DESCRIPTION

PRODUCT COVERED:

USR, CNR Component Connectors - AMP Power Series.

GENERAL:

These devices are single-pole and two-pole connectors employing contacts of the crimp termination type where the acceptability of the combinations is determined by Underwriters Laboratories Inc.

ELECTRICAL RATING:

AMP Power Series 15 -

	No. of Poles	Contact Cat. No.	Wire Size (AWG)	Rating
USR, CNR	1 x 1	1604113	16	20 A, 600 V
USR, CNR	2 x 2	1604113	16	14 A, 600 V
USR, CNR	2 x 3	1604113	16	13 A, 600 V
USR, CNR	2 x 4	1604113	16	12 A, 600 V
USR, CNR	2 x 5	1604113	16	12 A, 600 V
USR, CNR	4 x 4	1604113	16	10 A, 600 V

AMP Power Series 15 w/Outer Housing

	No. of Poles	Contact Cat. No.	Wire Size (AWG)	Rating
USR, CNR	2 x 2	1604113	16	13 A, 600 V
USR, CNR	**1 x 2**	**1604113**	**16**	**13 A, 600 V**
USR, CNR	2 x 3	1604113	16	12 A, 600 V
USR, CNR	2 x 4	1604113	16	11 A, 600 V

AMP Power Series 30 -

	No. of Poles	Contact Cat. No.	Wire Size (AWG)	Rating
USR, CNR	1 x 1	1604112	12	30 A, 600 V
USR, CNR	2 x 2	1604112	12	23 A, 600 V
USR, CNR	2 x 3	1604112	12	21 A, 600 V
USR, CNR	2 x 4	1604112	12	19 A, 600 V

USR, CNR	2 x 5	1604112	12	18 A, 600 V
USR, CNR	4 x 4	1604112	12	16 A, 600 V

AMP Power Series 30 w/Outer Housing

	No. of Poles	Contact Cat. No.	Wire Size (AWG)	Rating
USR, CNR	2 x 2	1604112	12	23 A, 600 V
USR, CNR	**1 x 2**	**1604112**	**12**	**23 A, 600 V**
USR, CNR	2 x 3	1604112	12	20 A, 600 V
USR, CNR	2 x 4	1604112	12	19 A, 600 V

Amp Power Series 45 -

	No of Poles	Contact Cat. No.	Wire Size (AWG)	Rating
USR, CNR	1	1445962	10	40 A, 600 V
USR, CNR	2 x 2	1445962	10	30 A, 600 V
USR, CNR	2 x 3	1445962	10	28 A, 600 V
USR, CNR	2 x 4	1445962	10	26 A, 600 V
USR, CNR	2 x 5	1445962	10	25 A, 600 V
USR, CNR	4 x 4	1445962	10	22 A, 600 V

Amp Power Series 45 w/Outer Housing -

	No. of Poles	Contact Cat. No.	Wire Size (AWG)	Rating
USR, CNR	2 x 2	1445962	10	30 A, 600 V
USR, CNR	**1 x 2**	**1445962**	**10**	**30 A, 600 V**
USR, CNR	2 x 3	1445962	10	25 A, 600 V
USR, CNR	2 x 4	1445962	10	25 A, 600 V

AMP Power Series 50 -

	No. of Poles	Contact Cat. No.	Wire Size (AWG)	Rating
USR, CNR	2	647877	6	50 A, 600 V
USR, CNR	2	647770	6	50 A, 600 V
USR, CNR	2	647878	8	45 A, 600 V
USR, CNR	2	647770	8	45 A, 600 V
USR, CNR	2	647879	10	35 A, 600 V
USR, CNR	2	647770	10	35 A, 600 V
USR, CNR	2	647879	12	30 A, 600 V
USR, CNR	2	647770	12	30 A, 600 V

AMP Power Series 75 -

	No. of Poles	Contact Cat. No.	Wire Size (AWG)	Rating
USR, CNR	1 x 2	647877	6	62 A, 600 V
USR, CNR	**2**	**647770**	**6**	**50A, 600V**
USR, CNR	**2**	**647878**	**8**	**45A, 600V**
USR, CNR	**2**	**647879**	**10**	**35A, 600V**
USR, CNR	**2**	**647879**	**12**	**30A, 600V**
USR, CNR	2 x 2	647877	6	60 A, 600 V
USR, CNR	3 x 2	647877	6	52 A, 600 V
USR, CNR	3 x 1	647877	6	58 A, 600 V

