MX150 Sealed Connector System

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The field-proven MX150 Sealed Connector System with a USCAR interface offers a compact package, a superior operating temperature and a current rating up to 22.0A for power and signal automotive and commercial vehicle applications

Features and Advantages: *Sealed Single- and Dual-Row Connector System*

Mat seal technology for MX150 (1.50mm) Terminals
Eliminates the need for individual cable seals which provides reduced package size and reduced cost

Connector position assurance (CPA) option available
Assures connectors have been fully mated and prevents accidental disconnection

Temperature class 4 (-40 to +150˚C) and 22.0A current rating
Delivers superior performance

Preassembled terminal position assurance (TPA) housing
Ensures crimped terminal leads are properly locked into connector

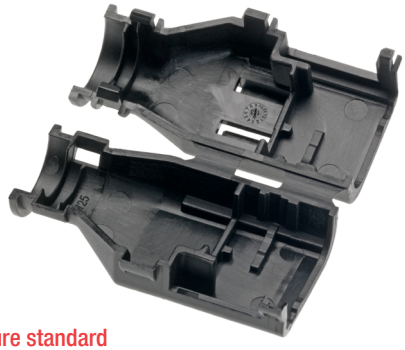
1-piece 3.5mm-pitch housing
Eliminates unnecessary and costly assem operations. Offers a compact connector

Conforms to USCAR-2/USCAR-21/GMW3191
For use in on-engine, high-vibration, under-hood and under-chassis environments at temp class 4

Single- and dual-row V0 versions available (UL1977 certified)
Meets stringent safety requirements

USCAR Interface
Released & approved interface for major North America OEMs

Grommet cap
Protects the mat seal and assures proper alignment of the terminals



Single- and dual-row backshells/wire dress covers available in 2-, 3-, 6-, 8-, 12-, 16- and 20-circuit sizes
Provides additional protection of the wires out the back of the connector. Secures cable bundle. Provides strain relief

Flashover options (custom void patterns) available
Provides design flexibility

4 polarization and color options
Facilitates quick visual installation

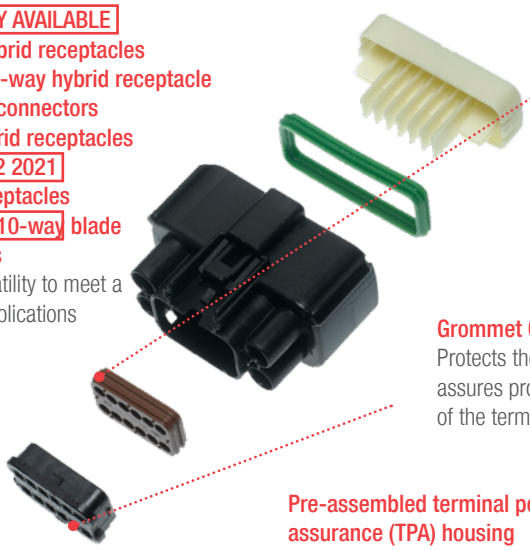
Twist-Head Sealed Bulkhead Connectors

Clip-slot feature standard on blade connectors, optional on receptacle
Fastens/attaches clips. USCAR standard 11.00mm clip slot

2X3 & 2x6 Panel-Mount Now Available; 20-Way V0 Version Coming in Q2 2021

Features and Advantages: *Hybrid Connector*

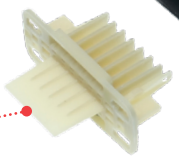
CURRENTLY AVAILABLE
10-way hybrid receptacles
12- and 16-way hybrid receptacle and blade connectors
8-way hybrid receptacles
COMING Q2 2021
9-way receptacles
8-, 9- and 10-way blade connectors
Offers versatility to meet a range of applications



Mat seal technology for MX150 (1.50mm) Terminals
Eliminates the need for individual cable seals which provides reduced package size and reduced cost

Flashover options (i.e., custom void patterns) available
Provides design flexibility

Grommet Cap
Protects the mat seal and assures proper alignment of the terminals



Pre-assembled terminal position assurance (TPA) housing
Ensures crimped terminal leads are properly locked into connector

11.00mm clip slot standard on blade connector and optional on receptacle
Fastens/attaches clips

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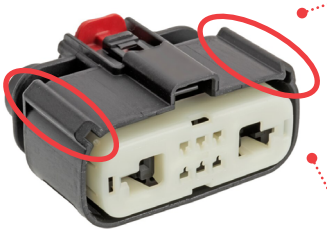
Features and Advantages: *Hybrid Connector (Continued)*

Backshells/wire dress covers available
Secures cable. Provides strain relief

Connector position assurance (CPA) option available
Assures connectors have been fully mated and prevents accidental disconnection



