

# Amphenol **Commercial Class L**

## MIL-DTL-22992

PDS-235

The Amphenol Class "L" heavy duty connectors are now available in a **lower cost** commercial version. The Class L meets the demands for heavy duty & heavy power connectors that are critical for rugged environmental conditions.

### Design features of Amphenol Class L provide:

- **Greatest Capacity** - Current ranges 40 to 200 amps, conductor sizes 6 to 4/0.
- **Safety** - Complete protection of personnel and equipment if connectors are inadvertently disconnected under load.
- **Foolproof Mating** - Design incorporates voltage, current, frequency, phase and grounding requirements
- **Standardization** - MIL-DTL-22992 Class L insert arrangements specify connector/cable combinations for maximum reliability.
- **Serviceable Contacts** - Contacts are normally crimped to the cable before connector assembly. No insertion tools required. Bushings are available to adapt smaller diameter wires to larger contacts.
- **Arc Quenching Design** - Recessed socket contacts within the insert create an arc suppressing chamber which protects the user when connectors are separated under load.
- **Programmed Coupling Sequence** - Grounding and neutral contacts engage before power contacts.
- **Waterproof Design** - A unique combination of grommets and seals provides waterproofing in any condition - mated or unmated, capped or uncapped.
- **Rugged Construction** - Machined from high strength aluminum. Straight-line attachment of accessories eliminates possibility of cable twisting or misalignment.
- **Accessories** - Supplied with all Class L connectors as indicated on the individual connector descriptions. Replacement accessories may be ordered separately.

| Condition                                      | Configuration     | Description                                                                                                   | Reference                                   |
|------------------------------------------------|-------------------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------|
| Thermal Shock                                  | Unmated           | Five complete on hour temperature cycles of -55°C to +125°C                                                   | MIL-STD-1344, method 1003, test condition A |
| Moisture Resistance (Cable mounted connectors) | Mated             | Ten complete 24 hour cycles of +25°C to +65°C temperature at 90% to 98% humidity                              | MIL-STD-202, method 106                     |
| Durability                                     | Mated             | 500 complete mating/unmating cycles                                                                           | MIL-DTL-22992                               |
| Salt Spray (Corrosion)                         | Unmated           | 48 hour exposure to atomized 5% saline solution at +35°C                                                      | MIL-STD-1344, method 1001                   |
| Vibration                                      | Mated             | 10 to 55 Hz, .06 inch total excursion in 1 minute cycles for 6 hours, 55 to 2000 Hz, 10G peak amplitude sweep | MIL-STD-1344, method 2005                   |
| High Impact                                    | Mated             | Nine hammer blows from 1, 3 and 5 feet, three each in three axes on mounting panel                            | MIL-STD-202, method 207                     |
| Heat Rise (Class L only)                       | Mated             | Maximum rated DC current for four hours at +25°C in still air                                                 | MIL-DTL-22992                               |
| Fluid Immersion                                | Unmated           | 20 hours immersion in hydraulic fluid and lubricating oil                                                     | MIL-DTL-22992                               |
| Water Immersion                                | Mated and Unmated | 4 hours immersion at 1 atmosphere pressure differential                                                       | MIL-DTL-22992                               |

Wall Mount Receptacle  
(power source)



Straight Plug



Cable Connecting Receptacle  
without Coupling Ring



Wall Mount Plug with  
Coupling Ring  
(equipment end)



Contact Catalin Brandas for more information at [cbrandas@amphenol-aao.com](mailto:cbrandas@amphenol-aao.com) or call 607-563-5129

## Easy Steps to build a part number... Commercial Class L Series

1. 2. 3. 4. 5. 6. 7.

| Commercial Number | Shell Finish | Shell Size | Alternate Master Key/Keyway Position | Insert Arrangement | Contact Type | Alternate Insert Rotation |
|-------------------|--------------|------------|--------------------------------------|--------------------|--------------|---------------------------|
| CL90555*          | C            | 32         | 4                                    | 12                 | S            | Y                         |

## Step 1. Select a Commercial Number

|         | Designates                                                  |
|---------|-------------------------------------------------------------|
| CL90555 | Wall Mount Receptacle ( <i>Power Source</i> )               |
| CL90556 | Straight Plug                                               |
| CL90557 | Cable Connecting Receptacle without Coupling Ring           |
| CL90558 | Wall Mount Plug with Coupling Ring ( <i>Equipment End</i> ) |

