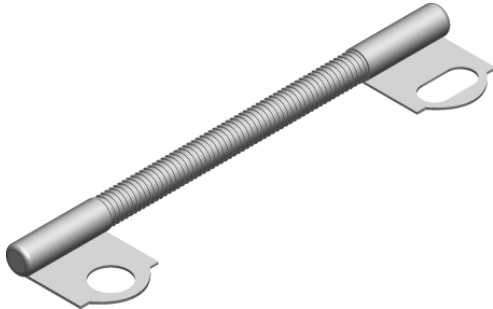


# Wirewound Resistors, Commercial Power, Tab Type Terminals



### FEATURES

- Variety of core diameters and lengths
- Numerous mounting hole sizes and shapes
- High performance for low cost

### APPLICATIONS

Appliance applications include food mixers, coffee makers, electric and electronic ranges, electric blankets, actuating heaters for bi-metal switches, toasters and deep fryers.

Automotive applications include horns, voltage regulators, ignition ballast, instrument gauges, spark suppressors and windshield wipers.

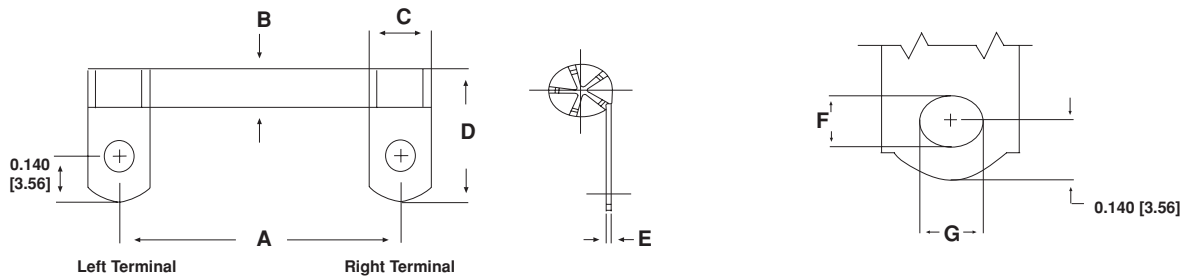
Other applications include toys, entertainment devices such as television, radio and amplifiers.

STANDARD ELECTRICAL SPECIFICATIONS			
MODEL*	POWER RATING $P_{25^{\circ}\text{C}}$ W	RESISTANCE RANGE $\Omega$ $\pm 10\%$ Standard, $\pm 5\%$ Available	WEIGHT (Typical) g
CL-4095	3.8	0.10 - 685	1.08
CL-4100	4	0.11 - 740	1.09
CL-4125	5	0.15 - 1.02k	1.16
CL-4150	6	0.19 - 1.35k	1.23
CL-4200	8	0.27 - 1.86k	1.37
CL-4225	9	0.31 - 2.14k	1.44
CL-4300	12	0.43 - 2.99k	1.65
CL-6095	5.7	0.10 - 175	2.30
CL-6100	6	0.10 - 190	2.35
CL-6133	8	0.13 - 285	2.68
CL-6167	10	0.18 - 380	2.97
CL-6200	12	0.22 - 475	3.35
CL-6233	14	0.27 - 570	3.68
CL-6300	18	0.35 - 765	4.35

\* CL-4000 and CL-6000 model numbers are calculated from the CL-4000 power rating of 4 watts per inch and CL-6000 power rating of 6 watts per inch. The last three digits of the model number represent the mounting center spacing of the resistor in inches (decimal is between the first and second digit, mounting center spacing is available between 0.95 [24.13mm] and 3.00 [76.20mm]). Example: CL-6133 = 1.33 inches x 6 watts per inch = 8 watts.

TECHNICAL SPECIFICATIONS			
PARAMETER	UNIT	CL-4000	CL-6000
Power Rating	W	4 per inch	6 per inch
Temperature Coefficient	ppm/ $^{\circ}\text{C}$	$\pm 600$ below 1.0 $\Omega$ , $\pm 300$ 1.0 $\Omega$ and above	
Short Time Overload	-	5 x rated power for 5 seconds	
Maximum Working Voltage	V	$(P \times R)^{1/2}$	
Operating Temperature Range	$^{\circ}\text{C}$	- 65/+ 375	
Terminal Strength	lb	10 minimum	

ORDERING INFORMATION				
CL-4150 MODEL	A LEFT TERMINAL	D RIGHT TERMINAL	300 $\Omega$ RESISTANCE $\Omega$	10% TOLERANCE $\pm \%$
Example: A 1.50 inch mounting center spacing (at 4 watts per inch), 300 ohm, $\pm 10\%$ , tab type hole option A on left terminal and tab type hole option D on right terminal unit is designated as shown. Total wattage of unit is 6 watts (4 watts per inch x 1.50 inch).				

