



Positronic®

**XAVAC® / SAVAC® / Civac®**  
**SMA 50Ω, 18 GHz**

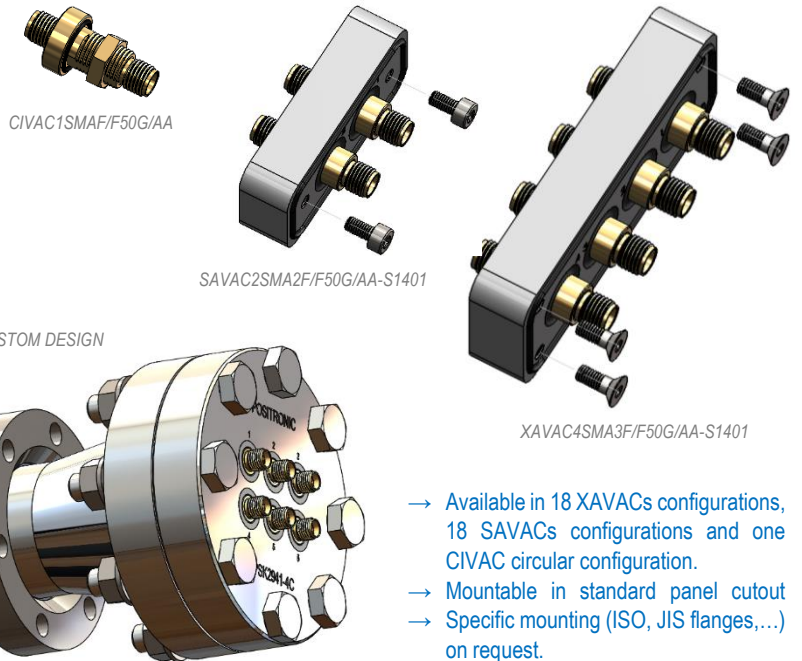


SMA, SubMiniature version A (sometimes called OSM), are 50Ω connectors with small size, 1/4"-36 threaded coupling and high mechanical durability. They are one of the most commonly used RF / Microwaves connectors types used for bandwidth up to 18GHz.

Positronic hermetic SMA consists of different variant of Female/Female feedthroughs on an aluminum rectangular shell like XAVAC or SAVAC, especially for SPACE and INDUSTRIAL vacuum applications. Quantity of coaxial contacts adapters depends on the size of the connector, from single one on a Size 1 to four units on the sizes 4 to 6 of XAVAC/SAVAC range.

All Positronic hermetic SMA connectors are 100% leak tested after manufacturing and used only precision machined contacts for strength and durability.

Hermetic SMA interface mating is according to MIL-C-39012 and IEC 60169-15.



- Available in 18 XAVACs configurations, 18 SAVACs configurations and one CIVAC circular configuration.
- Mountable in standard panel cutout
- Specific mounting (ISO, JIS flanges,...) on request.

**TECHNICAL CHARACTERISTICS**

**MATERIALS AND FINISHES:**

- Housing:** Aluminum alloy, golden iridescent conversion coating RoHS.
- Dielectric Material:** PTFE and Epoxy Resin
- Outer Contact:** Brass, 0.000025 inch [0,64 microns] min. gold over copper plate.
- Center Contact:** Copper alloy, 0.000050 inch [microns] min. pure gold over copper plate.
- O-Ring:** Fluorocarbon.
- Fixations Screws:** One mounting and one spare part. Stainless Steel (Kitted).

**MECHANICAL CHARACTERISTICS:**

- Coupling Torque:** 0,9Nm [8 IN-LBS] (coupled with Male SMA connector)
- Mechanical Operations:** 500 operations per IEC1169-1 §9.2.3

**CLIMATIC CHARACTERISTICS:**

- Temperature Range:** -40°C to + 80°C
- Helium Leak Rate At Ambient Temperature:** < 5.10<sup>-9</sup> mbar.L/s under a vacuum of 1,5.10<sup>-2</sup> mbar
- Resin Outgassing Properties:**
  - TML (Total Mass Loss): < 1,0%
  - CVCM (Collected Volatile Condensable Materials): < 0,1%

**ELECTRICAL CHARACTERISTICS:**

- Center contact resistance:** ≤ 3,0mΩ Initial
- Outer Conductor Continuity:** ≤ 5,0mΩ Initial
- Proof Voltage at Sea Level:** 1000V RMS per IEC1169-1 §9.2.5
- Nominal Impedance:** 50Ω
- Frequency Range:** 0 to 18 GHz

- Insulation Resistance:** 5GΩ Min. at 500V DC between center contact and outer contact.  
Only with special option S1401<sup>1)</sup>: 5GΩ Min. at 500V DC between outer contact and aluminum housing.

