

LMD Modular Connectors

The LMD Connector Series was designed by Amphenol Pyle-National to provide flexibility in the assembly of wire harnesses that are used in instrumentation and avionic control environments. The modular design of the LMD provides rack and panel or cable to cable attachment.

Design Features of LMD Connectors

- An LMD Connector is comprised of a housing, modules and contacts - each ordered separately, requiring assembly
- Lightweight housings are offered in two materials
 - standard black thermoplastic
 - high performance composite material for EMI shielding
 - white thermoplastic nylon material with increased solvent resistance
- Four standard modules are available with the following contact arrangements: 1 #8, 4 #16, 9 #20, 16 #22
- Modules are available in sealed and unsealed versions
- Linear module design may be used for rack and panel or cable to cable applications
- Bussing modules available to allow for a plurality of circuit network configurations without extra hardware
- Diode modules provide a current protection system for avionic instrumentation packages and eliminate the need for dedicated PC boards and other hardware
- Miniature relay modules can be added which eliminate the need for printed circuit boards and hardware



LMD Receptacle and Plug

LMD Benefits

- Reduces assembly and production costs
- Eliminates costly PC board and associated hardware
- Reduces inventory levels and associated costs
- Allows for a variety of circuit configurations
- Permits ease of circuit upgrading
- Facilitates equipment maintenance

LMD 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

LMS Modular Connectors

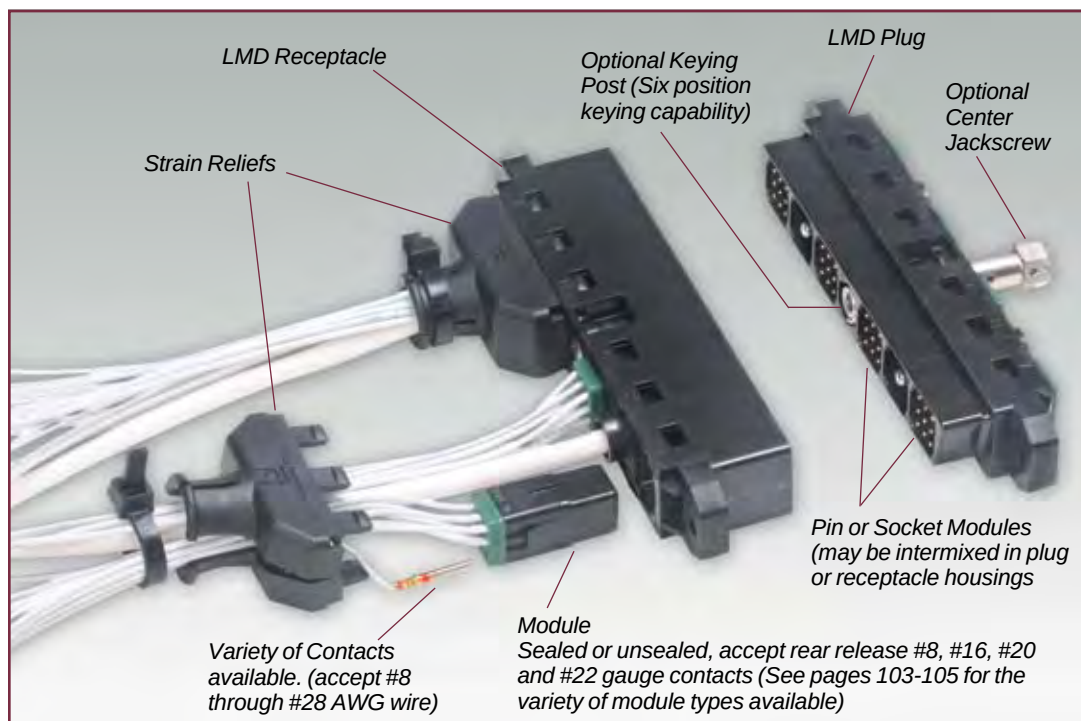
Supplementing the LMD connector family, Amphenol/Pyle National offers the LMS in-line splice connector; a low cost interconnects that incorporates the LMD modules and contacts.

