



RF EMP Protector DC+650–2500 MHz, 50W, N – N CSP-81101

Protection for 50 Ohm coaxial cables with protected DC-bypass up to max. 15V / 3A

For RF-power up to 50 W and DC for antenna powering

Low insertion loss operation from 650 to 2500 MHz

N-jack (female) for Input and Output

Feed-through installation into wall of Faraday cage or metallic housing

Very low residual energy protection against surges of NEMP / HEMP, lightning or other transients

High surge current capability



The Meteolabor® CSP series RF EMP protectors are specially designed for the protection of coaxial lines. High surge currents on the inner conductor can be handled. A unique mechanical bulkhead design offers easy feed-through installation and compact fitting into Faraday cages, shielded rooms and mechanical enclosures. Single point of entry concepts can be simply realised. This allows clear separation of unprotected and protected side.

Various transient protection designs for broadband or limited frequency band operation are available. Generally limited frequency band elements provide lower residual energy in the case of transient overvoltages such as produced by atmospheric discharges (lightning, electrostatic discharge) or a High Altitude Electro-Magnetic Pulse (HEMP), sometimes also referred to as Nuclear Electro-Magnetic Pulse (NEMP) or simply EMP.

Applications

The Meteolabor® CSP-81101 RF EMP surge protector element ensures best protection against transient overvoltages (e.g. NEMP / HEMP, lightning) for a 50 Ohm coaxial line carrying operating frequencies in the range of 650 to 2500 MHz with max. RF-power up to 50W and an additional DC-bypass.

CSP-81101 is best suited for lines using N connectors, a typical application example is an active GPS-antenna working with an amplifier DC-power supply up to max. 15V / 3A

CSP-81101 has been successfully used in many projects, where HEMP-testing according to RS-105 on threat-level has been conducted

Technical Data CSP-81101

Application	50 Ohm coaxial line	For DC + RF applications 650 – 2500 MHz, max. 50 W, 15V DC / 3A
Max. operating power	50 W	Matched load
Max. surge current I_{Max}	30 kA	Inner conductor → ground, shape 8/20 μ s, single pulse
Nominal surge current I_N	15 kA	Inner conductor → ground, shape 8/20 μ s, 10 pulses at 30s intervals
Residual energy	6 μ J typically	4 kV / 2 kA test pulse, current shape 8/20 μ s, 50 Ohms load
Residual voltage	< \pm 25 V	4 kV / 2 kA test pulse, current shape 8/20 μ s, 50 Ohms load
Residual energy	5 μ J typically	Fast rising 4 kV, 5/50ns test pulse, 50 Ohms load
Residual voltage	< \pm 30 V	Fast rising 4 kV, 5/50ns test pulse, 50 Ohms load
Frequency range	650 to 2500 MHz	Insertion loss \leq 0.5 dB
Return loss	\geq 20 dB	650 to 2500 MHz
Connectors	N jack (female)	Unprotected and protected side
Operating temperature	-40°C to +85°C	
Ingress protection	IP 65	when coupled with conform mating connectors
Case material	Aluminium	Housing: chromated, center contacts: gold plating
Installation torque	Max. 25 Nm	Min. 20 Nm for good grounding contact
Dimensions	106 x 58 x 39 mm	Major dimensions, details see drawing
Weight	approx. 335 g	

