## MX150L<sup>™</sup> INDUSTRIAL → SEALED CONNECTOR SYSTEM





#### The MX150L<sup>™</sup> Industrial Sealed Connector System is IP67 rated and conforms to UL 1977, but it is NOT suitable for automotive applications with requirements such as USCAR-2, USCAR-25, GMW3191, AK Testing, J2030, Volvo Technology Requirements, and Toyota Connector Spec (TCS)

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 marine applications to off-road construction equipment applications. The system is comprised of wire-to-wire, 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 mat-seal 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 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<sup>™</sup> crimp press applicators for highvolume 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 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™ Industrial Sealed Connector System



#### MX150L<sup>™</sup> Industrial Sealed Connector System -Exploded View

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





### 14 to 22 AWG Wire-to-Wire and Panel-Mount Applications

## MX150L<sup>™</sup> Industrial Product Overview



## 8, 10 and 12 AWG Wire-to-Wire, Panel-Mount and Wire-to-Board (PCB Mount) Applications



www.molex.com

## **Specifications**

#### **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™ Industrial Terminal

19420 Female



## **Catalog Drawing (For Reference only)**



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

## **Features and Specifications**

#### **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<sup>™</sup> Industrial Terminal 19417 Male



### **Catalog Drawing (For Reference only)**



Wire	Insulation	Order No.			_	Dimension					
Range	Diameter	Pre-Tin		Gold	Pin Length						
(AWG)	mm (In)	Strip	Loose	Strip	<u> </u>	Α	В	С	D	E	
18-22	2.36-2.74 (.093108)	19417-0024	19417-0048	19417-0026	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	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	-	19417-0030	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	-	19417-0029	Long	5.66 (.223)	4.62 (.182)	3.58 (.141)	3.94 (.155)	26.16 (1.03)	

## **Features and Specifications**

#### **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 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<sup>™</sup> Industrial Receptacle

19418 Single Row



## **Catalog Drawing (For Reference only)**



Circuits	Wire Range (AWG)	Mat Seal Color	Order No.		
Circuits	wire kange (Awg)	Mat Sear Color	with CPA	without CPA	
2	18-22	Red	19418-0008	19418-0016	
Z	14-16	Blue	19418-0007	19418-0017	

## **Features and Specifications**

#### **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™ Industrial Plug

19419 Single Row



## **Catalog Drawing (For Reference only)**



Circuits	Wire Range (AWG)	Mat Seal Color	Order No.
2	18-22	Red	19419-0008
	14-16	Blue	19419-0007

## **Features and Specifications**

#### **Features and Benefits**

Environmentally sealed to IP67 Integrated mat wire 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 and 19435

#### **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™ Industrial Receptacle

19418 Dual Row



## **Catalog Drawing (For Reference only)**







Circuito		Mat Seal Color	Orde	er No.	Dimension A	
Circuits	Wire Range (AWG)	Mat Sear Color	With CPA	Without CPA	Dimension A	
4	18-22	Red	19418-0005	19418-0018	22.15 ( 072)	
4	14-16	Blue	19418-0004	19418-0019	22.15 (.872)	
6	18-22	Red	19418-0011	19418-0020	27.99 (1.102)	
0	14-16	Blue	19418-0010	19418-0021	27.99 (1.102)	
8	18-22	Red	19418-0001	19418-0022	22 02 (1 222)	
õ	14-16	Blue	19418-0002	19418-0023	33.83 (1.332)	
10	18-22	Red	19418-0014	19418-0024	20.67 (1.562)	
10	14-16	Blue	19418-0013	19418-0025	39.67 (1.562)	
12	18-22	Red	19418-0026	19418-0038	45 51 (1 702)	
τZ	14-16	Blue	19418-0027	19418-0037	45.51 (1.792)	
16	18-22	Red	19418-0029	19418-0040	E7 10 (2 2E2)	
16	14-16	Blue	19418-0030	19418-0039	57.19 (2.252)	

