

# Molex ML-XT™ sealed connection system

AVNET<sup>®</sup> ABACUS

As vehicles and their environments become more complex, the demand placed on connectors and their seals is greater than ever before. With greater intricacy comes an increased risk of failure, as one compromised seal on a single connector can lead to the failure of an entire system.

As a result, customers are specifying that connectors for vehicles operating in rugged harness applications have a highly-reliable and securely sealed connection system. This minimises electrical failures and prevents costly machinery downtime. Systems need to withstand high temperatures and harsh environments, including exposure to chemicals, at the lowest cost.

With multiple breakthrough innovations, Molex's ML-XT Sealed Connection System meets these needs with high-performing seal technology that has completely redefined seal reliability in vehicles. Proven to prevent the ingress of fluids under extreme conditions, advanced two-shot LSR (liquid silicone rubber) moulding eliminates the seal-bonding issues seen in traditional connector systems. Creating a covalent bond between the seal and the connector body, this technique permanently connects the two components at a molecular level, combining two components into one connector.

HCR (high-consistency rubber) recessed rear seals completely resist movement during cable routing, guaranteeing optimum seal positioning during mating and unmating of the header and receptacle. This eliminates concerns about seal positioning and movement. Protected by a rigid back cover, the seal allows flexible cable movement, and its recessed, fixed nature significantly reduces the leak-paths found in traditional designs. The result is a cost-competitive solution that achieves superior reliability over de-facto, industry-standard systems.

Typical sealed connections of this type have exposed rear seals. When cable routed through the connector bends, the stress can cause the seal to pop off or fail. The integrated rear cover on the ML-XT housing removes the bend radius from the seal. By seating the rear seal deeper into the connector, the rear cover takes this stress, protecting the seal and preventing leak paths. The housings of the ML-XT system are also delivered with the seal and rear cover fully assembled as standard, rather than as a welded aftermarket add-on.

A wedgelock terminal position assurance accessory locks the terminals in position, creating a reliable electrical contact. Further features such as an enhanced locking latch and latched back covers deliver unparalleled mating and housing reliability.

Solutions such as two-shot LSR moulding and HCR rear seals deliver full IP69K and J2030 compliance. With unique offerings, such as a complete 18-circuit connector system, field-proven XRC terminals, colour-coded housings and custom options, the ML-XT Sealed Connector System delivers reliability improvements to any design.

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