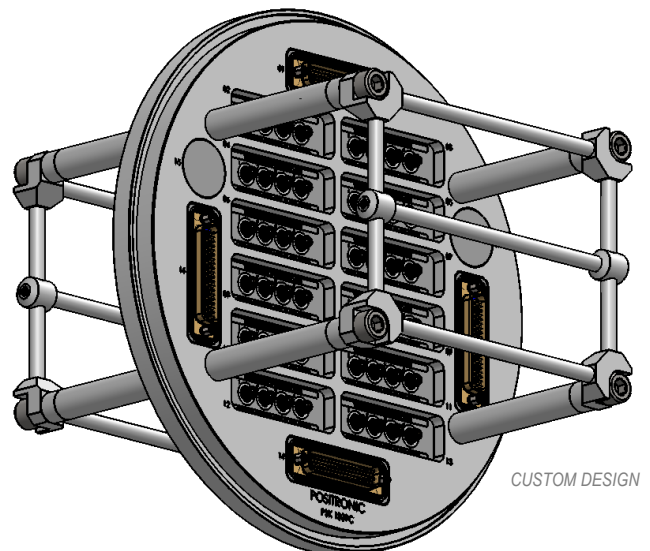
**Signal Integrity:**

Frequency Range	Insertion Loss Max. (Db)	Return Loss Max. (Db)	VSWR <sup>2)</sup> Max.
1kHz to 5GHz	-0,21dB	-20,10dB	1,22
5 to 10GHz	-0,35dB	-17,55dB	1,31
10 to 15GHz	-0,58dB	-13,92dB	1,50
15 to 18GHz	-1,25dB	-8,88dB	2,12

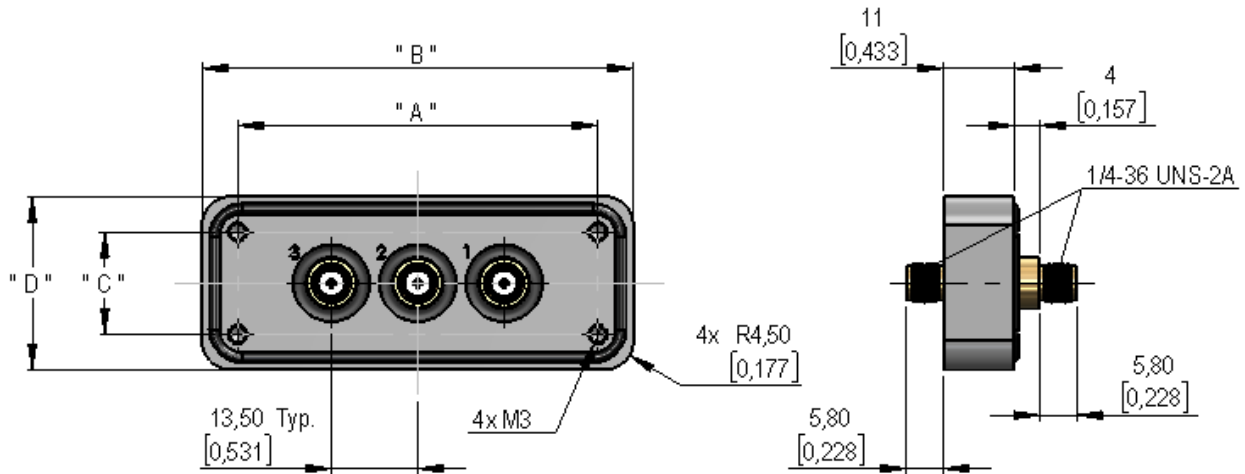
2) Voltage Standing Wave Ratio

**Connectors are RoHS compliant per the current directive.**

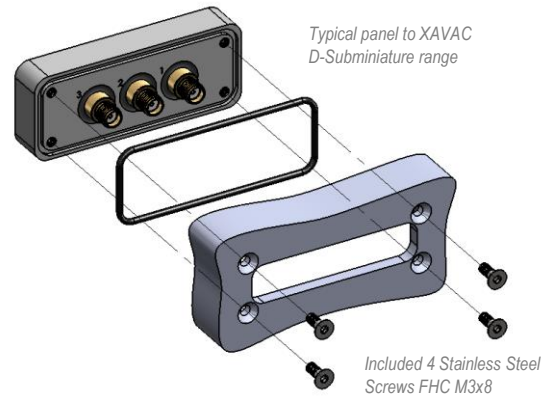
1) S1401: Dielectric insulator between outer shell and aluminum housing