AMP Power Series 120 -

	No. of Poles	Contact Cat. No.	Wire Size (AWG)	Rating
USR	1	1445997	6	120 A, 600 V
CNR	1	1445997	6	81 A, 600 V
USR	2	1445997	6	120 A, 600 V
CNR	2	1445997	6	79 A, 600 V

	No. of Poles	Contact Cat. No.	Wire Size (AWG)	Rating
USR, CNR	1	1445995	2	120 A, 600 V
USR	2	1445995	2	120 A, 600 V
CNR	2	1445995	2	115 A, 600 V
USR, CNR	1 x 2	1445995	2	115 A, 600 V
USR, CNR	2 x 2	1445995	2	115 A, 600 V

AMP Power Series 175 -

	No. of Poles	Contact Cat. No.	Wire Size (AWG)	Rating
USR, CNR	2	1604038	1/0	175 A, 600 V

AMP Power Series 180 -

	No. of Poles	Contact Cat. No.	Wire Size (AWG)	Rating
USR, CNR	1 x 1	1604038	1/0	165 A, 600 V
USR	1 x 1	1604038	1/0	180 A, 600 V
USR, CNR	2 x 1	1604038	1/0	160 A, 600 V
USR	2 x 1	1604038	1/0	165 A, 600 V
USR, CNR	2 x 2	1604038	1/0	145 A, 600 V
USR	2 x 2	1604038	1/0	150 A, 600 V

AMP Power Series 350 -

	No. of Poles	Contact Cat. No.	Wire Size (AWG)	Rating
USR, CNR	2	1604052	4/0	275 A, 600 V

USR - Indicates investigation to United States Standards UL 1977, First Edition.

CNR - Indicates investigation to Canadian National Standards C22.2 No. 182.3-M1987.

ENGINEERING CONSIDERATIONS (NOT FOR UL REPRESENTATIVE USE):

Use - For use only in complete equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc.

Conditions of Acceptability - In order to be judged acceptable as a component of electrical equipment, the following conditions should be met.

1. These devices should be used only where they will not interrupt the current.

2. These devices have been investigated for the currents tabulated with the max temperature and temperature rises as shown.

Contact Cat. No.	No. of Poles	Wire Size (AWG)		Current (A)	Max Temp (°C)	Temp. Rise (°C)
647877	2	6	USR, CNR	50		11.4
647770	2	6	USR, CNR	50		12.5
647878	2	8	USR, CNR	45		18.0
647770	2	8	USR, CNR	45		17.7
647879	2	10	USR, CNR	35		15.6
647770	2	10	USR, CNR	35		17.2
647879	2	12	USR, CNR	30		19.2
647770	2	12	USR, CNR	30		19.6
647877	1 x 2	6	USR, CNR	62		27.9
647877	2 x 2	6	USR, CNR	60		28.3
647877	3 x 1	6	USR, CNR	58		27.2
647877	3 x 2	6	USR, CNR	52		26.6
1445962	1	10	USR, CNR	40	53.8	28.8
1445962	2 x 2	10	USR, CNR	30	52.2	27.2
1445962	2 x 2 +	10	USR, CNR	30	54.7	29.7
1445962	2 x 3	10	USR, CNR	28	52.7	27.7
1445962	2 x 3 +	10	USR, CNR	25	52.5	27.5
1445962	2 x 4	10	USR, CNR	26	53.0	28.0
1445962	2 x 4 +	10	USR, CNR	25	53.6	28.6
1445962	2 x 5	10	USR, CNR	25	54.1	29.1
1445962	4 x 4	10	USR, CNR	22	53.2	28.2
1445997	1	6	CNR	81		27.6

