

### Connector System



### The pre-assembled, submersible MX150L is a high performance connector system suitable for challenging, rugged and harsh applications.

The MX150L sealed connector system is designed to meet the need for a rugged, environmentally sealed connector system supporting both low-level signal applications as well as power applications up to 40.0A, from on-engine automotive and marine applications to off-road construction equipment applications. The system is comprised of wire-towire, wire-to-panel and wire-to-board configurations.



These innovative mat-sealed connectors are based upon the 1.50 and 2.50mm (.059 and .098") blade-type terminals. This design eliminates the need to purchase, handle and crimp individual wire seals to lower applied cost. The matseal design is a single silicone-based seal with individual wire openings and a seal cap to protect, securely retain, and provide strain relief to the seal. The cost-effective connector design features all-in-one plug and receptacle housings with pre-assembled mat-wire and interfacial connector seals. Integral Terminal Position Assurance (TPA) and optional Connector Position Assurance (CPA) components eliminate

### MX150L<sup>™</sup> Sealed Connector System

time-consuming and costly assembly operations. Completing the application is as simple as crimping the appropriate terminal, inserting the crimped terminal lead and seating the TPA to its final locked position. No additional components are required.

Tooling solutions include FineAdjust™ crimp press applicators for high-volume production, as well as hand tools for low-volume production and field repairs.

#### FEATURES AND BENEFITS

- Pre-assembled connector housings, seals, TPA components and mat-seal cap shipped in one piece to provide applied labor and cost savings
- Integral TPA assures that crimped terminal leads are properly locked into connector (TPA will not seat into final lock position and connector system will not latch if terminal is not locked properly into position)
- Conforms to UL 1977, which allows for a UL recognized sealed connector system for use in data, signal, control and power applications
- Superior electrical and mechanical performance capabilities surpass performance of most mature competitive products in market

- Audible and tactile clicks on insertion, extraction and mating feedback facilitates reliable mating and terminal loading and removal
- Unused circuits can be blocked using plastic seal plugs, which facilitates flexibility of sealing unused circuits without adding complexity to part numbers and customer inventory
- Integral locking latch with secondary, pre-loaded CPA option assures that connector system is properly latched. CPA will not move to final locked position if connector is not latched. Confirms positive mating of connector
- Sealed panel mount plugs are equipped with a blind hole boss feature which reduces extra hardware while improving the sealing process during assembly by eliminating a leak path

- Integral, 2-way mat and interface seals designed and tested to IEC IP 67 and SAE USCAR-2, Rev. 3 standards exceeds "waterproof" demands as a true sealed connector system tested under submersed conditions in various fluids
- Easy terminal insertion and extraction provides quick, low-cost field repairs using common screw driver, needle nose pliers and terminal extraction tool
- Protective mat-seal cap protects, securely retains, and provides strain relief to wire seal interface
- Simple crimp, poke and plug application eliminates need to crimp individual wire seals

#### **MX150L SEALED CONNECTOR SYSTEMS - EXPLODED VIEW**



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MX150L™ Product Overview

#### 14 TO 22 AWG WIRE-TO-WIRE, PANEL MOUNT AND PCB



#### 8, 10 AND 12 AWG WIRE-TO-WIRE



Downloaded from **Elcodis.com** electronic components distributor

#### Features and Benefits

- Mat seal friendly design features center seam and coined edges
- Anti-over stress beam geometry feature
- Low insertion force

#### **Reference Information**

UL File No.: E152602 Designed In: Inches Used With: 19418 *Electrical* Current: 18.0A

**Physical** Contact: Copper Alloy Plating: Tin or Gold

Mechanical Contact Insertion Force: 1.0 lb. max. Durability: Tin Plating—25 cycles Gold Plating—100 cycles



5.84mm (.230") Pitch MX150L™ Terminal

#### 19420

Female



#### **CATALOG DRAWING (FOR REFERENCE ONLY)**



#### **ORDERING INFORMATION**

Wire Range (AWG) Insula	Insulation Diameter mm (In)	Order No.					Dimo	ncion	
		Pre-Tin		Gold		Dimension			
		Strip	Loose	Strip	Loose	A	В	C	D
18-22	2.36-2.74 (.093108)	19420-0002	19420-0010	19420-0004	19420-0012	4.60 (.181)	3.63 (.143)	2.50 (.098)	2.70 (.106)
14-16	2.87-3.53 (.113139)	19420-0001	19420-0009	19420-0003	19420-0011	5.66 (.223)	4.62 (.182)	3.58 (.141)	3.94 (.155)

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#### Features and Benefits

- Mat seal friendly design features center seam and coined Electrical
- Low insertion force

#### **Reference Information**

UL File No.: E152602 Designed In: Inches Used With: 19419, 19429 and 19435 *Electrical* Current: 18.0A

**Physical** Contact: Copper Alloy Plating: Tin or Gold

Mechanical Contact Insertion Force: 1.0 lb. max. Durability: Tin Plating—25 cycles Gold Plating—100 cycles



5.84mm (.230") Pitch MX150L™ Terminal

19417

Male



#### **CATALOG DRAWING (FOR REFERENCE ONLY)**



	Insulation		Orde	r No.			Dimension				
(AWG)	Diameter	Pre-Tin		Gold		Pin Lenath	Dimension				
	Strip	Loose	Strip	Loose	5	Α	В	C	D	E	
18-22	2.36-2.74 (.093108)	19417-0024	19417-0048	19417-0026	19417-0050	Standard	4.60 (.181)	3.63 (.143)	2.50 (.098)	2.70 (.106)	25.40 (1.00)
14-16	2.87-3.53 (.113139)	19417-0011	19417-0047	19417-0025	19417-0049	Standard	5.66 (.223)	4.62 (.182)	3.58 (.141)	3.94 (.155)	25.40 (1.00)
18-22	2.36-2.74 (.093108)	19417-0028	19417-0052	19417-0030	19417-0054	Long	4.60 (.181)	3.63 (.143)	2.50 (.098)	2.70 (.106)	26.16 (1.03)
14-16	2.87-3.53 (.113139)	19417-0027	19417-0051	19417-0029	19417-0053	Long	5.66 (.223)	4.62 (.182)	3.58 (.141)	3.94 (.155)	26.16 (1.03)