## Step 2. Select a Shell Finish

|   | Designates                     |
|---|--------------------------------|
| C | Conductive for AC circuits     |
| N | Non-conductive for DC circuits |

## Grounding Assemblies: Finish C

| Shell Size | Current Rating Amps | Shell Master Key/Keyway Position |          |             |             |             |             |             |
|------------|---------------------|----------------------------------|----------|-------------|-------------|-------------|-------------|-------------|
|            |                     | 60Hz & 400 Hz                    |          |             |             |             |             |             |
|            |                     | 1 Phase                          |          |             | 3 Phase     |             |             |             |
|            |                     | 2 Wire                           |          | 3 Wire      | 3 Wire      | 4 Wire      |             |             |
|            |                     | 120 VAC                          | 240 VAC  | 120/240 VAC | 450/480 VAC | 120/208 VAC | 240/416 VAC | 277/480 VAC |
| 28         | 40                  | 4 (120°)                         | 5 (135°) | 4 (120°)    | —           | 4 (120°)    | 5 (135°)    | 6 (150°)    |
| 32         | 60                  | 4 (120°)                         | 5 (135°) | 4 (120°)    | —           | 4 (120°)    | 5 (135°)    | 6 (150°)    |
| 44         | 100                 | 4 (120°)                         | —        | 4 (120°)    | 1 (60°)     | 4 (120°)    | 5 (135°)    | 6 (150°)    |
| 52         | 200                 | —                                | —        | 4 (120°)    | —           | 4 (120°)    | 5 (135°)    | 6 (150°)    |

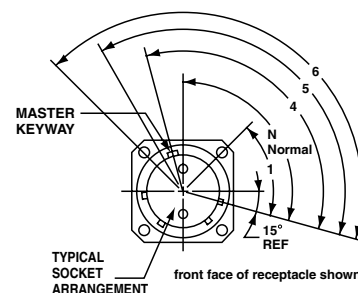
## Non-grounding Assemblies: Finish N

| Shell Size | Current Rating Amps | Shell Master Key/Keyway Position |
|------------|---------------------|----------------------------------|
|            |                     | DC                               |
|            |                     | 2 Wire                           |
|            |                     | 28 VDC                           |
| 28         | 40                  | N (105°)                         |
| 32         | 60                  | N (105°)                         |
| 44         | 100                 | N (105°)                         |
| 52         | 200                 | N (105°)                         |

## Step 3. Select a Shell Size - (related directly to current carrying capability)

|    | Designates Current Carrying Capability |
|----|----------------------------------------|
| 28 | 40 amperes                             |
| 32 | 60 amperes                             |
| 44 | 100 amperes                            |
| 52 | 200 amperes                            |

Step 4. Select an Alternate Master Key/Keyway Position if needed  
N designates normal position.  
Positions 1, 4, 5 and 6 of the master key/keyway prevent cross-mating of incompatible voltages.



Note that insert arrangement does not rotate with master key/keyway

Step 5. Select an Insert Arrangement  
Contact Amphenol or see catalog 12-C Edition 4 Circular Interconnects for available insert arrangements for Class L connectors. Insert arrangements are determined by connector size (current carrying capability) and cable configuration to be accommodated.

## Step 6. Select a Contact Type

|   | Designates      |
|---|-----------------|
| P | Pin Contacts    |
| S | Socket Contacts |

MS90555/CL90555 and MS90557/CL90557 are supplied with socket contacts only. MS90556 /CL90556 and MS90558/CL90558 are supplied with pin contacts only.

\*Commercial Numbers are supplied less protection caps and strain reliefs which can be added separately.

Step 7. Select an Alternate Insert Rotation if needed  
Used to prevent cross-mating of incompatible frequencies. Absence of a letter in this space indicates Normal (0°) position of the insert. See catalog 12-C Edition 4 Circular Interconnects refer to page 466.

Amphenol Federal Vendor Identification FSCM77820

Notice: Specifications are subject to change without notice. Contact your nearest Amphenol Corporation Sales Office for the latest specifications. All statements, information and data given herein are believed to be accurate and reliable but are presented without guarantee, warranty, or responsibility of any kind, expressed or implied. Statements or suggestions concerning possible use of our products are made without representation or warranty that any such use is free of patent infringement and are not recommendations to infringe any patent. The user should assume that all safety measures are indicated or that other measures may not be required. Specifications are typical and may not apply to all connectors.

**Amphenol**  
Aerospace

AMPHENOL is a registered trademark of Amphenol Corporation.

©2008 Amphenol Corporation Printed in U.S.A. 9/19/2008