## **Features and Specifications**

#### **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™ Industrial 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 (.634)
4	14-16	Blue	19419-0004	- 10.10 (.034)
G	18-22	Red	19419-0012	24.70 ( 076)
6	14-16	Blue	19419-0011	24.78 (.976)
0	18-22	Red	19419-0001	20.62 (1.206)
8	14-16	Blue	19419-0002	30.62 (1.206)
10	18-22	Red	19419-0015	
10	14-16	Blue	19419-0014	36.47 (1.436)
12	18-22	Red	19419-0017	42.21 (1.666)
12	14-16	Blue	19419-0018	42.31 (1.666)
16	18-22	Red	19419-0020	E2.00 (2.126)
10	14-16	Blue	19419-0021	- 53.99 (2.126)

## **Features and Specifications**

#### **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 applications with sufficient sealing area Use with molded silicone 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™ Industrial Panel Mount Plug

19429 Rear Mount Flange Single Row



## **Catalog Drawing (For Reference only)**



### **Ordering Information**

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

## **Features and Specifications**

#### **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 applications with sufficient sealing area Use with molded silicone 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™ Industrial Panel Mount Plug

19429 Rear Mount Flange Dual Row



## **Catalog Drawing (For Reference only)**



Mount Opening Max. Thk .080/2.03

### **Ordering Information**

Circuite	Wire Range						Dimension	5	
Circuits	(AWG)	With Gasket	Without Gasket	Gasket	Α	В	С	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	14-22	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 Specifications**

#### **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 applications with sufficient sealing area Use with molded silicone 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™ Industrial Panel Mount Plug

19429 Through Hole Flange Single Row



## **Catalog Drawing (For Reference only)**



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

## **Features and Specifications**

#### **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 applications with sufficient sealing area Use with molded silicone 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™ Industrial Panel Mount Plug

19429 Through Hole Flange Dual Row



### **Catalog Drawing (For Reference only)**



#### **Ordering Information**

Circuits	Wire Range		Order No.		Dimension				
circuits	(AWG)	With Gasket	Without Gasket	Gasket	Α	В	С	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)

## **Specifications**

#### **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™ Industrial Sealed Panel Mount Plug

19435 Rear Mount Flange Dual Row



## **Catalog Drawing (For Reference only)**



## **Ordering Information**

			Orde	r No.			Dimension		
Circuits	Wire Range (AWG)	Mat Seal Color	With Gasket	Without Gasket	А	В	С	D	Е
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)
0	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)
8	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)
ŏ	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	-	36.47 (1.436)	54.61 (2.150)	64.75 (2.549)	39.75 (1.565)	54.61 (2.150)
10	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)
12	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)
8	18-22	-	19435-1219	-	-	-	-	-	-
12		-	-	19435-1219	-	-	-	-	-

## **Features and Specifications**

#### Features and Benefits

Environmentally sealed to IP67 Mates with existing MX150L receptacles Molded silicone 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

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

**19427** Right Angle Without PCB Flange Single Row



1.300

## **Catalog Drawing (For Reference only)**







Component Side Tolerances are Non-Accumulative

## **Ordering Information**

Circuits	Ord	er No.	Dimension						
Circuits	Tin	Select Gold/Tin	А	В	С	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 Specifications**

#### **Features and Benefits**

Environmentally sealed to IP67 Mates with existing MX150L receptacles Molded silicone 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

#### **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™ Industrial PCB Header

**19427** Right Angle Without PCB Flange Dual Row



## **Catalog Drawing (For Reference only)**



## **Ordering Information**

Circuito	Orde	er No.			Dimension	Dimension		
Circuits	Tin Select Gold/Tin		Α	В	С	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 Specifications**

#### Features and Benefits

Environmentally sealed to IP67 Mates with existing MX150L receptacles Molded silicone 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

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

19428 Vertical Standard Profile Single Row



## **Catalog Drawing (For Reference only)**



Recommended PCB Layout Component Side

## **Ordering Information**

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

## **Features and Specifications**

#### **Features and Benefits**

Environmentally sealed to IP67 Mates with existing MX150L receptacles Molded silicone 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

Contact Resistance: milliohms max. 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™ Industrial PCB Header

19428 Vertical Standard Profile Dual Row



## **Catalog Drawing (For Reference only)**



## **Ordering Information**

Circuito	Circuits Order No.			Dimension				
Circuits	Tin	Select Gold/Tin	В	С	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)		

