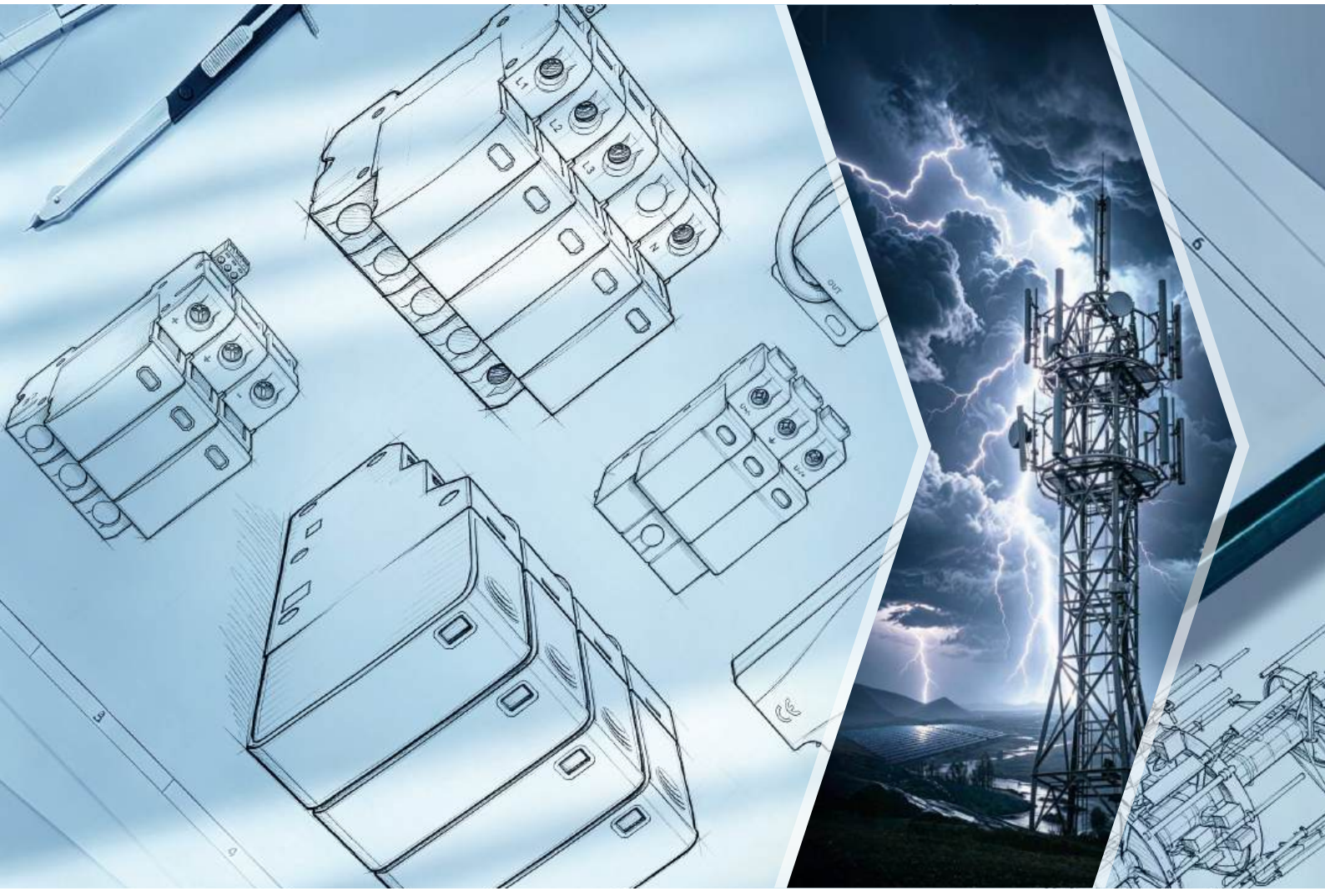
VOZWEI

Photovoltaic SPD / 1U SPD
LED SPD / Power SPD
Signal SPD



SURGE PROTECTIVE DEVICE PRODUCT MANUAL

VOZWEI

Brief Introduction

VOZWEI is a dual drive company driven by technology and client's demand, focusing on people's electricity safety and striving to contribute to the development of green energy. We specialize in the research and development, production, sales, and service of terminal electrical apparatus, electrical distribution apparatus, and control electrical apparatus, such as miniature circuit breakers, molded case circuit breakers, Air circuit breakers, DC contactors, and other electrical products.

