

# MX120G™

## SEALED INTERCONNECT SYSTEM

*Optimal performance for harsh-environment,  
non-automotive transportation applications*



**molex**®

## MX120G™ SEALED INTERCONNECT SYSTEM >

- 36783** Sealed Shrouded Right Angle Header Assembly
- 36792** Sealed Female Receptacle Assembly With Latch
- 36799** Female Crimp Terminal
- 36804** Female Cavity Plug



**Greater cost and space savings with superior design and mating features for harsh-environment, non-automotive transportation applications.**

**MX120G™ connector system** is a highly compact, sealed family of interconnects with IP67-ratings that deliver optimal performance especially in wet, high-vibration and wide-operating-temperature conditions.

Easy-to-use and a less costly drop-in replacement of wire-seal equivalents, terminals have wire-sizes of 0.35 to 1 mm<sup>2</sup> conductor diameter that supports 7 to 10.5 Amp of current, allowing the receptacle to take multiple cable configurations, for added flexibility.

Built-in positive locking feature gives robust terminal retention while unique twist-lock feature ensures proper terminal alignment, eliminating the need for any fasteners.

## Applications

### Transportation

- Buses
- Motorcycles and Scooters

### Agriculture and Work Site Vehicles

- Utility Vehicles
- Tractors and Combines
- Riding Lawn Mowers

### Recreational Vehicles

- Snowmobiles
- Golf Carts
- Jet Skis

### Industrial

- Construction Equipment
- Marine Equipment
- Oil and Gas Installations

### Exterior LED Lighting

- Traffic Lights
- Overhead Street Lights

### Medical

- Splash-proof Medical Equipment

## Feature

## Benefit

|                                                                        |                                                                                                       |
|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| • Reduced 3.20mm (mating) pitch design                                 | • Significant space reduction compared to same circuit density products                               |
| • Meets IP67 ratings with wide operating temperature range             | • Protects against dust and water (up to 1m depth) and able to operate from -40 to +105° C            |
| • High-vibration resistance of up to 10G acceleration                  | • Secured mating retention in high-vibration environment                                              |
| • Independent, primary terminal lock                                   | • Reinforced terminal retention prevents accidental terminal back-out                                 |
| • Twist-lock feature on the terminal and connector                     | • Ensures correct alignment of terminals with contacts, eliminating the need for additional fasteners |
| • Single-piece female receptacle with matte silicone seal and seal-cap | • Greater applied labour and process cost-savings                                                     |
|                                                                        | • More durable and able to withstand higher temperatures                                              |
|                                                                        | • Easy insertion of crimped wires directly into the connector                                         |
| • Self-guiding slot on male header                                     | • Facilitates easy assembly and subsequent potting into ECU box                                       |

# Specifications

## REFERENCE INFORMATION

UL File No.: Pending approval  
CSA File No.: Pending approval  
Designed In: Millimetres

## ELECTRICAL

Voltage (max.): 28V DC  
Current (max.): 10.5A (per contact)  
Contact Resistance:  
20 Milliohms max.  
Insulation Resistance:  
20 Megaohms min.  
Dielectric Withstanding Voltage:  
1000V AC

## MECHANICAL

Durability: 10 cycles max.  
Connector Mate & Unmate Forces:  
75N max., 90N min. (lock engaged)  
(for all Circuits)  
Contact Retention to Housing: 50N min.  
Contact Insertion Force: 30N max.  
Crimped Wire Pullout Force:  
0.35 mm<sup>2</sup> wire – 35N min.  
0.50 mm<sup>2</sup> wire – 55 N min.  
0.75 mm<sup>2</sup> wire – 75 N min.  
1 mm<sup>2</sup> wire – 88 N min.

## PHYSICAL

Housing: Black  
Plating: Tin  
Operating Temperature: -40°C to +105°C  
PCB Thickness: 1.60mm (recommended)

## MX120G™ SEALED INTERCONNECT SYSTEM



*Sealed female receptacle assembly with latch*



*Sealed shrouded right angle header assembly*



*Female crimp terminal*



*Female cavity plug*

# Ordering Information

| WIRE-TO-BOARD SYSTEM                                              |                                                                                                                                                  |                                              |              |           |                                                   |                                   |            |
|-------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|--------------|-----------|---------------------------------------------------|-----------------------------------|------------|
| Female Receptacle                                                 | Order No.                                                                                                                                        | Pitch - Mating Interface (mm)                | Circuit Size | Packaging | Material                                          | Use With                          | Mates With |
| Dual Row Sealed Receptacle Assembly With Latch                    | <b>36792-1201</b>                                                                                                                                | 3.2                                          | 12           | Carton    | Nylon Housing & Cap, Silicon Seal                 | 36799-0001 & 36799-0002 Terminals | 36783-120X |
| Header                                                            | Order No.                                                                                                                                        | Pitch - Termination Interface, PCB Side (mm) | Circuit Size | Packaging | Material                                          | PC Tail Length (mm)               | Mates With |
| Dual Row Sealed Shrouded Right Angle Through-Hole Header Assembly | <b>36783-120X</b><br>X = Colour Mark<br>1 = No Colour Mark,<br>2 = Brown, 3 = Red,<br>4 = Green, 5 = Grey,<br>6 = Blue, 7 = Yellow,<br>8 = White | 3.5                                          | 12           | Carton    | Housing: HB Rated Glass Filled Nylon, Pins: Brass | 3.2                               | 36792-1201 |

For other circuit sizes (2-6, 8, 10, 12), single/dual row, right angle/vertical configurations and shrouded/unshrouded versions, please contact Molex Global Product Manager for more details.

| TERMINAL                           |                   |            |                  |                              |                               |           |              |
|------------------------------------|-------------------|------------|------------------|------------------------------|-------------------------------|-----------|--------------|
| Description                        | Order No.         | Use With   | Wire Gauge (AWG) | Wire Size (mm <sup>2</sup> ) | Wire Insulation Diameter (mm) | Packaging | Material     |
| Female Crimp Terminal, Grip Code M | <b>36799-0001</b> | 36792-1201 | 17 - 20          | 0.50 - 0.75                  | 1.4 - 1.9                     | Reel      | Copper Alloy |
| Female Crimp Terminal, Grip Code S | <b>36799-0002</b> |            | 20 - 22          | 0.35 - 0.50                  | 1.2 - 1.6                     |           |              |

For Male Crimp Terminals, please contact Molex Global Product Manager for more details.

| CAVITY PLUG        |                   |                       |            |           |          |
|--------------------|-------------------|-----------------------|------------|-----------|----------|
| Description        | Order No.         | Feature               | Use With   | Packaging | Material |
| Female Cavity Plug | <b>36804-0001</b> | To Block Void Circuit | 36792-1201 | Bag       | Nylon    |

For Male Cavity Plug, please contact Molex Global Product Manager for more details.

For Wire-to-Wire Male Connector dual row, circuit size 4, 6, 8, 10, 12 and single row, circuit size 2-6, please contact Molex Global Product Manager for more details.

Get more insights at: [molex.com/link/mx120g.html](http://molex.com/link/mx120g.html)