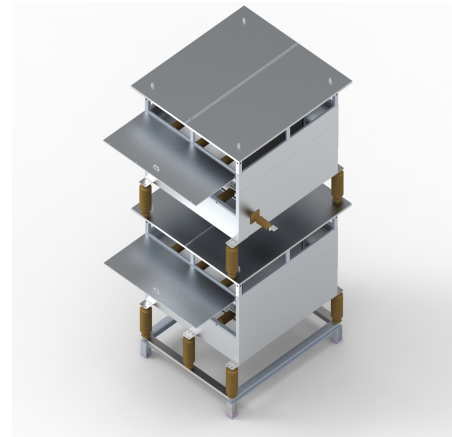


CSN® filter and damping resistors

DESCRIPTION

CSN® filter resistors (AC/DC filter resistors) and CSN® damping resistors are used in HVDC grids in conjunction with filter capacitors and inductors to attenuate or filter certain frequency components. This is necessary to reduce unwanted interference, such as harmonics or electromagnetic interference, which can be caused by the conversion of alternating current into direct current and vice versa.

The CSN® filter resistors provide a resistance path for these unwanted frequency components, allowing them to be dissipated and absorbed. Proper design and placement of the resistors can improve the performance and stability of the HVDC grid by keeping unwanted interference under control.



PRODUCT ADVANTAGES

- Excellent high-voltage resistance
- Low inductance
- high load capacity due to good convection conditions
- Proven design for outdoor or indoor operation
- high long-term stability

TECHNISCHE DATEN

<p>Resistance value</p>	<p>according to customer requirements</p>
<p>Insulation level</p>	<p>Customised (already supplied up to 1675 kV_{BIL})</p>
<p>Active elements</p>	<p>- Resistance fabric (CSN® Schniewindt mesh)</p>
	<p>- Wire meander</p>
	<p>- Belt elements</p>
Active material	selectable depending on requirement profile
Cooling	air-cooled
Protection classes	according to requirements (IP00 - IPX3)
PREN index (Pitting Resistance Equivalent	0 to > 50 (sea water resistant)

Number)

Voltage type

Alternating current (AC) and direct current (DC)

Ambient conditions

Reliable operation possible under difficult conditions in the following areas:

- Seismic
- wind
- pollution
- Temperature influences
- Ice and snow loads

<p>Corrosivity categories</p>

<p>C1 - C5 according to DIN EN ISO 12944</p>

Type of connection and connections

- Insulators (porcelain or composite)
- Feedthrough
- Connection pads
- screws
- stranded wire
- etc.