Since its establishment, VOZWEI has adhered to the core value of "achieving clients" and driven product research and development based on client's needs. We focus on telecommunication, solar energy, and wind power applications, etc. relying on the manufacturing advantages of China's industry and the excellent cost control and quality management advantages of our team to achieve cost control for clients, while ensuring the business philosophy of providing high-quality electrical products and solutions. At present, our products have involved in dozens of countries and regions such as Germany, France, Italy, Britain, Brazil, Argentina, Colombia, Canada, Israel, Thailand, Vietnam, South Korea, India, etc.

Telecom

Solar Energy

Wind Power

Corporate Cultures

Our Vision	Pursuing excellence, creating the electrical future of a safer, more reliable and smarter
Our Mission	Steady development, bring the electric products of premium quality at reasonable prices to world
Core values	Value, Reliability, Efficiency, Innovation, Low-carbon, Vitality
Work Philosophy	Relying on responsibility and diligence to aim at perfection, respect everyone, and happiness comes from striving

Contents

AC Power SPD

Design Features

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Series	Images	Description	Imax	Features
VPH385		Type 1 AC Power SPD (LV)	30 kA	Integrated construction
VPH750		Type 1 AC Power SPD (HV)	25 kA	Integrated construction
VPM275 VPM320 VPM385		Type 2 AC Power SPD (LV)	40 kA 80 kA 100 kA	Pluggable design or integrated construction
VPM750 VPM1000		Type 2 AC Power SPD (HV)	40 kA 50 kA 100 kA	Pluggable design or integrated construction
VPH888-12.5/3P+1P (T1+T2) VPM1000-50/3N+NPG (T1+T2)		Combined Type 1+2 AC Power SPD (HV)	80 kA 50 kA	Pluggable design or integrated construction

Type 1 AC Power SPD (LV)

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Application

This product is a high-capacity, low-voltage surge protective device (SPD) designed for Type 1 (Class B) installation at the main power inlet of low-voltage distribution systems, located at the boundary between LPZ0 and LPZ1 zones. It protects sensitive electrical equipment against damage from direct lightning strikes and induced transient overvoltages.

- Impulse current Iimp (10/350 µs): 30 kA
- Normal discharge current In (8/20 µs): 30 kA
- Max. continuous operating voltage Uc: AC 385 V
- Selectable circuit protection modes: 2P/ 3P/ 4P/ 3N+NPE
- Utilizes high-performance graphite or gas discharge tube (GDT) technology with superior follow-current interruption capability

Selection Guide

VOZWEI

VP	□	□	-	□	/	□□
1	2	3		4		5

SN	Name	Specification, type code
1	Design code	VP
2	Product Series	H
3	Max. continuous operating voltage Uc	AC 385 V
4	Impulse current Iimp (10/350 μs)	30: 30 kA
5	Protection mode	2P: 2P; 3P: 3P; 4P:4P; 3N+NPE: 3N+NPE

Example: VPH385-30/4P → Uc: AC 385 V; Iimp (10/350 μs): 30 kA; Protection mode: 4P.

Parameter \ Model	VPH385-30/4P
SPD according to EN/IEC 61643-11	Type 1
Protection mode	L-PE & N-PE
Nominal operating voltage Un	AC 230/400 V 50/60 Hz
Max. continuous operating voltage Uc	AC 385 V 50/60 Hz
Impulse current Iimp (10/350 μs)	30 kA
Voltage protection level Up	⩽ 1.9 kV
Response time	⩽ 100 ns
Cross-sectional area	6 ~ 35 mm^2
Stripping length terminals	12.5 mm
Tightening torque	3 N·m
Normal/Fault Indication	Green/Red
Remote signaling mode	RSC: Remote Signal contact, NC-COM contact.
Performances of remote signal contact	Max. open circuit voltage: 300 V; Max. load current: 100 mA; Node equivalent resistance: 50 Ω.
Remote cross-sectional area	Max. 1.5 mm^2
Installation method	35 mm DIN rail
Housing material	UL94-V0
Protection class	IP20
Operating temperature	-40°C ~ +80°C
Relative humidity	⩽ 95% (25°C)
Operating altitude	⩽ 3000 m
Outline dimensions (without terminal)	90.00 mm × 144.00 mm × 66.00 mm (tolerance ± 1 mm)
Internal protection device	The lightning protection unit has a built-in thermal trip device
External protection device	The incoming cables must be connected in series to the C circuit breaker with the rated current not exceeding 63 A.