#### Features and Benefits

- Environmentally sealed to IP67
- Integrated mat wire seal
- Integrated interface seal and terminal position assurance (TPA)
- Optional connector position assurance (CPA)
- Simple crimp-and-poke application
- Field serviceable contact removal system
- Tactile and audible mating feedback

#### **Reference Information**

UL File No.: E152602 Designed In: Inches Mates With: 19419, 19429 

#### **Electrical** Dielectric Wi

Dielectric Withstanding Voltage: 2200V AC min. Insulation Resistance: 1000 Megohms Voltage: 600V

#### Mechanical

Mating force: 75N max. Unmating force: 75N max.

#### Physical:

Housing: SPS Glass-Filled Crystalline Polymer Operating Temperature: -40 to +125°C



#### 19418

**Single Row** 



#### **CATALOG DRAWING (FOR REFERENCE ONLY)**



Circuite	Wire Panae (AWG)	Mat Soal Color	Order No.		
Circons	whe kullge (AWG)	Mul Seul Color	with CPA without CPA		
2	18-22	Red	19418-0008	19418-0016	
	14-16	Blue	19418-0007	19418-0017	

#### Features and Benefits

- Environmentally sealed to IP67
- Integrated mat wire seal and terminal position assurance (TPA)
- Simple crimp-and-poke application
- Field serviceable contact removal system
- Tactile and audible mating feedback

#### **Reference Information**

UL File No.: E152602 Designed In: Inches Mates With: 19418 

### 5.84mm (.230") Pitch MX150L™ Plug

#### 19419

### Single Row



#### CATALOG DRAWING (FOR REFERENCE ONLY)



Electrical

Voltage: 600V

Mechanical

**Physical:** 

Mating force: 75N max.

Unmating force: 75N max.

Dielectric Withstanding Voltage: 2200V AC min.

Housing: SPS Glass-Filled Crystalline Polymer

Operating Temperature: -40 to +125°C

Insulation Resistance: 1000 Megohms



Circuits	Wire Range (AWG)	Mat Seal Color	Order No.
ŋ	18-22	Red	19419-0008
Z	14-16	Blue	19419-0007

#### Features and Benefits

- Environmentally sealed to IP67
- Integrated mat wire seal and terminal position assurance (TPA)

Electrical

Voltage: 600V

Mechanical

**Physical:** 

Mating force: 75N max.

Unmating force: 75N max.

Dielectric Withstanding Voltage: 2200V AC min.

Housing: SPS Glass-Filled Crystalline Polymer

Operating Temperature: -40 to +125°C

Insulation Resistance: 1000 Megohms

- Optional connector position assurance (CPA)
- Simple crimp-and-poke application
- Field serviceable contact removal system
- Tactile and audible mating feedback

#### **Reference Information**

UL File No.: E152602 Designed In: Inches Mates With: 19419, 19429 and 19435

# 

### 5.84mm (.230") Pitch MX150L™ Receptacle

#### 19418

#### **Dual Row**



#### **CATALOG DRAWING (FOR REFERENCE ONLY)**



Circuite	Wine Dames (AWC)	Mat Carl Calar	Orde	er No.	Dimension A	
Circuits	wire Kange (AvvG)	Mar Seal Color	With CPA	Without CPA	Dimension A	
4	18-22	Red	19418-0005	19418-0018	00 15 / 070)	
4	14-16	Blue	19418-0004	19418-0019	22.13 (.072)	
6	18-22	Red	19418-0011	19418-0020	27.00 (1.102)	
Ū	14-16	Blue	19418-0010	19418-0021	27.77 (1.102)	
0	18-22	Red	19418-0001	19418-0022	33 83 (1 332)	
U	14-16	Blue	19418-0002	19418-0023	- 33.03 (1.332)	
10	18-22	Red	19418-0014	19418-0024	20 67 (1 562)	
10	14-16	Blue	19418-0013	19418-0025	- 37.07 (1.302)	
10	18-22	Red	19418-0026	19418-0038	AE EI (1 709)	
12	14-16	Blue	19418-0027	19418-0037	45.51 (1.772)	
16	18-22	Red	19418-0029	19418-0040	57 10 (2 252)	
16	14-16	Blue	19418-0030	19418-0039	37.17 (2.232)	

#### Features and Benefits

- Environmentally sealed to IP67
- Integrated mat wire seal and terminal position assurance (TPA)
- Simple crimp-and-poke application
- Field serviceable contact removal system
- Tactile and audible mating feedback

#### **Reference Information**

UL File No.: E152602 Designed In: Inches Mates With: 19418 

#### Electrical

Dielectric Withstanding Voltage: 2200V AC min. Insulation Resistance: 1000 Megohms Voltage: 600V

#### Mechanical

Mating force: 75N max. Unmating force: 75N max.

