# Amphenol PT/PT-SE MIL-DTL-26482 Series I

## MATES WITH ITT CANNON AND SOURIAU MIL-DTL-26482

The Amphenol MIL-DTL-26482 Series I PT/PT-SE offers high-density contact arrangements in a circular shell. PT offers solder contacts, PT-SE offers high-performance crimp contacts, and PT-CE offers a commercial crimp option. These circular connectors provide quick-disconnect bayonet coupling for rapid mating and unmating, and several mounting styles and shell sizes.

- Intermateable, intermountable and interchangeable with all MIL-DTL-26482 connectors

## APPLICATIONS

- Power generators
- Engines
- Sensors
- Motion control
- Off-road vehicles
- Earth-moving equipment
- Ships
- Mobile equipment
- Industrial machinery
- Telecommunications
- Traffic control

## FEATURES

### RUGGED SHELL

Aluminum alloy shell and hardware create a rugged connector with minimal weight. These connectors have been used extensively in commercial, military, and aerospace environments. Standard shells accept all MIL-DTL-26482 accessories.

### ENVIRONMENTALLY-SEALED

Complete moisture sealing is achieved by combining four seals: shell, peripheral, interfacial, and wire. Wire seal is accomplished by multiple ripple design, exceeding the wire sealing requirements of MIL-DTL-26482.

### RESISTANT TO MILITARY ENVIRONMENTS

These connectors will operate in temperatures from -67°F to +257°F (-55°C to +125°C) under the harshest possible conditions.

### WIDE RANGE OF WIRE GAUGES AND CURRENT-CARRYING CAPACITY

Up to 23 amps with wire gauges from 24 to 12 AWG wire.

### RESILIENT INSULATOR & GROMMET

A resilient neoprene insulator and integrated rear wire sealing grommet guarantees a liquid-tight assembly. Crimp contacts that can be inserted from the rear of the connector are available. Solder contacts are permanently bonded into the insulator.

### SOLDER OR CRIMP GOLD-PLATED CONTACTS

PT connector contacts are gold-plated per MIL-G-45204 type II. PT-CE commercial crimp contacts are not military-approved, but the PT-SE crimp contacts are built in accordance to MIL-C-39029. Both types of contacts are crimped with the standard M22520/1 crimp tool. Socket contacts are closed to eliminate damage from test probes and to help prevent misaligned pins during engagement. Contact insertion is from the rear of the connector. When the contact is fully inserted, it snaps securely into retention tines embedded in the insulator. Contact extraction is accomplished from the front with the proper extraction tool. Pressing the tool plunger pushes the contact out through the rear of the connector.

### AGENCY APPROVALS

- MIL-DTL-26482
- UL#E115497, for solder contacts only

TECHNICAL SPECIFICATIONS

## MATERIALS & FINISHES

| | |
|---|---|
| Shell | Aluminum alloy |
| Plating | Anodic coating (alumilite), olive drab chromate over cadmium over nickel, electroless nickel, olive drab zinc, non-conductive black zinc, conductive black zinc and gray zinc nickel |
| Contacts | Copper alloy |
| Platings | Gold-plated, 50 microinches minimum per MIL-G-45204 type II. |
| Insulator | Resilient neoprene. PT-SE and PT-CE insulators encase a tough plastic wafer with contact retention tines for high-reliability retention of crimp contacts. |

## ELECTRICAL DATA

Operating Voltage & Test Voltage

| SERVICE RATING* | TEST ALTITUDE | MAXIMUM OPERATING VOLTAGE | | TEST VOLTAGE | |
|---|---|---|---|---|---|
| | | DC | AC (RMS) | DC | AC (RMS) |
| 1 | Sea Level | 850 | 600 | 2,100 | 1,500 |
| 2 | | 1,400 | 1,000 | 3,200 | 2,300 |
| 1 | 70,000 feet | 400 | 300 | 535 | 375 |
| 2 | | 600 | 450 | 700 | 500 |

*Each insulator layout has a specific "service rating." The service ratings for each layout are listed on ⇨pages 127, 129-131.

Current Rating

| CONTACT SIZE | RATED CURRENT AMPS (MAX.) | TEST CURRENT AMPS (WORKING) | POTENTIAL DROP (MILLIVOLTS) INITIAL |
|---|---|---|---|
| 20 | 13 | 7.5 | < 55 |
| 16 | 22 | 13 | < 50 |
| 12 | 41 | 23 | < 42 |

| | |
|---|---|
| Wire Range Sizes | 24 to 12 AWG (and coax) |
| Contact Resistance | When tested to MIL-STD-1344 Method 3004, will not exceed voltage drops listed in table. Consult MIL-DTL-26482, 3.6.4 for details. |
| Insulation Resistance | 5,000 megohms minimum at 77˚F (25˚C) |