Hybrid 8-way Receptacle:
Six 1.50mm Circuits and
Two 6.30mm Circuits

Meets GMW3191 and USCAR-2 specifications
Ensures reliable performance. Mates with USCAR interfaces

4 key options available
Facilitates quick visual installation

Hybrid 12-Way Connector System, Blade and Receptacle:
Ten 1.50mm Circuits and Two 2.80mm Circuits

8-, 9- and 10-Way Receptacles (8-way & 10-way currently available, 9 way coming soon)

Features and Advantages: *Terminals*

Tin, Silver and Gold options available for blade and receptacle matte seal and cable seal terminals
Offers reliable, economic connectivity

Current rating up to 22.0A
Delivers superior performance

Tin rated up to temp class 3 (-40 to +125˚C)
Silver rated up to temp class 4 (-40 to +150˚C)
Delivers superior performance

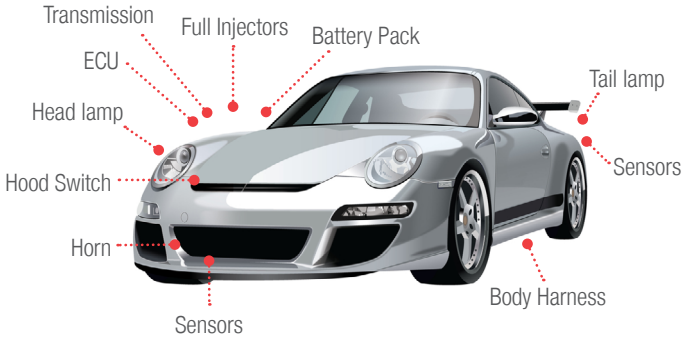
Validated: USCAR-21, USCAR-2 and GMW3191 specs
Meets industry standards

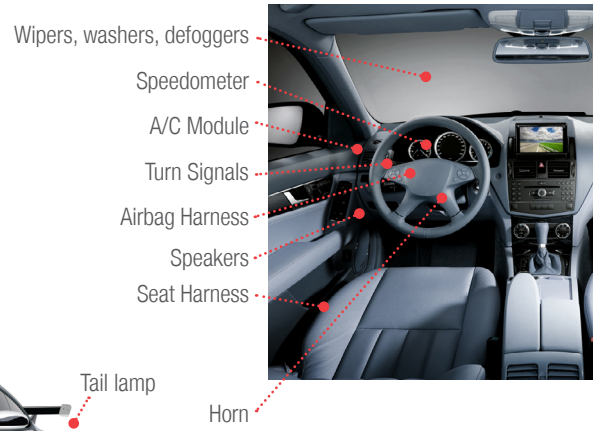
Validated wires to GM, Ford, PSA and JASO specifications
Meets requirements of major auto manufacturers

Markets and Applications

Automotive and Commercial Vehicle

- Transmissions
- Head/tail lamps
- Body harnesses
- Wipers, washers, defoggers
- Speedometers
- A/C modules
- Turn signals
- Airbag harnesses
- Speakers
- Door connectors
- Brake modules
- Horns





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Specifications

SEALED CONNECTORS AND RECEPTACLES

REFERENCE INFORMATION
Packaging:
Housings – Bulk pack
Terminals – Reel
Mates With:
Receptacle Connectors, Series 33471, 33472, 34985
Blade Connectors, Series 33481, 33482, 34986
Use With:
- Terminals:
Receptacles, Series 33001, 33012
Blades, Series 33000, 33011
Backshells, Series 34948, 34949, 34950, 34951
Cavity Plugs, Order No. 34345-0001
Designed in: Millimeters

ELECTRICAL
Voltage (max.): 500V
Current (max.): 22.0A
Contact Resistance: 10 milliohms max.
Dielectric Withstanding Voltage: 1500V AC min.
Isolation Resistance: 20 Megohms min.