- Standard LMS splice connector - 3-piece assembly with module removal tool access
- Tool-less splice connector - 3-piece assembly with a push-button module release for easy module removal
- Two-piece bracket available for panel mounting
- Used in wire harness, instrument and equipment terminations and test points



LMS Tool-less Splice Connector

FEATURES, OPTIONS & CONTACT DATA



LMD Features and Options

LMD's module options provide a mix of both active and passive devices within one connector. The features and options of this series describe the design flexibility in this connector series:

- LMD Standard components are molded of a U/L rated 94VO flame retardant, light-weight thermoplastic material. Alternate white nylon material (provides resistance to industrial oils and solvents) is available; consult Amphenol Aerospace for availability.
- The linear LMD connector may be used for rack and panel or cable-to-cable applications.
- Plug and receptacle housings may be front or rear panel mounted.
- Optional keying post provides six position keying capability.
- The optional center jackscrew provides ease of mating and unmating and insures high reliability under vibration.
- Cable strain reliefs are available for internal attachment. (See page 107).
- Variety of module types. Sealed and unsealed modules accept rear release #8, #16, #20 and #22 gauge contacts. Bussing, diode and relay modules available. PC tail contacts are also available; consult Amphenol Aerospace.
- A variety of contacts accept #8 through #28 AWG wire. Commercially available automated crimp terminating equipment may be used.
- Wired or unwired modules are rear inserted and held by two retention tines. With the aid of a front release tool, the modules are easily removed from the rear. (See pg. 107).
- Pin or socket modules may be intermixed in plug or receptacle housings.

Contact Data

Contact Size	Wire Size	Contact Resistance		Dielectric Withstand- ing Voltage AC (RMS)	Max. Recommended Working Voltage AC (RMS)
		Test Current (amperes)	Max. Millivolts		
22	22 28	5.0 1.5	73 54	1800	600
20	20 24	7.5 3.0	55 45	1800	600
16	16 20	13.0 7.5	49 46	2300	900
8*	12 14	23 17	42 40	2300	900
8	8 10	46 33	26 28	2300	900

Contact Size	Wire Size	Contact Crimp Tensile Strength Lbs. Min.	Max. Wire Insulation
22	28	3	.054
	26	5	
	24	8	
	22	12	
20	24	8	.083
	22	12	
	20	20	
	16	30	
16	16	50	.103
	14	70	
	12	110	
	10	150	
8	8	220	.255

* with #12 wire well

Introduction/
Plug Solutions/
Brush Contact

LRM (Line Replaceable Modules)
Staggered / Hybrids - Fiber Optics/
GEN-X
Hi Speed / RF / Power
Options/
Accessories

Ruggedized
VME 64x/
VITA 60, 66

High Density
HDB3
HSB3
Hi Speed

Low Mating Force MIL-DTL-55302
Standard / Hybrids - Signal / Power /
Brush
Cook / Fiber Optics
Docking Conn./
Accessories / Install.

Rack & Panel
Brush
Ruggedized

LMD/LMS
Rectangular
Interconnects

Other
Rectangular
Interconnects

HOW TO ORDER LMD HOUSINGS

Housings are ordered separately from modules and contacts. Housings are available with 6 bays. Typical housing part number is shown as follows:

	1.	2.	3.	4.	5.	6.
1. Connector Type		Housing Material	Number of Modules	Connector Type	Coupling Mechanism	Alternate Keying
LMD	LMD	-0	6	P	J	3

2. Housing Material

0	designates standard black thermoplastic
F	designates white thermoplastic nylon material - consult Amphenol for availability

3. Number of Modules

6	cavities in plug or receptacle housing (available in 6 only)
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4. Connector Type

P	designates plug
R	designates receptacle

5. Coupling Mechanism

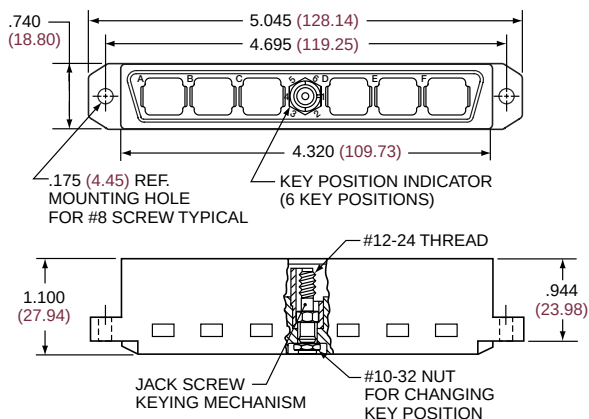
J	designates jack-socket, rotating
K	designates jack-screw, fixed
E	designates without coupling mechanism