#### Physical:

Housing: SPS Glass-Filled Crystalline Polymer Operating Temperature: -40 to +125°C • 5.84mm (.230") Pitch MX150L™

Plug

#### 19419

**Dual Row** 



#### **CATALOG DRAWING (FOR REFERENCE ONLY)**







Circuits	Wire Range (AWG)	Mat Seal Color	Order No.	Dimension A	
4	18-22	Red	19419-0005	16 10 / 624)	
4	14-16	Blue	19419-0004	- 10.10 (.034)	
L	18-22	Red	19419-0012	24 79 ( 076)	
6	14-16	Blue	19419-0011	24.70 (.970)	
0	18-22	Red	19419-0001	20 (2 (1 20()	
0	14-16	Blue	19419-0002	50.02 (1.200)	
10	18-22	Red	19419-0015	26 47 (1 424)	
10	14-16	Blue	19419-0014		
10	18-22	Red	19419-0017	42 21 (1 444)	
12	14-16	Blue	19419-0018	42.31 (1.000)	
14	18-22	Red	19419-0020	F2 00 /2 12/)	
16	14-16	Blue	19419-0021	- 55.77 (2.120)	

#### Features and Benefits

- Environmentally sealed to IP67 when mated
- Integrated terminal position assurance (TPA)
- Simple crimp-and-poke application
- Field serviceable contact removal system
- Tactile and audible mating feedback
- For inside panel mount application
- Use with molded silicon panel gasket
- Blind hole boss feature eliminates leak path and reduces extra sealing process during assembly

#### **Reference Information**

UL File No.: E152602 Designed In: Inches Mates With: 19418

#### Electrical

Dielectric Withstanding Voltage: 2200V AC min. Insulation Resistance: 1000 Megohms Voltage: 600V

*Mechanical* Mating force: 75N max. Unmating force: 75N max.

**Physical:** Housing: SPS Glass-Filled Crystalline Polymer Operating Temperature: -40 to +125°C



5.84mm (.230") Pitch MX150L™ Panel Mount Plug

#### 19429

Rear Mount Flange Single Row



#### **CATALOG DRAWING (FOR REFERENCE ONLY)**



#### **ORDERING INFORMATION**

Circuite	Wire Range	Order No.				
Circons	(AWG)	With Gasket	Without Gasket	Gasket		
2	14-22	19429-0033	19429-0005	19427-0025		

#### Features and Benefits

- Environmentally sealed to IP67
- Integrated terminal position assurance (TPA)
- Simple crimp-and-poke application
- Field serviceable contact removal system
- Tactile and audible mating feedback
- For inside panel mount application
- Use with molded silicon panel gasket
- Blind hole boss feature eliminates leak path and reduces extra sealing process during assembly

#### **Reference Information**

UL File No.: E152602 **Designed In: Inches** Mates With: 19418



Electrical

Voltage: 600V

Mechanical

**Physical:** 

Mating force: 75N max.

Unmating force: 75N max.

Dielectric Withstanding Voltage: 2200V AC min.

Housing: SPS Glass-Filled Crystalline Polymer Operating Temperature: -40 to +125°C

Insulation Resistance: 1000 Megohms

#### 5.84mm (.230") Pitch **MX150L™ Panel Mount Plug**

#### 19429

**Rear Mount Flange Dual Row** 



#### **CATALOG DRAWING (FOR REFERENCE ONLY)**



#### **ORDERING INFORMATION**

Circuits Wire Rang (AWG)	Wire Range		Order No.			Dimension				
	(AWG)	With Gasket	Without Gasket	Gasket	A	В	C	D	E	
4	-	19429-0035	19429-0009	19427-0024	18.94 (.746)	38.10 (1.500)	48.26 (1.900)	22.23 (.875)	38.10 (1.500)	
6		19429-0036	19429-0010	19427-0021	24.78 (.976)	41.92 (1.650)	52.08 (2.050)	28.07 (1.105)	41.92 (1.650)	
8	14.99	19429-0037	19429-0011	19427-0022	30.62 (1.206)	48.26 (1.900)	58.42 (2.300)	33.88 (1.334)	48.26 (1.900)	
10	- 14-22	19429-0038	19429-0014	19427-0029	36.47 (1.436)	54.61 (2.150)	64.75 (2.549)	39.75 (1.565)	54.61 (2.150)	
12		19429-0039	19429-0015	19427-0030	42.31 (2.400)	60.96 (2.400)	70.97 (2.794)	45.59 (1.795)	60.96 (2.400)	
16		19429-0040	19429-0016	19427-0023	53.99 (2.126)	73.67 (2.900)	83.83 (3.300)	57.28 (2.255)	73.67 (2.900)	

#### Features and Benefits

- Environmentally sealed to IP67 when mated
- Integrated terminal position assurance (TPA)
- Simple crimp-and-poke application
- Field serviceable contact removal system
- Tactile and audible mating feedback
- For outside or inside panel mount application
- Use with molded silicon panel gasket

#### **Reference Information**

UL File No.: E152602 Designed In: Inches Mates With: 19418



Electrical Dielectric Withstanding Voltage: 2200V AC min. Insulation Resistance: 1000 Megohms Voltage: 600V

#### Mechanical

Mating force: 75N max. Unmating force: 75N max.

#### Physical:

Housing: SPS Glass-Filled Crystalline Polymer Operating Temperature: -40 to +125°C 5.84mm (.230") Pitch MX150L™ Panel Mount Plug

#### 19429

Through Hole Flange Single Row



#### **CATALOG DRAWING (FOR REFERENCE ONLY)**





Circuits	Wire Range	Order No.				
Circons	(AWG)	With Gasket	Without Gasket	Gasket		
2	14-22	19429-0041	19429-0026	19427-0025		

#### Features and Benefits

- Environmentally sealed to IP67
- Integrated terminal position assurance (TPA)
- Simple crimp-and-poke application
- Field serviceable contact removal system
- Tactile and audible mating feedback
- For outside or inside panel mount application
- Use with molded silicon panel gasket

#### **Reference Information**

UL File No.: E152602 Designed In: Inches Mates With: 19418



Electrical Dielectric Withstanding Voltage: 2200V AC min. Insulation Resistance: 1000 Megohms Voltage: 600V

#### Mechanical

Mating force: 75N max. Unmating force: 75N max.

