

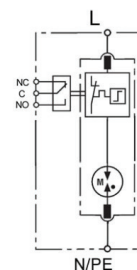
Single Pole SPD■ **ESG Technology****G50/...-S**

- Non-pluggable T1+2 SPD with Encapsulated Spark Gap (ESG) technology to guarantee reliability in rugged environment and high exposure location.
- High lightning current discharge capacity up to I_{imp} 50kA 10/350μs
- Degradation indication & optional remote signal contact
- Low voltage protection level
- Comply with IEC/EN 61643-11, UL 1449 4th, IEEE C62.41, CSA C22.2



Model		G50/150-S	G50/175-S	G50/275-S	G50/320-S	G50/385-S	G50/420-S
Compliance		EN/IEC 61643-11					
Category IEC/EN		Class I+II /T1+2					
Max. Continuous Operating Voltage (AC)	U _c	150V	175V	275V	320V	385V	420V
Technology		ESG technology Thermal disconnect					
Ports/Protection Mode		1 / L-PE or L-N or N-PE					
Lightning Impulse Current (10/350μs)	I _{imp}	50kA					
Nominal Discharge Current (8/20μs)	I _n	50kA					
Max. Discharge Current (8/20μs)	I _{max}	150kA					
Voltage Protection Level	U _p	≤1.2kV	≤1.2kV	≤1.5kV	≤1.6kV	≤1.8kV	≤2.0kV
Temporary Overvoltage TOV —Withstand Mode	U _{toV}	228V/120min	228V/120min	442V/120min	442V/120min	529V/120min	585V/120min
Residual Current	I _{PE}	No					
Follow Current Interrupt Rating	I _{fi}	25kA					
Short-Circuit Current Rating per IEC 61643-11	I _{sc}	25kA					
Response Time	t _A	≤100ns					
Backup Fuse (only required if not already provided in mains)		500A gL/gG					
Environment		Temperature Range: - 40°C ~ +85°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					
Approvals, certification		CE					
Additional Data for Remote Alarm Contacts							
Remote Alarm Contact Type		Isolated Form C					
Switching Capability U _r /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)					

Note: Please see Page 13 for prewired multi-pole combination.

■ **Dimension Drawing**■ **Basic Circuit Diagram**

T1

Single Pole SPD

■ NPE Module

G.../255NPE



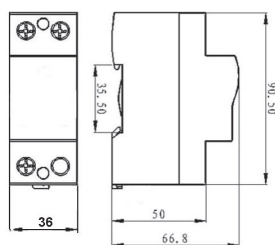
- T1+2 SPD with Encapsulated Spark Gap (ESG) technology to guarantee reliability in rugged environment and high exposure location
- High lightning current discharge capacity up to I_{imp} 100kA 10/350
- Low voltage protection level
- Comply with IEC/EN 61643-11, UL 1449 4th, IEEE C62.41, CSA C22.2



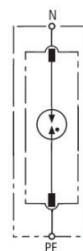
Model		G100/255NPE	G50/255NPE	G25/255NPE
Compliance		EN/IEC 61643-11		
Category IEC/EN		Class I+II /T1+2		
Max. Continuous Operating Voltage (AC)	U_c	255V		
Technology		ESG technology		
Ports/Protection Mode		1 / N-PE		
Lightning Impulse Current (10/350 μ s)	I_{imp}	100kA	50kA	25kA
Nominal Discharge Current (8/20 μ s)	I_n	100kA	50kA	25kA
Max. Discharge Current (8/20 μ s)	I_{max}	200kA	150kA	100kA
Voltage Protection Level (1.2/50 μ s)	U_p	$\leq 1.5kV$		
Temporary Overvoltage TOV —Withstand Mode	U_{tov}	1200V/200ms		
Residual Current	I_{PE}	No		
Follow Current Interrupt Rating	I_{fi}	200A@255Vac		
Response Time	t_A	$\leq 100ns$		
Environment		Temperature Range: -40°C ~ +85°C; Humidity: $\leq 95\%$; Altitude: $\leq 2000m$		
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		
Approvals, certification		CE		

Note: Please see Page 13 for prewired multi-pole combination.

