

## BRUMIL 250 – EMP Protector signal wires

The efficient devices to protect equipment against the effects of EMP (Electromagnetic Pulses)

- Combined Lightning and HEMP and IEMI-Protection for four individual wires, carrying up to 32V/0.5A
- Protects four individual wires, has connection pin for shield
- Combination of non-linear high surge current components and linear filter components
- Metallic case for installation directly into shielding wall (Single Point Entry) as feed-through filter
- WAGO® picoMax® on both sides provide easy installation
- Tested with injected HEMP-pulses E1 (short time) and E2 (intermediate time) according to MIL-STD-188-125
- Integrated locking latches provide high vibration resistance up to 20g
- High quality components make this a very reliable and long-life product

### Description:

- The BRUMIL 250 Surge Protection Device is a combined surge protection device which protects reliably against various transient overvoltages (such as lightning and HEMP) and simultaneously filters high frequency disturbances.
- Transient overvoltages in wiring can be generated by various disturbances: switching transients, lightning surges, electrostatic discharge (ESD) or HEMP (High-altitude Electromagnetic Pulse). HEMP is created by a nuclear explosion outside of the atmosphere. Often the general term EMP (Electromagnetic Pulse) is used, or NEMP (Nuclear Electromagnetic Pulse), or LEMP (for Lightning EMP). HPEM (high power electromagnetic) considers all kinds of high power transients, including IEMI-disturbances (Intentional Electro Magnetic Interference).
- The BRUMIL 250 Surge Protection Device consists of several well-coordinated protection stages, which reliably and effectively protect sensitive electronics against all kinds of HPEM disturbances.

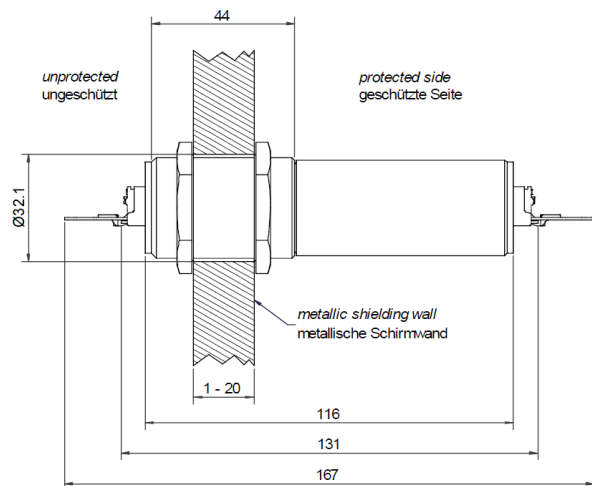


### Applications:

- The BRUMIL 250 is designed to safely protect four individual wires with operating voltages up to 32V and operating currents up to 500mA against transient overvoltages caused by lightning, HEMP or IEMI. EMP-422920 is designed to work with POTS (plain old telephone system) as well as with DSL (Digital Subscriber Lines) using a bandwidth up to 30MHz.
- HEMP-Filters are high-frequency components and shall be installed accordingly for best performance. An installation as feed-through filter directly into a shielding wall results in best protection performance. Over voltages and interference currents will flow to the shielding wall and electronic equipment in the shielded room is well protected.
- Please make sure, that all wires entering a protected volume have to be protected accordingly. This will reliably protect even commercial of the shelf (COTS) electronics of critical infrastructure.

### Dimensions:

- Total length: 167mm (without patch cable)
- Diameter: M32x1.5mm thread



## BRUMIL Surge & Lightning Protection

<b>BRUMIL 250 – EMP Protector Phone wires</b>		
Application	4 single wires	Max. 32V/ max. 500mA; connection pin for shield
Bandwidth	DC-100kHz/ 19200 BAUD	For signal or control wires
Pin 1	1a	Wire pair 1, max. 32V (to pin 2 or ground)
PIN 2	1b	Return conductor of wire pair 1
PIN 3	Connection for shield	Internally connected to ground/case on both sides
PIN 4	2a	Wire pair 2, max. 32V (to pin 2 or ground)
PIN 5	2b	Return conductor of wire pair 2
Max. lightning surge current (Imax)	10 kA	Each wire → ground, shape 8/20 μs, at least 1 pulse
Max. Lightning impulse current (IIMP)	2kA	Each wire → ground, shape 10/350 μs, at least 1 pulse
Residual Voltage Surge	<45V	Each wire → ground, Impulse 4 kV / 2 kA acc. IEC 61000-4-5
Residual Voltage HEMP E1 to single wire	<35V	At 50 Ohms → ground; E1 (early-time) acc. MIL-STD-188-125
Residual Voltage HEMP E2 to single wire	<45V	At 1MOhms → ground; E2 (intermediate-time) MIL-STD-188-125
Connection	5-pins, max 1.5mm <sup>2</sup>	WAGO® picoMAX® 3.5, pluggable and locked cage-clamp connection
Case Material	AISI 304	Stainless, EMC-locknuts nickel-plated brass
Max Intallation Torque	20Nm	Metric fine thread M32x1.5
Dimensions	Ø 32 x 167mm	Major dimensions, see drawing for details
Installation hole	Ø 32.5mm	Installation by 2 EMC-locknuts (included)
Weight	appr. 300g	