



PRODUCT SPECIFICATION

MX150L 12-8 AWG WIRE-TO-WIRE & PANEL MOUNT CONNECTOR SYSTEM

1.0 SCOPE

This Product specification covers the 7.62 mm (.300 inch) centerline (pitch) Connector Series terminated with 12 to 8 AWG wire using Crimp Technology with Tin or Select Gold plated Terminals

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND SERIES NUMBERS

- A. 19431 MALE TERMINALS
- B. 19432 WIRE TO WIRE RECEPTACLE ASSYS
- C. 19433 WIRE TO WIRE PLUG ASSYS
- D. 19434 FEMALE TERMINALS
- E. 19436 PANEL MOUNT PLUG ASSYS

2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

- A. ALL DIMENSIONS CAN BE FOUND ON THE SALES DRAWINGS
- B. PLASTIC MATERIALS
 - I. HOUSING & RETAINER ARE GLASS-FILLED PBT-BLACK
 - II. TPA & CPA ARE GLASS-FILLED PBT-NATURAL
- C. TERMINAL MATERIALS (PIN/SOCKET) ARE HIGH STRENGTH COPPER ALLOY
- D. PLATINGS ARE TIN OVER NICKEL (B154)
- E. GROMETS ARE LUBRICATED SILICONE RUBBER

2.3 SAFETY AGENCY APPROVALS

- A. UL FILE #E152602
- B. CSA FILE #018689, CLASS 6233-01
- C. ALL MOLDED COMPONENTS ARE FLAMMABILITY RATED UL94 V-0

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

- 3.1 RECEPTACLE ASSEMBLIES 2, 4, 6, 8 pos
 - A. SALES DRAWING SD-19432-***
 - B. PACKAGING DRAWING PK-19432-***
- 3.2 PLUG ASSEMBLIES 2, 4, 6, 8 pos
 - A. SALES DRAWING SD-19433-***
 - B. PACKAGING DRAWING PK-19433-***
- 3.3 PANEL MOUNT PLUG ASSYS 2, 4 pos
 - A. SALES DRAWING SD-19436-***
 - B. PACKAGING DRAWING PK-19436-***
- 3.4 FEMALE TERMINALS 12, 10, 8 AWG
 - A. SALES DRAWING SD-19434-***
 - B. PACKAGING DRAWING PK-19434-*** (LOOSE PC)
- 3.5 MALE TERMINALS
 - A. SALES DRAWING SD-19431-***
 - B. PACKAGING DRAWING PK-19431-*** (LOOSE PC)

REVISION: A	EGR/ECN INFORMATION: EC No: ETC2008-0101 DATE: 2007 / 10 / 12	TITLE: MX150L 12 TO 8 AWG WIRE TO WIRE AND PANEL MOUNT CONNECTOR SYSTEM	SHEET No. 1 of 6
DOCUMENT NUMBER: PS-19432-001	CREATED / REVISED BY: WLEUNG	CHECKED BY: RDEROSS	APPROVED BY: RDEROSS



