



ADVANTAGES IN THE FIELD & IN MANUFACTURING

**CONNECTORS OFFER RUGGED DURABILITY ON-SITE
& EFFICIENT SEQUENCING IN PRODUCTION**

The trend toward greater electrification of vehicles in truck and bus, agriculture, construction, mining and marine, is driving connector usage to secure consistent power supply throughout the vehicle and to trailers and other outside applications. Sending more power over greater distances, especially in the harsh environments where heavy industrial vehicles and machines work, means connectors need to be sealed, secure and more reliable than ever before.

SECURE, SEALED CONNECTIONS

For heavy industrial vehicles and machines, connectors should have a secondary locking feature, which gives feedback that the terminal is seated well in the connector and ensures proper fit so the connection will stay secure through heavy vibration. Designers and manufacturers can have confidence up front that power supply will remain consistent and the interconnect will withstand the vibrations common in harsh environments, because they can see and hear the terminal and connector lock into place.

This feature is standard on TE Connectivity's (TE's) AMP MCP 9.5 two-position connectors. The connector is easy to use and easy to mount, enabling quick installation and making sequencing in manufacturing more efficient.

When transporting power from wire to wire over long distances, these interconnects are crucial for productivity in harsh environments. They are secure and sealed to resist water spray, water immersion, dust and dirt. The AMP MCP 9.5 connectors not only perform well under these conditions, they also release easily, even when covered with dirt, when a disconnect is needed for a repair or to swap out a gearbox or motor.



“Now, customers use the connectors to bring battery power to whatever trailer configuration they set up or application (e.g., crane, firefighting equipment) set up on top of the truck”

CLEAR HANDLING FOR PROPER MATING AND REPEATABILITY

The majority of similar power solutions on the market have screw-machined circular terminals instead of stamped and formed, box and blade terminals like the AMP MCP 9.5 solution. The stamped and formed terminals are more cost-efficient and enable speed and repeatability for mid- to high-volume manufacturing. Many harness makers already use the MCP family of contacts, making the MCP 9.5 solution an ideal extension of a familiar operations process.

The design of the AMP MCP 9.5 linear power solution also allows for clear handling of the product to ensure proper mating and proper position of the terminal. “These connectors are designed to avoid misorientation—the polarization allows for just one clear direction to insert the connector,” said Philipp Von Wedelstaedt, product manager for TE's Industrial & Commercial Transportation business. “The more industrialized production lines become, the greater the need for quality assurance and repeatability—that was our thought process behind a lot of the design work that went into this connector. Failure is not an option in the field or the installation plant, and we wanted to ensure it's not an option in manufacturing either.”



**RECEPTACLE HOUSING
(1355328-1)**



HEADER (2282162-1)



**TAB HOUSING
(1394026-1)**

With Flange Seal



**TAB HOUSING
(1394026-2)**

No Flange Seal

HOW CUSTOMERS ARE USING AMP MCP 9.5 TWO-POSITION CONNECTORS

Initially, this type of connector was designed to bring power feed-through applications in the chassis and to the motor control unit. As the electrification trend grew through the industrial and commercial transportation industries, TE added this two-position connector to enable reliable power to be conducted throughout the entire vehicle and to additional applications more reliably. Now, customers use the connectors to bring battery power to whatever trailer configuration they set up or application (e.g., crane, firefighting equipment) set up on top of the truck. The design allows flexibility in use while maintaining a protected, sealed connection. It can be used as a sealed, free-hanging connection or, to reduce vibration, the tab housing with the flanged seal can be added and fixed to the chassis.

“The connector is easy to use and easy to mount, enabling quick installation and making sequencing in manufacturing more efficient.”

The connectors are also ideal interconnections for intermediate transportable power stations at construction sites or for interfacing different machines, where you want to have a clear, durable mating connection with failure-proof installation.

FEATURES OF TE'S AMP MCP 9.5 TWO-POSITION CONNECTORS

TE's high-power AMP MCP 9.5 two-position connectors are designed for harsh environment wire-to-wire and wire-to-circuit board connections. These connectors are constructed of heavy-duty thermoplastic and withstand severe vibration and mechanical shock.

FEATURES INCLUDE:

- Current rating of 78 amps for 10 mm² wire
- -30° to +100°C long-term operating temperature
- Tool-less mounting options: In-line, flange, sealed flange or PCB
- Slide lock for mating
- Secondary locking feature for contact retention
- IP67 and IP69K rating for complete environmental sealing





STEP 1

Make sure the locking slide is in the open, unlocked position.



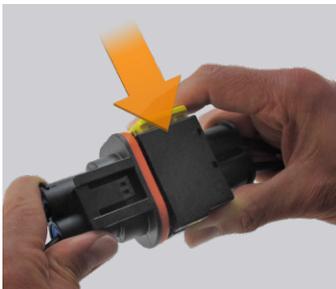
STEP 2

Insert the crimped contacts into their appropriate housings, making sure they're oriented properly. Push the integrated secondary lock into the locked position.



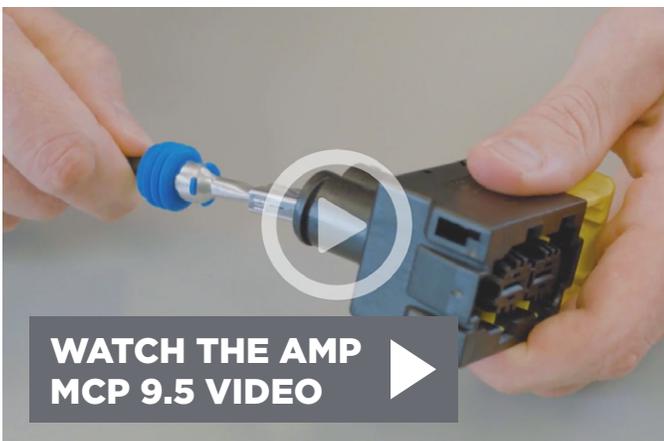
STEP 3

Mate the two connector halves together.



STEP 4

Push the locking slide shut to secure the connectors together.



The slide lock enables easy connector mating while the integrated secondary lock confirms contact alignment and retention. It simply will not close if the connector is inserted improperly. Multiple mounting options—including in-line, flange, sealed flange, and PCB mount—offer designers and users flexibility, making the connectors suitable for numerous application types such as:

- Motors and gearboxes
- SCR (selective catalytic reduction) & aftertreatment systems
- Hydraulic pumps and presses
- Wire-to-wire coupling at chassis
- Actuators and aggregates

No tools are required for mounting due to the connector's clip-in mounting feature. Tab housing gives users two options. The first option features one clip—you slide the connector into a clip and it locks. The second option has two clips, one on either side, and the connector can be easily pushed into the cutout while locking clips secure it in place.

A LEADER IN HARSH ENVIRONMENTS

Part of TE's extensive portfolio of rugged electrical connector solutions, the AMP MCP 9.5 two-position connectors use TE's field-proven AMP MCP 9.5 contacts and are designed to withstand the extreme conditions of high-powered, environmentally sealed, two-cavity applications for the truck and bus, agriculture, construction, marine, and special vehicle industries such as firefighting.

As design engineers innovate more applications to use power and connectivity in a vehicle, TE brings to life new ways to ensure that power and signal reaches its destination every time. Finding ways to increase reliability in harsh environments is just one way TE lives up to its purpose of creating a safer, sustainable, productive and connected future.

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