6. Alternate Keying

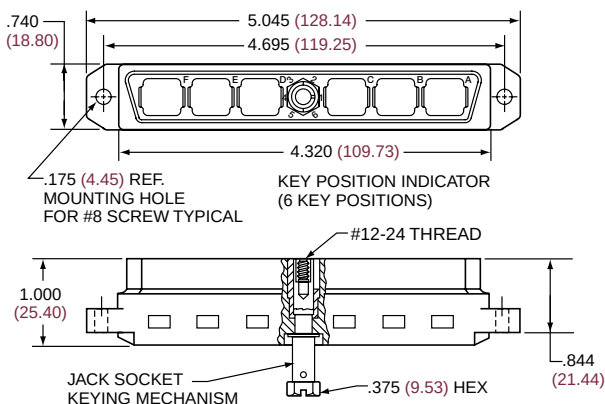
3	6 positions of keying post: 1, 2, 3, 4, 5 or 6
7	designates keying hardware shipped unassembled for field assembly
8	designates no alternate keying hardware. Keyed through housing only.

Ordering information on modules, contacts and strain reliefs is given on other pages of this LMD catalog section that follow.

RECEPTACLE HOUSING 6 BAY



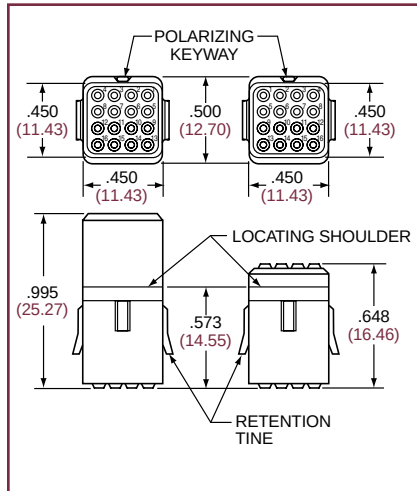
PLUG HOUSING 6 BAY



MODULE CONTACT ARRANGEMENTS

Modules and contacts for LMD connectors are sold separately from housings.