PRODUCT SPECIFICATION

4.0 RATINGS

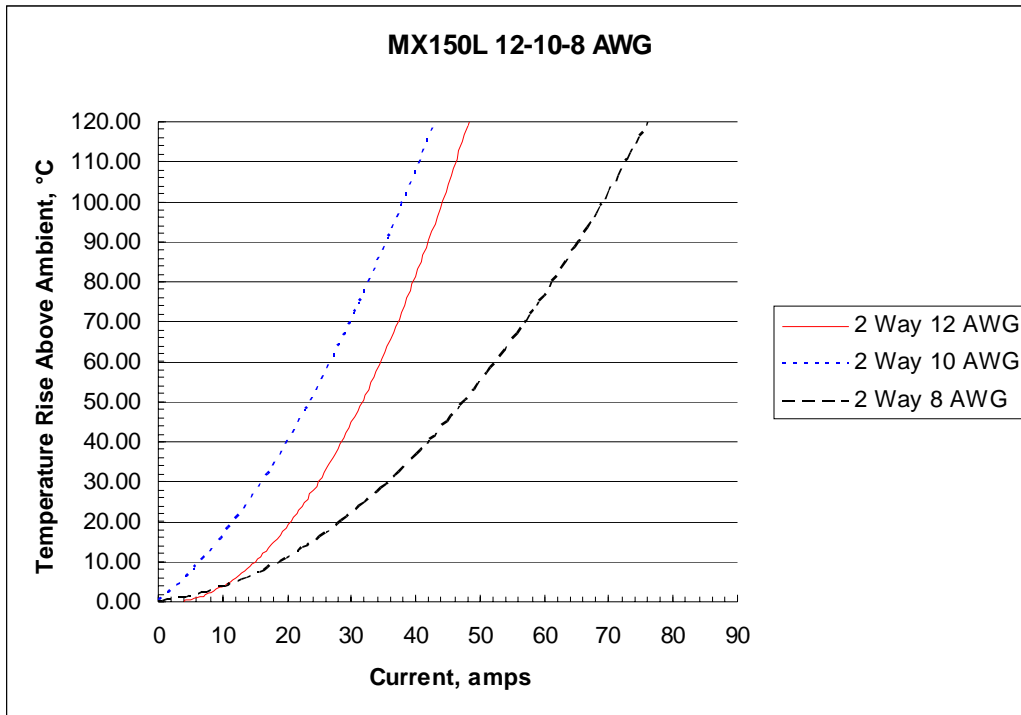
4.1 VOLTAGE

600 Volts AC

4.2 CURRENT AND APPLICABLE WIRES

AWG	Amps	Outside Insulation Diameter
12	See Chart	3.94-4.45mm (.155-.175")
10	See Chart	3.94-4.45mm (.155-.175")
8	See Chart	6.02mm (2.37")

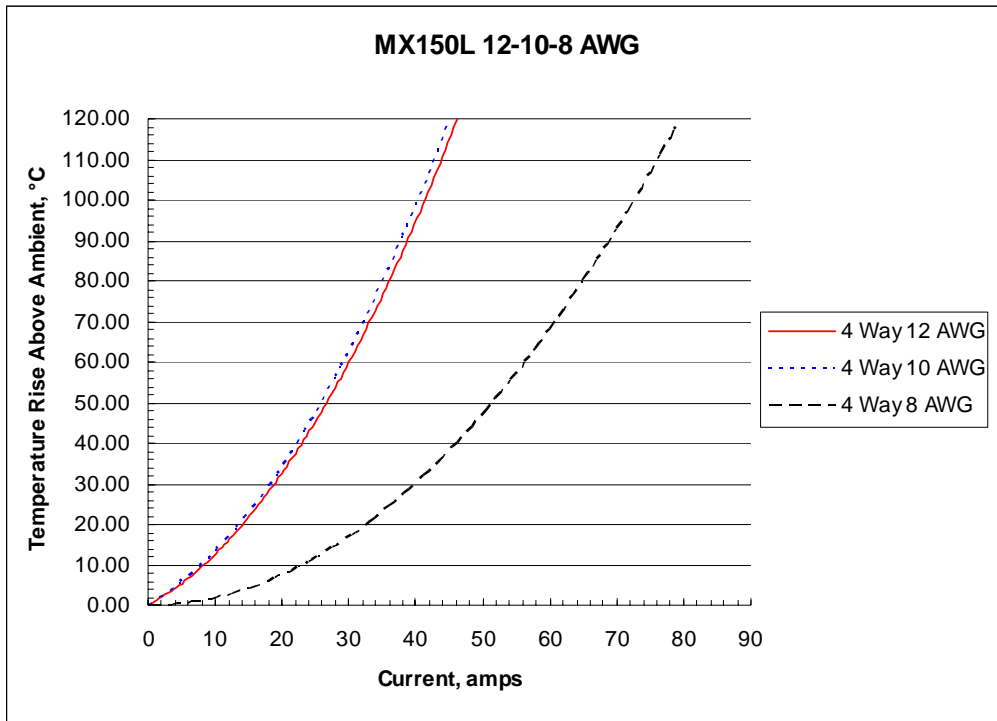
Note: The below curves were developed using averages of fully loaded connector pairs and are presented as a guideline. The end user must evaluate the performance of the connector pair in actual application to determine the suitability and actual performance.



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PRODUCT SPECIFICATION



4.3 TEMPERATURE

Operating: - 40°C to + 125°C

Non-operating: - 40°C to + 125°C

5.0 PERFORMANCE

5.1 ELECTRICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	Contact Resistance (Low Level)	Mate connectors: apply a maximum voltage of 20 mV and a current of 100 mA .	30 milliohms MAXIMUM [initial]
2	Insulation Resistance	Unmate & unmount connectors: apply a voltage of 500 VDC between adjacent terminals and between terminals to ground.	20 Megohms MINIMUM
3	Dielectric Withstanding Voltage	Unmate connectors: apply a voltage of {two times the rated voltage plus 1000 volts} VAC for 1 minute between adjacent terminals and between terminals to ground.	No breakdown; current leakage < 5 mA
4	Temperature Rise	Mate connectors: measure the temperature rise at the rated current after 4 hours and temperature stabilizes.	Temperature rise: +30°C MAXIMUM

