

# SVP

BROADCAST  
MICROWAVE

## BIAS INSERTER TEE (BIAS-TEE)

### MANUAL V2.0



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## 1 Description

SVP Broadcast Microwave has designed a new the **Bias Tee**.

This element is very useful to give power supply to an equipment connected to the other end of the coaxial cable, as an LNA or a down-converter.

For it, it has a N male connector, a N female connector and a EGG lemo female connector. The N male connector should be connected to the receiver input and the N female connector to the LNA's RF output. The DC power inserted through the lemo connector, supporting a maximum of 30 V / 1A.

The cable with FGG lemo male connector that is used to insert the DC power is given with the bias insertion tee (BIAS-TEE) and with the COFDM low noise preamplifier.

This equipment is protected from short-circuits by means of an autoreseatable fuse.

The male connector and cable is not included.

In the following figure the bias insertion tee (BIAS-TEE) is showed, where the previously mentioned connections are appreciated:



Figure 1.1 Bias Insertion Tee. BIAS-TEE

## 2 Technical features

### 2.1 BIAS-TEE

Table 2.1 Bias Tee features

<b>Item</b>	<b>Feature</b>
Frequency range	From 10 to 6000 MHz
Insertion loss	0.6dB@2000MHz 0.6dB@4000MHz 0.8dB@6000MHz
Isolation	30 dB
Max. RF Power	1 W
Supply voltage range	From 0 to +30V DC
Current Rating	3A max.
DC input connector	LEMO 1B of 4 pins
RF&DC connector	N female, 50 Ohms
RF connector	N male, 50 Ohms
Size	Width: 50mm Height: 30mm (without connectors) Depth: 22mm

### 2.2 EGG y FGG Lemo connectors

#### Mechanical and climatic features

Table 2.2 Mechanical and climatic features

<b>Item</b>	<b>Feature</b>
Endurance	>5000 cycles
Humidity	up 95% to 60°C
Temperature range	-55°C, +250°C
Resistance to vibration	10-2000 Hz, 15g
Shock resistance	100 g, 6ms
Protection index	IP50
Climatical category	55/175/21

#### Electrical features

Table 2.3 Electrical features

<b>Item</b>	<b>Feature</b>
Shielding efficiency at 10 MHz	>75 dB
Shielding efficiency at 1 GHz	>40 dB

## Physical features

Table 2.4 FGG male connector's physical features

Item	Feature
A	9.5 mm
L	35.0 mm
M	25.0 mm
S1	8.0 mm
S2	7 mm

Being A, L, M, S1 and S2 the dimensions that are shown in the following figure:

