Automotive Interconnects
And Systems – Version 2
COMMITTED TO QUALITY AND HIGH PERFORMANCE SOLUTIONS

Powertrain (Pages 6 – 10)

- Fuel Injection
- Valvetrain
- Emissions Control
- Engine Cooling
- Engine Control
- Ignition
- Transmission, Transaxles and 4-Wheel Drive
- Powertrain Harness Connectors
- Powertrain Control Modules

Infotainment/Networking/Communication (Pages 19 – 24)

- Instrumentation
- Driver Information Center
- Telematics
- Audio/Video
- Vehicle Communications
- Networking
- Antenna
- Navigation/Cruise Controls
- Intelligent Transport System
- Electronic Toll Collection
Your Technological and New Product Partner for Capabilities Throughout the Vehicle

As the second largest connector manufacturer in the world, Molex is fast becoming a technology and new product resource for vehicle manufacturers and Tier 1 suppliers. Molex automotive products meet the USCAR, European, Korean and Japanese Automotive Standards.

Molex is fully committed to meeting the stringent quality standards expected by automotive customers. Our automotive development teams can work with customers around the world, delivering every interconnect and interconnection system required in a vehicle.

Contact us today to view our full range of capabilities for the automotive industry.

Body Electronics (Pages 11 –18)

- Power Distribution/Fuse, Relay and Switching Boxes
- Power/Heated/Memory Seats
- Power Windows, Doors, Mirrors and Sunroofs
- Power Steering
- Interior Lighting
- HVAC – Heating Ventilation and Air Conditioning
- Security Systems/Car Access Systems
- Wipers, Washers and Defoggers
- Exterior Lighting
- Body Control Modules/Door Zone Modules

Safety/Chassis (Pages 25 – 28)

- Traction Control
- Brake Control (ABS)
- Stability Control
- Tire Safety
- Adaptive Cruise Control
- Forward Collision Warning
- Airbags/Safety Belts
- Impact Sensors
- Occupant Sensing
- Pedestrian Protection

Accredited Automotive Validation Testing Centers certified by major auto makers around the world.
Molex powertrain control modules and engine control units are designed to pack more capability into smaller packages. Our exclusive filtered connector technology offers filtering and shielding to reduce EMI and RFI, and to improve grounding and durability. Significant innovations include a sealed aluminium die cast, dual stack 160-way waterproof powertrain control module connector, capable of reducing noise by as much as 40 dB at 100 Mhz.

Molex automotive product applications classified in powertrain segment include: Fuel Injection; Valvetrain; Emissions Control; Engine Cooling; Engine Control; Ignition; Transmission, Transaxles and 4-Wheel Drive; Powertrain Harness Connectors and Powertrain Control Modules.
**OBD-II Connector, 1.50mm**
Male Housing 68503
Terminal Female 50420, Male 57964

**OBD-II Connector, 1.50mm**
Flange Type 51116

**OBD-II Connector, 1.50mm**
Panel Mount Type 51115

**OBD2 Female Housing with Flap Cover**
98977

**Stick Coil Connectors, 2-Way**
49093

**Fuel Injector Connector**
34062

**MX150™ 1.50mm Sealed Connectors, Single Row**
Circuit Sizes: 2, 3, 4, 5, 6
Receptacle 33471, Blade 33481

**MX150™ 1.50mm Sealed Connectors, Dual Row**
Circuit Sizes: 2x2, 2x3, 2x4, 2x6, 2x8
Receptacle 33472, Blade 33482

**MX150™ (USCAR Class II) Hybrid**
Circuit Sizes: 2x8, 2x10
Receptacle 33476, Blade 33486

**1.50mm SCC Sealed Connectors**
Circuit Sizes: 1x1, 1x2, 1x3, 1x4, 1x5, 1x6
Female Housing/Pin Housing: 98969/98971

**MX 64™ Sealed Connectors**
Circuit Sizes: 1x2, 1x3, 1x4, 1x6, 1x8
31402, 31403, 31404

**MX 120™ Sealed Connectors**
Circuit Size: 1x4
34511
STANDARD CONNECTORS

040 Wire-to-Wire Connector, 40-Way
Housing Female 35245, Male 35241
Terminal Female 35403, Male 35100

NSCC 30-Way Hybrid Connectors
Housing Female 98122, Male 98761

Gearbox Mont Pin Connector, 33-Way
98991
Receptacle Modules 98990

Blade Connector, 6-Way
91203

High-Pressure Fuel Filter
49090

Fuel Pump Flange Connector
Female Housing 35515, Header 35365

CMC CONNECTORS

CMC Connectors for ECU and Transmission
Circuit Sizes: 32, 48, 80
98944, 98950, 98547
Terminals: MOX 0.64mm and CP 1.50mm
Gel Sealing

