# Centralized Power Distributor and Surge Protector (ZESP)

**The ZESP is part of an overall concept to protect communication equipment from the effects of lightning. It is the centralized protection point for power distribution and grounding of communication systems in an open area, with various unprotected power- and communication inputs, which are protected against overload voltages resulting from lightning and then distributed as protected outputs to the communication equipment.**

**Description:**

The ZESP is a custom specific system solution. The given technical data are for reference purpose only. Similar systems can be engineered according to customer's needs.
The ZESP is part of an overall concept to protect communication equipment as well as personnel from lightning effects in a open area, e.g. in a tent. The ZESP is the central power- and grounding point of a communication infrastructure and protects all inputs, power and communication connectors with surge protection against over voltages resulting from the effects of lightning, prior to connecting them to the communication equipment.
The realized surge protection units ZESP consists of a front panel with sockets to connect the cables from the unprotected side, like a socket for a three phases power connection 400 VAC, a single phase socket 230 VAC and a power switch. For communication there are two coaxial connectors for satellite antennas, two Ethernet RJ-45 connectors and 10 pairs of two wire analogue telephone connections available. Two grounding screws are available on the metal housing and local grounding can be fixed on, to the other metallic cables, e.g. optical metallic cables can be grounded.
Type 1 protection devices are used for lightning protection at the crossover from lightning protection zone 0 to zone 1. The surge protection devices for the power are thermal supervised and the status signalized with LED's.
On the back panel the protected sockets for connecting the communication equipment are available. By this method a strict separation of unprotected inputs and protected output is realized. All connections are surge protected and grounded with the same potential, to one ZESP housing.

Front panel


Back panel

**Construction:**
MIL-housing 19" with shock absorbing and dust-and watertight front – and back wall cover IP 67.

**Connectors:**
- 2x RJ-45 Ethernet 100BaseT
- 2x connectors for satellite receiver
- 10x analogue telephone clamps
- 1x power 3L, N, PE, 400VAC 32A
- 1x power 1L, N, PE 230VAC 16A
- overload protection
- earth leakage circuit breaker
- LED's for operation and power

**Applications:**
- Surge protection for data and power lines, which are free deployed (in or over the ground).
- Other customized solutions are possible.
- Belongs to the system solutions family BRUGG MILLE.

**Technical data:**
**Surge protection power:**
- Discharge capacity Class I+II
- $I_{imp}$ = 20kA (L>N), $I_{max}$ = 150kA
- $I_{imp}$ = 80kA (N>PE)
- $U_C$ = 275 VAC
- Electric power system: TN-S
- LED's for operation and power

**Surge protection telephone:**
- Telephone line pairs 10Mbit/s
- Category Class I+II tested acc. to IEC61643-21:2000, A2,B2,C2,C3,D1
- $I_{max}$ = 2x10kA (8/20µs)
- $U_N$ = 170V
- 600 Ohm, 2-wire, 3 kHz

**Ethernet connection RJ-45:**
- Category Class I+II tested acc. to IEC61643-21:2000, A2,B2,C2,C3,D1
- $I_{max}$ = 10kA (8/20µs)
- RJ-45 connector max. 2.5 kA
- $U_N$ = 170V
- Cat. 5, 4 pairs protected
- Ethernet 10/100BaseT, optional: PoE

**Satellit 75 Ohm (F-connector):**
- Category Class I+II tested acc. to IEC61643-21:2000, A2,B2,C2,C3,D1
- Band width 0-2GHz
- $I_{max}$ =10kA (8/20µs)
- $U_N$ = 72V

**Temperature range:**
- Operation -40°...+70° C MIL-STD-810F-501.4
- Storage -60°...+85° C MIL-STD-810F-502.4

**Environmental conditions:**
- Immersion protection IP67 with inserted connectors or screwed protection caps MIL-STD-810F-512.4

**Dimensions:**
- 19", 6 units high
- Weight approx. 15 kg





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