## MECHANICAL

| | |
|---|---|
| Operating Temperature | -67˚F to +257˚F (-55˚C to +125˚C) |
| Sealing | 48 hours in 6 feet of water per MIL-DTL-26482 4.6.14. Meets 10- and 20-day 50-95% humidity testing per MIL-STD-1344 Method 1002.2 per MIL-DTL-26482. |
| Wire Sealing Range: | Per MIL-DTL-26482 1.4 |

| CONTACT SIZE | AWG WIRE SIZE | INSULATION OUTSIDE DIAMETER LIMITS: INCHES (MM) | | |
|---|---|---|---|---|
| | | MIN. (PT) | MIN. (PT-SE/PT-CE) | MAX. (PT/PT-SE/PT-CE) |
| 20 | 24, 22, and 20 | .047 (1.19) | .047 (1.19) | .083 (2.11) |
| 16 | 20, 18, and 16 | .066 (1.68) | .066 (1.68) | .109 (2.77) |
| 12 | 12 and 14 | .097 (2.46) | .097 (2.46) | .142 (3.61) |

## MECHANICAL

Insulation Strip Lengths

| CONTACT SIZE | WIRE SIZE (AWG) | STRIP LENGTH INCHES (MM) |
|---|---|---|
| 20 | 20-24 | .275 (7.0) |
| 16 | 16-20 | .250 (6.4) |
| 12 | 12-14 | .250 (6.4) |

| | |
|---|---|
| Mating Life | 500 cycles minimum per MIL-DTL-26482 3.6.17 |
| Salt Spray | Unmated connectors and protective covers meet 48-hour exposure to MIL-STD-1344 Method 1001 per MIL-DTL-26482. (Cadmium plating) Olive drab/black zinc, electroless nickel meets 48-hour salt spray test, gray zinc nickel meets 500-hour salt spray test. |
| Heat | +221°F (+105°C) for 1,000 hours per MIL-DTL-26482 |
| Chemical Resistance | 20-hour full-immersion unmated in hydraulic fluid and lubricating oil per MIL-DTL-26482. |
| Vibration | 10 to 2,000Hz (15g's) 10 microseconds maximum discontinuity. To MIL-STD-1344 Method 2005 per MIL-DTL-26482. |
| Shock | 50g's, 11ms duration, three major axes. 10 microseconds maximum discontinuity. To MIL-STD-1344 Method 2004 per MIL-DTL-26482. |
| Contact Type | Solder, crimp, printed circuit, thermocouple, coax |
| Number of Circuits | PT: 1 to 61; PT-SE & PT-CE: 2 to 61 |
| Contact Insertion (Crimp) | Insertion from the rear of connector with simple hand-tool. Front release with appropriate extraction tool. |
| Contact Retention | To MIL-STD-1344 Method 2007 per MIL-DTL-26482. |

| CONTACT SIZE | AXIAL LOAD MIN. LBS (NEWTONS) |
|---|---|
| 20 | 15 (66.7) |
| 12 and 16 | 25 (111.2) |

| | |
|---|---|
| Polarization | Five keyway, three-point bayonet with optional rotational polarization. ➪ See pages 127, 129. |
| Approvals | • MIL-DTL-26482H • UL#E115497 (PT solder only) |

## EXCERPT FROM MIL-DTL-26482H

3.7.4 JAN and J marking. The United States Government has adopted and is exercising legitimate control over the certification marks "JAN" and "J", respectively, to indicate that items so marked or identified are manufactured to, and meet all the requirements of specifications. Accordingly, items acquired to, and meeting all of the criteria specified herein and in applicable specifications shall bear the certification mark "JAN" except that items too small to bear the certification mark "JAN" shall bear the letter "J". The "JAN" or "J" shall be placed immediately before the PIN except that if such location would place a hardship on the manufacturer in connection with such marking, the "JAN" or "J" may be located on the first line above or below the PIN. Items furnished under contracts or orders which either permit or require deviation from the conditions or requirements specified herein or in applicable specifications shall not bear "JAN" or "J". In the event an item fails to meet the requirements of this specification and the applicable specification sheets, the manufacturer shall remove completely the military PIN and the "JAN" or the "J" from the sample tested and also from all items represented by the sample. The "JAN" or "J" certification mark shall not be used on products acquired to contractor drawings or specification. The United States Government has obtained Certificate of Registration Number 504,860 for the certification mark "JAN" and Registration Number 1,586,261 for the certification mark "J".

PIN = Part Identification Number

## COMPONENTS

| | PLUGS | | RECEPTACLES | |
|---|---|---|---|---|
| | PT | PTSE | PT | PTSE |
| O-Ring | | |  |  |
| Barrel/Shell |  |  |  |  |
| Wave Spring |  |  | | |
| Coupling Nut |  |  | | |
| Insert/Insulator |  |  |  |  |
| Contacts |  |  |  |  |
| Wire Sealing Grommet |  | | | |
| Ferrule/ Compression Ring |  |  | |  |
| Endbell/ Cable Clamp |  |  | |  |