CMC Connectors for ECU and Transmission
Circuit Sizes: 24, 28, 32, 36, 38, 48
98992, 98993
Terminals: CP 0.60mm and 1.50mm
Grommet Sealing

CMC Connectors for ECU and Transmission
53-Way Hybrid
98995
Terminals: CP 0.64mm, 1.50mm and 2.80mm
Grommet Sealing

CMC Headers for ECU and Transmission
Circuit Sizes: 84, 112
Insert Mold 98747, 98998

CMC Headers for ECU and Transmission
Circuit Sizes: 80, 96, 112
98467, 36638, 98228

CMC Header for ECU and Transmission
Circuit Size: 48
CMC CONNECTORS

CMC BMS Hybrid Header, 32-Way
98748

CMC Header for ECU and Transmission
Circuit Sizes: 112, 128, 144

CMC Inline Connector
Circuit Size: 32

CUSTOM CAPABILITIES

Filtered/Shielded Header for PCM
I/O Connection

Header – I/O for ECU

Header – I/O for ECU

Header for Engine Management

Integrated Header in Module Housing for ECU

Headers/Harness Connector for PCM

Compliant Pin Header – I/O for TCU
CUSTOM CAPABILITIES

2.80mm Wire-to-Wire
Circuit Sizes: 1, 2, 6

6.30mm Wire-to-Wire
98360, 98363

Vehicle Speed Sensor Header

INTEGRATED INTERCONNECTS

Sub-Harness for Engine Cooling Fan

Sub-Harness for Fuel Pump

Knock Sensor Harness

Oxygen Sensor Harness

Viscous Clutch Adaptor Sensor
Molex’s rugged connectors for body applications are designed to perform under the harshest conditions. They incorporate innovations that facilitate modular design and easy assembly for customers.

Molex automotive product applications classified in body electronics include: Power Distribution/Fuse, Relay and Switching Boxes; Power/Heated/Memory Seats; Power Windows, Doors, Mirrors and Sunroofs; Power Steering; Interior Lighting; HVAC – Heating Ventilation and Air Conditioning; Security Systems/Car Access Systems; Wipers, Washers and Defoggers; Exterior Lighting and Body Control Modules/Door Zone Modules.
**UNSEALED CONNECTORS**

**NSCC 1.50mm Unsealed Connectors**
Circuit Sizes: 1x2, 1x3, 1x4, 2x5
Pin Housing 98822, 98823, 98967

**UCC 2.80mm Unsealed Connectors**
Circuit Sizes: 1x2, 1x3, 1x6
Pin Housing 98824, 98960

**NSCC 1.50mm Unsealed Connectors**
Circuit Sizes: 1x2, 1x3, 1x4, 2x5
Receptacle Housing 98815, 98816, 98817

**UCC 2.80mm Unsealed Connectors**
Circuit Sizes: 1x2, 1x3, 1x6
Receptacle Housing 98824, 98960

**250 Wire-to-Wire Connectors**
Circuit Sizes: 1, 2, 3, 4, 6
Housing Female 35270, Male 35272

**090+250 Hybrid Wire-to-Wire**
Housing Female 35382, Male 35385

**6.30mm Wire-to-Wire**
Switch I/O
35819, 35274, 35276, 35821, 35883

**040 III Wire-to-Board**
Circuit Sizes: 8 – 36
35563, 35564, 68145, 68151

**040 III Wire-to-Board Right Angle**
Circuit Sizes: 8 – 36
68151

**040 Joint Connectors, 20-Way**
49057, 49058

**030+090 Hybrid Wire-to-Wire**
Receptacle/Plug: 35378/35380, 35374/35376

**040+090 Hybrid Wire-to-Wire**
Circuit Sizes: 8 – 48
35896/35897, 35382/35385

**090+250 Hybrid Wire-to-Wire**
Housing Female 35382, Male 35385
UNSEALED CONNECTORS

Connector for Temperature Sensor

HDX Wire-to-Wire
Mirror Connectors
98284

H3 Connectors
Circuit Sizes: 10, 14, 23, 36

MOX CONNECTORS

MOX 0.64mm Flex Connectors, Receptacle
Circuit Sizes: 1x3, 1x6
98197, 98199

MOX 0.64mm Flex Connectors, Receptacle
Circuit Size: 2x3
98198

MOX 0.64mm Connectors, Receptacle
Circuit Sizes: 1x2, 1x6, 1x8
98696, 98193, 98545