■ Dimension Drawing



■ Basic Circuit Diagram



T1

T2

T3

Prewired Multi-pole SPD

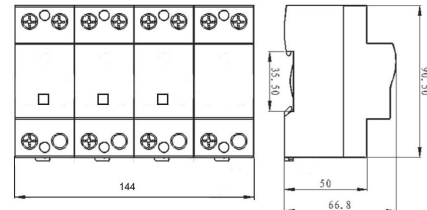
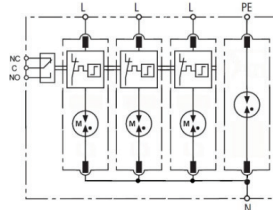
Part No.	Pole	Combination	Power System	Max. Operating Voltage U _c	Lightning Impulse Current (10/350μs) I _{imp}	Voltage Protection Level U _p	Diagram
G50/150-S/2P	2	2 x G50/150-S	Single phase 2W+G	150Vac	50kA	L/N-G: 1.2kV	4
G50/175-S/2P	2	2 x G50/175-S	Single phase 2W+G	175Vac	50kA	L/N-G: 1.2kV	4
G50/275-S/2P	2	2 x G50/275-S	Single phase 2W+G	275Vac	50kA	L/N-G: 1.5kV	4
G50/320-S/2P	2	2 x G50/320-S	Single phase 2W+G	320Vac	50kA	L/N-G: 1.6kV	4
G50/385-S/2P	2	2 x G50/385-S	Single phase 2W+G	385Vac	50kA	L/N-G: 1.8kV	4
G50/420-S/2P	2	2 x G50/420-S	Single phase 2W+G	420Vac	50kA	L/N-G: 2.0kV	4
G50/150-S/PN50	2	G50/150-S + G50/255NPE	Single phase 2W+G	150Vac	50kA	L-N: 1.2kV, N-PE: 1.5kV	3
G50/175-S/PN50	2	G50/175-S + G50/255NPE	Single phase 2W+G	175Vac	50kA	L-N: 1.2kV, N-PE: 1.5kV	3
G50/275-S/PN50	2	G50/275-S + G50/255NPE	Single phase 2W+G	275Vac	50kA	L-N: 1.5kV, N-PE: 1.5kV	3
G50/320-S/PN50	2	G50/320-S + G50/255NPE	Single phase 2W+G	320Vac	50kA	L-N: 1.6kV, N-PE: 1.5kV	3
G50/385-S/PN50	2	G50/385-S + G50/255NPE	Single phase 2W+G	385Vac	50kA	L-N: 1.8kV, N-PE: 1.5kV	3
G50/420-S/PN50	2	G50/420-S + G50/255NPE	Single phase 2W+G	420Vac	50kA	L-N: 2.0kV, N-PE: 1.5kV	3
G50/150-S/3P	3	3 x G50/150-S	Three phase 3W+G	150Vac	50kA	L-G: 1.2kV	2
G50/175-S/3P	3	3 x G50/175-S	Three phase 3W+G	175Vac	50kA	L-G: 1.2kV	2
G50/275-S/3P	3	3 x G50/275-S	Three phase 3W+G	275Vac	50kA	L-G: 1.5kV	2
G50/320-S/3P	3	3 x G50/320-S	Three phase 3W+G	320Vac	50kA	L-G: 1.6kV	2
G50/385-S/3P	3	3 x G50/385-S	Three phase 3W+G	385Vac	50kA	L-G: 1.8kV	2
G50/420-S/3P	3	3 x G50/420-S	Three phase 3W+G	420Vac	50kA	L-G: 2.0kV	2
G50/150-S/3PN100	4	3 x G50/150-S + G100/255NPE	Three phase 4W+G	150Vac	50kA / 100kA(NPE)	L-N: 1.2kV, N-PE: 1.5kV	1
G50/175-S/3PN100	4	3 x G50/175-S + G100/255NPE	Three phase 4W+G	175Vac	50kA / 100kA(NPE)	L-N: 1.2kV, N-PE: 1.5kV	1
G50/275-S/3PN100	4	3 x G50/275-S + G100/255NPE	Three phase 4W+G	275Vac	50kA / 100kA(NPE)	L-N: 1.5kV, N-PE: 1.5kV	1
G50/320-S/3PN100	4	3 x G50/320-S + G100/255NPE	Three phase 4W+G	320Vac	50kA / 100kA(NPE)	L-N: 1.6kV, N-PE: 1.5kV	1
G50/385-S/3PN100	4	3 x G50/385-S + G100/255NPE	Three phase 4W+G	385Vac	50kA / 100kA(NPE)	L-N: 1.8kV, N-PE: 1.5kV	1
G50/420-S/3PN100	4	3 x G50/420-S + G100/255NPE	Three phase 4W+G	420Vac	50kA / 100kA(NPE)	L-N: 2.0kV, N-PE: 1.5kV	1