Contact Cat. No.	No. of Poles	Wire Size (AWG)		Current (A)	Max Temp (°C)	Temp. Rise (°C)
1445995	1	2	USR, CNR	120	54.4	29.4
1445995	2	2	USR	120	83.5	
1445995	2	2	CNR	115		27.8
1445995	1 x 2	2	USR, CNR	115	53.7	28.7
1445995	2 x 2	2	USR, CNR	115	54.8	29.8
1445997	2	6	USR	120	83.5	
1445997	2	6	CNR	79		26.7
1604038	2	1/0	USR, CNR#	175	54.5	29.5#
1604038	1 x 1	1/0	USR, CNR	165		27.7
1604038	1 x 1	1/0	USR	180	54.8	
1604038	2 x 1	1/0	USR, CNR	160		28.9
1604038	2 x 1	1/0	USR	165	51.8	
1604038	2 x 2	1/0	USR, CNR	145		28.4
1604038	2 x 2	1/0	USR	150	51.6	
1604052	2	4/0	USR, CNR#	275	55.7	30#
1604112	1 x 1	12	USR, CNR	30	50.9	25.9
1604112	2 x 2	12	USR, CNR	23	50.8	25.8
1604112	2 x 2 +	12	USR, CNR	23	51.8	26.8
1604112	2 x 3	12	USR, CNR	21	54.2	29.2
1604112	2 x 3 +	12	USR, CNR	20	53.4	28.4
1604112	2 x 4	12	USR, CNR	19	54.5	29.5
1604112	2 x 4 +	12	USR, CNR	19	54.5	29.5
1604112	2 x 5	12	USR, CNR	18	52.6	27.6
1604112	4 x 4	12	USR, CNR	16	53.7	28.7
1604113	**1 x 1**	**16**	**USR, CNR**	**20**	**53.6**	**28.6**
1604113	**2 x 2**	**16**	**USR, CNR**	**14**	**51.6**	**26.6**
1604113	**2 x 2 +**	**16**	**USR, CNR**	**13**	**52.0**	**27.0**
1604113	**2 x 3**	**16**	**USR, CNR**	**13**	**52.6**	**27.6**
1604113	**2 x 3 +**	**16**	**USR, CNR**	**12**	**53.3**	**28.3**

1604113	**2 x 4**	**16**	**USR, CNR**	**12**	**53.6**	**28.6**
1604113	**2 x 4 +**	**16**	**USR, CNR**	**11**	**52.3**	**27.3**
1604113	**2 x 5**	**16**	**USR, CNR**	**12**	**54.1**	**29.1**
1604113	**4 x 4**	**16**	**USR, CNR**	**10**	**50.3**	**25.3**

Note: + - Indicates devices where outer housing was used.

 # - Requires the use of a cable clamp as described in Fig. 10.

3. The suitability of the mounting means shall be determined in the end-use.

4. The placement of these devices within the equipment enclosure should be such that spacings between the live parts and the equipment are suitable for the particular application.

5. The adjacent poles may be used at potentials not exceeding 600 V based on the results of a Dielectric Voltage-Withstand Test.

6. The factory assembled contacts have been investigated for the following wire ranges and max tensile forces.

Part No.	Wire Range (AWG)	Tensile Force (lb)
647770	6 - 12	20
647877	6	20
647878	8	20
647879	10 - 12	20
1445962	10 - 14	20
1445995	2	20
1445995 w/ bushing	8	20
1445996	4	20
1445997	6	20
1604038	1/0	20
1604041	1	20
1604039	2	20
1604040	4	20
1604038 w/ bushing 1604721-1	10	20
1604038 w/ bushing 1604121-2	6	20
1604038 w/ bushing 1604121-5	4	20
1604038 w/ bushing 1604121-4	2	20
1604038 w/ bushing 1604121-3	1	20
1604038 w/ bushing 1604721-1	10	20
1604038 w/ bushing 1604121-2	6	20
1604038 w/ bushing 1604121-5	4	20
1604038 w/ bushing 1604121-4	2	20
1604038 w/ bushing 1604121-3	1	20
1604051	300 MCM	20
1604052	4/0	20
1604053	3/0	20
1604054	2/0	20

1604054 w/ bushing 1604121-6	1/0	20
1604112	12 - 16	20
1604113	18	20
1604113	20	8

7. The suitability of the insulating materials used in the molded bodies shall be judged in the end-use equipment.

8. The operating temperature of these devices should not exceed the temperature ratings of the insulating materials. These materials may be used interchangeably at a max temperature of 125°C, except for Series 75 which is limited to a max temperature of 80°C.

9. The Finger Proof Power 50 Connector has been evaluated for compliance with Paragraph 2.1.1.1 of UL 60950 by performing a Probe Test.