

# PRECISION LOW-OHM METAL PLATE RESISTORS

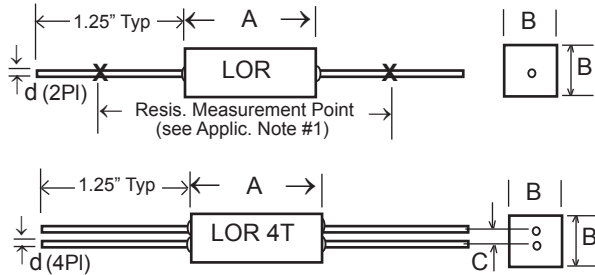
## LOR SERIES 2-Terminal & 4-Terminal

- Ideal for current sense applications
- 0.0025Ω to .25Ω, 0.1% to 10%
- Low TC, high pulse capability
- Non-inductive metal element
- Available on RCD's exclusive **SWIFT™** delivery program!



### OPTIONS

- Option 4T: 4 Terminal
- Option E: Low thermal emf design
- Non-std resistance values, custom marking, burn-in, etc.



Series LOR rectangular shape and high thermal conductivity ceramic case efficiently transfers heat from the internal element resulting in excellent stability and overload capability. The resistance element is non-inductive and constructed from near-zero TCR alloy minimizing thermal instability. Construction is flame retardant, solvent- and moisture-resistant. LOR (2-terminal design) is available to 0.5% tolerance, LOR-4T (4-terminal design) is available to 0.1%.

### STANDARD RESISTANCE VALUES AND CODES

(Non-standard values available, most popular values listed in bold)  
 .0025Ω (R0025), .003Ω (R003), **.005Ω (R005)**, .0068Ω (R0068), .0075Ω (R0075), .0082Ω (R0082), .01Ω (R010 if ≤1%, R01 if ≥2%), .012Ω (R012), **.015Ω (R015)**, .02Ω (R020 if ≤1%, R02 if ≥2%), .022Ω (R022), **.025Ω (R025)**, **.03Ω (R030 if ≤1%, R03 if ≥2%)**, .033Ω (R033), **.04Ω (R040 if ≤1%, R04 if ≥2%)**, .05Ω (R050 if ≤1%, R05 if ≥2%), .068Ω (R068), **.07Ω (R070 if ≤1%, R07 if ≥2%)**, .075Ω (R075), **.08Ω (R080 if ≤1%, R08 if ≥2%)**, .1Ω (R100 if ≤1%, R10 if ≥2%), .15Ω (R150 if ≤1%, R15 if ≥2%), .2Ω (R200 if ≤1%, R20 if ≥2%), .25Ω (R250 if ≤1%, R25 if ≥2%).

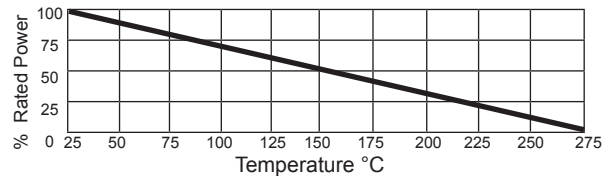
RCD TYPE	WATTAGE @25°C	MAX CURRENT RATING <sup>1</sup>	RESISTANCE RANGE (OHMS)	RESISTANCE MEASUREMENT POINT ±.062 [1.6]	DIMENSIONS			
					A ±.04 [1]	B ±.032 [.8]	d ±.002 [.05]	C <sup>2</sup> ±.032 [.8]
LOR3	3W	25A	.0025 to .25	1.310 [33.3]	.551 [14]	.256 [6.5]	.032 [.8] <sup>3</sup>	.075 [1.9]
LOR4	4W	32A	.0025 to .25	1.310 [33.3]	.551 [14]	.256 [6.5]	.040 [1] <sup>4</sup>	.075 [1.9]
LOR5	5W	40A	.0025 to .25	1.670 [42.4]	.880 [22.35]	.320 [8.13]	.040 [1]	.100 [2.54]

<sup>1</sup> I=(P/R)<sup>1/2</sup>, not to exceed max current rating (increased levels avail). <sup>2</sup> Dim. C applies to Opt.4T <sup>3</sup> Specify opt.18 for .040 [1mm] lead dia <sup>4</sup>Specify opt.20 for .032 [0.8mm] lead dia

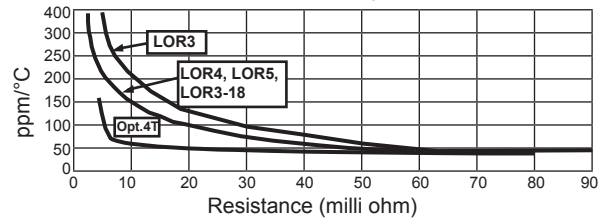
### PERFORMANCE CHARACTERISTICS

Test Parameter	Performance, Typ.
Load Life	0.5% +.5MΩ
Vibration	0.05% +.5MΩ
Overload	5 Sec, 5X Rated W (NTE Current Rating)
Temp. Coefficient	(per chart, 4-wire conn. at body)
Temp. Range	-55° To +275°C
Dielectric Strength	1000 VAC
Insulation Res.	10,000MΩ min. dry
Terminal Strength	10 lb. min.
Solderability	Per Mil-STD-202, m.208
Inductance	Non-Inductive (3nH to 20nH typ.)

### POWER DERATING



### TEMPERATURE COEFFICIENT (typ.)



### APPLICATION NOTES:

- 1) LOR3 & 4 parts have resistance measured at 1.31" [33.3mm], LOR5 at 1.67" [42.4mm]. Also available per customer requirement.
- 2) 18AWG (.040" dia) leads are standard on LOR4 & 5 and available on LOR3 by specifying opt.18. RCD recommends .040" leads, since the heavier gauge results in lower lead resistance, improved heat transfer, and lower in-circuit TCR (.032" leadwires have resistivity of ~1mΩ/in., 0.04" dia. ~0.6mΩ/in). An extra inch of .032" leadwire in the circuit will increase the TC of a 10mΩ resistor by roughly 350ppm. Keep leadwires short for best TC stability.
- 3) To achieve utmost precision in current sense or shunt applications, RCD offers LOR3 & LOR5 in 4-terminal version, specify opt.4T (eliminates lead resistance when utilized in Kelvin configuration). Request App. note #R31 for performance comparison of 2- vs. 4-terminal.

### P/N DESIGNATION:

