




# RELIABLE PROTECTION OF EQUIPMENT WITH VOLT-SPD

## SURGE PROTECTION DEVICE



 SPD is used for protection of electric systems and equipment in the certain conditions from various surge overvoltages and impulse currents, such as lightning strokes, switching impulses, and transient processes. (GOST IEC 61643-12-2022).

 SPD is a complete device with its own connection and contains at least, one non/linear element (zinc oxide variable resistor or gas-filled discharger).

 Surge overvoltage protection is an important safety element in all branches of industry where the expensive equipment is used.



WE CAN HELP YOU  
TO CHOOSE OPTIMAL  
SPD PROPERTIES

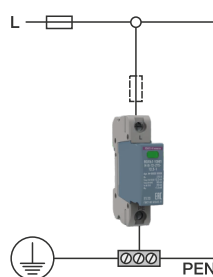


WE CAN RELIABLY  
PROTECT YOUR  
EXPENSIVE EQUIPMENT

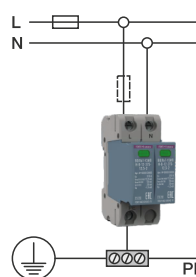


WE GUARANTEE  
THE HIGH QUALITY  
OF OUR PRODUCTS

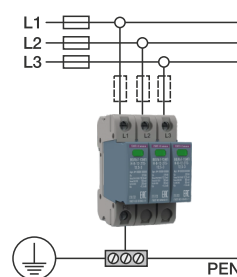
## SPD CONNECTION OPTIONS TO THE ELECTRIC CIRCUIT



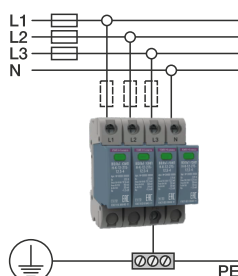
1P



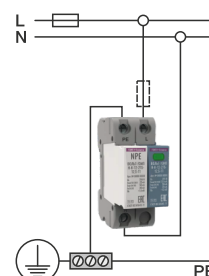
2P



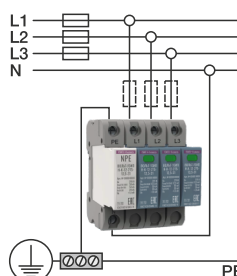
3P



4P



1+NPE



3+NPE



«**VOLT-SPB**» – specialized manufacturer of lightning protection and grounding systems, characterized by flexible management and solid approach to production, quality standards and service.

**WE** have our own manufacture located in Gatchina, Leningrad Region. The processes of design, development, manufacture and release are carried according to the requirements of ISO 9001:2015 and STO Gazprom 9001-2018.

**OUR** equipment is successfully used at the facilities of the largest national companies, such as Gazprom PJSC, Gazprom Neft PJSC, NK ROSNEFT PJSC, NOVATEK PJSC, Lukoil PJSC, SIBUR Holding PJSC, Norilsky Nickel Mining and Metallurgical Company PJSC, Apatit JSC, Severstal PJSC, Polus PJSC, Polimetall PJSC, Highland Gold Mining Limited, Udokanskaya Med HC JSC, FSKRosseti PJSC, Russian Railways OJSC, and the others.

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## SYMBOLS



### 1 SERIES VOLT-SPD

### 2 SYSTEM

**L** – low voltage power distribution alternating current (AC) system with voltage up to 1000 V

**P** – photoelectric direct current (DC) system with voltage up to 1500 V

### 3 TYPE

**L** – limiting (based on zinc oxide variable resistors)

**S** – switching (based on gas-filled dischargers)

**C** – combined (based on zinc oxide variable resistors and gas-filled dischargers)

### 4 CLASS

According to GOST IEC 61643-11-2013:

**1** – test class I **2** – test class II  
**3** – test class III

**12** – test class I+II

**23** – test class II+III

**123** – test class I+II+III

### 5 VOLTAGE

Maximum continuous operating voltage ( $U_c$ ), V

### 6 CURRENT

Lightning pulse current ( $I_{imp}$ ) – for the test class I with the wave form 10/350 – kA

Nominal breakdown current ( $I_n$ ) – for the test classes II and III with the wave form 8/20 – kA

### 7 POLARITY

**1** – single-pole (1P), for protection of phase conductor – L/PE, L/PEN, N/PE

**2** – two-pole (2P), for protection of phase and zero conductor – L/PE and N/PE

**3** – three-pole (3P), for protection of phase conductors – L/PEN

**4** – four-pole (4P), for protection of phase and zero conductor – L/PE and N/PE

**11** – two-pole (1+NPE), for protection of phase and zero conductor – L/N and N/PE

**31** – four-pole (3+NPE), for protection of phase and zero conductor – L/N, N/PE

### 8 MODIFICATION

**D** – "dry" contact for remote control of SPD operation condition

### SYMBOL RECORD EXAMPLE: VOLT-SPD-H-B-123-275-10-31-C

1. VOLT-SPD series
2. Low voltage AC system
3. Limiting type
4. Test class I+II+III
5.  $U_c = 275$  V
6.  $I_{imp} = 10$  kA
7. Four-pole (3+NPE)
8. "Dry" contact