

Gemini Series

Mil-Dtl-38999 RJ-45 Cat-5E
Dongle, 10/100/1000Base-T
Applications, Receptacle

Single Port, Dongle

FEATURES

- Compliant with IEEE-802.3:2005 Gigabit Ethernet
- Copper cable link distances up to 100 Meters (TIA Cat-5E)
- Operating temperature range from -40°C to +85°C
- Shock, vibration and immersion resistant
- Olive drab cadmium over nickel plated shell meets stringent EMI / RFI performance specifications
- Aluminum alloy Mil-Dtl-38999 housings are strong, durable, corrosion resistant and light weight
- RJ-45 Jack with metal shell for full shielding
- Intermountable with optoelectronic Gemini Dongles

APPLICATIONS

Gemini series optical RJ-45 dongles enable high speed network communications over long distances in harsh environments.

- 10/100/1000Base-T Ethernet switches and peripherals
- Telecom and datacom switch / router rack-to-rack links
- Storage or computation clusters

The Mil-Dtl-38999, Series III shells provide sealed optical interfaces that are water-tight to Mil-Std-810 / IP67 / NEMA-4x when mated.

The RJ-45 interface supports applications where interconnections to standard Ethernet switch or peripheral hardware are required with intermountable optoelectronic options from other Gemini product options.



RJ-45 Interface for 10/100/1000Base-T Ethernet Applications

DESCRIPTION

Gemini series RJ-45 dongles consist of metal shell RJ-45 connectors integrated into a dongle mounted Mil-Dtl-38999, Series III receptacle connector. The electrical interface to the Gemini series RJ-45 dongles is a Mil-Dtl-38999 plug connector with Size 22 electrical contacts offering an extremely robust way to connect to an electronics chassis in harsh environments.

Gemini series RJ-45 dongles are vibration isolated, environmentally hardened components designed for use in harsh environment applications.

- Sealed against liquid and solid contaminants
- Shock and vibration resistant

ORDERING INFORMATION

| Application | Product Number |
|---------------------------|----------------|
| 10/100/1000Base-T / RJ-45 | G38R-2J1T-FW |

Single Port Gemini Series Mil-Dtl-38999 RJ-45 Dongle,
10/100/1000Base-T Applications

ABSOLUTE MAXIMUM RATINGS

Absolute maximum limits mean that no catastrophic damage will occur if the product is subjected to these ratings for short periods, provided each limiting parameter is in isolation and all other parameters have values within the performance specification. It should not be assumed that limiting values of more than one parameter can be applied to the product at the same time.

| Parameter | Symbol | Minimum | Typical | Maximum | Unit |
|---------------------|--------|---------|---------|---------|------|
| Storage Temperature | T_s | -55 | | +100 | °C |

RECOMMENDED OPERATING CONDITIONS

| Parameter | Symbol | Minimum | Typical | Maximum | Unit |
|-----------------------|--------|---------|---------|---------|------|
| Operating Temperature | T_A | -40 | | +85 | °C |

SPECIFICATIONS COMPLIANCE

| Requirement | Feature | Condition | Notes |
|---------------|-------------------|-------------|---------------|
| MIL-STD-883 | ESD | Class II | 2200V |
| MIL-STD-810 | Vibration | 10.0g | 18mS |
| MIL-STD-810 | Shock | 20.0g | 6-9mS |
| MIL-STD-810 | Immersion | 1.0 meter | 2 .0Hours |
| MIL-STD-1344 | Flame Resistance | Method 1012 | 30 Seconds |
| MIL-STD-1344 | Damp Heat | 10 Cycles | 24 Hours |
| MIL-STD-38999 | Mating Durability | 500 Cycles | <0.5dB Change |
| MIL-STD 810 | Salt Fog | 7 Days | 5 wt. % |

