PT Series

The Amphenol Miniature Cylindrical Connector Series offers high density contact arrangements in a miniature, circular metal shell. The connector is environmentally sealed and comes in three versions: a solder contact version (PT), a high performance crimp contact version (PT-SE) and a commercial crimp version (PT-CE). The three styles are intermateable, intermountable, and interchangeable with all MIL-DTL-26482 connectors, whether solder or crimp style is used. Both styles use a quick disconnect bayonet coupling for rapid positive mating and unmating of the connector. Both the PT and PT-SE types meet all requirements of MIL-DTL-26482.

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 size 24 up to size 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 metal 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 cobalt, non-conductive black zinc, conductive black zinc
Contacts	Copper alloy
Platings	Gold plate, 50 microinches minimum per MIL-G-45204 Type II.
Insulator	Resilient Neoprene. PT-SE and PT-CE insulators also encase a tough plastic wafer which contains contact retention tines for high reliability retention of crimp contacts.

ELECTRICAL DATA

Operating Voltage & Test Voltage:

		MAXIMUM OPERATING VOLTAGE		TEST VOLTAGE	
SERVICE RATING*	TEST ALTITUDE	DC	AC (RMS)	DC	AC (RMS)
1	Sea Level	850	600	2,100	1,500
2		1,275	1,000	3,200	2,300
1	70,000 feet	-	300	535	375
2		-	450	770	500

*Each insulator layout has a specific "Service Rating". The Service Ratings for each layout are listed on pages 119, 121-123.

Current Rating:

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

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 to 95% humidity testing per MIL-STD-1344 Method 1002.2 per MIL-DTL-26482.

Wire Sealing Range:

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	.060 (1.52)	.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)	.149 (3.78)

Technical Specifications

Insulation Strip Lengths:

CONTACT SIZE	WIRE SIZE (AWG)	STRIP LENGTH INCHES (mm)
20	20-24	.375 (9.5)
16	16-20	.250 (6.35)
12	12-14	.232 (5.9)

Mating Life	500 cycles minimum
Salt Spray	Unmated connectors and protective covers meet 48-hour exposure to MIL-STD-1344 Method 1001 per MIL-DTL-26482. (Cadmium Plating)
Heat	+347˚F (+175˚C) for 1,000 hours to MIL-STD-1344 Method 1005.1 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. NEWTONS (LBS)
20	66.7 (15)
12 and 16	111.2 (25)

Polarization	Five keyway, three point bayonet with optional rotational polarization. See pages 119,121.
Approvals	▪ MIL-DTL-26482 ▪ UL#E115497 (PT solder only)

Exerpt 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