Diagram

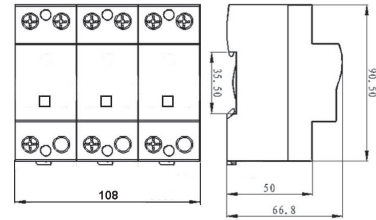
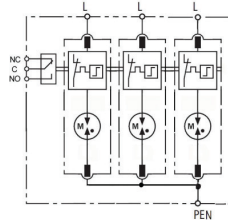
Basic Circuit Diagram

Dimension Drawing

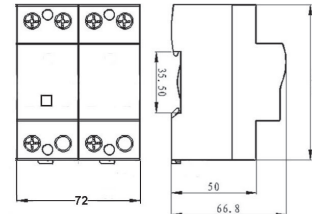
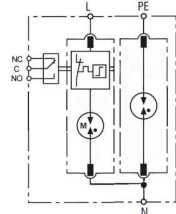
1) 3+1



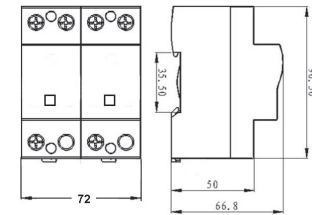
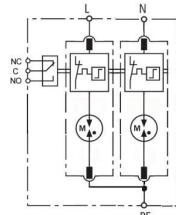
2) 3+0



3) 1+1



4) 2+0



T1

Single Pole SPD

■ Pluggable ■ ESG Technology

G35P/...-S



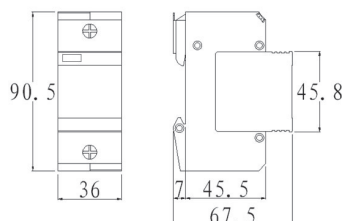
- T1+2 SPD with Encapsulated Spark Gap (ESG) technology to guarantee reliability in rugged environment and high exposure location
- Pluggable module for easy replacement
- High lightning current discharge capacity up to I_{imp} 35kA 10/350
- Degradation indication & optional remote signal contact.
- Low voltage protection level
- Comply with IEC/EN 61643-11, UL 1449 4th, IEEE C62.41, CSA C22.2



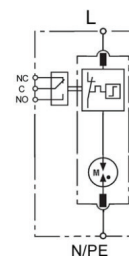
Model		G35P/150-S	G35P/175-S	G35P/275-S	G35P/320-S	G35P/385-S	G35P/420-S
Compliance		EN/IEC 61643-11					
Category IEC/EN		Class I+II /T1+2					
Max. Continuous Operating Voltage (AC)	U _c	150V	175V	275V	320V	385V	420V
Technology		ESG technology Thermal disconnecter					
Ports/Protection Mode		1 / L-PE or L-N or N-PE					
Lightning Impulse Current (10/350μs)	I _{imp}	35kA					
Nominal Discharge Current (8/20μs)	I _n	35kA					
Max. Discharge Current (8/20μs)	I _{max}	120kA					
Voltage Protection Level	U _p	≤1.4kV	≤1.4kV	≤1.8kV	≤2.0kV	≤2.2kV	≤2.5kV
Temporary Overvoltage TOV —Withstand Mode	U _{lov}	228V/120min	228V/120min	442V/120min	442V/120min	529V/120min	585V/120min
Residual Current	I _{PE}	No					
Follow Current Interrupt Rating	I _{fi}	25kA					
Short-Circuit Current Rating per IEC 61643	I _{sc}	25kA					
Response Time	t _A	≤100ns					
Backup Fuse (only required if not already provided in mains)		315A gL/gG					
Environment		Temperature Range: - 40°C ~ +85°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					
Approvals, certification		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)					

Note: Please see Page 16 and 17 for prewired multi-pole combination.