#### Physical:

Housing: SPS Glass-Filled Crystalline Polymer Operating Temperature: -40 to +125°C 5.84mm (.230") Pitch MX150L™ Panel Mount Plug

#### 19429

Through Hole Flange Dual Row



#### CATALOG DRAWING (FOR REFERENCE ONLY)



Circuits	Wire Range	Order No.			Dimension				
	(AWG)	With Gasket	Without Gasket	Gasket	A	В	C	D	E
4		19429-0043	19429-0025	19427-0024	16.10 (.634)	38.10 (1.500)	48.26 (1.900)	22.23 (.875)	38.10 (1.500)
6		19429-0044	19429-0028	19427-0021	24.78 (.976)	41.92 (1.650)	52.08 (2.050)	28.07 (1.105)	41.92 (1.650)
8	14.22	19429-0045	19429-0029	19427-0022	30.62 (1.206)	48.26 (1.900)	58.42 (2.300)	33.88 (1.334)	48.26 (1.900)
10	14-22	19429-0046	19429-0030	19427-0029	36.47 (1.436)	54.61 (2.150)	64.75 (2.549)	39.75 (1.565)	54.61 (2.150)
12		19429-0047	19429-0031	19427-0030	42.31 (2.400)	60.96 (2.400)	70.97 (2.794)	45.59 (1.795)	60.96 (2.400)
16		19429-0048	19429-0032	19427-0023	53.99 (2.126)	73.67 (2.900)	83.83 (3.300)	57.28 (2.255)	73.67 (2.900)

#### Features and Benefits

- Environmentally sealed to IP67
- Mates with existing MX150L receptacles
- Supports non-closed in panels
- Field serviceable contact removal system
- Tactile and audible mating feedback
- Blind hole boss feature eliminates leak path and reduces extra sealing process during assembly

#### **Reference Information**

UL File No.: E152602 Designed in: Inches Mates with: 19418

#### Electrical

Dielectric Withstanding Voltage: 2200V AC min Insulation Resistance: 1000 Megohms min. Voltage: 600V

*Mechanical:* Mating Force: 75N max Unmating Force: 75N max

**Physical** Housing: Glass-Filled PBT Operating Temperature: -40 to +125°C



5.84mm (.230") Pitch MX150L™ Sealed Panel Mount Plug

#### 19435

Rear Mount Flange Dual Row



#### CATALOG DRAWING (FOR REFERENCE ONLY)



#### **ORDERING INFORMATION**

Circuits	Wine Danas (AWG)	Mat Seal Color	Orde	r No.	Dimension				
Circuits	wire kange (Awo)		With Gasket	Without Gasket	A	В	C	D	E
6	18-22	Red	19435-0612	19435-0614	24.78 (.976)	41.92 (1.650)	52.08 (2.050)	28.07 (1.105)	41.92 (1.650)
	14-16	Blue	19435-0611	19435-0613	24.78 (.976)	41.92 (1.650)	52.08 (2.050)	28.07 (1.105)	41.92 (1.650)
0	18-22	Red	19435-0812	19435-0814	30.62 (1.206)	48.26 (1.90)	58.42 (2.30)	33.88 (1.334)	48.26 (1.90)
0	14-16	Blue	19435-0811	19435-0813	30.62 (1.206)	48.26 (1.90)	58.42 (2.30)	33.88 (1.334)	48.26 (1.90)
10	18-22	Red	19435-1012	19435-1014	36.47 (1.436)	54.61 (2.150)	64.75 (2.549)	39.75 (1.565)	54.61 (2.150)
10	14-16	Blue	19435-1011	19435-1013	36.47 (1.436)	54.61 (2.150)	64.75 (2.549)	39.75 (1.565)	54.61 (2.150)
12	18-22	Red	19435-1212	19435-1214	42.31 (1.67)	60.96 (2.40)	70.97 (2.794)	45.59 (1.795)	60.96 (2.40)
	14-16	Blue	19435-1211	19435-1213	42.31 (1.67)	60.96 (2.40)	70.97 (2.794)	45.59 (1.795)	60.96 (2.40)

Note: Recommended Mounting Hardware: (2) #10 x .62/18.9 long, plastic thread cutting screws

#### Features and Benefits

- Environmentally sealed to IP67
- Mates with existing MX150L receptacles
- Molded silicon panel gasket included
- Available in tin or gold plating
- Supports 14-22 AWG receptacle
- Tactile and audible mating feedback
- Blind hole boss feature eliminates leak path and reduces extra sealing process during assembly

#### **Reference Information**

Packaging: Tray UL File No.: E152602 Designed in: Inches Mates with: 19418

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**Electrical** Dielectric Withstanding Voltage: 2200V AC min Insulation Resistance: 1000 Megohms min. Voltage: 600V

Mechanical:

Durability: Tin Plating—25 cycles Gold Plating—100 cycles

#### Physical

Housing: Glass-Filled PBT Contact: Copper Alloy Plating: Contact Area — Tin or Gold Solder Tail Area — Tin PCB Thickness: 1.60mm (.062") max. Operating Temperature: -40 to +125°C



#### **19427**

Right Angle Without PCB Flange Single Row



#### **CATALOG DRAWING (FOR REFERENCE ONLY)**







Recommended PCB Layout Component Side Tolerances are Non-Accumulative

#### **ORDERING INFORMATION**

Circuits	Order No.		Dimension					
	Tin	Select Gold/Tin	A	В	C	D	E	
2	19427-0040	19427-0109	16.04 (.632)	33.02 (1.300)	41.90 (1.649)	22.23 (.875)	36.14 (1.423)	

#### Features and Benefits

- Environmentally sealed to IP67
- Mates with existing MX150L receptacles
- Molded silicon panel gasket included
- Available in tin or gold plating
- Supports 14-22 AWG
- Tactile and audible mating feedback
- Blind hole boss feature eliminates leak path and reduces extra sealing process during assembly

#### **Reference Information**

Packaging: Tray UL File No.: E152602 **Designed in: Inches** Mates with: 19418

### **molex**®

Electrical **Dielectric Withstanding Voltage:** 2200V AC min Insulation Resistance: 1000 Megohms min. Voltage: 600V

#### **Mechanical:**

Durability: Tin Plating-25 cycles Gold Plating—100 cycles

#### Physical

Housing: Glass-Filled PBT **Contact: Copper Alloy** Plating: Contact Area – Tin or Gold Solder Tail Area – Tin PCB Thickness: 1.60mm (.062") max. Operating Temperature: -40 to +125°C