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Parameter / Model	Un	Uc	Up	In	Iimp	Protection mode	Operating Principle	Size
VPH385-30/2P	AC 230 V	AC 385 V	1.9 kV	30 kA	30 kA	L-PE & N-PE	Figure 1.1.1	Figure 1.2.2
VPH385-30/3P	AC 230 V	AC 385 V	1.9 kV	30 kA	30 kA	L-PE	Figure 1.1.2	Figure 1.2.3
VPH385-30/4P	AC 230 V	AC 385 V	1.9 kV	30 kA	30 kA	L-PE & N-PE	Figure 1.1.4	Figure 1.2.1
VPH385-30/3N+NPE	AC 230 V	AC 385 V	1.9 kV	30 kA	30 kA	L-N & N-PE	Figure 1.1.3	Figure 1.2.4

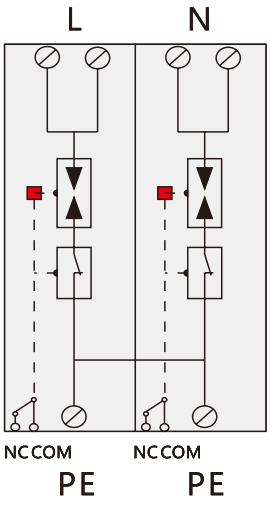

Figure1.1.1

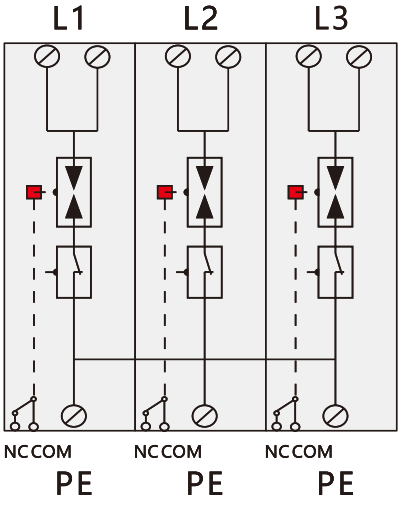

Figure1.1.2

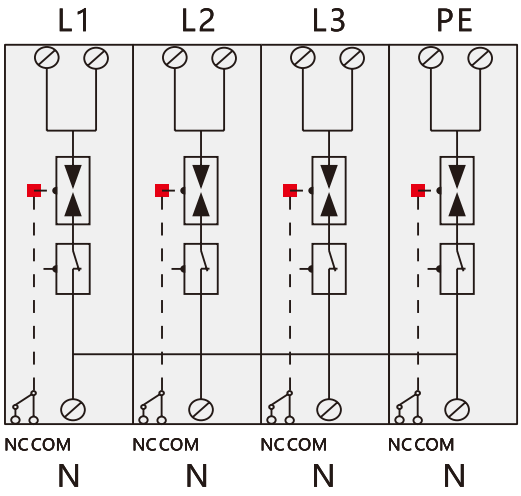

Figure1.1.3

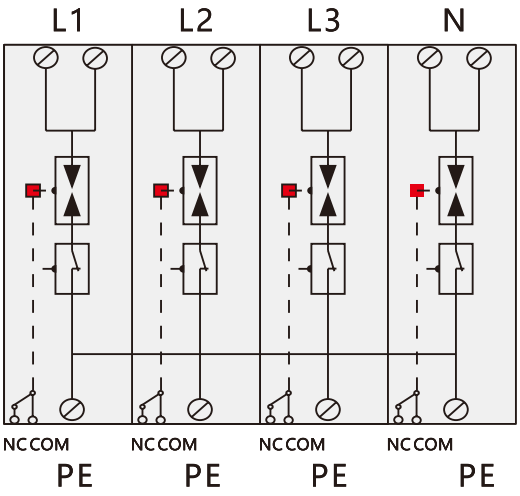

Figure1.1.4

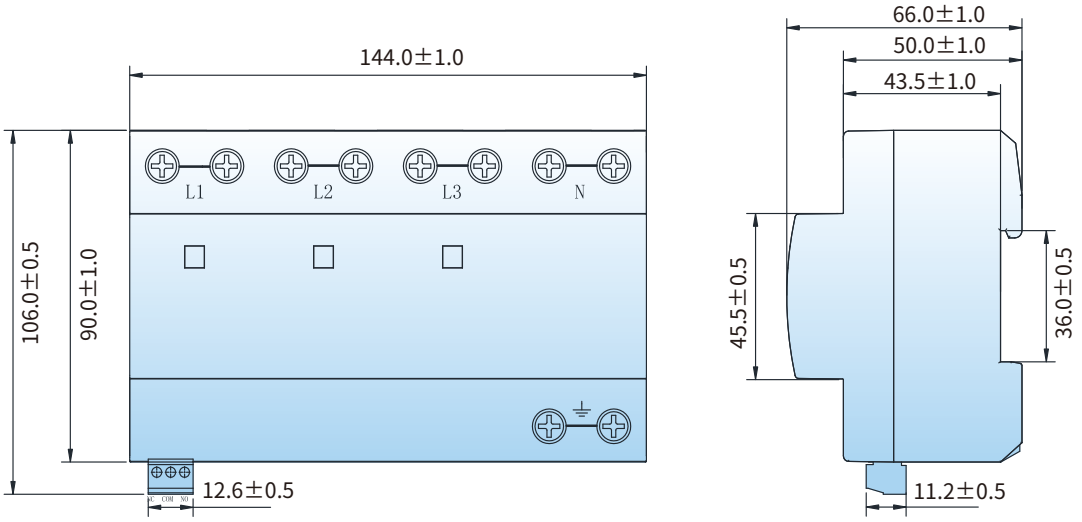

Figure 1.2.1

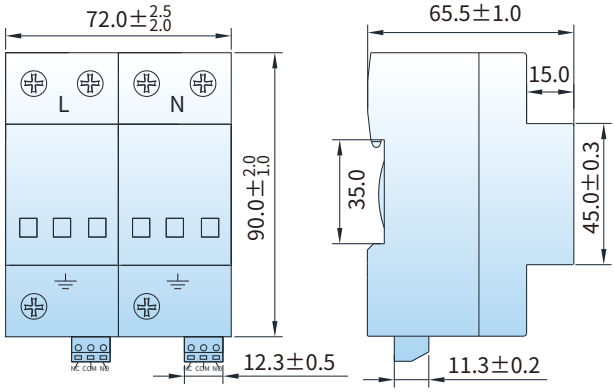

Figure 1.2.2

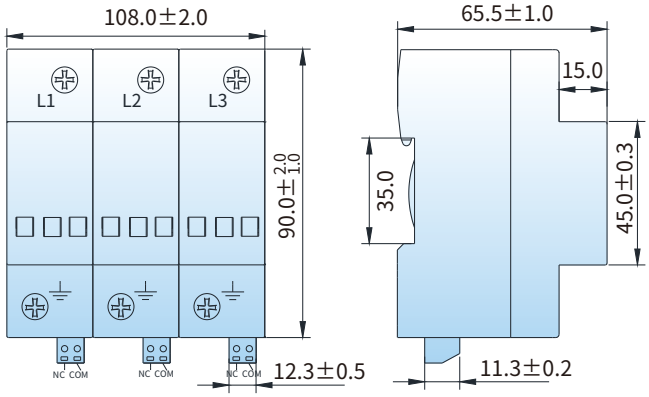

Figure 1.2.3

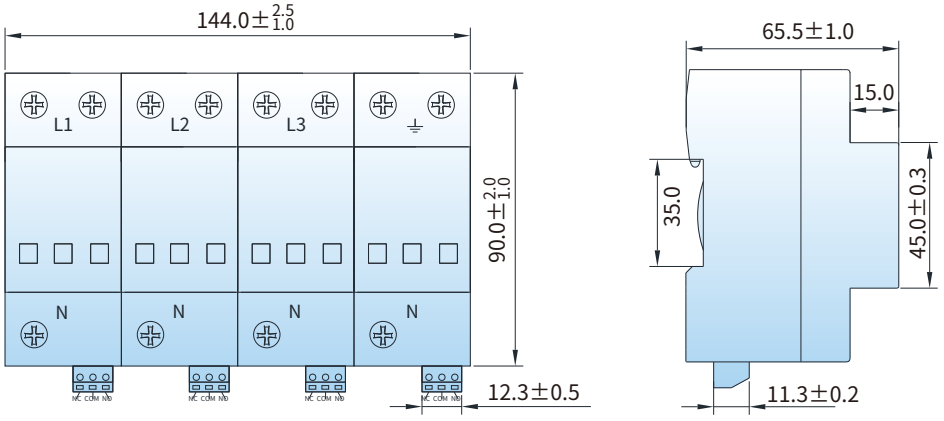

Figure 1.2.4

Type 1 AC Power SPD (HV)

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Application

Designed for the critical role of primary surge protection in new energy plants, this product is a high-impedance Type 1 AC SPD. It is installed at the main AC distribution point (LPZ0/LPZ1 