MOX 0.64mm Connectors, Receptacle
Circuit Size: 2x3
98192

MOX 0.64mm Connectors, Receptacle
One Piece Housing, 2x3 Way
98298

MOX 0.64mm Connector, Receptacle
18-Way
98695

MOX 0.64mm Connectors, Receptacle
40-Way
98982

MOX 0.64mm Connector, Receptacle
64-Way
98615
**SEALED CONNECTORS**

**Miniature Splash-Proof Connectors**
52213, 52266

**Splash-Proof Connectors**
52116, 52117

**1.50mm SCC Sealed Connectors**
Circuit Sizes: 1x1, 1x2, 1x3, 1x4, 1x5, 1x6
Female Housing/Pin Housing: 98969/98971

**2.80mm UCC Sealed Connectors**
Circuit Sizes: 1x1, 1x2, 1x3
Female Housing/Pin Housing: 98967/98970

**MX150™ (USCAR Class II) Hybrid**
Circuit Sizes: 2x8, 2x10
Receptacle 33476, Blade 33486

**MX150™ 1.50mm Sealed Connector**
Circuit Size: 2
34062

**HEADLAMP SOCKET AND CONNECTORS**

**HID Lamp Socket**

**MX150™ 3-Way Sealed Connectors**
Receptacle/Male Housing: 34250/34091
**LAMP SOCKETS**

PT Bulb Sockets, Sealed
Double 35842, Single 35843

Bulb Sockets, Non-Sealed
Double 35532, Single 35533

Lamp Sockets, Non-Sealed

Bulb Sockets for License Plate

Wedge Bulb Sockets
FSM 35340, HMS 35343, STS 35341

Filter Horn Connectors
Female Housing 35825, Terminal 35407

Sealed Horn Connector
Female Housing/Header: 35215/35216, 35338

Wiper Motor Connectors

Header for Immobilizer
87800

**HORN, WIPER AND IMMOBILIZER CONNECTORS**
CUSTOM CAPABILITIES

Customized Body Harness

Customized Body Harness

Header for Siren System

ECU and PDU Housing with Leadframe

Door Zone Modules

Door ECU Housing

Body Computer

Insert Molded Assembly – EPS

EHPS ECU Connector Built-In Case

Electric Hydraulic Power Steering

HVAC Display Assembly

HVAC Control Assembly

Wiper Motor Seat
**INTEGRATED INTERCONNECTS**

**Body Electronics**

- **Sub-Harness for Steering Wheel**
  Using C-Grid Connectors

- **Sub-Harness**
  For External Mirror

- **Sub-Harness for Seating Position Motor**

- **IDT Harness for Air Conditioner**

- **Sub-Harness for Wiper Motor**

- **High Mount Stop Lighting Harness Assembly**

- **Lighting Harness**

- **Lighting Harness**

- **Xenon Lighting, Fully Shielded**

- **Window Technology by Laser Skinning**
  Terminal Connection through Laser Welding
  Interconnection through Ultra-Sonic Welding

- **Flat Wiring System**

- **FFC for Tailgate Application**
Molex’s success in connector miniaturization is allowing automotive designers to reduce space required by connectors for on-board navigation, information and entertainment systems. Molex’s self-aligning connector (SAC) allows automakers to blind-mate the instrument panel to the car body in one step, improving line speed and production quality.

Molex Automotive product applications classified in the infotainment/communication/networking segment include: Instrumentation; Driver Information Center; Telematics; Audio/Video; Vehicle Communications; Networking; Antenna; Navigation/Cruise Controls; Intelligent Transport System and Electronic Toll Collection.
BLADE CONNECTORS

090 (2.30mm) Connectors
Circuit Sizes: 6, 8, 10, 12, 16, 20
Receptacle 35284, 35286, Plug 35282, Header 68139

Blade Header 2.80mm
Circuit Sizes: Single Row 2 – 5, Double Row 4, 6, 8, 10
Header 31339