#### 19427

**Right Angle** Without PCB Flange **Dual Row** 



#### **CATALOG DRAWING (FOR REFERENCE ONLY)**







**Recommended PCB Layout Component Side** Tolerances are Non-Accur

ulative

#### **ORDERING INFORMATION**

Circuite	Order No.		Dimension					
Tin	Select Gold/Tin	A	В	C	D	E		
4	19427-0032	19427-0107	16.10 (.634)	38.10 (1.50)	46.99 (1.850)	22.23 (.875)	41.24 (1.624)	
6	19427-0018	19427-0106	21.94 (.864)	41.92 (1.65)	50.81 (2.0)	28.07 (1.105)	45.06 (1.774)	
8	19427-0017	19427-0105	27.74 (1.092)	48.26 (1.90)	57.15 (2.250)	33.88 (1.334)	51.41 (2.024)	
10	19427-0031	19427-0104	33.62 (1.324)	54.61 (2.150)	63.50 (2.50)	39.75 (1.565)	57.75 (2.274)	
12	19427-0012	19427-0103	39.46 (1.554)	60.96 (2.40)	69.85 (2.750)	45.59 (1.795)	64.1 (2.524)	
16	19427-0049	19427-0102	51.14 (2.014)	73.67 (2.90)	82.55 (3.250)	57.28 (2.255)	76.8 (3.024)	

#### Features and Benefits

- Environmentally sealed to IP67
  Mates with existing MX150L receptacles
  Molded silicon panel gasket included
  Available in tin or gold plating
  Supports 14-22 AWG
- Tactile and audible mating feedback

#### **Reference Information**

Packaging: Tray UL File No.: E152602 Designed in: Inches Mates with: 19418 Electrical Dielectric Withstanding Voltage: 2200V AC min

Insulation Resistance: 1000 Megohms min. Voltage: 600V

Mechanical: Durability: Tin Plating—25 cycles Gold Plating—100 cycles

Physical Housing: Glass-Filled PBT Contact: Copper Alloy Plating: Contact Area – Tin or Gold Solder Tail Area – Tin PCB Thickness: 1.60mm (.062") max. Operating Temperature: -40 to +125°C



5.84mm (.230") Pitch MX150L™ PCB Header

#### 19428

Vertical Low Profile Single Row



#### **CATALOG DRAWING (FOR REFERENCE ONLY)**





Circuite	Order No.		Dimension				
Circoits	Tin	Select Gold/Tin	Α	В	C	D	E
2	19428-0009	19428-0025	16.10 (.634)	33.01 (1.300)	43.18 (1.70)	22.23 (.875)	33.02 (1.30)

#### Features and Benefits

- Environmentally sealed to IP67
  Mates with existing MX150L receptacles
  Molded silicon panel gasket included
  Available in tin or gold plating
  Supports 14-22 AWG receptacle
- Tactile and audible mating feedback

#### **Reference Information**

Packaging: Tray UL File No.: E152602 Designed in: Inches Mates with: 19418 **Electrical** Dielectric Withstanding Voltage: 2200V AC min

Insulation Resistance: 1000 Megohms min. Voltage: 600V

Mechanical: Durability: Tin Plating—25 cycles Gold Plating—100 cycles

Physical Housing: Glass-Filled PBT Contact: Copper Alloy Plating: Contact Area – Tin or Gold Solder Tail Area – Tin PCB Thickness: 1.60mm (.062") max. Operating Temperature: -40 to +125°C



5.84mm (.230") Pitch MX150L™ PCB Header

#### 19428

Vertical Low Profile Dual Row



#### CATALOG DRAWING (FOR REFERENCE ONLY)





Circuite	Order No.		Dimension				
Circoits	Tin	Select Gold/Tin	A	В	C	E	
4	19428-0011	19428-0027	16.10 (.634)	38.10 (1.50)	48.26 (1.90)	38.10 (1.50)	
6	19428-0012	19428-0028	21.94 (.864)	41.92 (1.65)	52.08 (2.050)	41.91 (1.65)	
8	19428-0013	19428-0029	27.74 (1.092)	48.26 (1.90)	58.42 (2.30)	48.26 (1.90)	
10	19428-0014	19428-0030	33.62 (1.324)	54.61 (2.150)	64.75 (2.54)	54.61 (2.15)	
12	19428-0015	19428-0031	39.46 (1.554)	60.96 (2.40)	71.12 (2.80)	60.96 (2.40)	
16	19428-0016	19428-0032	53.99 (2.126)	73.67 (2.90)	83.83 (3.30)	73.66 (2.90)	

#### Features and Benefits

- Environmentally sealed to IP67
- Mates with existing MX150L receptacles
- Molded silicon panel gasket included
- Available in tin or gold plating
- Supports 14-22 AWG receptacle
- Tactile and audible mating feedback
- Blind hole boss feature eliminates leak path and reduces extra sealing process during assembly

#### **Reference Information**

Packaging: Tray UL File No.: E152602 Designed in: Inches Mates with: 19418

# 

*Electrical* Dielectric Withstanding Voltage: 2200V AC min Insulation Resistance: 1000 Megohms min. Voltage: 600V

Mechanical:

Durability: Tin Plating—25 cycles Gold Plating—100 cycles

#### Physical

Housing: Glass-Filled PBT Contact: Copper Alloy Plating: Contact Area — Tin or Gold Solder Tail Area — Tin PCB Thickness: 1.60mm (.062") max. Operating Temperature: -40 to +125°C



#### 19428

Vertical Standard Profile Single Row



#### **CATALOG DRAWING (FOR REFERENCE ONLY)**



Recommended PCB Layout Component Side

#### **ORDERING INFORMATION**

Circuite	Orde	r No.	Dimension				
Ti	Tin	Select Gold/Tin	В	C	D	E	
2	19428-0007	19428-0017	33.01 (1.300)	43.18 (1.70)	22.23 (.875)	33.02 (1.30)	

#### Features and Benefits

- Environmentally sealed to IP67
- Mates with existing MX150L receptacles
- Molded silicon panel gasket included
- Available in tin or gold plating
- Supports 14-22 AWG receptacle
- Tactile and audible mating feedback
- Blind hole boss feature eliminates leak path and reduces extra sealing process during assembly

#### **Reference Information**

Packaging: Tray UL File No.: E152602 Designed in: Inches Mates with: 19418

### **molex**

#### Electrical

Voltage: 600V

Mechanical:

Physical

Insulation Resistance: 1000 Megohms min.

