

Series 3402 Gas Capsule Lightning Protectors



The **Series 3402 Gas Capsule Lightning Protectors** from Huber+Suhner make the best of the traditional spark gap protection principle for general applications in electronics and adapt it perfectly to RF coaxial line applications. Their heart are specially designed gas capsules. The available product range of capsules enables a selection according to the RF transmission power with an optimum protection performance. A very important feature of the gas capsule protectors is the possibility to DC/AC power outdoor equipment via coaxial cable.

Specifications

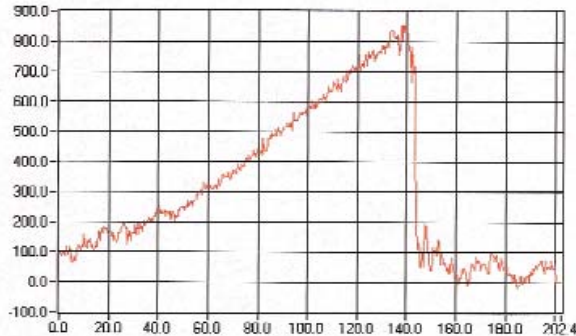
Series 3402 products can be used broadband from DC to 2 GHz or even higher. They are generally designed as coaxial feedthroughs which allow the customer to build up a protected area according to the recommended and well-proven protection zone principle of IEC 61312-1. HUBER+SUHNER gas capsule protectors are designed such that the gas capsules can be easily exchanged for new operation conditions or replaced in the case of a necessary service.

Electrical Specifications

Parameter	Requirements
Impedance	50Ω or 75Ω
Frequency Range	DC - 2.5 GHz (some types different according to shown specification, but 2.0 GHz min.)
RL ⁽¹⁾	20 dB min. (exception F connectors)
IL ⁽¹⁾	0.2 dB min. (exception F connectors)
RF power transmission	according to selected gas capsule
PIM	dependent of selection of gas capsule
Surge-current-handling capability	30 kA once and 20 kA multiple (8/20 μs test pulse)
Residual pulse voltage and energy	For typical values refer to the following diagram

(1) with gas capsule 73 Z-0-0-47 (230 V)

Typical residual pulse for series 3402
 (test pulse 4 kV/2 kA, 8/20 μs):
 Residual pulse voltage: 850 V
 Residual pulse energy: 350 μJ



Mechanical and Environmental Specifications

Mechanical data	Requirements
Coupling nut torque force	According to IEC/MIL
Durability (matings)	500 min.
Mounting hole diameter	
19mm / ¾" max.	20 Nm / 14.7 ft-lb
Larger than 19mm	35 Nm / 25.8 ft-lb
Environmental data	
Operating temperature range	- 40°C to + 85°C / - 40°F to + 185°F
Temperature shock	MIL-STD-202, Meth. 107, Cond. B
Moisture resistance	MIL-STD-202, Meth. 106
Vibration	MIL-STD-202, Meth. 204, Cond. D

The product is designed to meet the cited test procedures. Any additional or different requirements arising from specific applications or environmental conditions not covered by the test specifications mentioned above are subject to request and need to be confirmed by the single product detail specification. We recommend additional taping for long term outdoor applications in any case.

Material Specifications

Component part	Standard	Material	Plating
Housings	QQ-B-626	brass	SUCOPLATE®
Male contacts	QQ-B-626	brass	gold or silver plating
Female contacts	QQ-C-530	CuBe2	gold or silver plating
Insulators	ASTM-D-1457	PTFE	
Gaskets	ASTM-E-1418 PS 1	Silicone rubber	