



Amphe-ARC in Rail Mass Transit

BACKGROUND

Modern Light Rail Vehicle (LRV) systems have a choice of connectors for use in the power and signal jumpers. A reverse bayonet for its great high shock and vibration and quick coupling properties, and a fine threaded 5015 type to allow for a greater mechanical advantage for coupling high pin count connectors (ie: high mating force) and coarse thread types, a combination of the quick coupling (about 2 turns of the coupling nut), and the added mechanical advantage of a threaded connector.

PROBLEM

LRV's are subjected to significant amounts of vibration during their daily use. The vibration can cause conventional connectors to loosen, disrupting power and signal or actually causing the car to come to a halt. Combine the need for "vibration proof" along with the already high pin count of these connectors to be a problem in specifying a specific connector series.

AIO SOLUTION

The Amphe-ARC connector draws features and benefits from three proven military connector series. The anti-decoupling ratchet mechanism is similar to that of the 38999 and provides shock and vibration "strength" equal to that of a standard reverse bayonet connector. The rugged double start thread, featured in the 22992 military series, allows for the easy cleaning of the threads and improved mechanical advantage of a threaded connector but does not require up to 15 turns of the coupling nut to fully mate the connector. Combining those characteristics with the already popular 5015 insert arrangements that many of the LRV manufacturers are already familiar with makes for a connector series that is second to none in the RMT market.