25
1995–2020

SALTEK®
Overvoltage controlled. ANYWHERE.

SOLUTION

Wind power plant
Surge protection

Why to Protect?

Nowadays, there is a big development in renewable energy sources. A large group of these renewable sources are wind power plants. Using such types of systems brings several problems and risks, which need to be solved. Due to the design solution of wind power plants, the main topic of this issue is lightning protection system.

Direct and indirect lightning strikes produce overvoltage pulses (LEMP) up to several thousand volts in the grid, which can be induced or spreaded by direct galvanic connections to the wiring of any nearby building. Similar lower-energy overvoltage phenomena also arise from switching operations (SEMP) of inductive loads.

These overvoltage pulses have the potential to destroy important electrical components. Due to costs of these components and losses of energy production, it is convenient to use a surge protective devices.

What to Protect?

- Generator
- Frequency converter
- Driver control
- Auxiliary circuits (e.g. warning lights)
- Signal lines (e.g. from meteostation)

Fig. 1 An example of installation of SPDs in nacelle of wind power plant

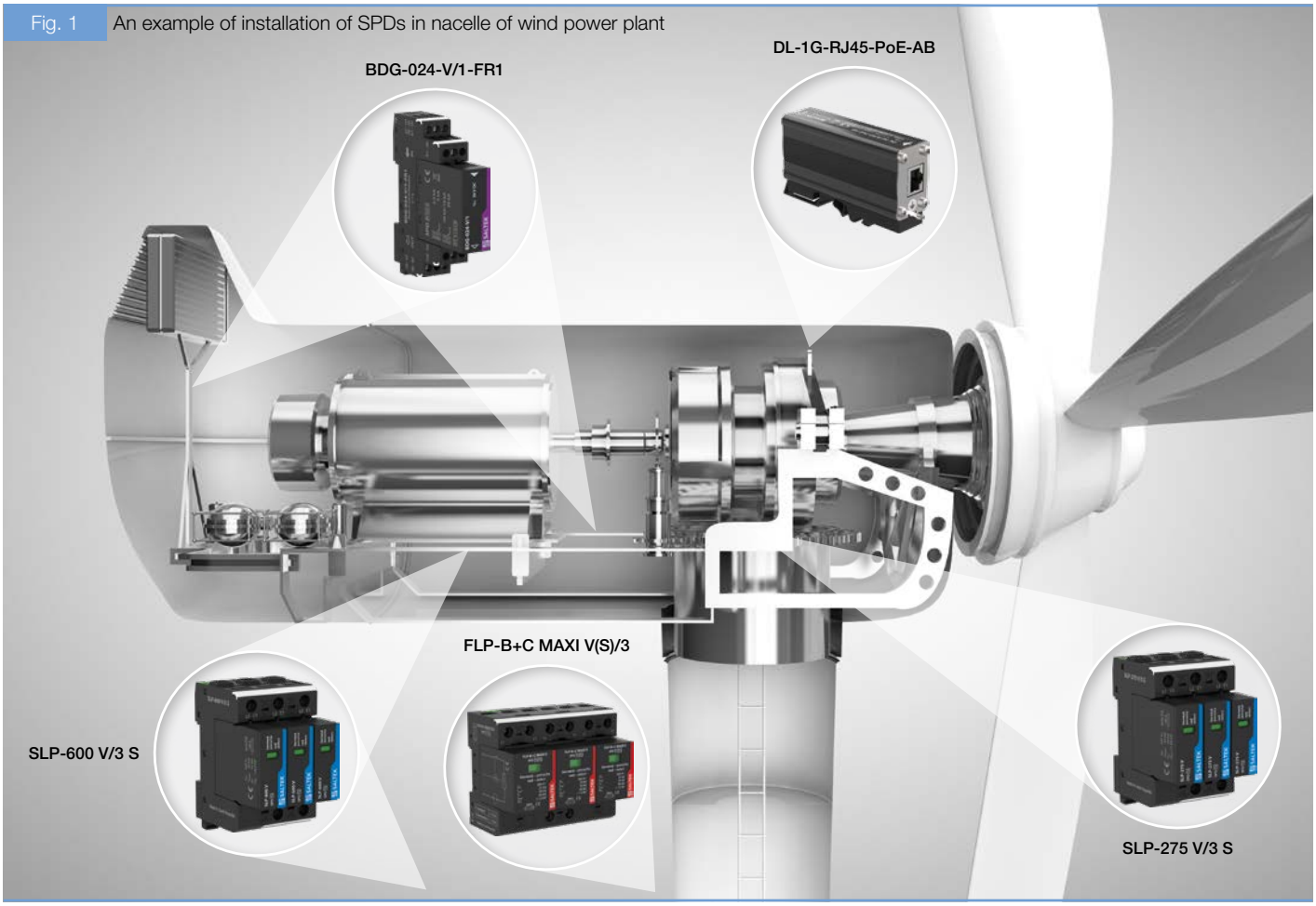
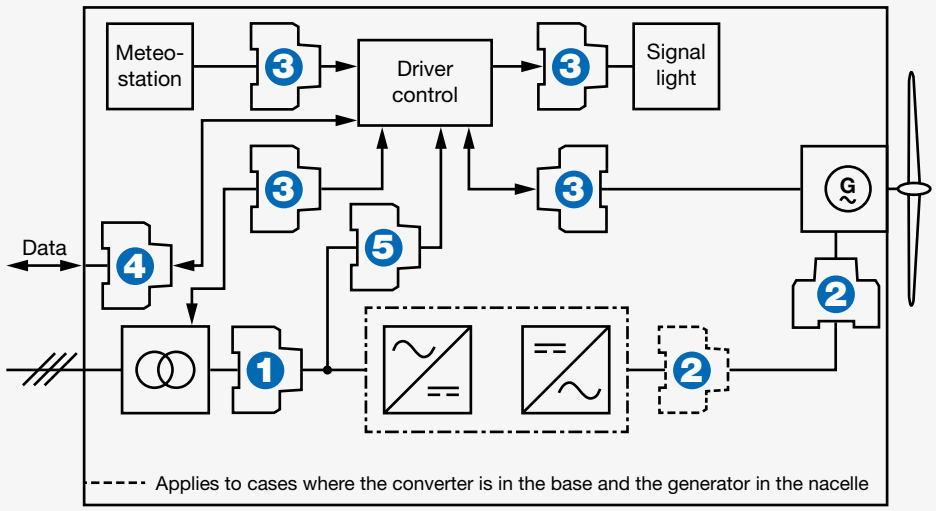