■ Dimension Drawing



■ Basic Circuit Diagram



Single Pole SPD

■ Pluggable ■ ESG Technology

G25P/...-S



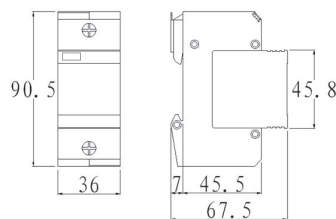
- T1+2 SPD with Encapsulated Spark Gap (ESG) technology to guarantee reliability in rugged environment and high exposure location
- Pluggable module for easy replacement
- High lightning current discharge capacity up to I_{imp} 25kA 10/350
- Degradation indication & optional remote signal contact.
- Low voltage protection level
- Comply with IEC/EN 61643-11, UL 1449 4th, IEEE C62.41, CSA C22.2



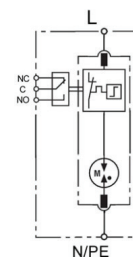
Model		G25P/150-S	G25P/175-S	G25P/275-S	G25P/320-S	G25P/385-S	G25P/420-S
Compliance		EN/IEC 61643-11					
Category IEC/EN		Class I+II /T1+2					
Max. Continuous Operating Voltage (AC)	U _c	150V	175V	275V	320V	385V	420V
Technology		ESG technology Thermal disconnecter					
Ports/Protection Mode		1 / L-PE 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	≤1.2kV	≤1.2kV	≤1.5kV	≤1.6kV	≤1.8kV	≤2.0kV
Temporary Overvoltage TOV —Withstand Mode	U _{toV}	228V/120min	228V/120min	442V/120min	442V/120min	529V/120min	585V/120min
Residual Current	I _{PE}	No					
Follow Current Interrupt Rating	I _{fi}	25kA					
Short-Circuit Current Rating per IEC 61643	I _{sc}	25kA					
Response Time	t _A	≤100ns					
Backup Fuse (only required if not already provided in mains)		250A gL/gG					
Environment		Temperature Range: - 40°C ~ +85°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					
Approvals, certification		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)					

Note: Please see Page 16 and 17 for prewired multi-pole combination.