boundary) of wind or solar farms, where it intercepts and diverts the massive energy of direct lightning strikes, providing the foundational defense for the entire power generation and grid-connection system.

- Impulse current Iimp (10/350 μs): 25 kA
- Normal discharge current In (8/20 μs): 25 kA
- Max. continuous operating voltage Uc: AC 750 V/ AC 1500 V
- Selectable circuit protection modes: 3P/ 4P/ 3P+1P
- Utilizes high-performance graphite or gas discharge tube (GDT) technology with superior follow-current interruption capability

VP	□	□	-	□	/	□□
1	2	3		4		5

SN	Name	Specification, type code
1	Design code	VP
2	Product Series	H
3	Max. continuous operating voltage Uc	750: AC 750 V
4	Impulse current Iimp (10/350 μs)	25: 25 kA
5	Protection mode	3P: 3P; 3P+1P: 3P+1P; 4P: 4P

Example: VPH750-25/3P+1P → Uc: AC 750 V; Iimp (10/350 μs): 25 kA; Protection mode: 3P+1P.

Parameter \ Model	VPH750-25/3P
SPD according to EN/IEC 61643-11	Type 1
Protection mode	L-PE
Nominal operating voltage Un	AC 690 V 50/60 Hz
Max. continuous operating voltage Uc	AC 750 V 50/60 Hz
Impulse current Iimp (10/350 μs)	25 kA
Nominal discharge current In (8/20 μs)	25 kA
Voltage protection level Up	⩽ 3.5 kV
Response time	⩽ 25 ns