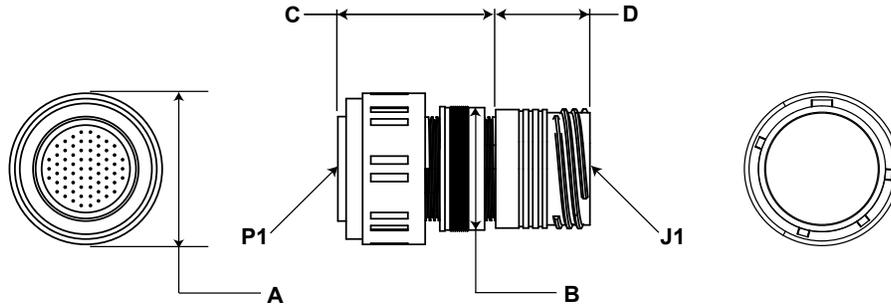
MATERIALS

| Item | Detail | Notes |
|------------------|--------------------------------|--------------------|
| Shell | Aluminum Alloy | |
| Shell Plating | Olive Drab Cadmium over Nickel | QQ-P-416, QQ-N-290 |
| Insert | Thermoplastic | |
| Interfacial Seal | Elastomer | |
| RJ-45 Shell | Steel Alloy, Nickel Plating | |
| Printed Circuits | Polyimide / FR-4 | Mil-P-31032 Type 4 |

Single Port Gemini Series Mil-Dtl-38999 RJ-45 Dongle,
10/100/1000Base-T Applications

OUTLINE DRAWING

Dimensions are shown as: inches (mm)



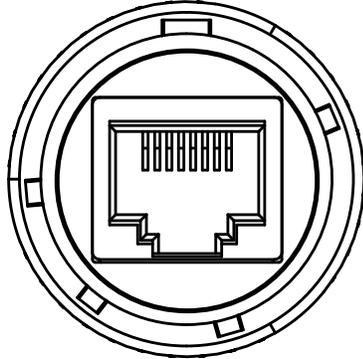
Outline Dimensions

| Shell Size Code | Shell Size | J1 | P1 | A | B | C | D |
|-----------------|------------|-------------------------------------|-------------------|----------------|----------------|----------------|----------------|
| F | 19 | D38999 / 20WF11SN - W / O Flange | D38999 / 26WF35PN | 1.52 (38.5) | 1.23 (31.2) | 1.54 (39.1) | 0.92 (23.4) |

Single Port Gemini Series Mil-Dtl-38999 RJ-45 Dongle,
10/100/1000Base-T Applications

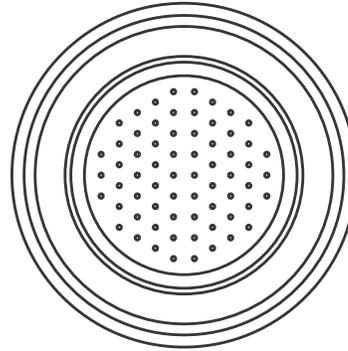
OPTICAL TRANSCEIVER INSERT ARRANGEMENT

TOP
Optical Interface



Front face of the RJ-45 Dongle
insert shown

TOP
Electrical Interface



Back face of the RJ-45
dongle insert shown

GEMINI RJ-45 DONGLE PIN ASSIGNMENTS

| RJ-45 Pin # | D38999 / 26WF35PN Pin Number |
|-------------|------------------------------|
| 1 | 4 |
| 2 | 10 |
| 3 | 9 |
| 4 | 58 |
| 5 | 51 |
| 6 | 15 |
| 7 | 56 |
| 8 | 63 |

All other D38999 Pins are GND

Single Port Gemini Series Mil-Dtl-38999 RJ-45 Dongle,
10/100/1000Base-T Applications