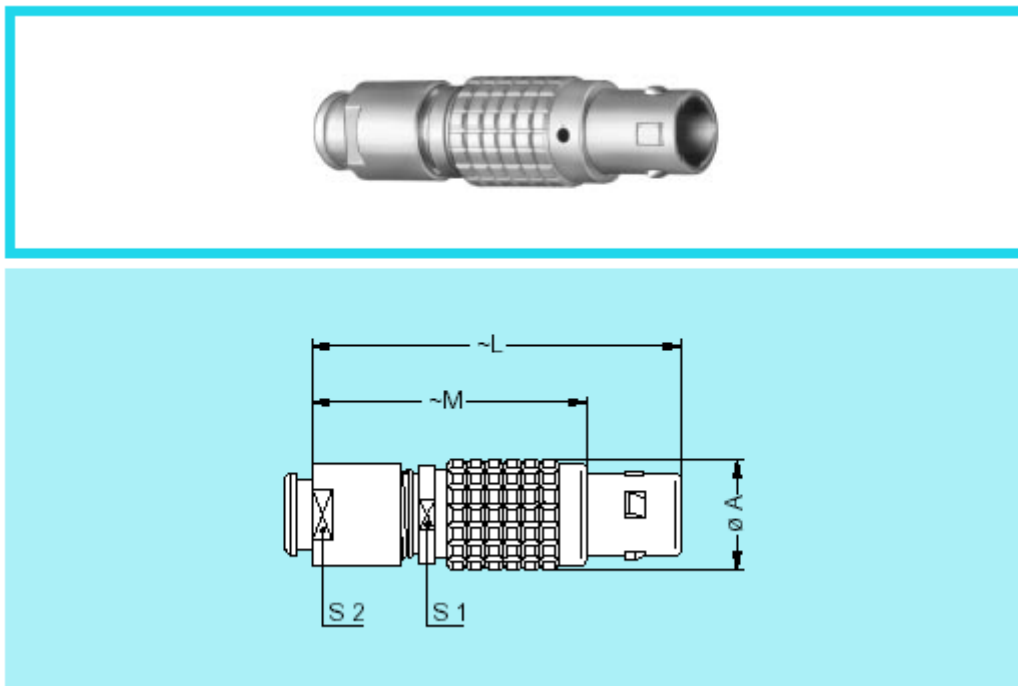


Figure 2.1 FGG Lemo male connector's size

Table 2.5 EGG female connector's physical features

Item	Feature
A	10 mm
B	12.5 mm
E	M9x0.6 mm
e	7.0 mm
L	20.7 mm
M	1.2 mm
N	19.1 mm
S1	8.2 mm
S3	11 mm

Being A, B, E, e, L, M, N, S1 and S3 the dimensions that are shown in the following figure:

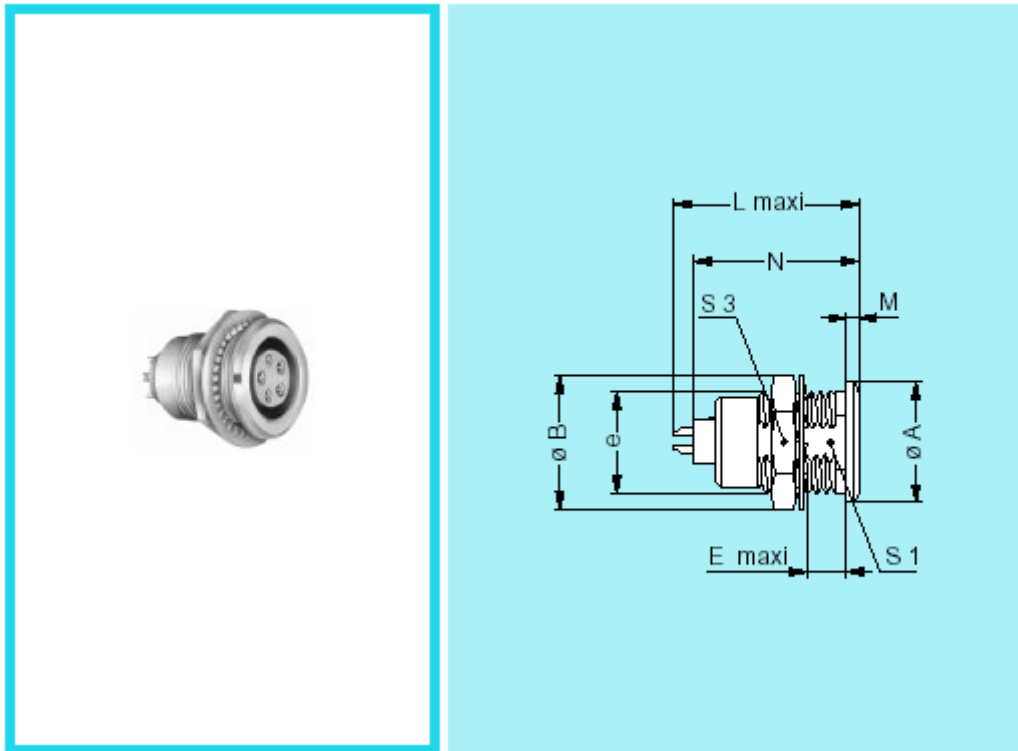


Figure 2.2 EGG Lemo female connector's size

## NOTES:

## **End note**

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C/Zubiaurre, 7 bajo  
48215 Iurreta  
Vizcaya – España

Tel: +34 94 620 3722  
Fax: +34 94 620 4356

[svpbm@svpbm.com](mailto:svpbm@svpbm.com)  
[www.svpbm.com](http://www.svpbm.com)