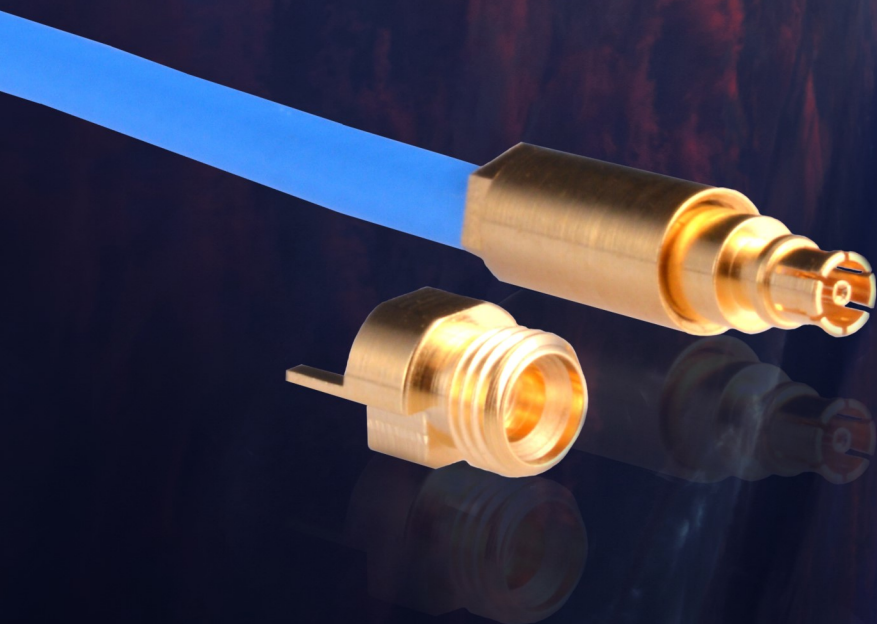




# SMPM-T





## SMPM-T Design Features

Delta's SMPM-T connectors are the perfect choice for applications requiring high frequencies in demanding environments involving vibration or temperature extremes. They have a threaded retractable nut, combined with SMPM Mil-STD-348 female interface giving these connectors superior mechanical and electrical capabilities. Our SMPM-T connectors have unparalleled mechanical and electrical ability to maintain 65 GHz through severe environmental conditions. Centerline-to-centerline spacing as low as 5mm (0.20 in) is achievable, and Delta's unique tooling options allow for simple mating and unmating of the threaded interface.

Delta's SMPM-T connectors are available for use with Semi Rigid, Conformable and Flexible .047 and .086 cable termination options. The connectors & cable assemblies are both RoHS & REACH compliant. SMPM-T's are compatible with MIL-STD-348, Fig. 328-1 & 328-2 and are the smallest threaded interface available, meeting that standard.



**Aerospace**



**Aviation**



**Communications**



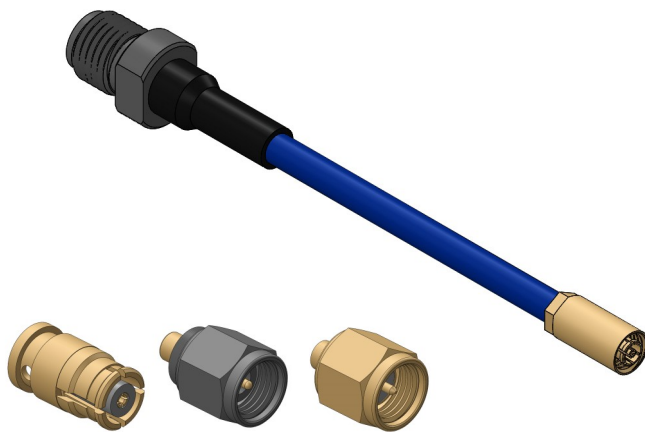
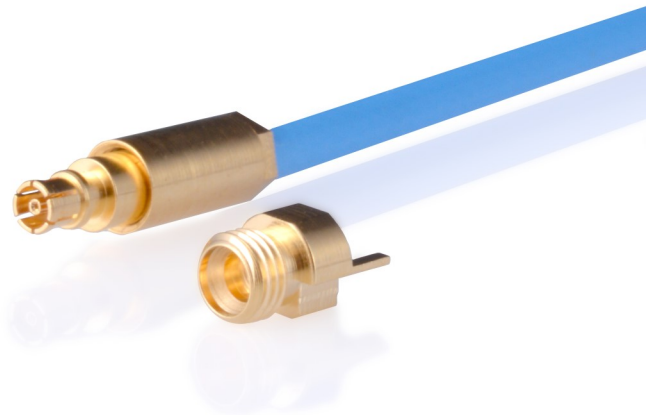
**Radar**

## SMPM-T Cable Assembly Options

SMPM-T's are designed to be terminated to semi-rigid, conformable and flexible .047 and .086 cable types. The interface selected on the opposing end of the assembly will determine the frequency range the assemblies will be rated. The maximum rating is 65 GHz, when matched with another SMPM-T or SMPM. Typical connectors that could be matched to the cable assembly opposing side, include SMA, SMP, SMK {2.92}, etc....