Gold Plating—100 cycles

Durability: Tin Plating-25 cycles

Plating: Contact Area – Tin or Gold

Solder Tail Area – Tin

PCB Thickness: 1.60mm (.062") max. Operating Temperature: -40 to +125°C

Housing: Glass-Filled PBT

**Contact: Copper Alloy** 



5.84mm (.230") Pitch MX150L<sup>™</sup> **PCB Header** 

#### 19428

**Vertical Standard Profile Dual Row** 



#### **CATALOG DRAWING (FOR REFERENCE ONLY)**



**Recommended PCB Layout Component Side** 

4X ø -

 $1.52\pm\,0.08$ 

#### **ORDERING INFORMATION**

Circuite	Order No.		Dimension					
Circoits	Tin	Select Gold/Tin	В	C	D	E		
4	19428-0006	19428-0019	38.10 (1.50)	48.26 (1.90)	22.23 (.875)	38.10 (1.50)		
6	19428-0004	19428-0020	41.92 (1.65)	52.08 (2.050)	28.07 (1.105)	41.91 (1.65)		
8	19428-0003	19428-0021	48.26 (1.90)	58.42 (2.30)	33.88 (1.334)	48.26 (1.90)		
10	19428-0005	19428-0022	54.61 (2.150)	64.75 (2.54)	39.75 (1.565)	54.61 (2.15)		
12	19428-0001	19428-0023	60.96 (2.40)	71.12 (2.80)	45.59 (1.795)	60.96 (2.40)		
16	19428-0002	19428-0024	73.67 (2.90)	83.83 (3.30)	57.28 (2.255)	73.66 (2.90)		

With the application of optional circuit plugs, the MX150L system supports the ability to implement sealed blank cavities in both plug and receptacle housings. The circuit plugs occupy and fully seal the unused cavity and can be extracted and replaced with a standard male blade or female receptacle terminal. This feature provides the ability to plan for possible future circuit additions while maintaining the sealing integrity of the mated pair.

Physical

Material: SPS Glass-Filled Crystalline Polymer

Operating Temperature: -40 to +125°C

**Reference Information** 

Use With: 19418, 19419 and 19435



5.84mm (.230") Pitch MX150L™ Unused Cavity Circuit Plugs

19417

14 to 22 AWG



CATALOG DRAWING (FOR REFERENCE ONLY)



#### **ORDERING INFORMATION**

Housing Series	Order No.	Dimension A
10/18	19417-0263*	33.9 (1.3)
17410	19417-0119	
19419	10/17 0110	34.3 (1.4)
19435	17417-0119	

\* For use with 19418 receptacles when mating to PCB headers.

#### Features and Benefits

- Mat seal friendly design features center seam and coined edges
- High current
- Low insertion force

#### **Reference Information**

UL File No.: E152602 Designed in: Inches Use with: 19432 **Electrical** Current: 10-12 AWG—30.0A 8 AWG—40.0A

**Physical** Contact: Copper Alloy Plating: Tin

*Mechanical* Contact Insertion Force: 11b Durability: 25 cycles



7.62mm (.300") Pitch MX150L™ Terminal

#### 19434

8, 10, 12 AWG Female



10-12 AWG 8 AWG

#### CATALOG DRAWING (FOR REFERENCE ONLY)



10-12 AWG



8 AWG

Wire Panae (AWG)	Insulation Diameter	Order No.			Dime	nsion	
wire kange (AWG) mm (In)	Loose	Strip	A	В	C	D	
10-12	3.94-4.45 (.155175)	19434-0003	19434-0001	6.35 (.250)	6.00 (.236)	5.00 (.197)	5.60 (.220)
8	6.02 (.237)	19434-0004	19434-0002	n/a	n/a	6.10 (.240)	7.0 (.276)

#### Features and Benefits

- Mat seal friendly design features center seam and coined edges
- High current
- Low insertion force

#### **Reference Information**

UL File No.: E152602 Designed in: Inches Use with: 19433 **Electrical** Current: 10-12 AWG—30.0A 8 AWG—40.0A

**Physical** Contact: Copper Alloy Plating: Tin

*Mechanical* Contact Insertion Force: 11b Durability: 25 cycles



7.62mm (.300") Pitch MX150L™ Terminal

#### 19431

8, 10, 12 AWG Male



#### **CATALOG DRAWING (FOR REFERENCE ONLY)**



10-12 AWG

8 AWG

Wire Panae (AWG)	Insulation Diameter Order No.		r No.	Dimension			
wire kange (AWG) mm (in)	Loose	Strip	A	В	C	D	
10-12	3.94-4.45 (.155175)	19431-0016	19431-0001	6.35 (.250)	6.00 (.236)	5.00 (.197)	5.60 (.220)
8	6.02 (.237)	19431-0017	19431-0015	n/a	n/a	6.10 (.240)	7.0 (.276)

#### Features and Benefits

- Environmentally sealed to IP67
- Integrated mat wire seal and terminal position assurance
- High current
- Field serviceable contact removal system
- Simple crimp-and-poke application
- Tactile and audible mating feedback
- CPA connector position assurance included

#### **Reference Information**

UL File No.: E152602 Designed in: Inches Mates with: 19433 Use with: 19434 Electrical Dielectric Withstanding Voltage: 2200V AC min Insulation Resistance: 1000 Megohms min. Voltage: 600V

