

Amphe-ARC Power and Signal Connectors

Application Notes



THORNE &
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BACKGROUND

Modern LRV rail systems have a choice of Amphenol connectors for use in the power and signal jumpers; Reverse Bayonets, fine threaded Mil type 5015 connectors and/or coarse thread Starline connectors. Amphenol has added another option, the Amphe-ARC connector with a ratchet coupling mechanism, coarse double stub threads, and lock-wire holes.

PROBLEM

LRV's in rail systems 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. Having a vibration proof connector will prevent these sudden and unscheduled interruptions of power and service.



AIO SOLUTION

The Amphe-ARC connector series draws features and benefits from three proven military connector specifications; MIL-C-38999, MIL-C-22992 and MIL-C-5015, giving an excellent degree of reliability for the light rail vehicle industry. Since power and signals vital to safe operation of the car pass through these cables and connector, reliability is an absolute must.

The ratchet mechanism is similar to that used in Amphenol's MIL-Spec connector series MIL-C-38999 Series III. This feature prevents un-mating when used in high shock and vibration applications. Use of the lock-wire feature in the coupling nut adds to the reliability of the interface.

The rugged double start thread is a feature of the heavy duty MIL-C-22992, Amphenol's QWLD and Industrial proven Starline connector series. The QWLD series shares the multitude of insert patterns with MIL-C-5015 and the special patterns designed for the rail mass transit industry. The heavy duty, double start thread are quickly cleaned and allows the connectors to be quickly coupled under adverse conditions.

Five key/keyway polarization on the aluminum shells prevent mis-alignment during mating.

Full range of backshells, specialty contacts, and plating variations available

See Amphenol's GT Series Reverse Bayonet Coupling Connector catalog 12-024 for full range of inserts and shell styles.



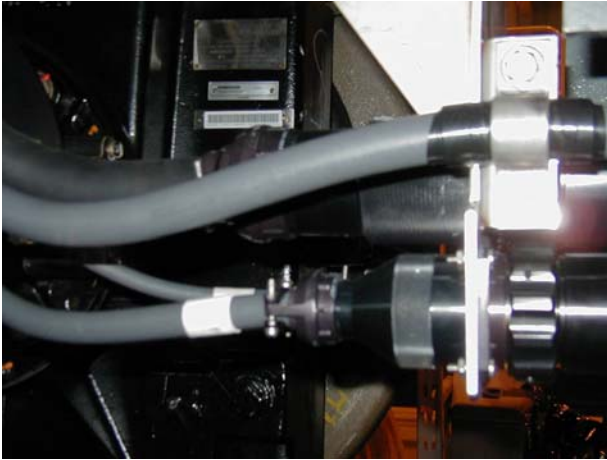
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APPLICATION TECHNOLOGY

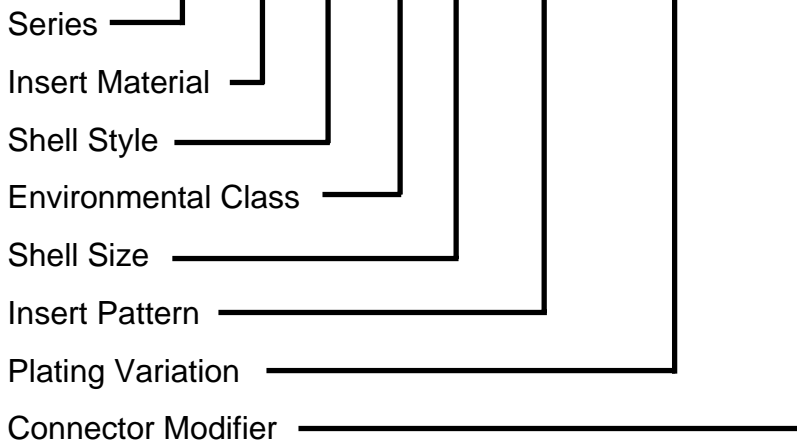
The Amphe-ARC connectors can be used with conventional backshells or be built up into cables with either over molded or mechanical backshells. Insert patterns range from one contact for 373MCM cable up to eighty 16 gage conductors.

For high amperage circuits, Amphenol offers the option for male contacts with finger touch (FT) protection. Access to the male contact is prevented by the female insert and a non-conductive tip.



AIO PART NUMBER RECOGNITION

ARC L 020 R 40 BBS (G96)(XXX)



PRODUCT FEATURES

- Coarse, double stub threaded mating
- Internal anti-vibration springs in coupling nut
- Low smoke – low halogen insert material
- Lock wire holes in coupling nut
- Full availability to all popular rail insert configurations
- Full range of backshell or cable options
- 5 key/keyway polarization

PRODUCT BENEFITS

- Quick mating, easily cleaned
- Prevents accidental unmating of connector
- Meets current standards for smoke and flame spread
- Affords full versatility to circuit designers
- Prevents mis-alignment during mating

POTENTIAL OEM CUSTOMERS

Alstom	Siemens
New Jersey Transit	Kawasaki
Bombardier	WABCO



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