MECHANICAL/ELECTRICAL/SEALING
Mating Force: Less than 75N max.
Unmating Force: Less than 75N max.
Connector Retention (Primary Latch): 255N (57.33 lb) avg. (exceeds 110N [24.73 lb] min. USCAR requirement)
Contact Retention to Housing: 210N (47.21 lb) avg. (exceeds 90N (20.23 lb) min. USCAR requirement)
Contact Insertion Force Into Housing: 30N (6.74 lb) max.
Contact Insertion Force: 4.4N (1.0 lb) max.
Connector Audible Feedback: 7dB over ambient
Polarization Feature Effectiveness: 220N (49.46 lb) min.
FCLT (Class 3): 20 milliohms max.
Durability: 10 milliohms max.
Tin (Sn) Plating – 25 Cycles
Silver (Ag) Plating – 100 Cycles
Gold (Au) Plating – 100 Cycles
Thermal Shock (class 3, 100 cycles): 10 milliohms max.
High-Temperature Exposure:
Pressure/Vacuum Immersion – 28 kPa (4psi) 30 minutes
Isolation Resistance – 20 Megohms @ 500V DC min.
Vibration: (USCAR-2 Rev 4) 10 milliohms max.
Random "On-Engine" Profile: 118.7 mps2 rms, 60 to 1,200 Hz
Mechanical Shock: 343 mps2, half-sine wave, 10 msec Pulse
Vibration: (GMW 3191) 10 milliohms max.
Random "On-Engine" Profile: 170 mps2 rms, 10 to 1,500Hz
Sine "On-Engine" Profile: 280 mps2 Pk,100-440 Hz
Mechanical Shock: 245 mps2, half-sine wave, 10 msec pulse
Sealing: (USCAR-2 Rev 4) (GMW3191)
Heat Soak Submersion: +125°C and submersion depth of 40.00cm (15.75") water
Pressure/Vacuum Immersion: 48 kPa (7 psi)
IEC 529, IPX9K when used with CPA, Backshell and Conduit
Isolation Resistance: 20 Megohms @ 500V DC min.

PHYSICAL
Housing: SPS/Nylon Blend 20%GF, UL 94-HB
TPA: SPS/Nylon Blend 20%GF
Contact: Copper (Cu) Alloy
Plating:
Contact Area — Tin (Sn), Gold (Au) or Silver (Ag)
Underplating — Nickel (Ni)
Wire Gauge:
ISO Wire: 0.35 to 1.50mm^2 SAE Wire:22AWG to 14AWG
Insulation Diameter: 2.70 to 1.50mm
Operating Temperature: -40 to +125°C (Sn), -40 to +150°C (Ag)

SEALED HEADERS

REFERENCE INFORMATION
Packaging:
Headers – Trays
Mates With:
Receptacle connectors, Series 33472
Designed in: Millimeters

ELECTRICAL
Voltage (max.): 500V DC
Current (max.): 22.0A
Contact Resistance (max.): 10 milliohms
Dielectric Withstanding Voltage: 1000V
Isolation Resistance (min.): 20 Megohms min.

MECHANICAL/ELECTRICAL/SEALING
Durability (max.): 10 milliohms at 10 cycles
Sealing: IP6k9k w Backshells

PHYSICAL
Housing: PBT 30% Glass Filled
Terminal: Copper (Cu) Alloy
Size: 1.20 X 0.80 mm
Plating: Tin (Sn) (Silver (Ag) coming soon)
Underplating: Nickel (Ni)
PCB Interface: Solder tail or Compliant pin
Module attachment type: Adhesive
Operating Temperature: -40 to +125°C

PANEL-MOUNT CONNECTORS

REFERENCE INFORMATION
Packaging:
Housings – Packed in trays
2x6 Series: 47725
2x3 Series: 148028
Mates With:
Receptacle Connectors, Series 33472
Use With: Blade Terminals, Series 33000, 33011
Designed in: Millimeters

ELECTRICAL
Voltage (max.): 500V DC
Current (max.): 22.0A
Contact Resistance: 8 milliohms max.
Dielectric Withstanding Voltage: 1000V AC min.
Isolation Resistance: 100 Megohms min.

MECHANICAL/ELECTRICAL/SEALING
Durability: 8 milliohms max. at 10 cycles
Sealing: GMW3191 Sealing Class 2 & IP6k9k with Backshells

PHYSICAL
Housing: SPS/Nylon 20% Glass Filled, UL 94-HB
TPA: 20% Glass Filled SPS/Nylon
Wire Gauge: ISO Wire: 0.35 to 1.50mm2 SAE Wire: 22 to 14 AWG
Insulation Diameter: 2.69 to 1.20mm (.106 to .047")
Operating Temperature: -40 to +125°C

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TWIST-LOCK SEALED BULKHEAD CONNECTORS

REFERENCE INFORMATION
Packaging:
Housings – Packed in trays
Mates With:
Receptacle Connectors, Series 33472
Use With: Blade Terminals, Series 33000 and 33011
Designed in: Millimeters

ELECTRICAL
Voltage (max.): 14V DC
Current (max.): 22.0A
Contact Resistance (max.): 8 milliohms
Dielectric Withstanding Voltage: 1000V
Isolation Resistance (min.): 100 Megohms min.