Fig. 2 Block diagram of SPDs in a wind power plant



Recommended SPDs for wind power plant

1 FLP-B+C MAXI V(S)/3

Combination of lightning current and surge arrester for three-phase system.

Connection	Suitable networks	U_c	I_{imp} (10/350 µs)	I_n (8/20 µs)	I_{max} (8/20 µs)	Remote signalling	Ordering number
3+0	TN, IT	260 V AC	25 kA	30 kA	40 kA	Yes	A03570

2 SLP-600 V/3 S

Varistor surge arrester, suitable for 3-phase TN and IT systems with non-sinusoidal voltage.

Connection	Suitable networks	U_c	I_n (8/20 µs)	I_{max} (8/20 µs)	Remote signalling	Ordering number
3+0	TN, IT	760 V AC	15 kA	40 kA	Yes	A06305

3 BDG-024-V/1-FR1

Coarse and fine surge protection for signalling lines (e.g. signal from meteostation).

Location	Number of lines	U_C	I_L	I_n (C2)	U_p (C3) core-core	Floating	Ordering number
ST 1+2+3	1	36 V DC	1 A	10 kA	46 V	Yes	A05706

4 DL-1G-RJ45-PoE-AB

Combination of coarse and fine protection of Ethernet line with PoE.

Location	Network type	U_C (line/power)	I_L (line/power)	I_n (C2)	U_p (C3) core-core	U_p (C3) core-PE	Ordering number
ST 1+2+3	1 Gbps	8.5 / 58 V DC	0,5 / 1,5 A	0,15 kA	60 / 90 V	500 V	A06148

5 SLP-275 V/3 S

Three-pole varistor surge arrester for protection of driver control power supply.

Connection	Suitable networks	U_C	I_n (8/20 µs)	I_{max} (8/20 µs)	Remote signalling	Ordering number
3+0	TN, IT	275 V AC	20 kA	40 kA	Yes	A01761

SALTEK s.r.o.
Drážďanská 85
400 07 Ústí nad Labem
Czech Republic
Phone: +420 272 942 470
Fax: +420 475 622 213
E-mail: trade@saltek.cz
www.saltek.eu/en

Distributor:

02/2020