Max. backup fuse	⩽ 160 A gL/gG
Cross-sectional area	6 ~ 35 mm^2
Stripping length terminals	12.5 mm
Tightening torque	3 N·m
Normal/Fault Indication	Green/Red
Remote signaling mode	RSC: Remote Signal contact, NC-COM-NO contact
Performances of remote signal contact	AC: 250 V/0.5 A; DC: 250 V/0.1 A, 125 V/0.2 A, 75 V/0.5 A
Remote cross-sectional area	Max. 1.5 mm^2
Installation method	35 mm DIN rail
Housing material	PBT UL94-V0
Protection class	IP20
Operating temperature	-40°C ~ +85°C
Relative humidity	⩽ 95% (25°C)
Operating altitude	⩽ 4000 m
Outline dimensions (without terminal)	90.00 mm × 108.00 mm × 65.50 mm (tolerance ± 1 mm)
Internal protection device	The lightning protection unit has a built-in thermal trip device
Limited voltage@5 kA	⩽ 2.5 kV
Short-circuit withstand capability	25 kArms
Transient overvoltage (TOV),UT	1000 V/5 s tolerance

Selection Guide

Parameter / Model	Un	Uc	Up	In	Iimp	Protection mode	Operating Principle	Size
VPH750-25/3P	AC 690 V	AC 750 V	3.5 kV	25 kA	25 kA	L-PE	Figure 1.3.1	Figure 1.4.1
VPH750-25/3P+1P	AC 1140 V	AC 1500 V	6.5 kV	25 kA	25 kA	L-PE	Figure 1.3.2	Figure 1.4.2
VPH750-25/4P	AC 690 V	AC 750 V	3.5 kV	25 kA	25 kA	L-PE & N-PE	Figure 1.3.3	Figure 1.4.3

