

3 Things You Didn't Know About Using Connectorized Cable Assemblies on Trains



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Increased maintenance costs and demand for optimal fleet utilization to serve growing urban rail ridership are leading transit vehicle manufacturers to reevaluate the way they design electrical systems. Now, they are finding that using a connectorized cable assembly between the bogie traction motor and the inverter propulsion unit is giving them the competitive edge. The benefit comes from the ability to easily drop and disconnect bogies from vehicle bodies during scheduled or irregular maintenance intervals.

Connectorization reduces the amount of time needed to safely perform maintenance on the bogies or replace the inverter or bogie motor(s). Reduced downtime leads to optimal fleet utilization resulting in increased rail ridership and transit agency profitability.

However, there are still misconceptions about using connectorized cable assemblies that are preventing some manufacturers from making the switch. Below are three things you might not have known about using connectors.

1. Using a connectorized cable assembly is cheaper than hardwiring.

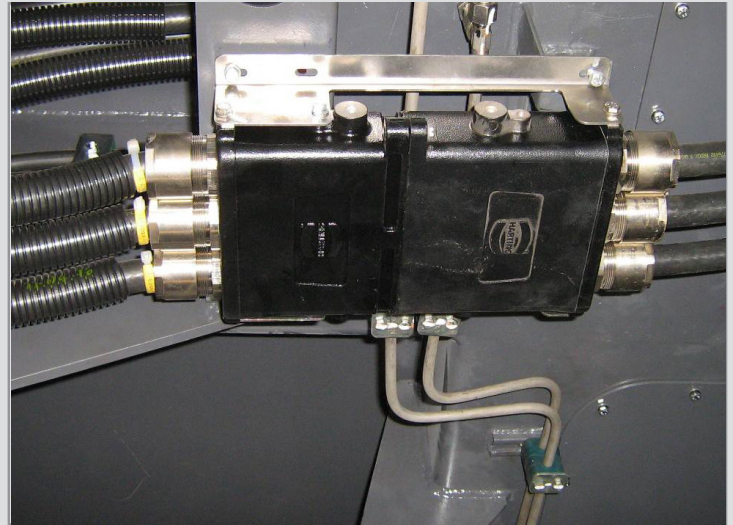
Using a connector is slightly more expensive than hardwiring, but *only* for the initial installation. When hardwiring, all connection points must be disconnected and reinstalled. This takes a significant amount of time and labor costs. If something is miswired, this leads to additional troubleshooting time and labor costs as well as unplanned downtime.

Using a pre-tested cable assembly means that when it's time for maintenance, the old assembly is simply unplugged and replaced with a new one. This virtually eliminates wiring errors preventing unexpected downtime.

2. Connectorized cable assemblies save space on the undercarriage of the train.

Modern connectors feature innovative profile designs that sit flat against the undercarriage of the train. These space-saving designs offer an alternative to hardwiring without requiring additional space.

Modular connectors offer further benefits allowing for multiple discrete connections – power, signal, data, and even optical or pneumatic connections – within a single space-saving modular connector housing.



Modern connectors sit flat against the undercarriage of the train and can carry high current power.

3. Connectors are perfect for reliably carrying the power needed on trains.

Modern rectangular style traction motor connector assemblies can handle up to 650 amp current requirements while maintaining the robust environmental protection required on the exposed underside of transit cars. These connectors are available with screw-locking mechanisms, making them ideal for rail cars as shock and vibration is a major concern.



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About HARTING, Inc. of North America:

The HARTING Technology Group, family owned and based in Germany, employs more than 4,000 people globally with subsidiaries and branch offices in 40 countries. With production facilities in Europe, Asia and the United States the HARTING portfolio of connectivity solutions focuses on multiple levels, from the machine to the device and into the communication infrastructure.

The U.S. facility in Elgin, Illinois is one of three HARTING locations that manufactures the HIS product line (HARTING Integrated Solutions - backplanes) and custom cable assemblies. The company's core business is intelligent and high-performance connection technology. HARTING works in almost all industrial markets with a focus on requirements for robust, reliable connectivity solutions.