The SMPM-T is compatible with Delta's industry MIL-STD-348 SMPM male receptacles, which includes Corning Gilbert's GPPO®.

**Delta's .047 and .086 SMPM-T cable assemblies perform through 65 GHz, with the added benefit of the threaded coupling.**



### Features & Benefits

If the .047 *flexible* cable option is selected, additional gains will be accomplished. They are:


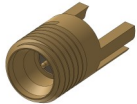
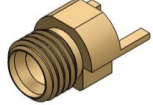
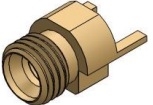
- Guaranteed 15 lbs. minimum pull force
- Minimum bend radius of 1.52mm (0.06 inch)
- 35% lower insertion loss than .047 inch semi-rigid cable
- Eliminates the need for costly right angled connectors
- Triple shielded for high isolation benefit
- Direct replacement for .047 inch semi-rigid cables

The SMPM-T cable assembly opposing end may be matched and terminated, utilizing numerous standard coaxial interfaces: SMA, SMP, SMPM, SMPM-T, SMK (2.92), etc...



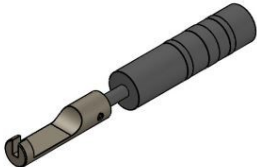


## SMPM-T Connectors

### PCB Edge Mount Male Connectors

| Part Number     | Interface                     | Contact Length (L) | Image  |
|-----------------|-------------------------------|--------------------|--|
| 8867000G91N-001 | Smooth Bore With Post Contact | .066 in (1.676 mm) |   |
| 8867000G91N-004 | Full Detent With Post Contact | .066 in (1.676 mm) |   |
| 8867000G91N-002 | Smooth Bore With Post Contact | .035 in (0.889 mm) |   |
| 8867000G91N-003 | Full Detent With Post Contact | .035 in (0.889 mm) |  |

### Straight Vertical Launch PCB Mount Male Connectors

| Part Number     | Interface                                 | Image   |
|-----------------|---|---|
| 8868000G91P-086 | Smooth Bore With Right Angle Post Contact |  |
| 8868000G91P-106 | Full Detent With Right Angle Post Contact |  |
| T33-88000-01    | SMPM-T Torque Wrench                      |  |

More Tool Detail  
on the Back Page.

## SMPM-T Connectors

### Electrical Data

|                       |  |
|-----------------------|--|
| Insulation Resistance | 5000 megaohms min.   |
| Contact Resistance    | Center conductor 6.0 milliohms max.; outer conductor 2.0 milliohms max.          |
| Frequency Range       | DC to 65 GHz   |
| Impedance             | 50 $\Omega$  |
| Insertion Loss        | .05 + .04vf in GHz (non-hermetic connectors); .12vf in GHz (hermetic connectors) |
| VSWR                  | 1.1:1 to 26.5 GHz; 1.4 to 65 GHz   |
| Corona Levels         | 125 Vrms at 70000 ft   |
| DWV                   | 335 Vrms at sea level  |
| Magnetic Permeability | <2 $\mu$   |
| RF High Potential     | 200 Vrms at 5 MHz  |
| RF Leakage            | -80 dB max. at 3 GHz, -65 dB max. at 3 to 26.5 GHz                               |

### Mechanical Data

|                          |   |
|--------------------------|---|
| Force To Engage          | SMPM full detent – 3.5 lbs. typical; SMPM smooth bore – 1.5 lbs typical               |
| Force To Disengage       | SMPM full detent – 5 lbs. typical; SMPM smooth bore – 1.5 lbs typical                 |
| Center Contact Retention | 1.5 lbs min. (captivated designs)   |
| Durability               | 100 cycles min. into a full detent shroud; 1000 cycles min. into a smooth bore shroud |
| Mating Torque            | 18-22 in-oz   |
| Proof Torque             | 32 in-oz min.   |

### Environmental Data

|                     |  |
|---------------------|--|
| Moisture Resistance | MIL-STD-202, method 106                                |
| Temperature Range   | -65 °C to +165 °C                                      |
| Thermal Shock       | MIL-STD-202, method 107, test condition B              |
| Shock               | MIL-STD-202, method 213, 12000 g peak                  |
| Random Vibration    | MIL-STD-202, method 214, test condition K-I, 46.3 grms |
| Sine Vibration      | MIL-STD-202, method 204, 28 g peak                     |
| Corrosion           | MIL-STD-202, method 101, test condition B              |