Modules with 16 Size 22 Contacts

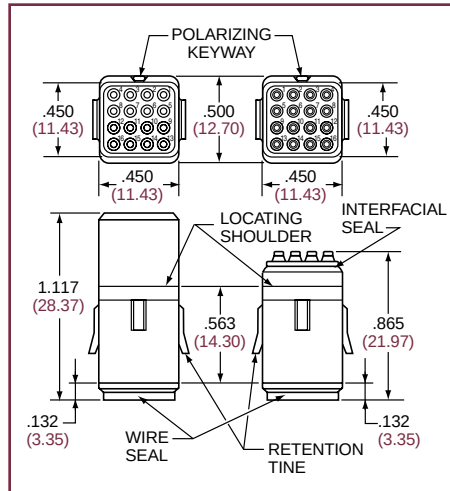


Socket Module

Part number:
LMD-3003-S

Pin Module

Part number:
LMD-3003-P



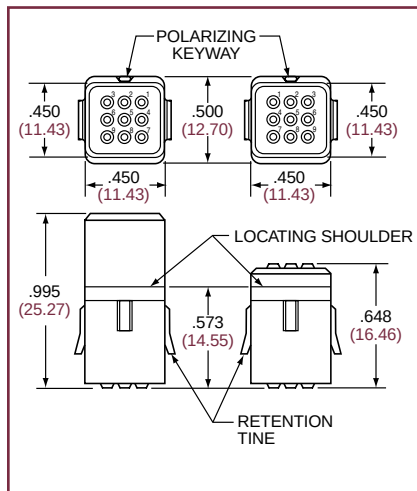
Sealed Socket Module

Part number:
LMD-4003-S

Sealed Pin Module

Part number:
LMD-4003-P

Modules with 9 Size 20 Contacts

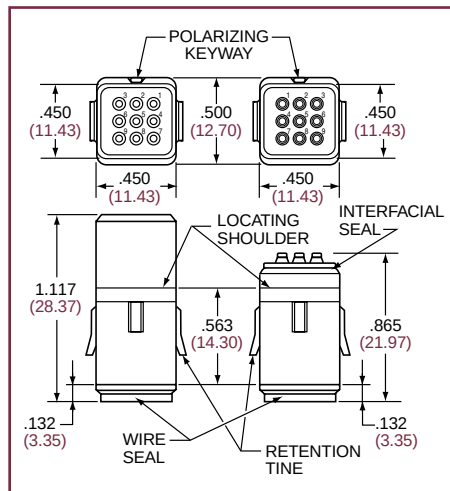


Socket Module

Part number:
LMD-3001-S

Pin Module

Part number:
LMD-3001-P



Sealed Socket Module

Part number:
LMD-4001-S

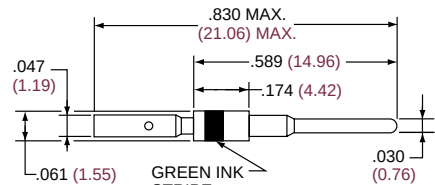
Sealed Pin Module

Part number:
LMD-4001-P

Module part numbers are for black thermoplastic material. Consult Amphenol Aerospace for availability of any other module materials.

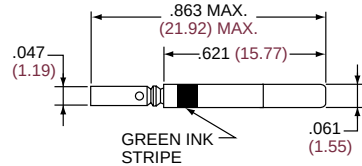
Pin Contact Size 22

Part number: LMD-4022-36LJ



Socket Contact Size 22

Part number: LMD-4122-96LD



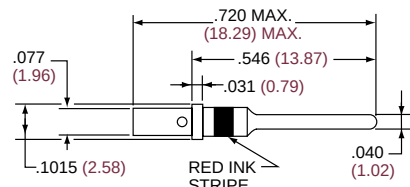
Contact Finish: Gold Plated

Pin Contact Size 20

Part number: LMD-4020-96LD

Thermocouple

Part Number: LMD-4020-10()*

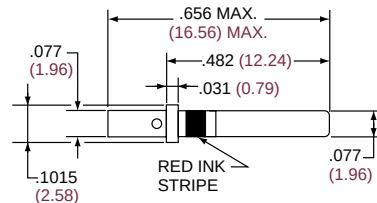


Socket Contact Size 20

Part number: LMD-4120-96LD

Thermocouple

Part Number: LMD-4120-10()*



Contact Finish: Gold Plated

*Complete thermocouple part number with code letter for desired contact material as follows:

P = Chromel
R = Alumel
N = Constantan
C = Copper

Introduction/
Pig. Solutions/
Brush Contact

LRM (Line Replaceable Modules)
Staggered / Hybrid - Fiber Optics/
GEN-X
Hi Speed / RF/Power
Options/
Accessories

Ruggedized
VME 64x/
VITA 60, 66

High Density
HDB3
HSB3
Hi Speed

Low Mating Force MIL-DTL-55302
Standard / Hybrid - Signal/Power/
Brush
Cook/Fiber Optics

Docking Conn./
Accessories/Install.

