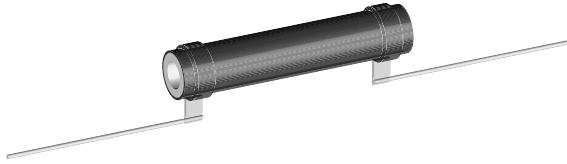


Wirewound Resistors, Industrial Power, Tubular



FEATURES

- High temperature silicon coating
- Complete welded construction
- High thermal capacity for intermittent or short duration
- Available in non-inductive styles (model NHLW) with Aryton-Perry winding for lowest reactive components
- Axial or radial terminals for through hole or lead weld applications
- Excellent stability in operation

STANDARD ELECTRICAL SPECIFICATIONS

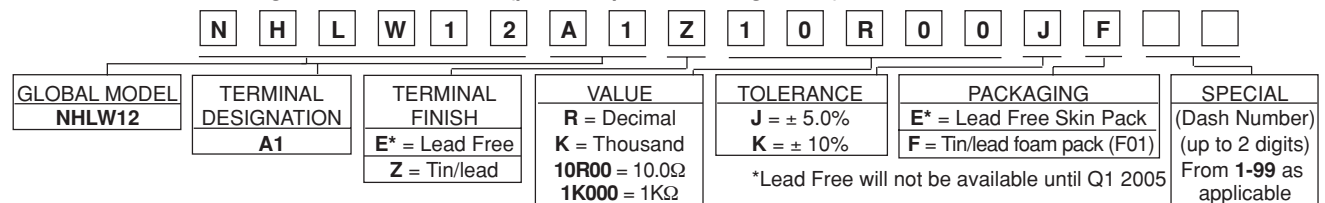
GLOBAL MODEL	HISTORICAL MODEL	POWER RATING $P_{25^{\circ}\text{C}}$ W	RESISTANCE RANGE Ω		WEIGHT (Typical) g
			$\pm 5\%$	$\pm 10\%$	
HLW03 NHLW03	HLW-3 NHLW-3	3	1.0 - 6K 1.0 - 700	0.10 - 6K 1.0 - 700	1.16
HLW05 NHLW05	HLW-5 NHLW-5	5.25	1.0 - 15k 1.0 - 1.9k	0.10 - 15K 1.0 - 1.9K	2.12
HLW06 NHLW06	HLW-6 NHLW-6	8	1.0 - 20.5k 1.0 - 2.7k	0.10 - 20.5K 1.0 - 2.7K	4.60
HLW10 NHLW10	HLW-10 NHLW-10	10	1.0 - 29k 1.0 - 3.7k	0.10 - 29K 1.0 - 3.7K	6.24
HLW12 NHLW12	HLW-12 NHLW-12	12	1.0 - 58k 1.0 - 3.9k	0.10 - 58K 1.0 - 3.9K	6.60
HLW15 NHLW15	HLW-15 NHLW-15	15	1.0 - 60k 1.0 - 4.3k	0.10 - 58K 1.0 - 4.3K	8.82
HLW20 NHLW20	HLW-20 NHLW-20	20	1.0 - 95k 1.0 - 6.8k	0.10 - 95K 1.0 - 6.8K	11.36

TECHNICAL SPECIFICATIONS

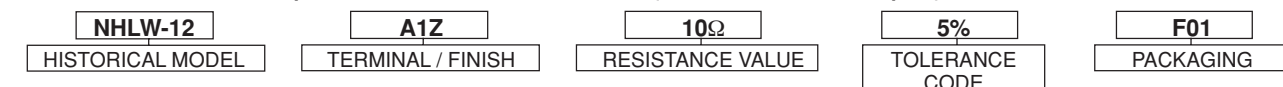
PARAMETER	UNIT	HLW RESISTOR CHARACTERISTICS
Temperature Coefficient	ppm/ $^{\circ}\text{C}$	± 90 for 0.1 Ω to 0.99 Ω ; ± 50 for 1 Ω to 9.9 Ω ; ± 30 for 10 Ω and above
Dielectric Withstanding Voltage	V_{AC}	1000, from terminal to mounting hardware
Short Time Overload	-	10 x rated power for 5 seconds
Maximum Working Voltage	V	$(P \times R)^{1/2}$
Insulation Resistance	Ω	1000 Megohm minimum dry, 100 Megohm minimum after moisture test
Operating Temperature Range	$^{\circ}\text{C}$	- 55 / + 350

GLOBAL PART NUMBER INFORMATION

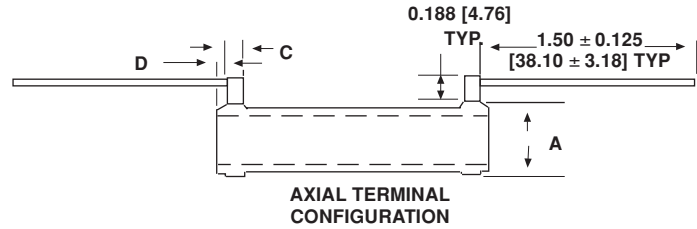
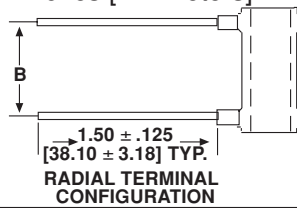
New Global Part Numbering: NHLW12A1Z10R00JF (preferred part numbering format)



