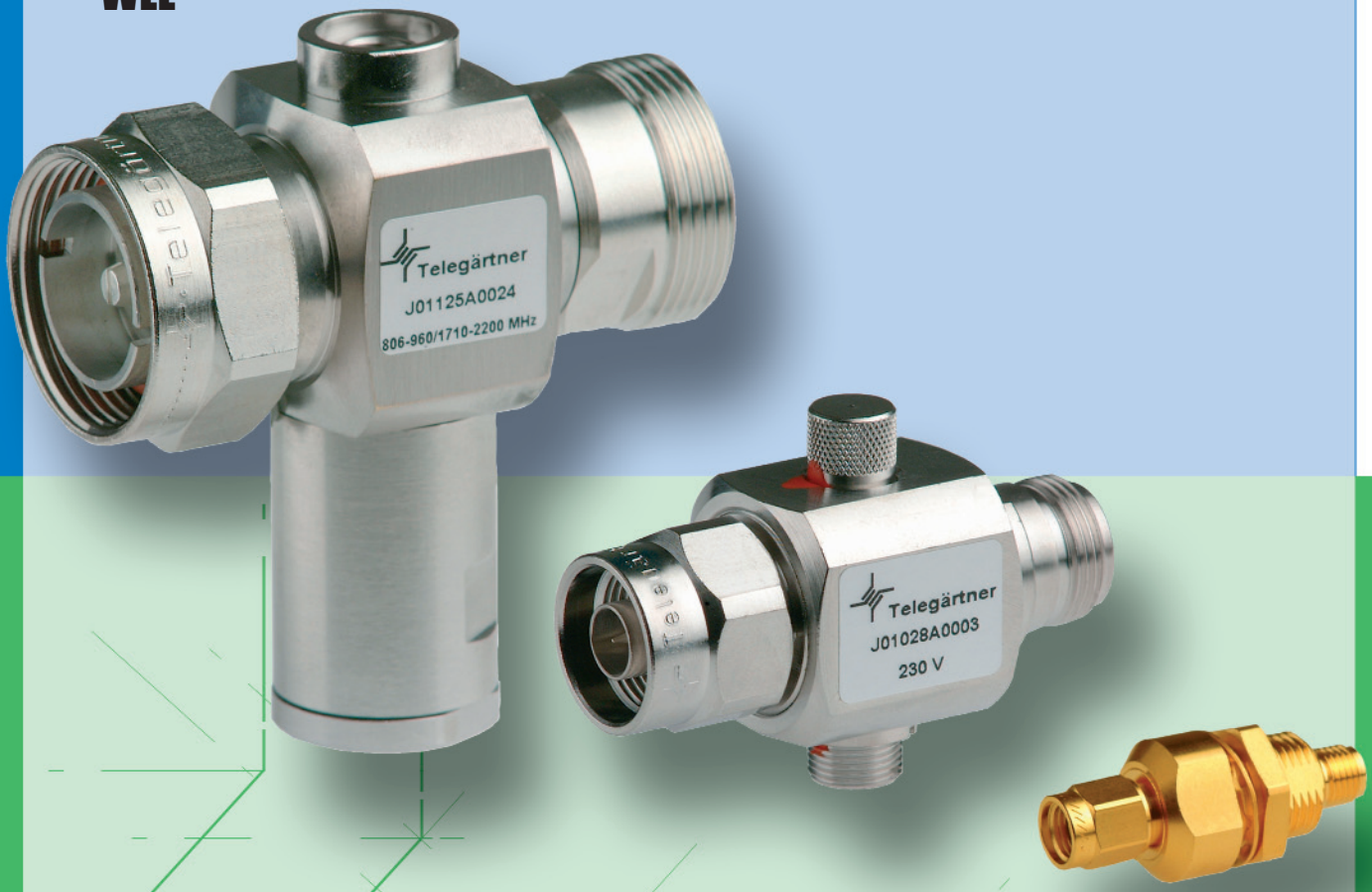
Coaxial Surge Suppressors

EMP Protection Devices

- GSM / PCS / UMTS
- Wireless LANs
- Tetra
- WLL

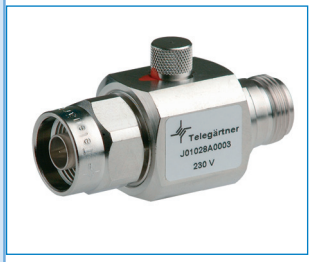


Telegärtner

Coaxial Surge Suppressors

Telegärtner offers a wide range of surge arrestors for the protection of electronic devices. They are designed for use in coaxial transmission lines to suppress high surge impulses, which can typically be generated by lightning strikes in the immediate vicinity. Telegärtner offers three series types of protection devices from which to select the most suitable device for an application.

2.5 GHz High-Performance Suppressors with Gas Discharge Tube



The gas discharge tube type suppressor functions by diverting high voltage surges from the centre conductor via the outer conductor to earth. When a defined voltage on the centre conductor of the coaxial line is exceeded, the gas discharge tube positioned between the inner and outer conductor fires and shorts them. Advantages of this type of suppressor are the very high discharge currents (up to 40 KA, 8/20 impulse), availability with a variety of spark-over voltages from 75 V to 1000 V, and broad-band suitability (d.c. to 2.5 GHz). The gas discharge tube can be replaced during service checks.

6 GHz High-Performance Suppressors with Gas Discharge Tube

This range of surge suppressors works on the same principle as the high performance gas discharge tube suppressor. It differentiates itself with its more compact design, and by the significantly wider frequency range - up to 6 GHz. This means that these devices can be used - amongst other applications - for WLAN sytems operating at a frequency of 5.8 GHz . The maximum discharge currents at 10 KA (single 8/20 impulse) and 5 KA (multiple 8/20 impulse) are somewhat lower than those of the high-performance types, and the spark-over voltage is defined at 150 V to 250 V. The surge suppressors are bulkhead designs.

λ/4 Shorting Stubs

The design of this type of suppressor involves a direct, solid short-circuit between inner and outer conductor. The length of short-circuit path is designed so, that after total reflection, certain frequencies are back in phase with the input signal frequency. All other frequencies outside the defined frequency ranges are shorted and discharged to ground. Advantages of this type of suppressor are the extremely high discharge currents (> 100 KA, 8/20 impulse); they are completely service-free, and are suitable for intermod-sensitive applications. Special designs, which also allow d.c. currents for eg. feeding mast-top antenna amplifiers to pass along the coaxial line, are also available.

Type	Frequency range	Max. power	Max. discharge current (8/20 µs)	Series	IMP sensitive applications	Typical applications
2.5 GHz High-Performance-Suppressors with Gas Discharge Tube	0 - 2.5 GHz	300 W	1 x 40 KA 5 x 20 KA	N, 7-16	No	GSM, WLL
6 GHz High Performance-Suppressors with Gas Discharge Tube	0 - 6 GHz	25 W	1 x 10 KA 10 x 5 KA	SMA, R-SMA TNC, R-TNC, N	No	W-LAN, WLL
λ/4 Shorting Stubs	380 - 2500 MHz	500 W	100 x 100 KA	N, 7-16	Yes	GSM, PCS, UMTS, Tetra

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