*Mechanical:* Mating Force: 75N max Unmating Force: 75N max

**Physical** Housing: Glass-Filled PBT Operating Temperature: -40 to +125°C



7.62mm (.300") Pitch MX150L™ Receptacle

19432

8,10,12 AWG Single Row



**CATALOG DRAWING (FOR REFERENCE ONLY)** 







Circuits	Wire Range (AWG)	Mat Seal Color	Order No.
2	10-12	Yellow	19432-0013
Ž	8	Red	19432-0014

#### Features and Benefits

- Environmentally sealed to IP67
- $\blacksquare$  Integrated mat wire seal and terminal position assurance
- High current
- Field serviceable contact removal system
- Simple crimp-and-poke application
- Tactile and audible mating feedback

#### **Reference Information**

UL File No.: E152602 Designed in: Inches Mates with: 19432 Use with: 19431

#### **Electrical** Dielectric Withstanding Voltage: 2200V AC min

2200V AC min Insulation Resistance: 1000 Megohms min. Voltage: 600V

*Mechanical:* Mating Force: 75N max Unmating Force: 75N max

**Physical** Housing: Glass-Filled PBT Operating Temperature: -40 to +125°C



7.62mm (.300") Pitch MX150L™ Plug

#### 19433

8,10,12 AWG Single Row



**CATALOG DRAWING (FOR REFERENCE ONLY)** 



Circuits	Wire Range (AWG)	Mat Seal Color	Order No.
2	10-12	Yellow	19433-0013
Z	8	Red	19433-0014

#### Features and Benefits

- Environmentally sealed to IP67
- Integrated mat wire seal and terminal position assurance
- High current
- Field serviceable contact removal system
- Simple crimp-and-poke application
- Tactile and audible mating feedback

#### **Reference Information**

UL File No.: E152602 Designed in: Inches Mates with: 19433 Use with: 19434

#### **Electrical** Dielectric Withstanding Voltage: 2200V AC min

2200V AC min Insulation Resistance: 1000 Megohms min. Voltage: 600V

*Mechanical:* Mating Force: 75N max Unmating Force: 75N max

**Physical** Housing: Glass-Filled PBT Operating Temperature: -40 to +125°C



7.62mm (.300") Pitch MX150L™ Receptacle

#### 19432

8,10,12 AWG Dual Row



#### **CATALOG DRAWING (FOR REFERENCE ONLY)**







Circuits	Wire Range (AWG)	Mat Seal Color	Order No.
4	10-12	Yellow	19432-0001
4	8	Red	19432-0002

#### Features and Benefits

- Environmentally sealed to IP67
- $\blacksquare$  Integrated mat wire seal and terminal position assurance
- High current
- Field serviceable contact removal system
- Simple crimp-and-poke application
- Tactile and audible mating feedback

#### **Reference Information**

UL File No.: E152602 Designed in: Inches Mates with: 19432 Use with: 19431

### Electrical

Dielectric Withstanding Voltage: 2200V AC min Insulation Resistance: 1000 Megohms min. Voltage: 600V

*Mechanical:* Mating Force: 75N max Unmating Force: 75N max

**Physical** Housing: Glass-Filled PBT Operating Temperature: -40 to +125°C



7.62mm (.300") Pitch MX150L™ Plug

#### 19433

8,10,12 AWG Dual Row



#### **CATALOG DRAWING (FOR REFERENCE ONLY)**



Circuits	Wire Range (AWG)	Mat Seal Color	Order No.
4	10-12	Yellow	19433-0001
1	8	Red	19433-0002

#### Features and Benefits

- Environmentally sealed to IP67
- Mates with existing MX150L receptacles
- Supports non-closed in panels
- Field serviceable contact removal system
- Tactile and audible mating feedback
- Blind hole boss feature eliminates leak path and reduces extra sealing process during assembly

#### **Reference Information**

UL File No.: E152602 Designed in: Inches Mates with: 19418 Use with: 19431

#### Electrical

Dielectric Withstanding Voltage: 2200V AC min Insulation Resistance: 1000 Megohms min. Voltage: 600V

*Mechanical:* Mating Force: 75N max Unmating Force: 75N max

**Physical** Housing: Glass-Filled PBT Operating Temperature: -40 to +125°C



7.62mm (.300") Pitch MX150L™ Sealed Panel Mount Plug

#### 19436

Rear Mount Flange Single Row



#### **CATALOG DRAWING (FOR REFERENCE ONLY)**



Circuits	Wire Range (AWG)	Order No.		
		With Gasket	Without Gasket	Gasket
2	10-12	19436-0213	19436-0211	- 19436-0001
	8	19436-0214	19436-0212	

Note: Recommended Mounting Hardware: (2) #10 x .62/18.9 long, plastic thread cutting screws Suggested Source: ITW Shake Proof Industrial Bosscrew or equivalent

#### Features and Benefits

- Environmentally sealed to IP67
- Mates with existing MX150L receptacles
- Supports non-closed in panels
- Field serviceable contact removal system
- Tactile and audible mating feedback
- Blind hole boss feature eliminates leak path and reduces extra sealing process during assembly

#### **Reference Information**

UL File No.: E152602 Designed in: Inches Mates with: 19418 Use with: 19431

#### Electrical

Dielectric Withstanding Voltage: 2200V AC min Insulation Resistance: 1000 Megohms min. Voltage: 600V

*Mechanical:* Mating Force: 75N max Unmating Force: 75N max

**Physical** Housing: Glass-Filled PBT Operating Temperature: -40 to +125°C



7.62mm (.300") Pitch MX150L™ Sealed Panel Mount Plug

#### 19436

Rear Mount Flange Dual Row



#### CATALOG DRAWING (FOR REFERENCE ONLY)









#### **ORDERING INFORMATION**

Circuits	Wire Range (AWG)	Order No.		
		With Gasket	Without Gasket	Gasket
4	10-12	19436-0413	19436-0411	- 19436-0002
	8	19436-0414	19436-0412	

With the application of optional circuit plugs, the MX150L system supports the ability to implement sealed blank cavities in both plug and receptacle housings. The circuit plugs occupy and fully seal the unused cavity and can be extracted and replaced with a standard male blade or female receptacle terminal. This feature provides the ability to plan for possible future circuit additions while maintaining the sealing integrity of the mated pair.

