Frequency	Pin Diameter
CR8348-2000-F	50	3.7	2022	88	20 Hz- 200KHz	1.0 X 6.0 MM
CR8349-2000-F	75	16.0	2024	109	20 Hz- 200KHz	1.0 X 3.0 MM
CR8350-2000-F	100	10.0	2027	73	20 Hz- 200KHz	1.0 X 3.0 MM

I_r = Maximum AC Input Current to be linearly sensed V_{max} = Maximum VAC (Saturation) CT will develop

T_e = Effective turns ratio including losses (+/- 10%) (All Specifications tested at 60 Hz)

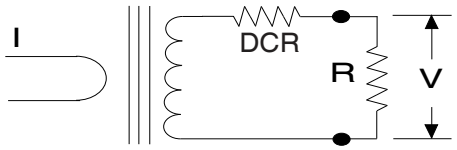
Applications
Motor Load Measurement
Power Meters
High Frequency Current Sensing

Features
High Ratio
Standard Footprints

Specifications

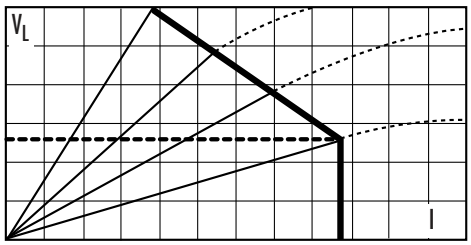
Maximum Continuous Primary Current	4 X Ir
Insulation Voltage	3500 Vac/1min
Storage Temp.	-45°C thru +85 °C
Operating Temp. General Purpose & Nickel	-40°C thru +85 °C
Operating Temp. High Frequency	-40°C thru +65 °C

Regulatory Agencies

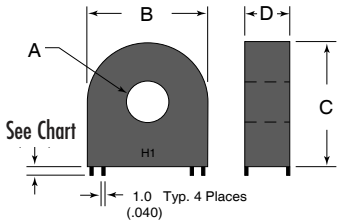


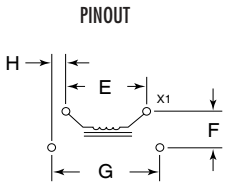
$$V_L = Vmax - \left[\frac{I \times DCR}{T_e} \right] \qquad V = \frac{I \times R}{T_e}$$

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



PACKAGE AND PIN OUT DIMENSIONS (mm/in)								
Part Number Prefix	A min	B max	C max	D max	E ±0.3	F ±0.3	G ±0.3	H typ
CR8320	5.5 .22	19.4 .76	19.5 .77	8.2 .32	12.7 .50	N/A	N/A	4.0 .16
CR8348	6.7 .27	23.5 .93	25 .98	11 .43	15.2 .60	9.5 .37	19 .75	1.90 .07
CR8349	9 .35	26 1.02	28 1.10	17 .67	15.2 .60	15.5 .61	19 .75	1.90 .07
CR8350	12.8 .50	37.5 1.48	39 1.54	14 .55	25.4 1.00	12.7 .50	33.02 1.30	3.81 .15





CR8320 2 pins only