Historical Part Number example: NHLW-12-A1Z 10 Ω 5% F01 (will continue to be accepted)



DIMENSIONS in inches [millimeters]



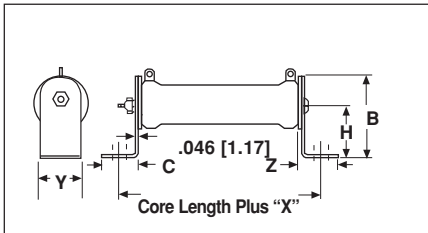
GLOBAL MODEL	A (Max.)	B Typical	C ± 0.031 [0.79]	D Typical	CORE DIMENSIONS			AXIAL TERMINAL DESIGNATION	RADIAL TERMINAL DESIGNATION	MOUNTING HARDWARE
					LENGTH ± 0.063 [1.59]	O.D.	I.D. ± 0.031 [0.79]			
HLW03	0.297 [7.54]	0.282 [7.16]	0.063 [1.59]	0.047 [1.19]	0.438 [11.11]	0.203 [5.16]	0.125 [3.18]	A2Z	R2Z	-
HLW05	0.344 [8.73]	0.469 [11.91]	0.063 [1.59]	0.047 [1.19]	0.625 [15.88]	0.250 [6.35]	0.125 [3.18]	A2Z	R2Z	-
HLW06	0.406 [10.32]	0.688 [17.48]	0.125 [3.18]	0.094 [2.38]	1.000 [25.40]	0.313 [7.94]	0.188 [4.76]	A1Z	R1Z	101, 204, 301
HLW10	0.563 [14.29]	0.688 [17.48]	0.125 [3.18]	0.094 [2.38]	1.000 [25.40]	0.438 [11.11]	0.313 [7.94]	A1Z	R1Z	101, 203, 301
HLW12	0.406 [10.32]	1.438 [36.53]	0.125 [3.18]	0.094 [2.38]	1.750 [44.45]	0.313 [7.94]	0.188 [4.76]	A1Z	R1Z	101, 204, 301
HLW15	0.563 [14.29]	1.188 [30.18]	0.125 [3.18]	0.094 [2.38]	1.500 [38.10]	0.438 [11.11]	0.313 [7.94]	A1Z	R1Z	101, 203, 301
HLW20	0.563 [14.29]	1.688 [42.88]	0.125 [3.18]	0.094 [2.38]	2.000 [50.80]	0.438 [11.11]	0.313 [7.94]	A1Z	R1Z	101, 203, 301

TERMINAL FINISH

Terminals are 20 AWG for HLW03 and HLW05 size and 18 AWG for all other sizes. "E" Finish - 100% Sn, coated Copperweld®. "Z" Finish - 60/40 Sn/Pb coated Copperweld®.

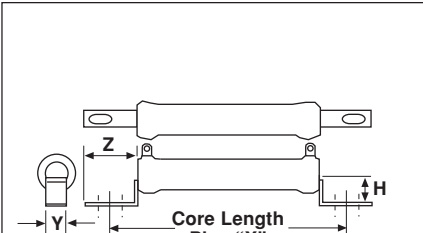
MOUNTING HARDWARE DIMENSIONS in inches [millimeters]

Horizontal Thru-Bolt



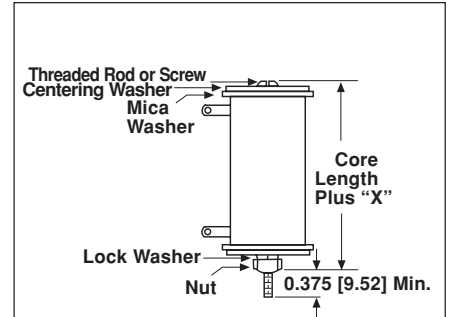
DIMENSION	BRACKET TYPE
	101
X	1.063 [26.99]
Y	0.500 [12.70]
Z	0.859 [21.83]
H	1.000 [25.40]
B	1.375 [34.93]
C	0.750 [19.05]
MOUNTING SLOT	0.219 x 0.438 [5.56] x [11.11]

Push-In



DIMENSION	BRACKET TYPE	
	203	204
X	0.625 [15.88]	0.375 [9.53]
H	0.672 [17.07]	0.281 [7.14]
Y	0.250 [6.35]	0.250 [6.35]
Z	0.469 [11.91]	0.344 [8.73]
HOLE (Dia)	0.161 [4.09]	0.144 [3.66]

Vertical Thru-Bolt



DIMENSION	BRACKET TYPE
	301
X (Approximate)	0.438 [11.11]
THREAD	8-32

MATERIAL SPECIFICATIONS

Element: Copper-nickel alloy or nickel-chrome alloy, depending on resistance value

Core: Ceramic, steatite

Coating: Special high temperature silicone

Standard Terminals: Model "Z" terminals are tinned Copperweld®

Terminal Bands: Steel

Part Marking: DALE, Model, Wattage, Value, Tolerance, Date Code