VDL (5.00mm) Connectors
Circuit Sizes: 1 – 9
Female/Male Housing: 98935/98895

Mini-Fit TPA™ Connectors
30068, 30069, 30070
Standard/HCS Terminal up to 9A/12A

Mini-Fit Jr.™ Wire-to-Wire Connectors
Receptacle/Plug: 5557/5559

Micro-Fit™ 3.00mm Wire-to-Wire, Blind Mate
Receptacle/Plug: 43025/43020
Terminal Female 43030, Male 43031

I/O HEADERS

Audio I/O Hybrid Connectors, 20-Way
Plug 35316, Receptacle 35159
Terminal Female 50350, Male 35028

Audio I/O Hybrid Connector, HDAC 24-Way
Right Angle Header 30700

0.64mm Hybrid Multipocket USCAR Header
Right Angle 3134X
Vertical 3135X

ISO Junction Box 1.00mm
35867

Radio I/O Connectors with Fuse
Right Angle Header 53526, Female 51128

Press-Fit Multi-Pocket Headers
UNSEALED CONNECTORS

H-DAC 64™ (0.64mm) In-Line
Circuit Sizes: Dual Row 6 – 20, Single Row 3 – 6
Dual Row Female/Male: 30700-1/30968-1
Single Row Female/Male: 31067/31073

NSCC Adapter Wire-to-Wire for both for 1.50mm/2.80mm Terminals
Circuit Sizes: 12, 15, 18
98464, 98315

MEMORY CARD AND SMART CARD CONNECTORS

Miniature Memory Card
SD, miniSD, MMC and CompactFlash

Smart Card for Electronic Toll

Memory Card Interconnectors
MS/XD 2 in 1 Combo: 87859
MS/MS Duo/XD 3 in 1 Combo: 87853

PCB CONNECTORS

HDX Wire-to-Board, Single Row
Circuit Sizes: 1x12, 1x15
98591, 98592, 98624, 98623, 96461, 98625, 98627

HDX Wire-to-Board, Dual Row
Circuit Sizes: 2x12, 2x15
98627, 98629, 98462, 98630, 98631

NSCC Wire-to-Board 1.50mm/2.80mm
Circuit Sizes: 12, 15, 18
98463, 98478

USCAR Multibay Header Assembly 2 and 3 Pockets
Circuit Sizes: 8 – 20
3134X, 3135X

H-DAC 64™ (0.64mm) Wire-to-Board Vertical
Circuit Sizes: Dual Row 6 – 20, Single Row 3 – 6
Dual Row Female/Headers: 30700-1/30700-4
Single Row Female/Headers: 31100 – 31103

H-DAC 64™ (0.64mm) Wire-to-Board Right Angle
Circuit Sizes: Dual Row 6 – 20, Single Row 3 – 6
Dual Row Female/Headers: 30700-1/30700-5
Single Row Female/Headers: 31100 – 31103

PCB CONNECTORS

Memory Card Interconnectors
MS/XD 2 in 1 Combo: 87859
MS/MS Duo/XD 3 in 1 Combo: 87853
**PCB CONNECTORS**

**040 III Wire-to-Board Right Angle**
Circuit Sizes: 8 – 36
68151

**040 Round Pin WTB**
Circuit Sizes: 7, 8, 10
35009, 35200

**2.50mm – 3.00mm Wire-to-Board**

**Micro-Fit™ 3.00mm Wire-to-Board**
SMT/SMC Compatible Headers

**Mi III™ System 2.00mm Wire-to-Board**

**Mini Mi III™ System 1.25mm Wire-to-Board**

**PanelMate™ 1.25mm Wire-to-Board**

**LCD Bottom Entry Socket**
Circuit Sizes: 10 – 20
54980

**Detachable Board-to-Board**

**Milli-Grid™ 2.00mm System**
Circuit Sizes: 4 – 50

**KK® 2.54mm and 3.96mm Wire-to-Board System**

**FFC/FPC Connectors**
CUSTOM CAPABILITIES

SAC Self-Aligning Connectors
Circuit Sizes: 10 – 75
Cluster, Power Steering, Mirror and Window

Filtered/Shielded Headers
Circuit Sizes: 5 – 195
Radio, Navigation and Glove Compartment