## **Features and Specifications**

#### Features and Benefits

Environmentally sealed to IP67 Mates with existing MX150L receptacles Molded silicone 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™ Industrial PCB Header

19428 Vertical Low Profile Single Row





## **Ordering Information**

	Order No.			Dimension			
Circuits	Tin	Select Gold/ Tin	А	В	С	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)

## **Catalog Drawing (For Reference only)**

## **Features and Specifications**

#### **Features and Benefits**

Environmentally sealed to IP67 Mates with existing MX150L receptacles Molded silicone 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™ Industrial PCB Header

19428 Vertical Low Profile Dual Row



## **Catalog Drawing (For Reference only)**



Circuite	Circuits Order No.		Dimension					
Circuits	Tin	Select Gold/Tin	А	В	С	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 Specifications**

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: 19418, 19419 and 19435

#### **Physical** Material:

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

## 5.84mm (.230") Pitch MX150L™ Industrial Unused Cavity Circuit Plug

19417 14 to 22 AWG

### **Catalog Drawing (For Reference only)**



## **Ordering Information**

Order No.	Housing Series	Dimension A
19417-0119	19418	20 2 (1 51)
19417-0119	19419	38.3 (1.51)
19417-0263	19418*	
19417-0203	19435	33.97 (1.34)

'For use with 19418 receptacles when mating to PCB headers or plugs with all contacts populated.

## **Specifications**

#### **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: 1lb Durability: 25 cycles

## 7.62mm (.300") Pitch MX150L™ Industrial Terminal

19434 8, 10, 12 AWG Female



10–12 AWG



.895 22.73

= d

8 AWG

 $\oplus$ 

⊕

 $\oplus$ 

.174

4.42

.308

7.83

.079

ø\_\_\_\_\_

.689

17.50

C Ref.

D Ref.

## **Catalog Drawing (For Reference only)**



10-12 AWG

8 AWG

Wire Range	Insulation Diameter	Orde	r No.		Dime	nsion	
(AWG)	mm (In)	Loose	Strip	А	В	С	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 Specifications**

#### **Features and Benefits**

Mat seal friendly design features center seam and coined edges High current Low insertion force Mates With: 19433 and 19436

#### **Reference Information**

UL File No.: E152602 Designed in: Inches Use with: 19433 and 19436

#### Electrical

Current: 10-12 AWG—30.0A 8 AWG—40.0A **Physical** Contact: Copper Alloy Plating: Tin

#### Mechanical

Contact Insertion Force: 1lb Durability: 25 cycles

## 7.62mm (.300") Pitch MX150L™ Industrial Terminal

19431 8, 10, 12 AWG Male



10-12 AWG



## **Catalog Drawing (For Reference only)**



10-12 AWG

8 AWG

Wire Range	Insulation Diameter	Orde	r No.		Dime	nsion	
(AWG)	mm (In)	Loose	Strip	Α	В	С	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 Specifications**

#### **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 and 19436 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<sup>™</sup> Industrial Receptacle

**19432** 8,10,12 AWG Single Row



## **Catalog Drawing (For Reference only)**



Circuits	Wire Range (AWG)	Mat Seal Color	Order No. with CPA	Order No. without CPA
2	10-12	Yellow	19432-0013	19432-0015
Z	8	Red	19432-0014	19432-0020

## **Features and Specifications**

#### **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 Mates With: 19433 and 19436

#### **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™ Industrial Plug

19433 8,10,12 AWG Single Row



## **Catalog Drawing (For Reference only)**







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

## **Features and Specifications**

#### 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 and 19436 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<sup>™</sup> Industrial Receptacle

**19432** 8, 10, 12 AWG Dual Row



## **Catalog Drawing (For Reference only)**







Circuits	Wire Range (AWG)	Mat Seal Color	Order No. with CPA	Order No. without CPA
4	10-12	Yellow	19432-0001	194320003
4	8	Red	19432-0002	194320004

## **Features and Specifications**

#### 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 Mates With: 19432

#### **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™ Industrial 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
4	8	Red	19433-0002

