

TZ

MIL-DTL-38999 Series III Dark & Non-Reflective Tin Zinc Finish



QPL APPROVED



Description

Tin Zinc (TZ) from Amphenol Socapex has been very popular since 2023.

Since March 3rd 2025, TZ from Amphenol Socapex is Qualified Part Listed in Class V for MIL-DTL-38999 Series III. This substitute has been created to be retrochemically compatible with Olive Drab Cadmium plating on Aluminum. It is RoHS Compliant and it does not contain any SVHC - Substances of Very High Concern listed under REACH (Cr6+ free).

Class V is the perfect combination of looks and performance. It is dark, non-reflective, corrosion resistant with great electrical continuity, making it ideal for military and aerospace applications.

Main features

QUALIFIED ACCORDING TO MIL-DTL-38999 SERIES III CLASS V

- Shell Size: 9 to 25
- Durability: 500 mating cycles
- Salt Spray: 500 Hours

MATERIAL & PLATING

- Aluminum alloy shell plated with Tin Zinc
- Dark Grey & Non reflective

EMI/RFI PROTECTION

- 85 dB at 1GHz

VIBRATION

- Sine vibrations: 60g from -55°C to +175°C
- Random vibrations: per EIA-364-28: 43.92 grms at 175°C

ENVIRONMENTAL CHARACTERISTICS

- Temperature range : - 65°C / + 175°C
- Dynamic Salt Spray per EIA 364.26: 500 Hours
- Conform to EU Directive 2011/65/EU & 2015/863 RoHS
- REACH regulation EC 1907/2006: No SVHC & No use of Cr6+

SHELL ELECTRICAL CHARACTERISTICS

- Shell to shell continuity: 2.5mV before Salt Spray
5mV after Salt Spray
- Shield braid-to shell conduct: 5 mV



Commercial Avionics
& Airframe



Military Avionics
& Airframe



Military vehicles



C5ISR



Missiles



Navy



Industrial



MIL-DTL-38999 SERIES III Class V - HOW TO ORDER

Military designation connectors ordered with contacts are delivered with the full quantity of required contacts plus spare contacts for each size used in the insert arrangements (1 for the contacts arrangements with 26 contacts or less, 2 spares the others - except for Coax & Twinax), sealing plugs (10% of the number of contacts) and one installation/removal tool per contact size.

	1.	2.	3.	4.	5.	6.
Series	Shell type	Material and platings	Shell size	Contact arrangement	Contact gender	Keying
D38999/	26	V	B	35	P	N

1. Shell type

20	Receptacle	Square flange receptacle (Wall mount)
24		Jam nut receptacle
26	Plug	Straight plug

2. Material and platings

	Shell material	Shell finish
V	Aluminum	Dark Tin Zinc (500H)

3. Shell size

A	B	C	D	E	F	G	H	J
09	11	13	15	17	19	21	23	25

4. Contact arrangement

Refer to MIL-DTL-38999 & Derivatives page 18 catalogue for contact arrangements

5. Contact gender

P	Pin contacts (500 cycles)
S	Socket contacts (500 cycles)
A	Less pin contacts
B	Less socket contacts

N	A	B	C	D	E
(for normal)					

Refer to MIL-DTL-38999 & Derivatives page 28 catalogue for keying information

Amphenol Designations - TV TZ Crimp Connectors - HOW TO ORDER

1.		2.	3.	4.	5.	6.	7.	8.
Series	Shell type	Inserts for Quadrax and Differential Twinax contacts	Material and platings	Contact arrangement	Contact gender	Keying	With or without contacts	Deviation
TV	06	-	TZ	11 35	P	N	-	-

Series

TV	Metal shells
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1. Shell type

	Shell type	Associated materials and platings	Temperature
P00	Square flange - Wall mount receptacle	TZ	+175°C
P02	Square flange - Box mount receptacle (no rear thread) <i>(non-standard shells, please consult us)</i>	TZ	+175°C
07	Jam nut receptacle	TZ	+175°C
01	In-line receptacle <i>(non-standard shells, please consult us)</i>	TZ	+175°C
06	Straight plug	TZ	+175°C

2. Inserts for QuadraX and differential Twinax contacts (optional)

Blank	For standard inserts without ground plane and indexation key.
Q	Inserts designed with an indexation key to avoid contacts rotation in the cavities when using a keyed contact - Size 8 contacts only.

3. Material and platings

TZ	Dark Tin Zinc (500H) ✓
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* Copper aluminum alloy

4. Contact arrangement

Refer to MIL-DTL-38999 & Derivatives page 18 catalogue for contact arrangements. First number represents the shell size and second number is the contact arrangement.

5. Contact gender

P	Pin (500 cycles)
S	Socket (500 cycles)

6. Keying

Blank	A	B	C	D	E	U
(for normal)						(Universal) Consult us

Refer to page 28 for more information.

7. With or without contacts

Blank	Connector delivered with contacts
LC	Connector delivered without contacts

8. Deviation

Deviation	Description	Shell type compatibility
F042	Mandatory for Jam nut receptacle plated with Tin Zinc. Connector equipped with a black anodized panel nut	TV*07**

For other deviations, please consult us or next section - MIL-DTL-38999 Extended Range