Narrow Ring Terminal for Use in High-Density Barrier Terminal Blocks

PANDUIT®

APPLICATION NOTE

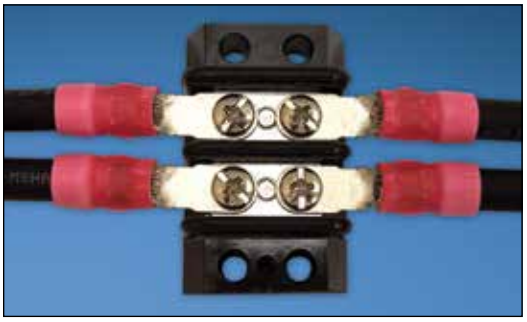
Applications:
Equipment that utilizes high-density terminal blocks such as control panels, switch panels, power distribution panels.

Customer Concern:
A manufacturer of switch panels could not find a source of ring terminals for connecting #8 AWG wire onto high-density, space saving barrier terminal blocks with #8 size studs. The barrier terminal block they were required to use was a new, high-density barrier terminal block of European design, which has a reduced width for each stud well to increase the number of terminations per linear distance. The spacing required a maximum width of 0.340" for each ring terminal.

Panduit Solution:
#8 AWG Insulated Narrow Ring Terminal

Panduit modified the standard #8 AWG ring terminal to fit within the customer's high-density barrier terminal block. The area between the tongue and the barrel was also modified to eliminate the possibility of arcing between adjacent installed terminals on the barrier terminal block. The barrel dimensions were left unchanged so that the same crimp tools could provide the same crimping characteristics. Panduit also verified that the narrow ring terminals in the customer's high-density barrier terminal block passed static heating tests required by UL 486.

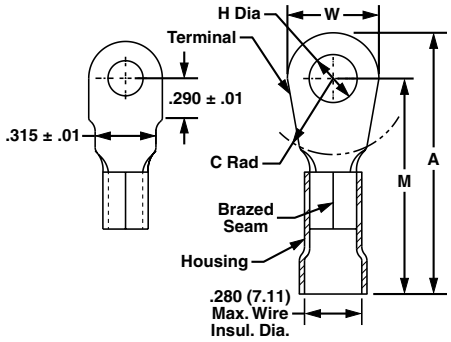
Application Considerations:
Static heating must be tested because of the reduced space between terminals. Static heating is described as the amount of temperature rise that occurs when the terminals are operating for thirty minutes at maximum operating current. Also, minimum spacing for terminal blocks should not violate UL 1059 Terminal Blocks, in UL approved applications.



Insulated Large Gauge Ring Terminals Designed For Use in High-Density Barrier Terminal Blocks

Comparison of Standard Tongue Ring Terminal on Left with Narrow Tongue Ring Terminal on Right

Narrow Ring Terminal for Use in High-Density Barrier Terminal Blocks



Part Number	Stud Size	Dimensions In. (mm)					Crimp Tool
		A±.03	W±.01	C±.02	M±.03	H±.01	
PV8-8RN-Q	#8	1.48 (37.59)	0.36 (9.14)	0.43 (10.92)	1.30 (33.02)	0.17 (4.32)	CT-720 with CD-720PV8-2 CT-2600 with CD-2600-PV8
PV8-8R-QY	#8	1.51 (38.35)	0.42 (10.67)	0.43 (10.92)	1.30 (33.02)	0.17 (4.32)	
PV8-10R-QY	#10	1.53 (38.86)	0.47 (11.94)	0.43 (10.92)	1.30 (33.02)	0.20 (5.08)	
PV8-14R-QY	1/4"	1.53 (38.86)	0.47 (11.94)	0.43 (10.92)	1.30 (33.02)	0.27 (6.86)	
PV8-56R-QY	5/16"	1.64 (41.66)	0.59 (14.99)	0.51 (12.95)	1.35 (34.29)	0.33 (8.38)	
PV8-38R-QY	3/8"	1.64 (41.66)	0.59 (14.99)	0.51 (12.95)	1.35 (34.29)	0.39 (9.91)	
PV8-12R-XY	1/2"	1.74 (44.20)	0.82 (20.83)	0.51 (12.95)	1.33 (33.78)	0.52 (13.21)	

Notes:

1. UL 486 Listed for:
   a. 600 V maximum voltage rating
   b. 221°F (105°C) maximum temperature rating
   c. #8 AWG stranded copper wire
2. Material:
   a. Stamping – 0.040" (1.02) thick copper, tin-plated
   b. Housing – Vinyl, red
4. Dimensions in brackets are in millimeters
5. Installation tool: CT-720 w/CD-720PV8-2, CT-2600 w/CD-2600-PV8
6. Wire strip length $3/8^{+1/32}$
7. Package qty: -Q or -QY = 25 pcs. and -XY = 10 pcs
8. Other quantities available: replace the -Q, -QY, or -XY at the end of the part number to -T or -TY for a quantity or 200.

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