**DIMENSIONS**


MODEL	DIMENSIONS in inches [millimeters]				
	A ±0.020 [0.508]	B Typical	C ±0.010 [0.254]	D ±0.010 [0.254]	E ±0.005 [0.127]
CL-4095	0.95 [24.13]	0.105 [2.67]	0.344 [8.73]	0.475 [12.07]	0.015 [0.38]
CL-4100	1.00 [25.40]	0.105 [2.67]	0.344 [8.73]	0.475 [12.07]	0.015 [0.38]
CL-4125	1.25 [31.75]	0.105 [2.67]	0.344 [8.73]	0.475 [12.07]	0.015 [0.38]
CL-4150	1.50 [38.10]	0.105 [2.67]	0.344 [8.73]	0.475 [12.07]	0.015 [0.38]
CL-4200	2.00 [50.80]	0.105 [2.67]	0.344 [8.73]	0.475 [12.07]	0.015 [0.38]
CL-4225	2.25 [57.15]	0.105 [2.67]	0.344 [8.73]	0.475 [12.07]	0.015 [0.38]
CL-4300	3.00 [76.20]	0.105 [2.67]	0.344 [8.73]	0.475 [12.07]	0.015 [0.38]
CL-6095	0.95 [24.13]	0.170 [4.32]	0.334 [8.73]	0.575 [14.61]	0.018 [0.46]
CL-6100	1.00 [25.40]	0.170 [4.32]	0.344 [8.73]	0.575 [14.61]	0.018 [0.46]
CL-6133	1.33 [33.78]	0.170 [4.32]	0.344 [8.73]	0.575 [14.61]	0.018 [0.46]
CL-6167	1.67 [42.42]	0.170 [4.32]	0.344 [8.73]	0.575 [14.61]	0.018 [0.46]
CL-6200	2.00 [50.80]	0.170 [4.32]	0.344 [8.73]	0.575 [14.61]	0.018 [0.46]
CL-6233	2.33 [59.18]	0.170 [4.32]	0.344 [8.73]	0.575 [14.61]	0.018 [0.46]
CL-6300	3.00 [76.20]	0.170 [4.32]	0.344 [8.73]	0.575 [14.61]	0.018 [0.46]

MODEL	TERMINAL HOLE OPTIONS AND DIMENSIONS in inches [millimeters]					
	LEFT OPTION	F ±0.010 [0.254]	G ±0.010 [0.254]	RIGHT OPTION	F ±0.010 [0.254]	G ±0.010 [0.254]
CL-4000	A	0.130 [3.30]	0.160 [4.06]	A	0.130 [3.30]	0.160 [4.06]
	B	0.172 [4.37]	0.210 [5.33]	B	0.172 [4.37]	0.210 [5.33]
	C	0.200 [5.08]	0.220 [5.59]	E	0.200 [5.08]	0.210 [5.33]
	D	0.128 [3.25]	0.128 [3.25]	D	0.128 [3.25]	0.128 [3.25]
CL-6000	A	0.130 [3.30]	0.160 [4.06]	A	0.130 [3.30]	0.160 [4.06]
	B	0.172 [4.37]	0.210 [5.33]	B	0.172 [4.37]	0.210 [5.33]
	C	0.200 [5.08]	0.220 [5.59]	E	0.200 [5.08]	0.210 [5.33]
	F	0.180 [4.57]	0.180 [4.57]	F	0.180 [4.57]	0.180 [4.57]

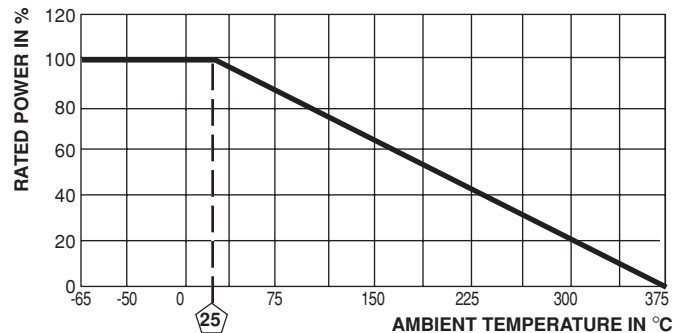
**MATERIAL SPECIFICATIONS**

**Element:** Nickel-chrome alloy or copper-nickel alloy, depending on resistance value

**Core:** Woven fiberglass

**Terminals:** Electro tin plated steel

**Part Marking:** Resistance is stamped on terminal in two places, maximum of three characters



PERFORMANCE		
TEST	CONDITIONS OF TEST	TEST LIMITS (EIA RS-344)
Thermal Shock	- 55°C to + 275°C, 5 cycles, 30 minute dwell time	± (5.0% + 0.05Ω)ΔR
Short Time Overload	5 x rated power for 5 seconds	± (4.0% + 0.05Ω)ΔR
Low Temperature Operation	- 65°C, full rated working voltage for 45 minutes	± (3.0% + 0.05Ω)ΔR
Humidity	75°C, 90% - 100% RH, 240 hours	± (5.0% + 0.05Ω)ΔR
Load Life	1000 hours at rated power, + 25°C, 1.5 hours "ON", 0.5 hours "OFF"	± (10.0% + 0.05Ω)ΔR
Resistance to Solder Heat	Terminal immersed 3.5 seconds in molten solder at 1/8" to 3/16" from body	± (4.0% + 0.05Ω)ΔR