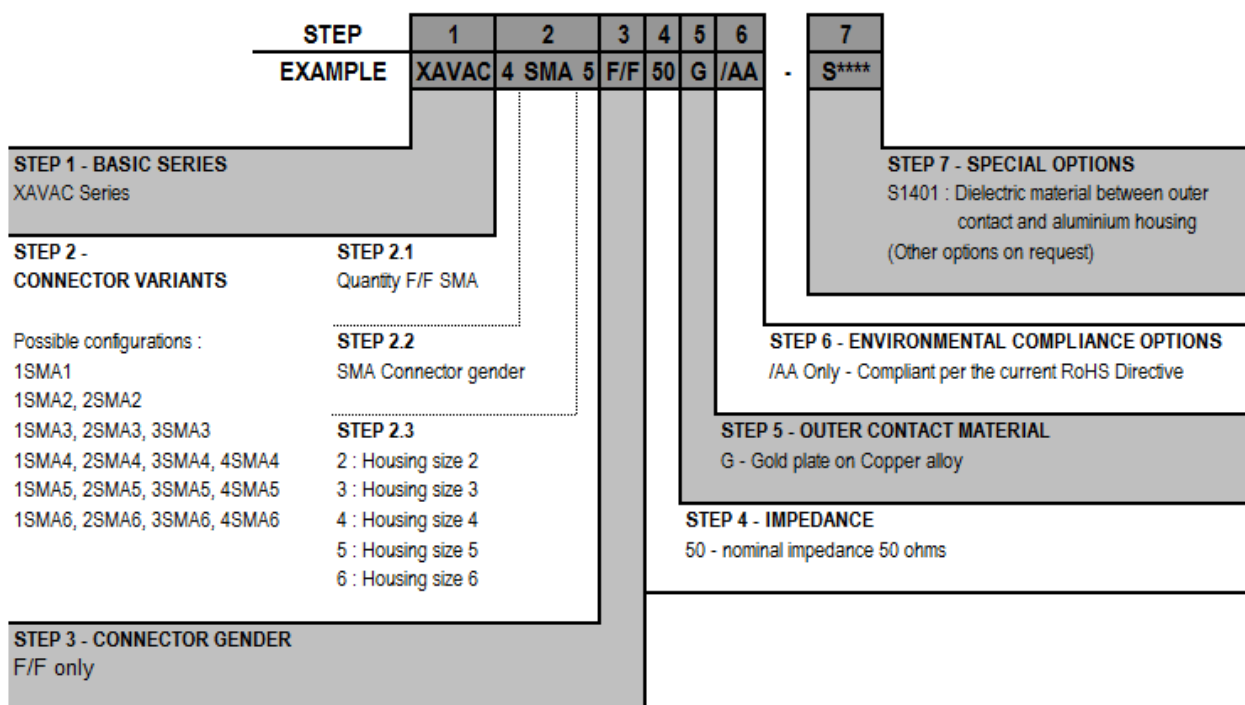
## XAVAC SMA - DIMENSIONS



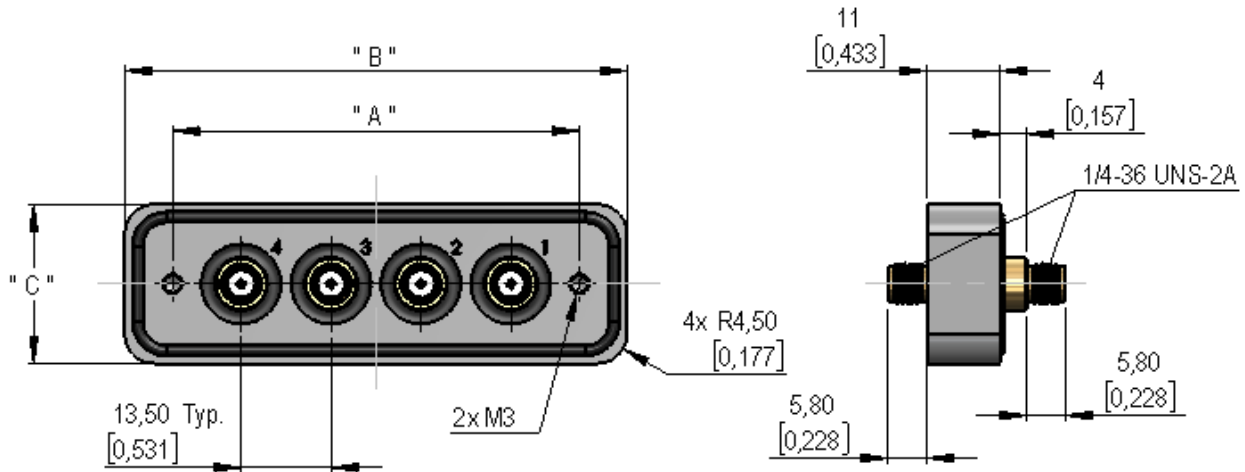
	A	B	C	D
SIZE 1	34,29 [ 1,350 ]	46,37 [ 1,826 ]	16,00 [ 0,630 ]	28,08 [ 1,106 ]
SIZE 2	43,64 [ 1,718 ]	55,79 [ 2,196 ]	16,76 [ 0,660 ]	28,92 [ 1,139 ]
SIZE 3	56,36 [ 2,219 ]	67,42 [ 2,654 ]	16,02 [ 0,631 ]	27,08 [ 1,066 ]
SIZE 4	73,46 [ 2,892 ]	85,38 [ 3,361 ]	16,90 [ 0,665 ]	28,82 [ 1,135 ]
SIZE 5	71,28 [ 2,806 ]	82,99 [ 3,267 ]	19,68 [ 0,775 ]	31,40 [ 1,236 ]
SIZE 6	73,26 [ 2,884 ]	84,38 [ 3,322 ]	20,88 [ 0,822 ]	32,00 [ 1,260 ]