■ Dimension Drawing



■ Basic Circuit Diagram



T1

T2

T3

Prewired Multi-pole SPD

Part No.	Pole	Combination	Power System	Max. Operating Voltage U _c	Lightning Impulse Current (10 / 350µs) I _{imp}	Voltage Protection Level U _p	Diagram
G35P/150-S/2P	2	2 x G35P/150-S	Single phase 2W+G	150Vac	35kA	L / N-G: 1.4kV	4
G35P/175-S/2P	2	2 x G35P/175-S	Single phase 2W+G	175Vac	35kA	L / N-G: 1.4kV	4
G35P/275-S/2P	2	2 x G35P/275-S	Single phase 2W+G	275Vac	35kA	L / N-G: 1.8kV	4
G35P/320-S/2P	2	2 x G35P/320-S	Single phase 2W+G	320Vac	35kA	L / N-G: 2.0kV	4
G35P/385-S/2P	2	2 x G35P/385-S	Single phase 2W+G	385Vac	35kA	L / N-G: 2.2kV	4
G35P/420-S/2P	2	2 x G35P/420-S	Single phase 2W+G	420Vac	35kA	L / N-G: 2.5kV	4
G35P/150-S/PN50	2	G35P/150-S + G50P/255NPE	Single phase 2W+G	150Vac	35kA / 50kA(NPE)	L-N: 1.4kV, N-PE: 1.5kV	3
G35P/175-S/PN50	2	G35P/175-S + G50P/255NPE	Single phase 2W+G	175Vac	35kA / 50kA(NPE)	L-N: 1.4kV, N-PE: 1.5kV	3
G35P/275-S/PN50	2	G35P/275-S + G50P/255NPE	Single phase 2W+G	275Vac	35kA / 50kA(NPE)	L-N: 1.8kV, N-PE: 1.5kV	3
G35P/320-S/PN50	2	G35P/320-S + G50P/255NPE	Single phase 2W+G	320Vac	35kA / 50kA(NPE)	L-N: 2.0kV, N-PE: 1.5kV	3
G35P/385-S/PN50	2	G35P/385-S + G50P/255NPE	Single phase 2W+G	385Vac	35kA / 50kA(NPE)	L-N: 2.2kV, N-PE: 1.5kV	3
G35P/420-S/PN50	2	G35P/420-S + G50P/255NPE	Single phase 2W+G	420Vac	35kA / 50kA(NPE)	L-N: 2.5kV, N-PE: 1.5kV	3
G35P/150-S/3P	3	3 x G35P/150-S	Three phase 3W+G	150Vac	35kA	L-G: 1.4kV	2
G35P/175-S/3P	3	3 x G35P/175-S	Three phase 3W+G	175Vac	35kA	L-G: 1.4kV	2
G35P/275-S/3P	3	3 x G35P/275-S	Three phase 3W+G	275Vac	35kA	L-G: 1.8kV	2
G35P/320-S/3P	3	3 x G35P/320-S	Three phase 3W+G	320Vac	35kA	L-G: 2.0kV	2
G35P/385-S/3P	3	3 x G35P/385-S	Three phase 3W+G	385Vac	35kA	L-G: 2.2kV	2
G35P/420-S/3P	3	3 x G35P/420-S	Three phase 3W+G	420Vac	35kA	L-G: 2.5kV	2
G35P/150-S/3PN100	4	3 x G35P/150-S + G100P/255NPE	Three phase 4W+G	150Vac	35kA / 100kA(NPE)	L-N: 1.4kV, N-PE: 1.5kV	1
G35P/175-S/3PN100	4	3 x G35P/175-S + G100P/255NPE	Three phase 4W+G	175Vac	35kA / 100kA(NPE)	L-N: 1.4kV, N-PE: 1.5kV	1
G35P/275-S/3PN100	4	3 x G35P/275-S + G100P/255NPE	Three phase 4W+G	275Vac	35kA / 100kA(NPE)	L-N: 1.8kV, N-PE: 1.5kV	1
G35P/320-S/3PN100	4	3 x G35P/320-S + G100P/255NPE	Three phase 4W+G	320Vac	35kA / 100kA(NPE)	L-N: 2.0kV, N-PE: 1.5kV	1
G35P/385-S/3PN100	4	3 x G35P/385-S + G100P/255NPE	Three phase 4W+G	385Vac	35kA / 100kA(NPE)	L-N: 2.2kV, N-PE: 1.5kV	1
G35P/420-S/3PN100	4	3 x G35P/420-S + G100P/255NPE	Three phase 4W+G	420Vac	35kA / 100kA(NPE)	L-N: 2.5kV, N-PE: 1.5kV	1
G25P/150-S/2P	2	2 x G25P/150-S	Single phase 2W+G	150Vac	25kA	L / N-G: 1.2kV	4
G25P/175-S/2P	2	2 x G25P/175-S	Single phase 2W+G	175Vac	25kA	L / N-G: 1.2kV	4
G25P/275-S/2P	2	2 x G25P/275-S	Single phase 2W+G	275Vac	25kA	L / N-G: 1.5kV	4
G25P/320-S/2P	2	2 x G25P/320-S	Single phase 2W+G	320Vac	25kA	L / N-G: 1.6kV	4
G25P/385-S/2P	2	2 x G25P/385-S	Single phase 2W+G	385Vac	25kA	L / N-G: 1.8kV	4
G25P/420-S/2P	2	2 x G25P/420-S	Single phase 2W+G	420Vac	25kA	L / N-G: 2.0kV	4
G25P/150-S/PN50	2	G25P/150-S + G50P/255NPE	Single phase 2W+G	150Vac	25kA / 50kA(NPE)	L-N: 1.2kV, N-PE: 1.5kV	3
G25P/175-S/PN50	2	G25P/175-S + G50P/255NPE	Single phase 2W+G	175Vac	25kA / 50kA(NPE)	L-N: 1.2kV, N-PE: 1.5kV	3
G25P/275-S/PN50	2	G25P/275-S + G50P/255NPE	Single phase 2W+G	275Vac	25kA / 50kA(NPE)	L-N: 1.5kV, N-PE: 1.5kV	3
G25P/320-S/PN50	2	G25P/320-S + G50P/255NPE	Single phase 2W+G	320Vac	25kA / 50kA(NPE)	L-N: 1.6kV, N-PE: 1.5kV	3
G25P/385-S/PN50	2	G25P/385-S + G50P/255NPE	Single phase 2W+G	385Vac	25kA / 50kA(NPE)	L-N: 1.8kV, N-PE: 1.5kV	3
G25P/420-S/PN50	2	G25P/420-S + G50P/255NPE	Single phase 2W+G	420Vac	25kA / 50kA(NPE)	L-N: 2.0kV, N-PE: 1.5kV	3
G25P/150-S/3P	3	3 x G25P/150-S	Three phase 3W+G	150Vac	25kA	L-G: 1.2kV	2
G25P/175-S/3P	3	3 x G25P/175-S	Three phase 3W+G	175Vac	25kA	L-G: 1.2kV	2
G25P/275-S/3P	3	3 x G25P/275-S	Three phase 3W+G	275Vac	25kA	L-G: 1.5kV	2
G25P/320-S/3P	3	3 x G25P/320-S	Three phase 3W+G	320Vac	25kA	L-G: 1.6kV	2
G25P/385-S/3P	3	3 x G25P/385-S	Three phase 3W+G	385Vac	25kA	L-G: 1.8kV	2
G25P/420-S/3P	3	3 x G25P/420-S	Three phase 3W+G	420Vac	25kA	L-G: 2.0kV	2
G25P/150-S/3PN100	4	3 x G25P/150-S + G100P/255NPE	Three phase 4W+G	150Vac	25kA / 100kA(NPE)	L-N: 1.2kV, N-PE: 1.5kV	1
G25P/175-S/3PN100	4	3 x G25P/175-S + G100P/255NPE	Three phase 4W+G	175Vac	25kA / 100kA(NPE)	L-N: 1.2kV, N-PE: 1.5kV	1
G25P/275-S/3PN100	4	3 x G25P/275-S + G100P/255NPE	Three phase 4W+G	275Vac	25kA / 100kA(NPE)	L-N: 1.5kV, N-PE: 1.5kV	1
G25P/320-S/3PN100	4	3 x G25P/320-S + G100P/255NPE	Three phase 4W+G	320Vac	25kA / 100kA(NPE)	L-N: 1.6kV, N-PE: 1.5kV	1
G25P/385-S/3PN100	4	3 x G25P/385-S + G100P/255NPE	Three phase 4W+G	385Vac	25kA / 100kA(NPE)	L-N: 1.8kV, N-PE: 1.5kV	1
G25P/420-S/3PN100	4	3 x G25P/420-S + G100P/255NPE	Three phase 4W+G	420Vac	25kA / 100kA(NPE)	L-N: 2.0kV, N-PE: 1.5kV	1