Meter Movement Socket 4P
Instrument Meter

FIBER OPTIC, MOST, IEEE 1394/1394B AND USB CONNECTORS

Picoflex™ Connectors
Circuit Sizes: 4 – 20

MOST Receptacle Housing
With Connectors and Cable Cover

MOST Products – 42-Pin Custom Connectors

IEEE 1394 Latching Style Connectors

IEEE 1394b Connectors
INTEGRATED INTERCONNECTS

**Sub-Harness for Rear Entertainment System**
Picoflex™ Jumper
For Cluster and HVAC

**Sub-Harness for DVD Entertainment**
Using 1.25mm Series Connectors

**Sub-Harness for Fire Suppression Systems**
FAKRA RF Connectors and Antenna
For Radio and GPS

**Dome Foil for Car Audio Switch**

**Flex Assembly**

**Premo-Flex™ — FFC Jumper**
0.50mm, 1.00mm, 1.25mm
98266, 98267, 98268

Infotainment / Networking / Communication
Airbags, ABS brakes, vehicle stability systems and other passenger safety equipment have become essential to the function and appeal of today’s vehicles. Molex continually invests in the development of these connectors so that you can always count on the reliability and performance of these often life-saving devices. Example includes pioneering development of collision avoidance devices such as distance control sensors that are built into bumpers to alert drivers to nearby objects.

Molex Automotive product applications classified in safety/chassis segment include: Traction Control; Brake Control (ABS); Stability Control; Tire Safety; Adaptive Cruise Control; Forward Collision Warning; Airbags/Safety Belts; Impact Sensors; Occupant Sensing and Pedestrian Protection.

Interconnects for Airbag Application
INTERCONNECTS FOR ABS

ABS Connector and ECU Case
ABS Connector and ECU Case
ABS Connector and ECU Case
Connector on Brake Cylinder

ABS Module Connectors
37-Way Sealed
Insert Molded Assembly – ABS
Insert Molded Assembly – ABS

INTERCONNECTS FOR TIRE SAFETY

Tire Safety Sensor Header, 12-Way
87789
Tire Pressure Monitor Sensor
**INTERCONNECTS FOR SRS**

**MX150™ Sealed Connectors with Shortening Bar**
Circuit Size: 2x8
Receptacle/Blade: 33476/33486

**MX64™ Sealed Connectors**
Circuit Sizes: 1x2
31402, 31403, 31304

**MX150™ Sealed Connectors, 3-Way**
Pretensioner and Occupant Sensor Harness
Receptacle/Male Housing: 34250/34091

**INTEGRATED INTERCONNECTS**

- **Sub-Harness for Bumper Sensors**
- **Cable with Squib Connectors**
- **Mirror Indicator Assembly**

- **Seat Belt Reminder Sensor Assembly**
- **Ignition Key Assembly (Metal Dome)**
- **Harness Assembly for Mirror Indicator**

- **Wheel Speed Sensor Harness**
**MOX Wire Crimp Terminals, 0.64mm, 1.50mm**
98195, 98658

**MOX FFC Terminals**
0.64mm, both Crimp and Solder Versions
98194

**HDX Terminals, 0.64mm**
Female 98587, Male 98588

**MOX FFC Terminals**
0.64mm, both Crimp and Solder Versions
98194

**NSCC Terminals**
1.50mm, 2.80mm Tin Plated Receptacle
98897, 98898

**SLX (Fork) Terminals**
98389

**MX150™ Terminals 14,16,18, 20 AWG**
Tin Plated Female 33012, Male 33000
Gold Plated Female 33001, Male 33011

**030, 040, 090 Tab Terminals**
Male/Female: 35800/35298, 50660/50654, 35420/35421

**CP150**
Wire Gauge: 10.0mm² – 25.0mm²

**Micro-Pin 1.50mm Round**

**Power Pin 2.80mm Round**

**040 Round Pins**
35403, 35100
**TERMINAL SYSTEMS**

**INTEGRATED INTERCONNECT TECHNOLOGIES**

- **Ring Terminals 2.50mm – 6.40mm**
  - 35750
- **Ring Terminals 2.70mm² – 10.0mm²**
  - 98860 – 98863

- **Micro-Fit Overmold**
- **Ribbon Cable Assembly**
- **HVAC Control Assembly**

- **Integrated Header in Module Housing for ECU**
- **Filtered/Shielded Header for PCM**
  - I/O Connection
FPC Jumper
Fine Pitch: 0.30mm, 0.50mm, 0.625mm, 1.00mm, 1.25mm, 2.54mm

FFC Pigtails
Pitch: Customized
Laser Soldering – Window Technology

Premo-Flex™
Pitch: 0.50mm, 1.00mm, 1.25mm
98266, 98267, 98268

MOX Crimped Terminals

MOX Soldered Terminals

Flex Assembly