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ML-XT™ Sealed Connection System

93444 Receptacle
93447 Receptacle Wedgelock (TPA)
93445 Plug
93448 Plug Wedgelock (TPA)

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 and J2030 power-wash test capable. 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
Wedgelock / 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

2-Circuit ML-XT™ System

4-Circuit ML-XT™ System

6-Circuit ML-XT™ System

18-Circuit ML-XT™ System

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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

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

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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

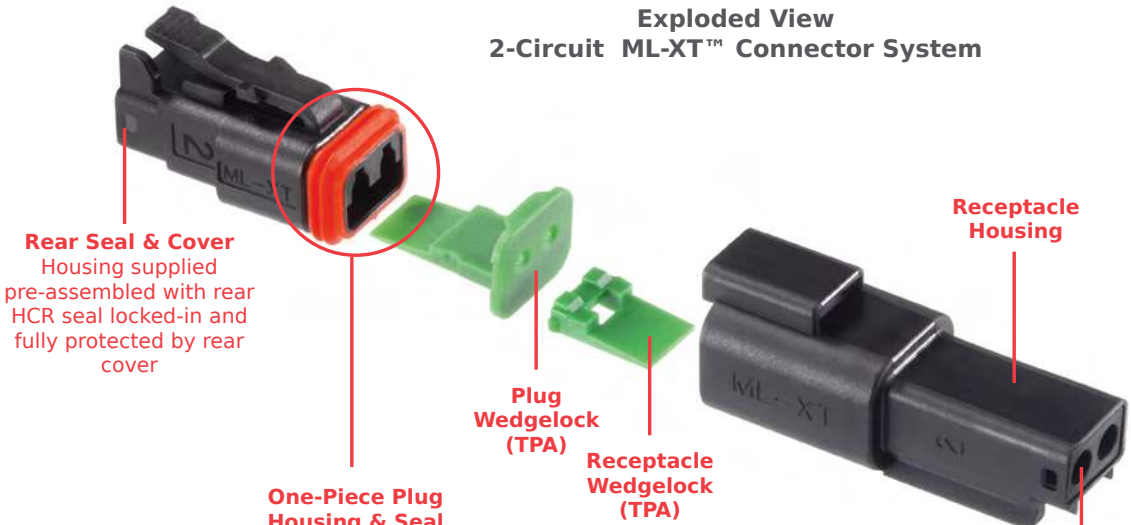
PHYSICAL
Housing: Nylon
Seal: LSR
Contact:
Plating:
Contact Area —
Nickel (Ni) or Gold (Au)
Solder Tail Area — Tin (Sn)
Underplating — Nickel (Ni)

Operating Temperature:
-55 to +125°C

Sealed rating: IP68 and J2030
power-wash test capable

Technical Information

Exploded View
2-Circuit ML-XT™ Connector System




4-Circuit ML-XT Connector System


6-Circuit ML-XT Connector System


18-Circuit ML-XT Connector System

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Ordering Information

Circuits	Colour Coding* (Housings)	Cable Gauge Accepted by Seal	Order No.		Order No.	
			Receptacle Assembly‡	Wedgelock for Receptacle (Green†)	Plug Assembly‡	Wedgelock for Plug (Green†)
2	Black	1.40 to 2.80mm	93444-1101	93447-1003	93445-1101	93448-1003
		2.70 to 3.60mm	93444-1201		93445-1201	
	Grey	1.40 to 2.80mm	93444-1102		93445-1102	
		2.70 to 3.60mm	93444-1202		93445-1202	
4	Black	1.40 to 2.80mm	93444-3101	93447-3003	93445-3101	93448-3003
		2.70 to 3.60mm	93444-3201		93445-3201	
	Grey	1.40 to 2.80mm	93444-3102		93445-3102	
		2.70 to 3.60mm	93444-3202		93445-3202	
6	Black	1.40 to 2.80mm	93444-4101	93447-4003	93445-4101	93448-4003
		2.70 to 3.60mm	93444-4201		93445-4201	
	Grey	1.40 to 2.80mm	93444-4102		93445-4102	
		2.70 to 3.60mm	93444-4202		93445-4202	
18	Black	1.40 to 2.80mm	93444-7111	N/A	93445-7111	N/A

The ML-XT™ Connector System utilizes proven Molex XRC™ Terminals. Please refer to molex.com for terminal ordering information.

Notes:
‡ Receptacle and plug assemblies include housing + rear seal locked-in by rear cover. Supplied pre-assembled.
*Colour-coding: Additional colour-coded housings available (volume dependent). Contact Molex.
†Wedgelocks: Green = standard coding. For other colour codings contact Molex.

PLUGS AND RECEPTACLES

Series No.	X	X	XX

Series No.
93444 = Receptacles
93445 = Plugs

X = Circuit Size:
1 = 2 Circuits
3 = 4 Circuits
4 = 6 Circuits
7 =18 Circuits

X = Assembly Options *(Cable Gauge accepted by Seal):*
1 = 1.40 to 2.80mm
2 = 2.70 to 3.60mm
Contact Molex for heatshrink housing options

XX = Colour:
01 = Black
02 = Grey
03 = Green
04 = Blue
05 = Yellow
06 = White
07 = Brown
08 = Orange
09 = Red

WEDGELOCKS (TPA)

Series No.	X	0	XX

Series No.
93447 = Wedgelock for Receptacle
93448 = Wedgelock for Plug

X = Circuit Size:
1 = 2 Circuits
3 = 4 Circuits
4 = 6 Circuits

XX = Colour:
01 = Green

www.molex.com/link/mlxt.html