

LMS

LIGHTWEIGHT MODULAR CONNECTOR SYSTEM



COST EFFECTIVE

- + The modular design and wide array of options result in fewer components required to meet interconnection needs.

LIGHTWEIGHT AND DURABLE

- + Housings and module bodies are molded from a lightweight, U/L 94 V-0 rated flame retardant thermoplastic material.

EASY TO USE

- + The modular design permits ease of circuit upgrading and/or maintenance.

DESIGN FLEXIBILITY

- + Module options allow for a mix of passive and active devices within a single connector.
- + Bussing modules allow for a plurality of circuit network configurations without extra hardware.
- + Diode modules provide reverse voltage protection for avionic systems, sensors, and entertainment systems.
- + Relay modules add switching capability without the need for printed circuit boards and additional hardware.

MANY OPTIONS AVAILABLE

- + Four standard insert arrangements available that accept 8, 16, 20, or 22 gauge rear release contacts.

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OVERVIEW

LMS is a connector system comprised of housing, modules, and contacts. Modules with various contact sizes and arrangements can be mixed within a housing for flexibility in wiring harness termination.

LMS connectors can be used in rack and panel or cable to cable applications, and can be front or rear panel mounted. The optional jack screw and socket provide six position keying capability to prevent cross mating where multiple housing is used.

The LMS product line offers a cost effective and flexible solution for wire harness interconnection.

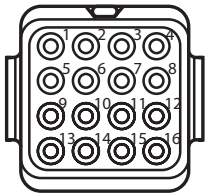


LMS TOOL- LESS SPLICE CONNECTOR

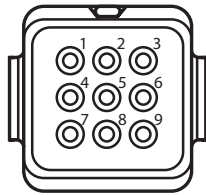
A low cost interconnect that incorporates the LMS modules and contacts, offering push button release of modules.



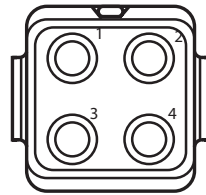
Module Contact Arrangements



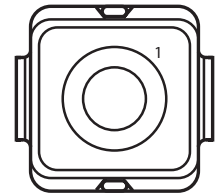
Size 22
Contacts



Size 20
Contacts



Size 16
Contacts

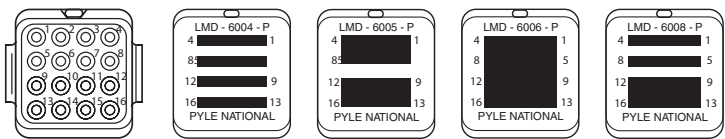


Size 8
Contacts

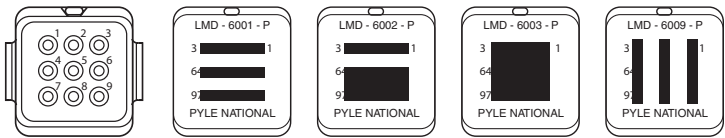
Module Configurations

Bussing Modules

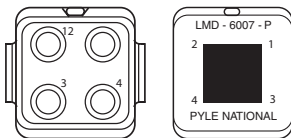
Bussing modules enable the common connection of 3 to 16 circuits within a single module. Custom bussing configurations can also be designed based on individual system requirements.



Size 22 Contacts



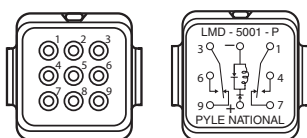
Size 20 Contacts



Size 16 Contacts

Relay Modules

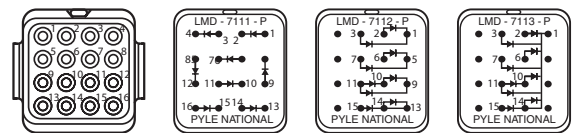
Relay modules incorporate an industry standard miniature relay per MIL-R-39016 specification. These modules provide a low cost and convenient way to integrate a relay wherever one is required.