**Reference Information** 

Use With: 19433 and 19432

**molex** Material: Glass-Filled PBT Operating Temperature: -40 to +125°C

Physical

7.62mm (.300") Pitch **MX150L™ Unused Cavity Circuit Plug** 

19431

8,10,12 AWG



**CATALOG DRAWING (FOR REFERENCE ONLY)** 



Housing Series	Order No.
19433	19431-0013
19432	19431-0013

#### Features and Benefits

- FineAdjust allows users to achieve target with little effort by adjusting on increments of 0.15mm (.0006") for conductor crimp height and .063mm (.0025") for insulation height
- Independent adjustment rings allow users to quickly adjust the conductor or insulation crimp height without affecting each other
- Quick tooling removal with the push of a button for fast and easy tooling change
- Track adjustment for bellmouth and cut-off tab is adjusted while the applicator is in the press for fast and easy setup
- Compatible with the Molex TM-2000<sup>TM</sup> Universal Press and most industry standard presses, however, it does not fit into Molex TM-40<sup>TM</sup>/TM-42<sup>TM</sup> press
- Directly adapts to most automatic wire processing machines
- Quick set-up time; plus the crimp height, track and feed adjustments can be preset in applicator
- Applicator designed to industry standard mounting and shut height 135.80mm (5.346")
- FineAdjust available for most Molex brand terminals



### Semi-Automatic Bench Top Crimp Press Tooling

#### FineAdjust™ Applicator



#### FEATURES AND SPECIFICATIONS

#### Features and Benefits

- Ergonomically designed soft handles
- Precisely designed crimping profiles with simple contact positioning
- Easy handling due to outstanding force ratio
  This tool type reduces work related injuries

# Manual Hand Crimp Tool

Terminal Series No.	Terminal Type	Tool Type	Order No.	Wire Gauge AWG (mm)
19417/19420	MX150L™ Male and Female	FineAdjust Applicator	63865-6000	14-16 (2.00-1.30)
19417/19420	MX150L Male and Female	Perishable Tool Kit	63865-6070	14-16 (2.00-1.30)
19417/19420	MX150L Male and Female	T2 Terminator Die	63855-6000	14-16 (2.00-1.30)
19417	MX150L Male	FineAdjust Applicator	63865-6100	18-22 (0.80-0.35)
19417	MX150L Male	Perishable Tool Kit	63865-6170	18-22 (0.80-0.35)
19417	MX150L Male	T2 Terminator Die	63855-6100	18-22 (0.80-0.35)
19420	MX150L Female	FineAdjust Applicator	63865-6200	18-22 (0.80-0.35)
19420	MX150L Female	Perishable Tool Kit	63865-6270	18-22 (0.80-0.35)
19420	MX150L Female	T2 Terminator Die	63855-6200	18-22 (0.80-0.35)
19417/19420	MX150L Male and Female	OEM PremiumGrade™ Hand Tool	63811-4400	14-22 (2.00-0.35)
19417/19420	MX150L Male and Female	ServiceGrade™ Hand Tool	64016-0035	14-22 (2.00-0.35)
19434/19417/19420/19431	MX150L Male and Female	Terminal Extraction Tool	63813-1500	8-22 (.237-0.35)
19431/19434	MX150L Male and Female	FineAdjust Applicator	63832-5000	10-12 (3.94-4.45)
19431/19434	MX150L Male and Female	Perishable Tool Kit	63832-5070	10-12 (3.94-4.45)
19431/19434	MX150L Male and Female	OEM PremiumGrade Hand Tool	63811-5300	10-12 (3.94-4.45)
19431/19434	MX150L Male and Female	FineAdjust Applicator	63832-5100	8 (.237)
19431/19434	MX150L Male and Female	Perishable Tool Kit	63832-5170	8 (.237)
19431/19434	MX150L Male and Female	OEM PremiumGrade Hand Tool	63811-5400	8 (.237)
19431/19434	MX150L Male and Female	ServiceGrade Hand Tool	64016-0079	10-12 (3.94-4.45)
19431/19434	MX150L Male and Female	ServiceGrade Hand Tool	64016-0089	8 (.237)

#### **SEALED RECEPTACLE ASSEMBLY - SERVICEABILITY**



#### 1) Return TPA to pre-lock position

- Carefully insert a standard screw driver into slot on top of TPA.
- Carefully pry TPA forward and listen for audible click.
- TPA is now in pre-lock position.

- 2) Release terminal from connector assembly
- Insert and drive forward extractor tool to release terminal.

Terminal Release Service Hole

Service Tool

- Pull terminal from rear of connector.



#### **SEALED BLADE ASSEMBLY - SERVICEABILITY**

- 1) Return TPA to pre-lock position
  - Use standard needle nose pliers to return TPA to pre-lock position.
  - Insert needle nose pliers into service hole and carefully pull TPA.
  - Listen for loud audible click.
  - TPA is now in pre-lock position.

- 2) Release terminal from connector assembly
  - Insert and drive forward extractor tool to release terminal.
  - Pull terminal from rear of connector.





#### **TERMINAL INSTALLATION**







#### To Mate:

 Firmly push connectors together until you feel them snap together, you should hear a click. This audible and tactile confirmation ensures the connectors are properly and fully mated.



#### To Unmate: 1. Pull back CPA



#### 3. Pull connectors apart







#### 2. Press CPA towards plug to engage the secondary lock.



#### 2. Fully depress locking latch

Locking latch must be fully depressed to release the locking ramp on the plug and allow the connectors to be separated!





#### Locking latch shown down, cannot unmate connectors



Locking latch shown fully depressed, latch releases locking ramp







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