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PRODUCT SPECIFICATION

5.2 MECHANICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
5	Terminal Insertion and Withdrawal Forces	Insert and withdraw terminal (male to female) at a rate of 25 ± 6 mm ($1 \pm \frac{1}{4}$ inch) per minute.	TBD
6	Connector Mate and Unmate Forces	Mate and unmate connector (male to female) at a rate of 25 ± 6 mm ($1 \pm \frac{1}{4}$ inch) per minute.	TBD
7	Terminal Retention Force (in Housing w/TPA)	Axial pullout force on the terminal in the housing at a rate of 25 ± 6 mm ($1 \pm \frac{1}{4}$ inch) per minute.	TBD
8	Durability	Mate connectors up to {25 cycles for tin (non-noble) plating OR 100 cycles for gold (noble) plating} at a maximum rate of 10 cycles per minute prior to Environmental Tests.	10 milliohms MAXIMUM (change from initial)
9	Vibration (Random)	Mate connectors and vibrate from 10 to 1000Hz for 8 hours in each of three mutually perpendicular axes (X, Y, Z).	10 milliohms MAXIMUM (change from initial) & Discontinuity < 1 microsecond
10	Shock (Mechanical)	Mate connectors and shock at 35 g's with 10½ sine wave (10 milliseconds) shocks in the ±X,±Y,±Z axes.	10 milliohms MAXIMUM (change from initial) & Discontinuity < 1 microsecond
11	Wire Pullout Force (Axial)	Apply an axial pullout force on the wire at a rate of 25 ± 6 mm ($1 \pm \frac{1}{4}$ inch).	12 AWG 311.5 N (70 lbf) 10 AWG 356 N (80 lbf) 8 AWG 400.5 N (90 lbf) MINIMUM pullout force {Recommended minimum value: 75% of tensile strength of the wire}

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DOCUMENT NUMBER: PS-19432-001	CREATED / REVISED BY: WLEUNG	CHECKED BY: RDEROSS	APPROVED BY: RDEROSS



PRODUCT SPECIFICATION

5.3 ENVIRONMENTAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT										
12	Shock (Thermal)	Mate connectors; expose to 100 cycles of: <table border="0"> <tr> <td><u>Temperature °C</u></td> <td><u>Duration (Minutes)</u></td> </tr> <tr> <td>-40 +0/-3</td> <td>30</td> </tr> <tr> <td>+25 ±10</td> <td>30 sec. MAXIMUM</td> </tr> <tr> <td>+125 +3/-0</td> <td>30</td> </tr> <tr> <td>+25 ±10</td> <td>30 sec. MAXIMUM</td> </tr> </table>	<u>Temperature °C</u>	<u>Duration (Minutes)</u>	-40 +0/-3	30	+25 ±10	30 sec. MAXIMUM	+125 +3/-0	30	+25 ±10	30 sec. MAXIMUM	TBD
<u>Temperature °C</u>	<u>Duration (Minutes)</u>												
-40 +0/-3	30												
+25 ±10	30 sec. MAXIMUM												
+125 +3/-0	30												
+25 ±10	30 sec. MAXIMUM												
13	High Temperature Exposure	Mate connectors: cycle per USCAR-2 Duration: 1008 hours exposure Temperature: +125°± 3°C	TBD										
14	Salt Spray	Mate connectors: Duration: 96 hours exposure; Atmosphere: salt spray from a 5% solution; Temperature: 35 +1/-2°C	TBD										
15	Fluid Resistance	Submerge mated connectors for 30 minutes minimum in each of the following automotive fluids: gasoline, diesel fuel, engine oil, E85 ethanol fuel, power steering fluid, automatic transmission fluid, engine coolant, brake fluid	Insulation Resistance 20 Megohms MINIMUM & Visual: No damage or loss of mechanical function										
16	IP67	IP6X - Expose mated connectors to to suspended dust under pressure IPX7 – Submerge mated connector under water 1 meter minimum for 30 minutes minimum duration.	No dielectric breakdown; current leakage < 5 mA & Visual: No dust or water										

6.0 PACKAGING

Parts shall be packaged to protect against damage during handling, transit and storage.

7.0 APPLICATION TOOLING

7.1 Male Terminal 12 AWG

63832-5000 Fine Adjust Applicator
63832-5000 T2 Terminator Tooling

7.2 Male Terminal 10 AWG

63832-5000 Fine Adjust Applicator
63832-5000 T2 Terminator Tooling

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PRODUCT SPECIFICATION

7.3 Male Terminal 8 AWG
63811-5400 Hand Crimp Tool

7.4 Female Terminal 12 AWG
63832-5000 Fine Adjust Applicator
63832-5000 T2 Terminator Tooling

7.5 Female Terminal 10 AWG
63832-5000 Fine Adjust Applicator
63832-5000 T2 Terminator Tooling

7.6 Female Terminal 8 AWG
63811-5400 Hand Crimp Tool

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