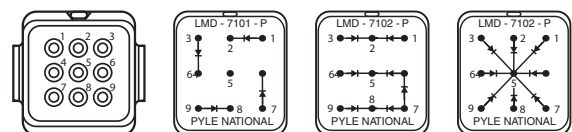
Size 20 Contacts

Diode Modules

Diode modules provide reverse voltage protection for sensitive avionics, sensors, and entertainment systems with integration of 1N4007 rectifier diodes. Additional diode choices, as well as integrated resistors, are available. Contact Amphenol Aerospace to discuss specific system requirements.



Size 22 Contacts



Size 20 Contacts

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LMS Performance Characteristics

Temperature Rating	-55° C to +140° C (-67 ° F to + 284° F)
Insulation Resistance (min.)	5000 megohms initial: 1000 megohms after 96 hours humidity
Durability	250 cycles (mating and unmating)
Vibration	Maximum discontinuity of one microsecond when subjected to sinusoidal vibration of 10 to 2000 Hz at 15 gravity units
Physical Shock	Maximum discontinuity of one microsecond when subjected to 1/2 -sine-wave transient shock of 50 gravity units with pulse duration of 11 milliseconds
Module Insertion & Removal Force	5 lbs. maximum
Module Retention	70 lbs. minimum

Custom Designs

Amphenol Aerospace has the capabilities to create custom designs in a connector package that fits your application needs. Contact us to discuss specific system requirements.

Accessories

Two-piece Strain Relief with Cable Tie

For internal attachment to LMS six bay connector housings.



Panel Mount Bracket

For single bay tool-less splice housing.



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Overview

Amphenol integrated electronic products are designed and manufactured to our Ruggedization guidelines listed below. These guidelines ensure years of reliable operation in harsh environment applications where extreme operating temperatures, shock, vibration and corrosive atmospheres are regularly experienced

Temperature

- Operating Temperature - Thermal Cycles between -40°C and 85°C while device is operating
- Temperature is measured at chassis housing or card edge
- Storage Temperature - Thermal Cycles between -55°C and 125°C

Humidity

- Operating Humidity – Humidity cycle between 0-100% non-condensing humidity while device is operating
- Storage Humidity – Humidity cycle between 0-100% condensing humidity

Sealing

- Sealing can be optionally provided at the MIL-DTL-38999 interface with up to 10-5 cc/sec performance

Fluids Susceptibility

- MIL-DTL-38999 receptacle interface per EIA-364-10E

Vibration & Shock

- Sine Vibration – 10 g Peak, 5-2,000Hz
 - Based on a sine sweep duration of 10 minutes per axis in each of three mutually perpendicular axes. May be displacement limited from 5 to 44 Hz, depending on specific test.
- Random Vibration - 0.005@5Hz, 0.1@15Hz, 0.1@2,000Hz
 - 60 minutes per axis, in each of three mutually perpendicular axes.
- 40 G Peak Shock Cycle
 - Three hits in each axis, both directions, ½ sine and terminal-peak saw tooth, Total 36 hits.

Altitude

- -1,500 to 60,000 ft Altitude Testing w/ Rapid Depressurization

Electromagnetic Compatibility

- Designed to comply with MIL-STD-461E

Printed Circuit Board Assemblies

- Conformal Coat
 - Amphenol performs Conformal Coating to both sides of printed circuit board assemblies using HUMISEAL IB31 in accordance with IPC-610, Class 3.
- Printed Circuit Board Rigidity
 - Amphenol printed circuit boards are fabricated in accordance with IPC-6012, Class 3.
- Printed Circuit Board Fabrication
 - Amphenol printed circuit boards acceptance criteria is in accordance with IPC-610, Class 3.

Reliability Predictions (MTBF)

Amphenol can perform Mean Time Between Failure (MTBF) reliability analysis in full compliance with MIL-HDBK-217F-1 Parts Count Prediction and MIL-HDBK-217F-1 Parts Stress Analysis Prediction. We can also perform reliability analyses in full compliance of ANSI/VITA 51.1 if it is required or preferred over the later method.

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