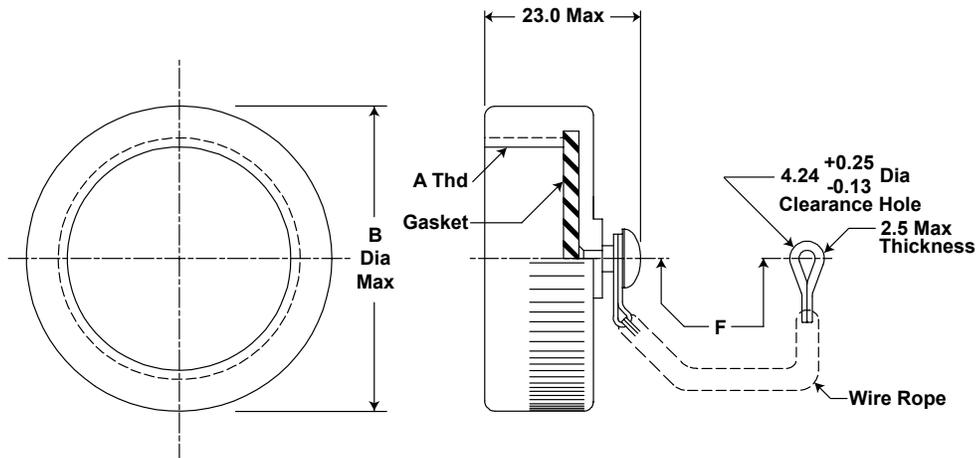
APPENDIX A1

RECEPTACLE PROTECTION CAPS

*MIL-DTL-38999/33 PROTECTION CAP PART NUMBERS

MS RECEPTACLE CAP P/N

*D38999/33W19R



*See DSCC or SAE QPL for Approved Suppliers
<http://www.dscclia.mil/programs/qmlqpl/QPLdetail.asp?QPL=38999>

MIL-DTL-38999/33 Outline Dimensions - mm

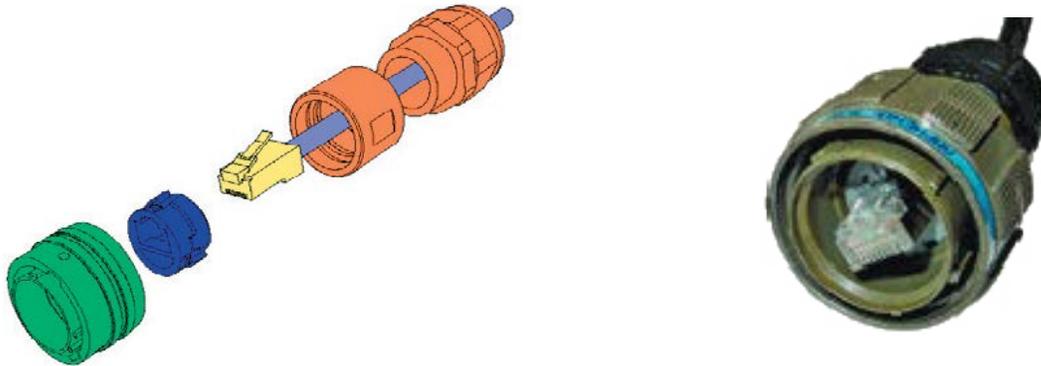
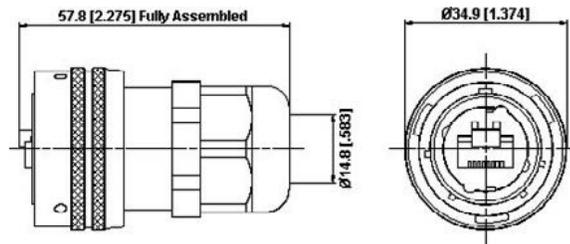
| Shell Size Code | Shell Size | A Thread (inches) | B Max Dia | F |
|-----------------|------------|---------------------|-----------|---------------|
| F | 19 | 1.2500-0.1P-0.3L-TS | 39.0 | +13.0 -7.0 |

Single Port Gemini Series Mil-Dtl-38999 RJ-45 Dongle,
10/100/1000Base-T Applications

APPENDIX A2

Amphenol RJ Field® RJ-45 Cable Plug

Dimensions are shown as: mm



Amphenol RJ Field® Cable Plug Part Number: RJFTV22G
Please contact your local Amphenol sales representative for more
information about the RJ-Field®



192 Bob Fitz Road, Johnson City, TN 37615
salesmp@moog.com
moogprotokraft.com