T1

T2

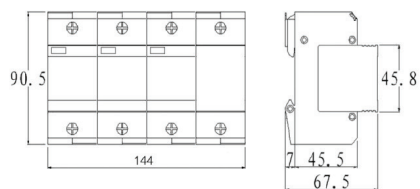
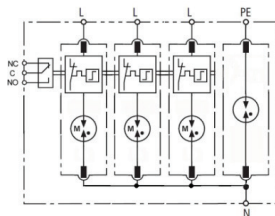
T3

Diagram

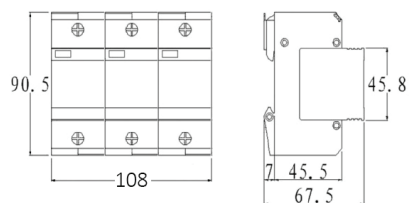
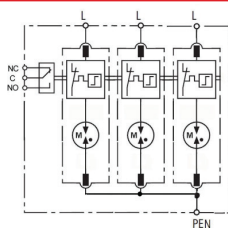
Basic Circuit Diagram

Dimension Drawing

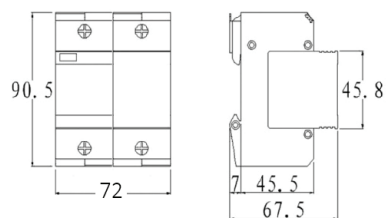
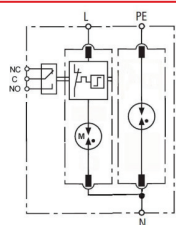
1) 3+1



2) 3+0



3) 1+1



4) 2+0

