



PRELIMINARY PRODUCT SPECIFICATION  
42179 PLUG AND RECEPTACLE, .125 DIA TERMINALS

1.0 Scope:  
This specification covers the .125 inch (3.18 mm) diameter tin plated connector series terminated to 10 to 18 AWG wire using crimp technology.

2.0 Product Description:  
2.1 Product Name and Engineering Number

Product Name	Engineering Number
housing, plug and receptacle	42179
terminal, socket, 10 - 14 AWG	1901
terminal, pin, 10 - 14 AWG	1900
terminal, socket, 16 - 18 AWG	2047
terminal, pin, 16 - 18 AWG	2046

2.2 Materials, Platings and Markings  
See the appropriate Sales Drawings for information on materials, platings and markings

3.0 Applicable Documents and Specifications:  
See the Sales Drawings and the other sections of this Specification for the necessary referenced Documents and Specifications.

4.0 Ratings:  
4.1 Voltage: 600 Volts  
4.2 Current rating in amperes per circuit:

AWG	Circuit Size		
	1,2,3,4	6,8	10,12
10 - 14	20	TBD	TBD
16 - 18	12	TBD	TBD

4.3 Temperature: Operating - 40 C to + 105 C  
Nonoperating - 40 C to + 125 C

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5.0 Performance Specifications  
5.1 Electrical Performance

ITEM	TEST CONDITION	REQUIREMENT
Contact Resistance [Low Level]	Mate connectors with a maximum voltage of 20 mV and a current of 10 mA	10 milliohms Maximum
Insulation Resistance	Mate connectors with a voltage of 500 VDC between adjacent terminals and between terminals to ground	1000 Megohms Minimum
Dielectric Strength	Mate connectors with a voltage of 2200 VAC for 1 minute between adjacent terminals and between terminals and ground	No Breakdown

5.2 Mechanical Performance

ITEM	TEST CONDITION	REQUIREMENT
Terminal Engagement and Dis-engagement	Insert and withdraw terminals at a rate of 1 +/- 1/4 inch per minute (25 +/- 3mm per minute)	Avg Engagement 5.75 lbf (2.6 kgf) Avg Dis-engagement 3.4 lbf (1.53 kgf)
Retention Force in Housing	Axial pull out force on the terminal in the housing at a 1 +/- 1/4 inch per minute (25 +/- 3mm per minute)	30.0 lbf (13.6 kgf) Minimum
Wire Pullout Force (Axial)	Apply an axial pullout force on the wire at a rate of 1 +/- 1/4 inch per minute (25 +/- 3 mm per minute)	AWG Pullout Force 10 78 lbf(35.4 kgf) 12 70 lbf(31.7 kgf) 14 50 lbf(22.7 kgf) 16 45 lbf(20.4 kgf) 18 30 lbf(13.6 kgf)

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5.2 Mechanical Performance (continued)

ITEM	TEST CONDITION	REQUIREMENT
Terminal Insertion Force (Axial)	Apply an axial insertion force on the terminal at a rate of 1 +/- 1/4 inch per minute (25 +/- mm per minute)	9.25 lbf (4.2 kgf)Max
Durability	Mate connectors up to 25 cycles at a maximum rate of 10 cycles per minute	20 milliohm Max change from Initial
Vibration	Amplitude: .060" (1.5 mm) peak to peak Sweep: 10-55-10 Hertz in one minute Duration: 2 hours in each X-Y-Z axis	Appearance: No Damage Contact Resistance: 20 milliohm Maximum change from Initial Discontinuity: 1 micro second Maximum
Mechanical Shock	50 G's with three shocks in each X-Y-Z axis	Appearance: No Damage Contact Resistance: 20 milliohm Maximum change from Initial Discontinuity: 1 micro second Maximum

5.3 Environmental Performance

ITEM	TEST CONDITION	REQUIREMENT
Thermal Shock	Mate connectors exposed for 5 cycles of: Temperature      Duration -55 +0/-3 C      30 minutes +25 +/- 10 C      5 minutes Max +105 +3/-0 C      30 minutes +25 +/- 10 C      5 minutes Max	Appearance: No Damage Contact Resistance: 20 milliohm Maximum change from Initial
Thermal Aging	Mate connectors exposed for 96 hours at 105 +/- 2 C	Appearance: No Damage Contact Resistance: 20 milliohm Maximum change from Initial

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### 5.3 Environmental Performance (continued)

ITEM	TEST CONDITION	REQUIREMENT
Humidity Steady State	Mate connectors and expose to a Temperature of 65 +/- 2 C with a Relative Humidity of 90 to 95% for 96 hours	Appearance: No Damage Contact Resistance: 20 milliohm Maximum change from Initial
Temperature Rise	Mate the connectors and measure the contact temperature at the rated current load	Maximum Temperature of the terminal of 30 C above ambient

### 6.0 Packaging

Parts shall be packaged to protect against damage during handling, transit, and storage. No Styrofoam shall be used in any packaging that comes in direct contact with the connectors.

### 7.0 Gages and Fixtures

### 8.0 Other Information

#### 8.1 Agency Approval and Listings

UL File # E29179  
CSA File # 19980  
VDE File # Applied For

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REV.	DESCRIPTION	DATE
1	Preliminary release. ERO #30476	10/3/90 <i>pp</i>

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