MECHANICAL/ELECTRICAL/SEALING
Durability: 8 milliohms max. at 10 cycles
Sealing: GMW3191 Class 2

PHYSICAL
Housing: SPS/Nylon 20% GF, UL 94-HB
TPA: 20% Glass-Filled SPS/Nylon
Wire Gauge: ISO Wire: 0.35 to 1.50mm^2, SAE Wire: 22 to 14 AWG
Operating Temperature: -40 to +105˚C

STANDARD AND M3 GRIP TERMINALS

REFERENCE INFORMATION
Packaging: Reel (terminals are not packaged with connectors)
Use With:
Receptacle Connector Series 33471, 33472, 34985
Blade Connector Series 33481, 33482, 34986
Designed in: Millimeters

ELECTRICAL
Voltage (max.): 500V
Current (max.): 12.5A

PHYSICAL
Contact: Copper (Cu) Alloy
Plating:
Contact Area — Tin (Sn), Silver (Ag), Gold (Au)
Underplating — Nickel (Ni)
Wire Gauge:
ISO Wire: 0.35 to 2.00mm^2
SAE Wire: 22 to 14 AWG
Operating Temperature: -40 to +125˚C – Tin (Sn)
Operating Temperature: -40 to +155˚C – Silver (Ag)

12W HYBRID CONNECTORS (SERIES 160111, 160112)

REFERENCE INFORMATION
Packaging:
Housings – Bulk Pack
Mates With:
Receptacle Connectors, Series 160111
Blade Connectors, Series 160112
Use With:
MX150 Receptacle Terminals, Series 33012, 33001
MX150 Blade Terminals, Series 33000, 33011
Sumitomo Receptacle Terminal Part Numbers, 8240-0423, 8240-0424
Sumitomo Blade Terminal PN's, 8230-5257, 8230-5258
Designed in: Millimeters

ELECTRICAL
Voltage (max.): 500V DC
Current (max.): 22.0A (For MX150 Terminals)
Contact Resistance: 8 milliohms max.
Dielectric Withstanding Voltage: 1000V AC min.
Isolation Resistance: 100 Megohms min.

MECHANICAL/ELECTRICAL/SEALING
Durability: 8 milliohms max. at 10 cycles
Sealing: USCAR-2 Sealing Class 2

PHYSICAL
Housing: Nylon 40% Glass Filled
TPA: Nylon 40% Glass Filled
Wire Gauge:
MX150 Terminals ISO Wire: 0.35 to 1.50mm^2, SAE Wire: 22 to 14 AWG
Sumitomo 2.80mm Terminals: 1.00 to 2.50mm^2
Insulation Diameter: 2.69 to 1.20mm (.106 to .047")
Operating Temperature: -40 to +125˚C

10W HYBRID RECEPTACLE CONNECTORS (SERIES 160076)

REFERENCE INFORMATION
Packaging:
Housings – Bulk Pack
Use With:
µDPB Modules (series 200316); MX150 Receptacle Terminals, Series 16077 (coming January 2021)
Apex 6.30mm Receptacle Terminal PN: 33140138
Designed in: Millimeters

ELECTRICAL
Voltage (max.): 500V DC
Current (max.): 22.0A (For MX150 Terminals)
Contact Resistance: 8 milliohms max.
Dielectric Withstanding Voltage: 1000V AC min.
Isolation Resistance: 100 Megohms min.

MECHANICAL/ELECTRICAL/SEALING
Durability: 8 milliohms max. at 10 cycles
Sealing: USCAR-2 Sealing Class 2

PHYSICAL
Housing: Nylon 40% Glass Filled
TPA: Nylon 40% Glass Filled
Wire Gauge:
MX150 Terminals ISO Wire: 0.35 to 1.50mm^2, SAE Wire: 22 to 14 AWG
Unsealed FCI Apex 2.80mm Terminals: 1.00 to 3.00mm^2
Operating Temperature: -40 to +125˚C

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Specifications

8W HYBRID RECEPTACLE CONNECTORS (SERIES 160078)

REFERENCE INFORMATION
Packaging:
Housings – Bulk Pack
Use With:
µDPB Modules (series 200316);
MX150 Receptacle Terminals, Series 33012, 33001
Apex 6.3mm Receptacle Terminal PN: 33140138
Designed in: Millimeters

ELECTRICAL
Voltage (max.): 500V DC
Current (max.): 22.0A (For MX150 Terminals)
Contact Resistance: 8 milliohms max.
Dielectric Withstanding Voltage: 1000V AC min.
Isolation Resistance: 100 Megohms min.

MECHANICAL/ELECTRICAL/SEALING
Durability: 8 milliohms max. at 10 cycles
Sealing: USCAR-2 Sealing Class 2

PHYSICAL
Housing: Nylon 40% Glass Filled
TPA: Nylon 40% Glass Filled
Wire Gauge:
MX150 Terminals ISO Wire: 0.35 to 1.50mm^2, SAE Wire: 22 to 14 AWG
Unsealed FCI Apex 6.30mm Terminals: 6.00mm^2
Operating Temperature: -40 to +125°C

www.molex.com/link/mx150.html

Order No. 987651-0761 Rev. 3 USA/0k/GF/2020.12

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