



The rugged ML-XT™ connection system with market-leading high-performance seal technology is a cost-competitive solution offering superior reliability for critical vehicle-wiring applications in harsh environments

Customers specifying low-circuit-count connectors for rugged harness applications in vehicles require a highly-reliable, securely sealed connection system to minimise electrical failures and prevent costly machinery downtime. This system needs to withstand high temperatures and harsh environments, including exposure to chemicals, at the lowest cost. The ML-XT™ system meets these needs with high-performing seal technology proven to prevent ingress of fluids under extreme conditions. Advanced two-shot LSR molded one-piece plug, and rear HCR seals with cover guards guarantee optimum seal positioning at all times, including during mating and unmating of the header and receptacle. The result is a cost-competitive solution that achieves superior reliability over de-facto, industry-standard systems.

Features and Benefits

One-piece plug housing and seal design, permanently bonded by two-shot LSR (liquid silicone rubber) molding technology

Prevents fluid ingress; system is IP68-rated*
Prevents loss/ misalignment of seal; ensures repeatable retention during unmating and mating of plug and receptacle

Rear seals made from HCR (high consistency rubber)

Provides greater tear-resistance over LSR material; prevents damage to rear seal during terminal insertion/ extraction

Latched rear covers

Locks in rear HCR seals
Allows for flexible cable exits and cable movement whilst maintaining optimum seal position to prevent leak paths

Plug and receptacle housings are supplied pre-assembled with internal HCR rear seals locked-in by rear covers

Reduces inventory, assembly time and costs for harness manufacturers and prevents loss of rear seals for a cost-competitive mated system

Utilises Molex proven XRC™ terminals with current ratings up to 13.0A

Supports tooling widely used at harness makers

High terminal retention force; exceeds 111N

Withstands high axial pull-out forces per J2030 specification

Wedglock / TPA (Terminal Position Assurance) loaded after terminals

Locks terminals in position for secure electrical contact

Plug housing features integral locking latch

Ensures secure mating of plug and receptacle

9 colour-coded housings available

Enables easy visual mating of harnesses to prevent mis-mating

ML-XT™ Sealed Connection System

93444 Receptacle

93447 Receptacle
Wedglock (TPA)

93445 Plug

93448 Plug Wedglock (TPA)



Two-Circuit ML-XT™ Sealed Connection System

*IP69K high-pressure spray validation is in process

Applications

Commercial Vehicle

- Agricultural machines
- Construction and mining equipment
- Forest and garden equipment
- Generator sets (Gensets)
- Search, detection and navigation equipment
- Trains and rail equipment
- Bus, coach, caravan
- Material handling equipment

Automotive

- Cars
- Motorcycles

Sealed applications

- Sensors – Electrical, fluid, velocity, magnetic, moisture, navigation, position angle, optical, pressure, proximity...
- Engine Control Units (ECUs)
- Airbag Control Units (ACUs)
- Diagnostics
- Alternators
- Starters
- Air conditioning
- Lights, lamps
- Pumps
- Power steering modules
- Alarms, horns
- Infotainment and telematics
- Electric seats
- Brakes
- Hydraulics

ML-XT™ Sealed Connection System

Military vehicles

Marine

Aeronautical

- Commercial Aviation



Construction Machinery & Equipment



Mining Machinery & Equipment



Automotive



Motorcycle



Rail



Commercial Aviation



Marine



Bus / Coach



Truck / Lorry



Agricultural Machinery & Equipment



Specifications

REFERENCE INFORMATION

Packaging: Bags in Boxes
Terminal: XRC™ series 84525, 84524
Designed In: Millimeters RoHS: Yes
Halogen Free: Yes
Cable Gauges: 1.40 to 2.80mm
2.70 to 3.60mm

ELECTRICAL

Voltage (max.): 500V DC
Current (max.): 13.0A
Contact Resistance:
30 milliohm max.
Insulation Resistance:
20 Megaohms min.

MECHANICAL

Contact Retention to Housing:
111N min.
Mating Force: 135N max.
Unmating Force: 135N max.
with latches disengaged
Durability (min.): 100 cycles

PHYSICAL

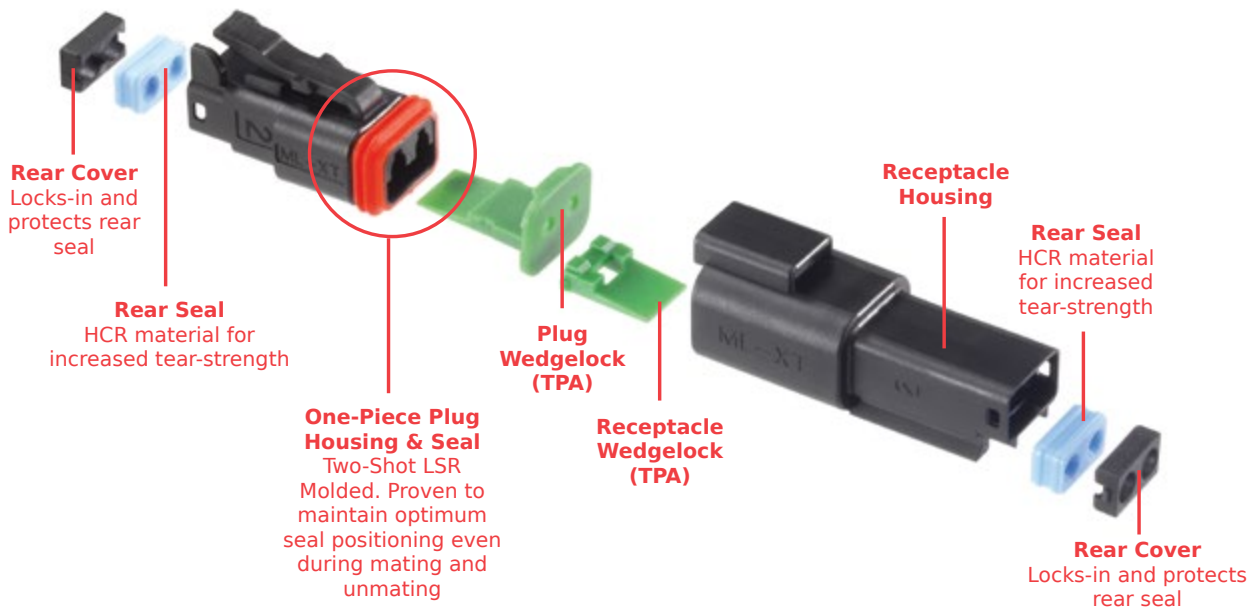
Housing: Nylon
Seal: LSR
Contact:
Plating:
Contact Area —
Nickel (Ni) or Gold (Au)
Solder Tail Area — Tin (Sn)
Underplating — Nickel (Ni)

Operating Temperature:
-55 to +125°C

Sealed rating: IP68
(IP69K validation in process)

Technical Information

Exploded View 2-Circuit ML-XT™ Connector System



Ordering Information

Circuits	Colour Coding	Order No.		Order No.		Cable Gauge Accepted by Seal
		Receptacle Assembly‡	Wedgelock	Plug Assembly‡	Wedgelock	
2	Black*	93444-1101	93447-1003 (Green†)	93445-1101	93448-1003 (Green†)	1.40 to 2.80mm
		93444-1201		93445-1201		2.70 to 3.60mm

Notes:

‡ Receptacle and plug assemblies supplied pre-assembled - include housing and rear seal locked-in by rear cover

*Additional colour-coded housings available on request.

†Wedgelocks: further colour codings in development.

Contact Molex for further information.