

# COMMERCIAL CLASS L

## MIL-DTL-22992-STYLE

**Amphenol**  
Aerospace

PDS-235-3



### WALL MOUNT RECEPTACLE (POWER SOURCE)



### STRAIGHT PLUG



### CABLE CONNECTING RECEPTACLE WITHOUT COUPLING RING



### OVERVIEW

The Amphenol Class “L” heavy duty connectors are now available in a commercial version with new finishes. 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 CONNECTORS:

- **New Finish (Alternate to Cadmium) - Durmalon is RoHS compliant and provides protection against 500 hours dynamic salt spray.**
- **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 un-mated, capped or uncapped.
- **Rugged Construction** - Machined from high strength aluminum. Straight-line attachment of accessories eliminates possibility of cable twisting or misalignment. Never Die-cast.
- **Accessories** - Supplied with all Class L connectors as indicated on the individual connector descriptions. Replacement accessories may be ordered separately. Caps purchased separately.

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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 500 hours for Durmalon plating	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



### DURMALON FINISH

#### DURMALON™ - AMPHENOL'S ANSWER TO EU RoHS/ELV/CADMIUM FREE RESTRICTIONS

Commercial, industrial & military markets are rapidly moving away from restricted materials such as Cadmium (Cd) & Hexavalent Chromium (Cr(VI)). Both of these restricted materials are toxic and known carcinogens. Durmalon, like Olive-Drab Cadmium plating (Class W), meets 500 hours of dynamic salt spray, combined with 500 mating cycles and meets specified millivolt drop shell-to-shell conductivity. Durmalon has been proven to meet this requirement as well as Potassium Formate-Deicer fluid testing performed by Boeing.

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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
<b>CL90555</b>	<b>C</b>	<b>32</b>	<b>X</b>	<b>13</b>	<b>S</b>	<b>Y</b>

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

### 1. SELECT A COMMERCIAL NUMBER

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

### 2. SELECT A SHELL FINISH\*

<b>C</b>	**Conductive for AC circuits
<b>N</b>	***Non-conductive for DC circuits
<b>D</b>	Durmalon: Nickel PTFE 500 hrs. salt spray

\*Contact Amphenol for Black Zinc Nickel Availability

\*\*Grounding Assemblies: Finish C

\*\*\*Non-grounding Assemblies: Finish N

Shell Master Key/Keyway Position								
60Hz & 400 Hz								
Shell Size	Current Rating Amps	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°)

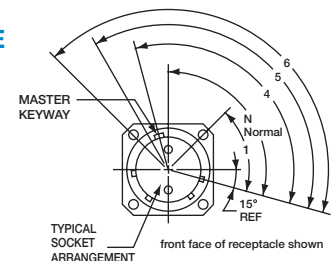
Shell Master Key/Keyway Position		
Shell Size	Current Rating Amps	DC
		2 Wire 28 VDC
28	40	N (105°)
32	60	N (105°)
44	100	N (105°)
52	200	N (105°)

### 3. SELECT A SHELL SIZE (RELATED DIRECTLY TO CURRENT CARRYING CAPABILITY)

<b>28</b>	40 amperes
<b>32</b>	60 amperes
<b>44</b>	100 amperes
<b>52</b>	200 amperes

### 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

### 5. SELECT AN INSERT ARRANGEMENT

Contact Amphenol or visit [www.amphenol-aerospace.com](http://www.amphenol-aerospace.com) for available insert arrangements for Class L connectors. Insert arrangements are determined by connector size (current carrying capability) and cable configuration to be accommodated.

### 6. SELECT A CONTACT TYPE

<b>P</b>	Pin Contacts
<b>S</b>	Socket Contacts

CL90555 and CL90557 are supplied with socket contacts only. CL90556 and CL90558 are supplied with pin contacts only.

### 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.

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