

**EMP Surge Protector/Filter
400/230V, 3L+N, 32A
USP-47001, USP series**

Overvoltage protector/filter for three phases and neutral 400/230 VAC, 50/60 Hz power supply lines, up to 32 A

Excellent protection of power supply lines against overvoltages of NEMP/HEMP and lightning (Class II + III) and also against RF interferences

Multi-stage design with common-mode and differential mode protection and integrated filter

HEMP threat-level tested according to MIL-STD-188-125-1, short and intermediate pulse shapes

Low leakage current (< 0.75 mA)



The Meteolabor USP-47001 surge protector/filter is specially designed for overvoltage protection of power supply lines plus additionally contains an integrated filter for the attenuation of common and differential mode interferences.

The capability to handle high surge currents (up to 40 kA per conductor) ensures best protection against very fast transient overvoltages as they can be generated by NEMP/HEMP, lightning or switching.

Because of their very low leakage current USP series protectors are ideally suited for mobile/portable systems and applications.

Applications

Surge protector/filter elements of the USP series are optimized to protect sensitive units and systems against the effects of overvoltages and fast transients.

USP elements are specially suited to be used in sensitive and mission-critical defence systems (command and control systems, communication, IT installations aso.), in security installations, telecommunication equipment etc..

The universal mechanical design of the USP series offers various ways of mounting the unit as a feed-through component in a Faraday cage. No matter if this is a fixed installation (building, underground shelter) or a mobile container or vehicle.

Technical Data USP-47001

Nominal operating voltage U_N	400/230 V AC	50/60 Hz
Max. operating voltage U_c	480/275 V AC	50/60 Hz
Nominal current I_N	32 A	RMS, at T_{amb} 45 °C
Surge current nominal I_n	25 kA	multiple, L/N → PE, shape 8/20 μ s, T_{amb} 40 °C
Max surge current I_{max}	40 kA	min one strike, L/N → PE, shape 8/20 μ s, T_{amb} 40 °C
Max. differential surge current	20 kA	min one strike, L/N → PE, shape 8/20 μ s, T_{amb} 40 °C
Residual voltage	< 2 kV	L → PE, shape 8/20 μ s, 25 kA
Residual voltage differential	< 1 kV	L → N, shape 8/20 μ s, 2 kA, IEC 61000-4-5
AC earth leakage current	< 0.75 mA	L → PE at U_N , 50 Hz (IEC 60950)
DC resistance	typ. 2.7 m Ω	per line, T_{amb} 25 °C, incl. cable
Connection unprotected side	cable, integrated	PURGI yellow, 1.5 m, 5 x 4 mm ²
Connection protected side	cable gland in cover terminal, spring clamp	AGRO Progress®, stainless steel, clamping range 12.5 – 20.5 mm WAGO CageClamp® for cross section 0.08 – 4mm ² / AWG 28 – 12
Operating temperature range	- 40 °C / + 85 °C	
Dimensions	258 x 111 x 71 mm	major dimensions (details see drawing on rear side)
Weight	ca. 4 kg	Incl. cable

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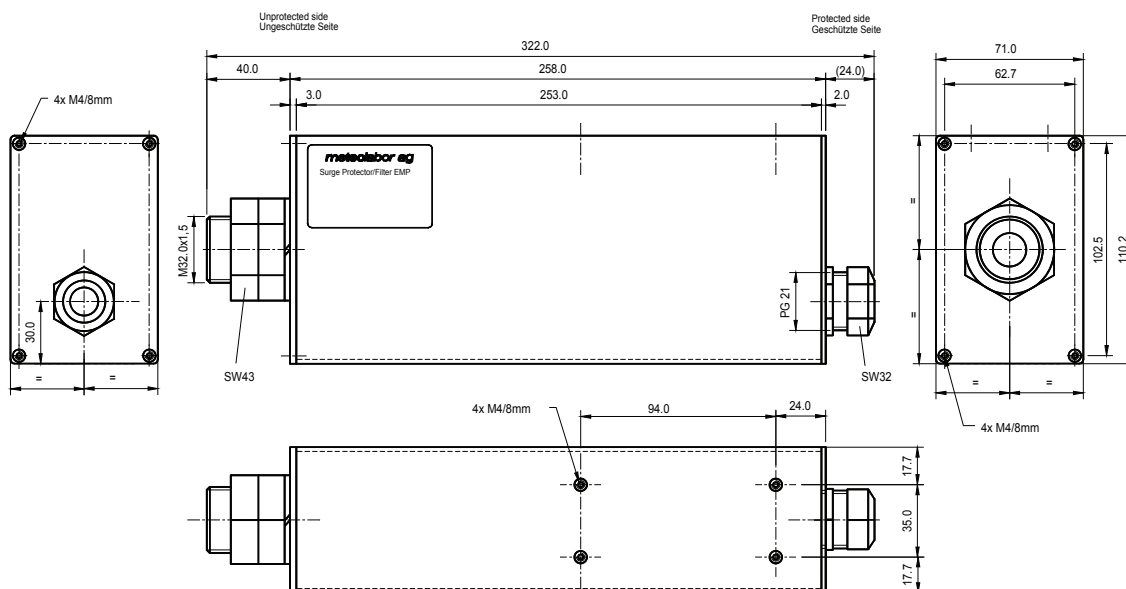
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Dimensions

(UR0049)



Installation Instructions

- The USP surge protector/filter has to be installed by electrically skilled personnel only.
- The electrical wiring of the unit has to be done according to the national standards and safety regulations.
- Always install Ground / Protective Earth first.
- From the USP surge protector/filter case a secure, low impedance connection to earth has to be made to ensure sufficient flow of discharge surge currents.
- Use a screwdriver for opening the spring clamp (WAGO CAGE CLAMP®) to insert or remove wire as shown on picture below.

Safety Notes

- Before opening the cover plate of the terminal area make sure that power is switched off.
- The unit does not contain any serviceable parts. Do not attempt to open the device, only the cover plate of the terminal area is allowed to be opened temporarily in order to install the cables. Close before switching on.
- Unauthorized manipulation or damaging of the labels can lead to malfunction or destruction of the USP surge protector/filter and will result in loss of warranty.
- After an overvoltage event causing visible damages in the protected or unprotected area, the protector/filter unit has to be tested or replaced.

Electrical Connection

Unprotected side:

Cable
Brown,black,gray: L1, L2, L3
Blue: Neutral(N)
Green/Yellow: PE
(Protective Earth / Ground / Case)

Protected side:

WAGO CageClamp® for
0.08–4 mm² / AWG 28-12
Grey: Line / (L1, L2, L3)
Blue: Neutral / (N)
Green/Yellow: PE
(Protective Earth / Ground / Case)

Protected Side, cover with cable gland removed



Order Information

Part-Nr.: **USP-47001**

Type-Nr.: USP-3LNPE-400V230V-32A-CT001-AA

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