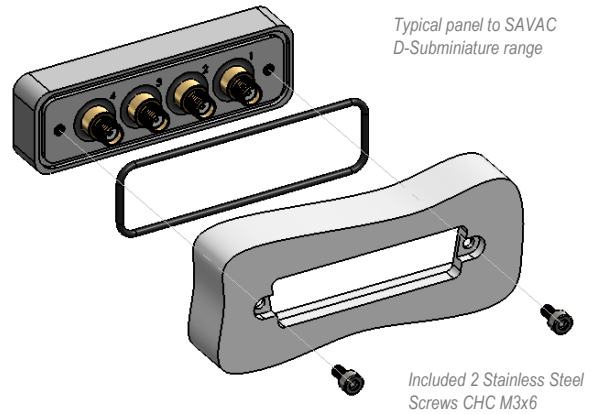
## XAVAC SMA - ORDERING INFORMATION - CODE NUMBERING SYSTEM



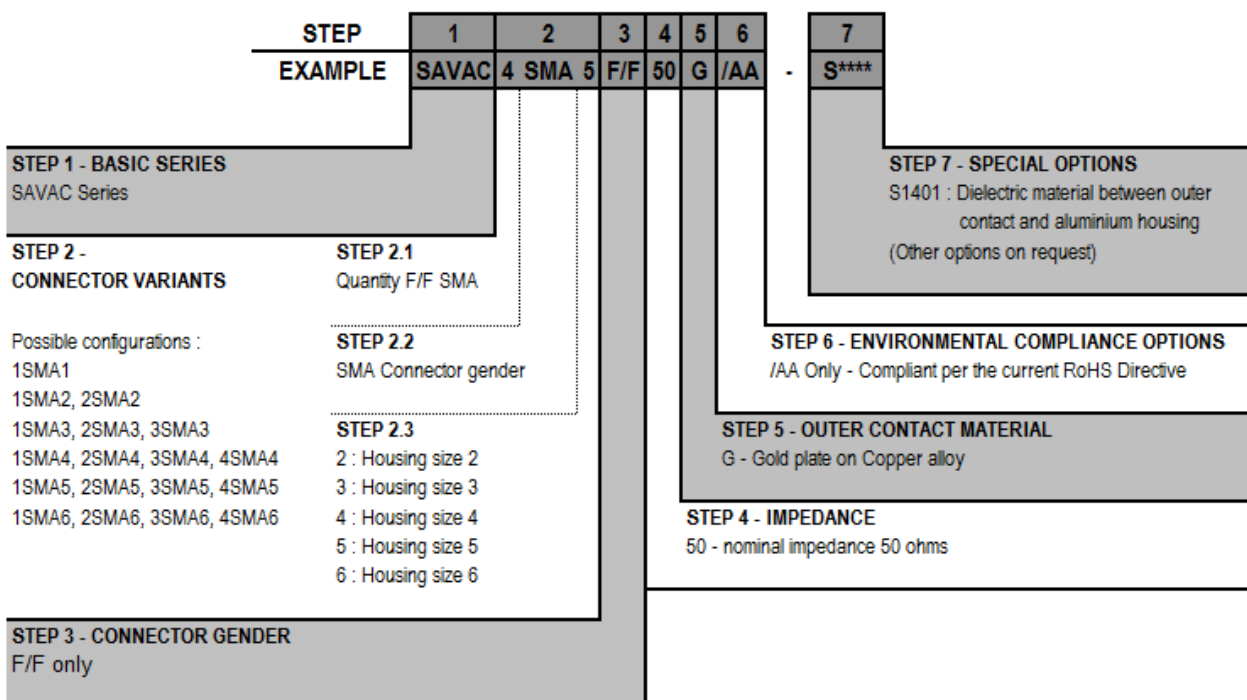
## SAVAC SMA - DIMENSIONS



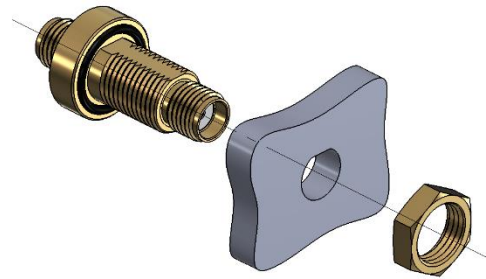
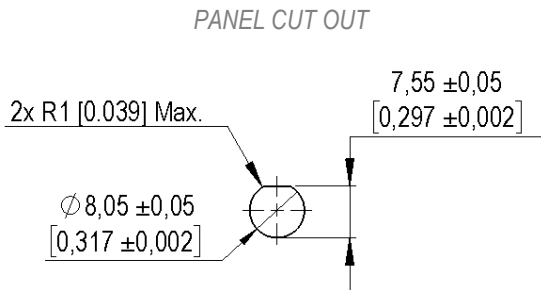
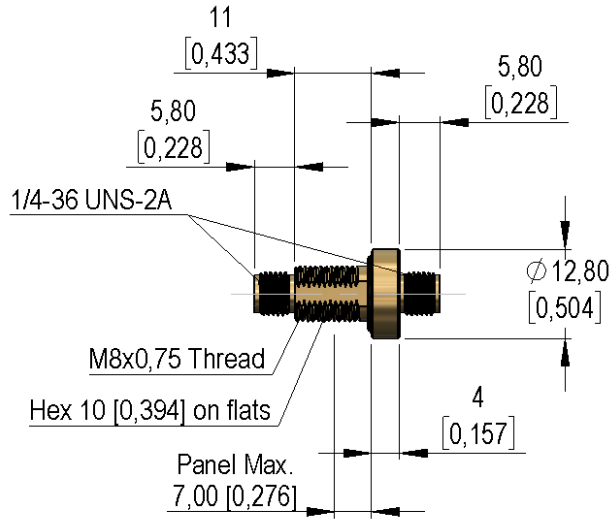
	A	B	C
SIZE 1	24,99 [ 0,984 ]	39,37 [ 1,550 ]	21,08 [ 0,830 ]
SIZE 2	33,32 [ 1,312 ]	47,70 [ 1,878 ]	21,08 [ 0,830 ]
SIZE 3	47,04 [ 1,852 ]	61,42 [ 2,418 ]	21,08 [ 0,830 ]
SIZE 4	63,50 [ 2,500 ]	77,88 [ 3,066 ]	21,08 [ 0,830 ]
SIZE 5	61,11 [ 2,406 ]	75,49 [ 2,972 ]	23,90 [ 0,941 ]
SIZE 6	63,50 [ 2,500 ]	77,88 [ 3,066 ]	25,50 [ 1,004 ]



## SAVAC SMA - ORDERING INFORMATION - CODE NUMBERING SYSTEM



## CIVAC SMA - DIMENSIONS



## CIVAC SMA - ORDERING INFORMATION – CODE NUMBERING SYSTEM