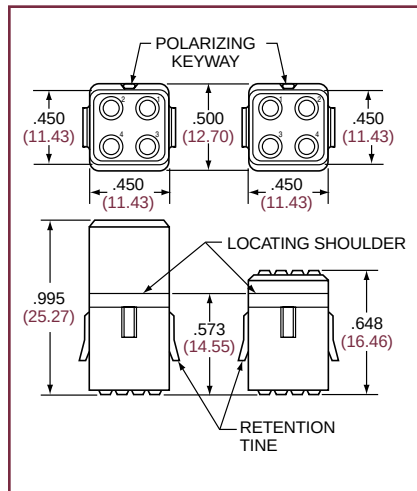
Rack & Panel
Brush
Ruggedized

LMD/LMS
Rectangular
Interconnects

Other
Rectangular
Interconnects

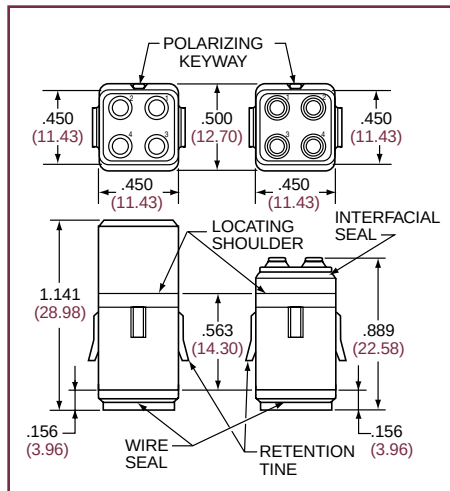
Modules and contacts for LMD connectors are sold separately from housings.

Modules with 4 Size 16 Contacts



Socket Module
Part number: LMD-3005-S

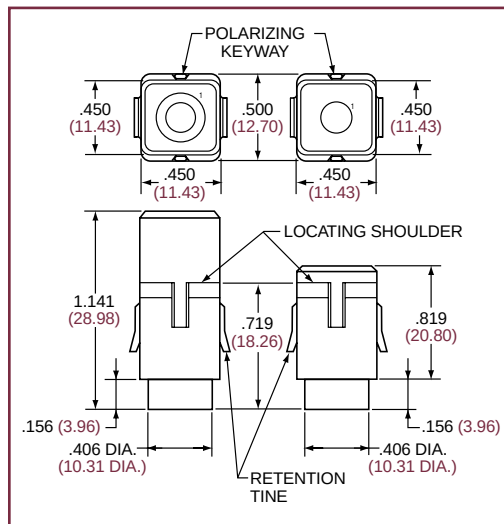
Pin Module
Part number: LMD-3005-P



Sealed Socket Module
Part number: LMD-4005-S

Sealed Pin Module
Part number: LMD-4005-P

Modules with 1 Size 8 Contacts



Socket Module
Part number: LMD-3004-S

Pin Module
Part number: LMD-3004-P

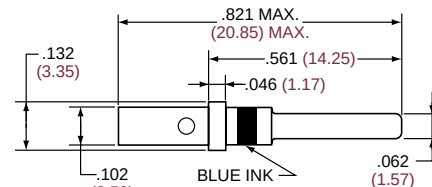
Module part numbers are for black thermoplastic material. Consult Amphenol Aerospace for availability of any other module materials.

Pin Contact Size 16

Part number: LMD-4016-96LD

Thermocouple

Part Number: LMD-4016-10()*

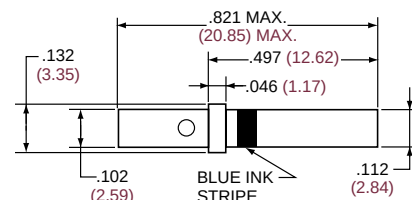


Socket Contact Size 16

Part number: LMD-4116-96LD

Thermocouple

Part Number: LMD-4116-10()*



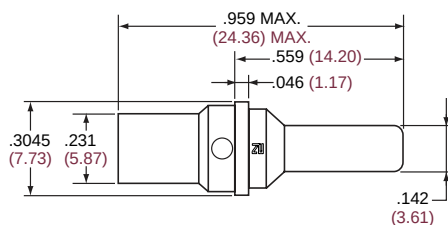
Contact Finish: Gold Plated

*Complete thermocouple part number with code letter for desired contact material as follows:

P = Chromel
R = Alumel
N = Constantan
C = Copper

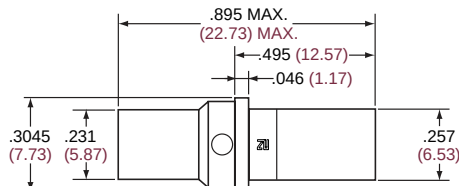
Pin Contact Size 8

Part number: LMD-4008-36L



Socket Contact Size 8

Part number: LMD-4108-36L



Contact Finish: Gold Plated