

# Series 3402

## Gas Capsule Lightning Protectors up to 2.5 GHz

### Description

SUHNER gas capsule protectors 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.

Series 3402 products can be used broadband from DC to 2 GHz or even higher. They are generally designed as coaxial feed-throughs which allow the customer to build up a protected area according to the recommended and well-proven protection zone principle of IEC 61312-1. 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.

### Features

- Broadband DC to 2.5 GHz
- DC transmission
- Current-handling capability 40/20 kA
- Easy maintenance

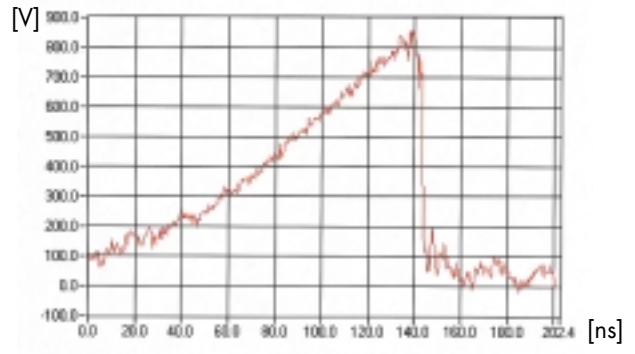
### Specifications

Electrical data	Requirements
RF:	
Impedance	50 or 75 $\Omega$
Frequency range	DC – 2.5 GHz (some types different according to specification, but 2 GHz min.)
RL*	20 dB min. (exception F connectors)
IL*	0.2 dB max. (exception F connectors)
RF power transmission	according to selected gas capsule
PIM	dependent on selection of gas capsule
Protection:	
Surge-current-handling capability	40 kA once and 20 kA multiple (8/20 $\mu$ s test pulse)
Residual pulse voltage and energy	for typical values refer to the following diagram

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

Typical residual pulse for series 3402  
(test pulse 4 kV/2 kA, 8/20  $\mu$ s):

Residual pulse voltage: 870 V  
Residual pulse energy: 600  $\mu$ J



Mechanical data	Requirements
Coupling nut torque force	according to IEC/MIL
Durability (matings)	500 min.
Bulkhead mounting torque force:	
Mounting hole diameter	20 Nm/14.7 ft-lb
19 mm/ 3/4 " max.	35 Nm/25.8 ft-lb
larger than 19 mm	

Environmental data	Requirements/Test conditions
Operation temperature range	- 40 °C...+ 85 °C/ - 40 °F...+ 185 °F
Waterproof degree (IEC 529)	refer to product specification, data refer to the coupled state
Temperature shock	MIL-STD-202, Meth. 107 F, Cond. B, - 65 °C/+ 125 °C
Moisture resistance	MIL-STD-202, Meth. 106 D, 10 cycles
Vibration	MIL-STD-202, Meth. 204, Cond. D, 10-2000 Hz

Material data	Standard	Material	Plating
Component part			
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	