SPD for Wind Turbine

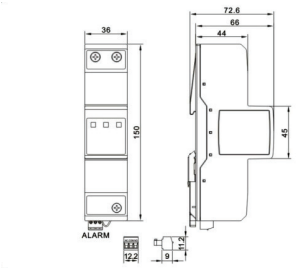
B25VG...-S

▪ TUV ▪ TSG Technologuy ▪ I_{max} 25kA

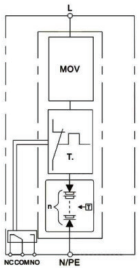
- TUV certified non-pluggable T1+2 SPD with high energy MOV and TSG technology
- High lightning current discharge capacity up to 25kA 10/350μs
- Short circuit withstand capability 25kArms
- Degradation indication & optional remote signal contact
- Lower voltage protection level
- Comply with EN/IEC61643-11, UL 1449 4th, IEEE C62.41, CSA C22.2

Model		B25VG440-S	B25VG440	B25VG760-S	B25VG760
Compliance		EN/IEC 61643-11, UL 1449th			
Category EN/IEC/UL		T1+2/ Class I+II /Type 1ca			
Nominal Voltage	U_n	400V	400V	690V	690V
Max. Continuous Operating Voltage (AC)	U_c	440V	440V	760V	760V
Technology		High energy MOV & TSG(Trigger spark gap) technology Thermal disconnector			
Ports/Protection Mode		1 / L-PE or L-N or N-PE			
Lightning Impulse Current (10/350μs)	I_{imp}	25kA			
Nominal Discharge Current (8/20μs)	I_n	25kA			
Max. Discharge Current (8/20μs)	I_{max}	100kA			
Voltage Protection Level	U_p	≤2.4kV	≤2.4kV	≤3.5kV	≤3.5kV
Voltage Protection Level @ 5kA	U_{res}	<2.0kV	<2.0kV	<2.5kV	<2.5kV
Temporary Overvoltage TOV —Withstand Mode	U_{tov}	690V/5s	690V/5s	1000V/5s	1000V/5s
Residual Current	I_{PE}	No			
Follow Current	I_f	No			
Short-Circuit Current Rating per IEC 61643	I_{sc}	25kArms			
Response Time	t_A	≤25ns			
Backup Fuse (only required if not already provided in mains)		250A gL/gG			
Environment		Temperature Range: -40°C ~ +80°C; Humidity: ≤95%; Altitude: ≤2000m			
Cross-Section of Connection Wire		Single-strand 35mm^2; multi-strand 25mm^2			
Mounting		35mm DIN-rail in accordance with EN 50022/DIN46277-3			
Enclosure Material		thermoplastic; extinguishing degree UL94 V-0			
Degree of Protection		IP20			
Installation Width		2 modules, DIN 43880			
Failure Indication /Status		RED- Failure			
Remote Alarm Contact		Yes	No	Yes	No
Approvals, certification		TUV, CE			
Additional Data for Remote Alarm Contacts					
Remote Alarm Contact Type		Isolated Form C			
Switching Capability U_n/I_n		AC: 250V/0.5A; DC: 250V/0.1A; 125V/0.2A; 75V/0.5A			
Max. Size of Connecting Wire		Max. 1.5mm^2 (or # 16AWG)			

Dimension Drawing



Basic Circuit Diagram

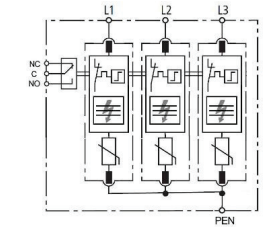
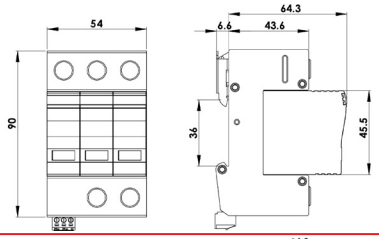
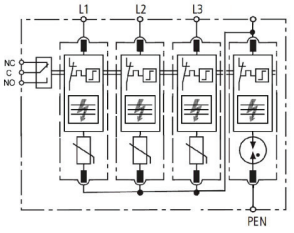
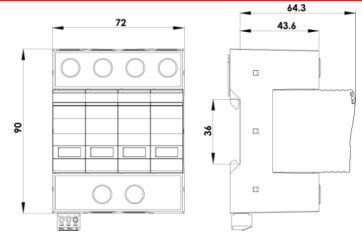


SP…/3P-S

▪ MOV+GDT Technology ▪ I_{max} 40kA

- Pluggable T2 SPD with high energy MOV technology for wind turbine
- High reliability due to global patented thermally protected with special arc-extinguish device (TPAE technology)
- High surge current discharge capacity up to 40kA 8/20μs
- Pluggable module for easy replacement
- Degradation indication & optional remote signal contact.
- Prewired for three phase 3W+G network systems such as TN-C etc
- Comply with IEC/EN 61643-11, UL 1449 4th, IEEE C62.41, CSA C22.2

Model		SP440/3P-S	SP760/3P-S	SP860/3PT-S
Compliance		EN/IEC 61643-11, UL 1449th		
Category EN/IEC/UL		T2/ Class II /Type 1ca		
Nominal Voltage	U_n	400/690Vac		
Max. Continuous Operating Voltage (AC)	U_c	440V	760V	860V
Technology		High energy MOV technology; TPAE technology (patented)		High energy MOV & GDT technology; TPAE technology (patented)
Ports/Protection Mode		1 / L-PEN		
Nominal Discharge Current (8/20μs)	I_n	20kA		
Max. Discharge Current (8/20μs)	I_{max}	40kA		
Voltage Protection Level	U_p	≤2.4kV	≤3.0kV	≤4.0kV
Voltage Protection Level @ 5kA	U_{res}	<2.0kV	<2.0kV	<2.5kV
Temporary Overvoltage TOV —Withstand Mode	U_{tov}	582V/5s	900V/5s	1200V/5s
Residual Current	I_{PE}	<0.1mA	<0.1mA	No
Follow Current	I_f	No		
Short Circuit Current Rating per UL 1449	I_{sccr}	200kArms		
Response Time	t_A	≤25ns		
Backup Fuse (only required if not already provided in mains)		125A gL/gG		
Environment		Temperature Range: -40℃ ~ +80℃; Humidity: ≤95%; Altitude: ≤3000m		
Cross-Section of Connection Wire		Single-strand 35mm^2; multi-strand 25mm^2		
Mounting		35mm DIN-rail in accordance with EN 50022/DIN46277-3		
Enclosure Material		thermoplastic; extinguishing degree UL94 V-0		
Degree of Protection		IP20		
Installation Width		3 modules, DIN 43880		4 modules, DIN 43880
Failure Indication /Status		RED- Failure		
Remote Alarm Contact		Yes		
Approvals, certification		CE		
Diagram		1	1	2
Additional Data for Remote Alarm Contacts				
Remote Alarm Contact Type		Isolated Form C		
Switching Capability U_n/I_n		AC: 250V/0.5A; DC: 250V/0.1A; 125V/0.2A; 75V/0.5A		
Max. Size of Connecting Wire		Max. 1.5mm^2 (or # 16AWG)		

Diagram	Basic Circuit diagram	Dimension Drawing
1) 		
2) 		

Note: SP860/3PT-S is specifically designed for protecting the rotor winding of the generator and the supply line of the inverter. An additional spark gap module is used for potential isolation and to prevent that the MOV based modules operate prematurely due to high voltage tolerances and voltage fluctuations.