## **Features and Specifications**

#### **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 Mates With: 19432

#### **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™ Industrial Sealed Panel Mount Plug

19436 Rear Mount Flange Single Row



## **Catalog Drawing (For Reference only)**



## **Ordering Information**

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	19430-0001

## **Features and Specifications**

#### 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: 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™ Industrial Sealed Panel Mount Plug

19436 Rear Mount Flange Dual Row



## **Catalog Drawing (For Reference only)**









## **Ordering Information**

Circuits	Wire Range (AWG)	Order No.		
		Without Gasket	With Gasket	Gasket
4	10-12	19436-0413	19436-0411	19436-0002
	8	19436-0414	19436-0412	19430-0002

## **Features and Specifications**

#### **Features and Benefits**

Environmentally sealed to IP67 Mates with existing MX150L receptacles Molded silicone panel gasket included Available in tin or gold plating Supports 8-12 AWG receptacle Tactile and audible mating feedback Blind hole boss feature eliminates leak path and reduces extra sealing process during assembly

#### Mechanical

Mating Force: 75N max. Unmating Force: 75N max. Sealing: IEC 529 — IP67 standard Durability: 100 cycles

#### Electrical

Voltage: 600V AC Current: 8 AWG — 40.0A 10 to 12 AWG — 30.0A Dielectric Withstanding Voltage: 2200V AC min. Insulation Resistance: 1000 Megohms

#### Physical

Housing: Glass-filled PBT, Black Contact: Copper (Cu) Alloy Plating: Tin (Sn) Operating Temperature: -40 to +125°C Flammability: UL 94V-0

## Product

19437 Right Angle Header with Panel Gasket Dual Row



## **Catalog Drawing (For Reference only)**







## **Ordering Information**

#### **PCB Header**

Order No.	Circuits	Wire Range (AWG)	Panel Gasket
19437-0029	4	8, 10 and 12	Yes

## **Features and Specifications**

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 main-taining the sealing integrity of the mated pair.

#### **Reference Information**

Use With: 19433 and 19432

Physical Material: Glass-Filled PBT Operating Temperature: -40 to +125°C 7.62mm (.300") Pitch MX150L<sup>™</sup> Industrial 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 Specifications**

#### **FINEADJUST**

#### **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>™</sup> Universal Press and most industry standard presses, however, it does not fit into Molex TM-40<sup>™</sup>/TM-42<sup>™</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<sup>™</sup> Applicator Manual Hand Crimp Tool



#### MANUAL HAND CRIMP TOOL

#### **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



Terminal Series No.	Terminal Type	Tool Type	Order No.	Wire Gauge AWG (mm)
19417/19420	MX150L <sup>™</sup> Male and Female	FineAdjust Applicator	63900-8200	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	63910-8200	14-16 (2.00-1.30)
19417	MX150L Male	FineAdjust Applicator	63900-8300	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	63910-8300	18-22 (0.80-0.35)
19420	MX150L Female	FineAdjust Applicator	63900-8400	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	63910-8400	18-22 (0.80-0.35)
19417/19420	MX150L Male and Female	OEM PremiumGrade <sup>™</sup> Hand Tool	63811-4400	14-22 (2.00-0.35)
19417/19420	MX150L Male and Female	ServiceGrade <sup>™</sup> 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	63895-8200	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	64016-0170	10-12 (3.94-4.45)
19431/19434	MX150L Male and Female	ServiceGrade Hand Tool	64016-0170	8 (.237)

## Sealed Receptacle Assembly - Servicability

- 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.
  - Pull terminal from rear of connector.

Slot



## Sealed Blade Assembly - Servicability

- 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 release Service Holes

Extraction

Tool

Needle Nose **Pliers Service** Holes





**Terminal Installation** 

Assure housing TPA is in pre-lock position. Align polarization feature on terminal with keyway in seal cap. Insert terminal and push until seated. Push receptacle TPA back to locked position. Plug TPA will return to locked position when mated with receptacle housing.



## Installation



## Mating/Unmating



position assurance) Locking Latch

CPA (connector

Receptacle

#### 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.



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

#### To Unmate:



1. Pull back CPA



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!



3. Pull connectors apart



Locking latch shown down, cannot unmate connectors



Locking latch shown fully depressed, latch releases locking ramp

Get more insights at: molex.com/product/mx150lindustrial.html

