

The Hi/Mate™ Series are miniature insertable/removeable high voltage contact assemblies for use in MIL-C-38999 Series I, III and IV off-the-shelf connectors having a 12 gauge, rear release, contact retention cavity.

Hi/Mate™
The MIL-C-38999 compatible high voltage interface

Hi/Mate™ expands the capability of MIL-C-38999 Series I, III and IV connectors, by adapting them to carry 13.5 kVDC from sea level to airborne applications up to 70,000 feet altitude over a temperature range of -55° to 125°C.

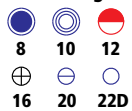
Hi/Mate™ contact assemblies are insertable into four standard shell sizes and eight insert arrangements in accordance with MIL-STD-1560. These contact assemblies are, in actuality, independent high voltage connectors, and do not rely upon the dielectric properties of the MIL-C-38999 insert. This fact makes the Hi/Mate™ ideally suited to be combined in inserts with fiber optic, co-axial or low voltage pins. The insert is merely a holder for the Hi/Mate™ contact and Advanced Interface Seal™.

The Advanced Interface Seal™ was patented by Teledyne Reynolds and has been highly successful in numerous connectors designed for use in the harshest of environments from sea level to Deep Space.

INSERT ARRANGEMENTS

Any 12 gauge cavity in the insert arrangements shown below, can be converted to a 13.5 kVDC high voltage circuit without modification to the insert, by installing a Hi/Mate™ contact assembly in the appropriate pin and socket combination. Insert arrangements are in accordance with MIL-STD-1560. 12 gauge cavities are identified in the Contact Legend.

Contact Legend

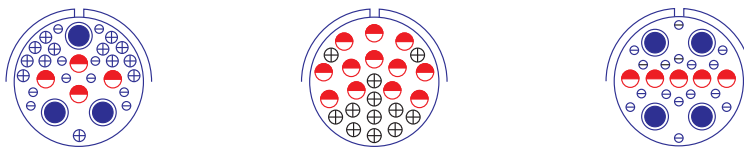


Front face of pin inserts illustrated



| Insert Arrangement | 17-6 | 21-11 | 23-54 | 25-19 |
|--------------------|------|-------|-----------|-------|
| Service Rating | I | I | M | I |
| Number of Contacts | 6 | 11 | 40 | 19 |
| Contact Size | 12 | 12 | 22D 16 12 | 12 |

Front face of pin inserts illustrated

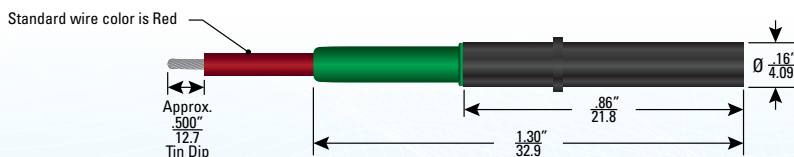


Note:
Custom inserts are available for high voltage, low voltage, fiber optic and coaxial pins, as well as combinations of these pins

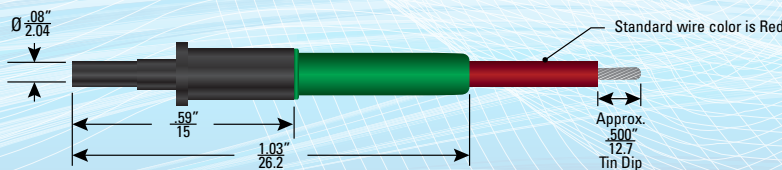
| Insert Arrangement | 25-20 | 25-24 | 25-26 |
|--------------------|------------------------|-------|--------------|
| Service Rating | N | I | I |
| Number of Contacts | 10 13 3 4 | 12 12 | 16 5 4 |
| Contact Size | 20 16 8 Twinax 12 Coax | 16 12 | 20 12 8 Coax |

PLUG AND RECEPTACLE CONTACT ASSEMBLY DIMENSIONS

Receptacle Contact Assembly



Plug Contact Assembly



PLUG CONTACT ASSEMBLIES

Single-Ended
178-5237

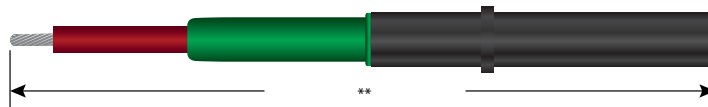


Double-Ended
178-5240



RECEPTACLE CONTACT ASSEMBLIES

Single-Ended
178-5238



Double-Ended
178-5241



PLUG - RECEPTACLE CONTACT ASSEMBLY

Double-Ended
178-5239



SERIES SPECIFICATIONS

(* = Same value as above)

| Series | Voltage Rating (kVDC) | Altitude Rating (ft) | Operating Temp. (°C) | Current Rating (Amp) | Receptacle Insulator Material | Plug Insulator Material | Coupling Style | Coupling Nut Material/Finish | Plug Contact Material/Finish (Socket) | Recept. Contact Material/Finish (Pin) | Wire Type | Wire Insulation | Braid Termination | Test Voltage @ 70,000 ft (kVDC) | Test Voltage @ Sea Level (kVDC) |
|----------|-----------------------|----------------------|----------------------|----------------------|-------------------------------|-------------------------|----------------|------------------------------|---------------------------------------|---------------------------------------|--------------|-----------------|-------------------|---------------------------------|---------------------------------|
| Hi/Mate™ | 13.5 | 70,000 | -55 to 125 | 2.1 | Plastic | Plastic | MIL-DTL-38999 | MIL-DTL-38999 | BeCu/Au | Brass/Au | Non-shielded | FEP | N/A | 18 | NA |

WIRE SPECIFICATIONS

| Part # | Operating Voltage (kVDC) | Conductor | | | Insulation | | Shielding | | | Jacket | | Impedance Ω | Attenuation dB/100 ft @ 400 MHz | Capacitance pF/ft (Nom.) @ 1 kHz |
|----------|--------------------------|-----------|---------|---------|---------------------|-------------|-----------|---------|----------|----------|----------|-------------|---------------------------------|----------------------------------|
| | | AWG | Strands | Plating | Material | σ in./mm | AWG | Plating | σ in./mm | Material | σ in./mm | | | |
| 178-8410 | 18 | 24 | 19/36 | SPC | Silicone Coated FEP | .058 / 1.48 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

**Cable Assembly Ordering Information: All cable assembly cable lengths are to be specified in inches only. For example, to order part number 178-6027 with a cable length of 10 feet 8 inches the cable assembly part number would be specified as 178-6027-128N.

• **Note:** Product numbers and specs subject to change without notice. • Products listed represent only a small selection of Teledyne Reynolds' products please visit www.teledynereynolds.com for the most up to date product information. • Contact Teledyne Reynolds' Engineering to discuss custom designs. **WARNING: Connectors should NEVER be handled mated or unmated when voltage is applied.**