### Material & Finishes

#### Cable & Board Connectors

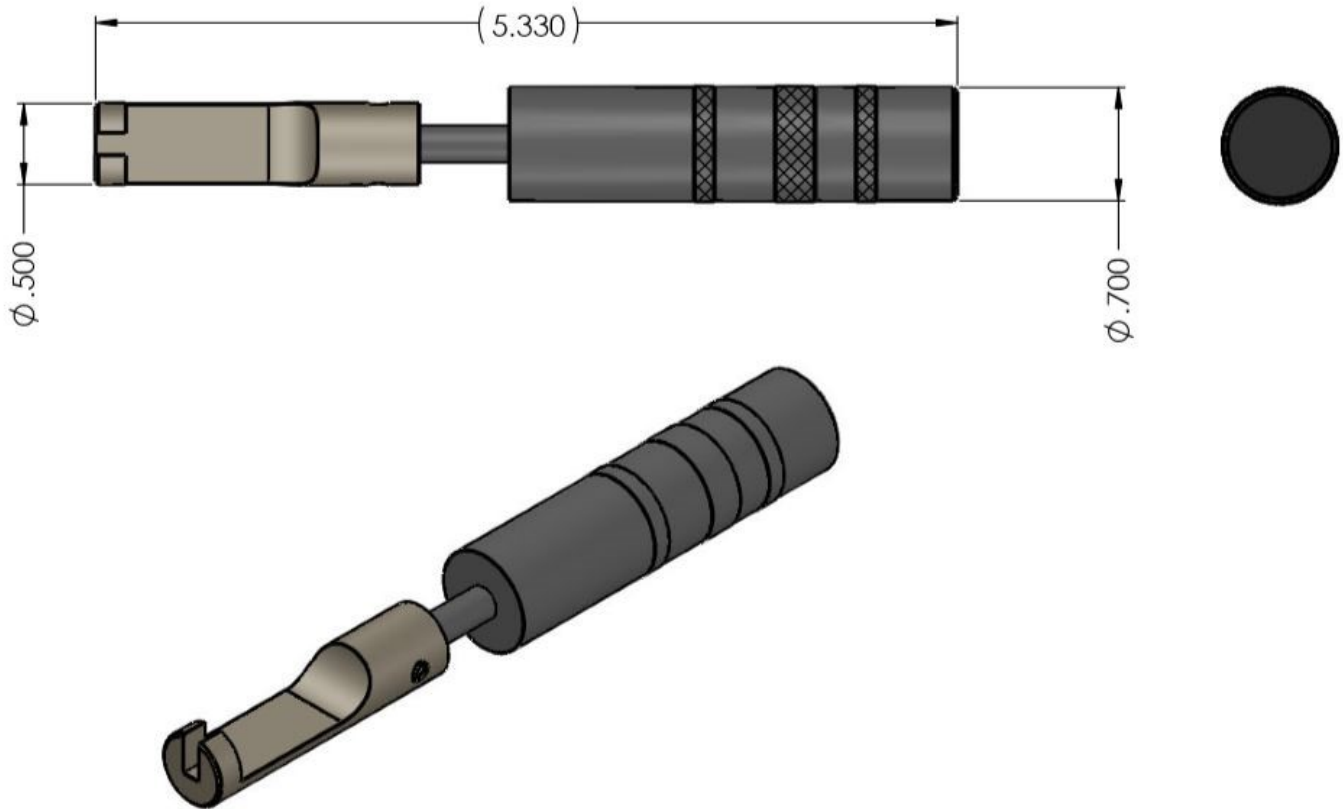
- Body & Contact Beryllium copper per ASTM B-196, gold plate per ASTM B-488, code C, type II over nickel plate per SAE-AMS-QQ-N-290, type 1
- Dielectric PTFE per ASTM D-1710, type I, grade 1, Torlon™ per ASTM D-5204 or Ultem™ per ASTM D-5205

#### Adapters

- Body & Nut #303 SS per ASTM A-582, gold plate per ASTM B-488, code C, type II over nickel plate per SAE-AMS-QQ-N-290, type 1
- Contact Beryllium copper per ASTM B-196, gold plate per ASTM B-488, code C, type II over nickel plate per SAE-AMS-QQ-N-290, type 1
- Dielectric PTFE per ASTM D-1710, type I, grade 1 and Ultem™ per ASTM D-5205

<sup>1</sup> Performance listed is typical. Individual part configuration may vary. Contact Delta Electronics Mfg. Corp. for more information and specifications by part number. Customer specific factors pertaining to recommended mounting patterns including transmission line topology, substrate thickness and material, board-stackup, operating frequency, etc. must be submitted to Delta Electronics Mfg. Corp. for analysis prior to release of final performance levels and mounting configuration. Waiver - Fact and figures herein are for information only and do not represent any warranty of any kind.

## SMPM-T Tooling



**T33-88000-01**

**SMPM-T Torque Wrench**

**Torque Type: Fixed**

**Design Type: Screwdriver**

**Hex Size: .138 Hex**

**Torque Setting:  $32 \pm 2$  in-oz**