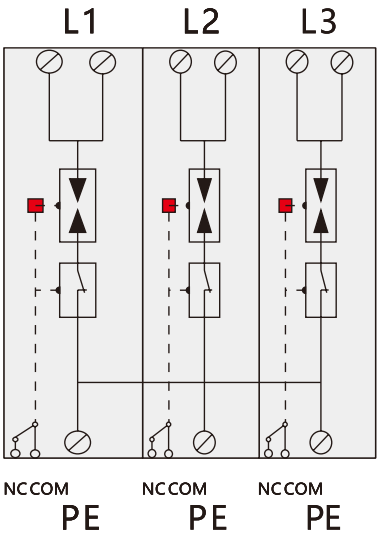

Figure 1.3.1

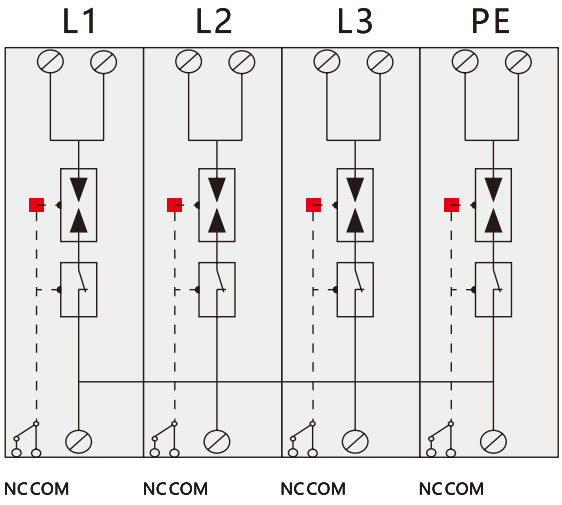

Figure 1.3.2

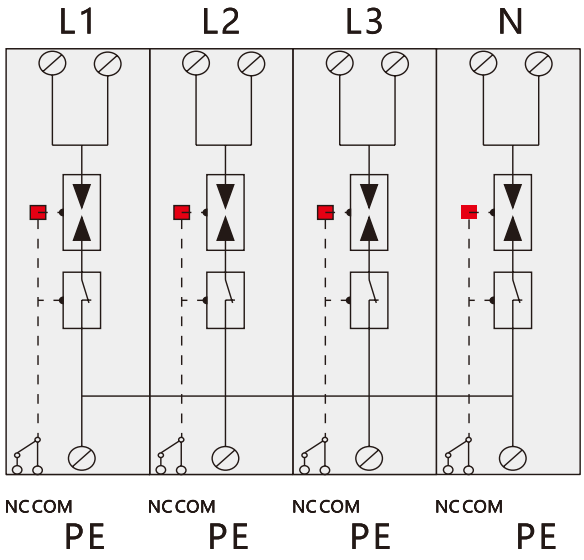

Figure 1.3.3

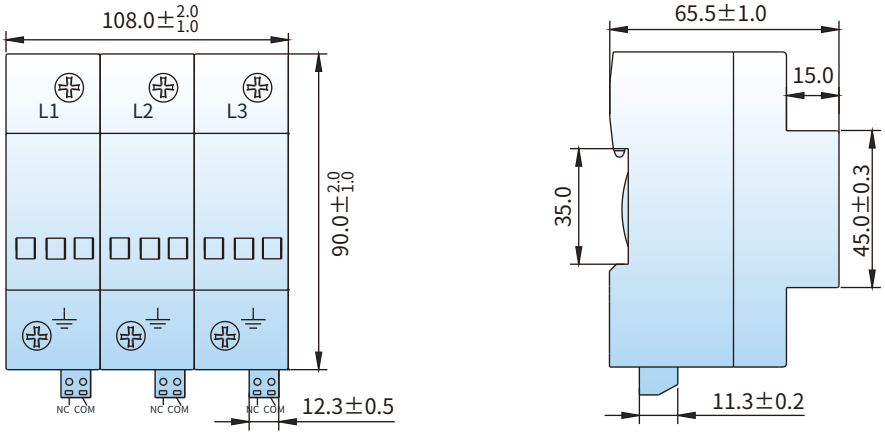

Figure 1.4.1

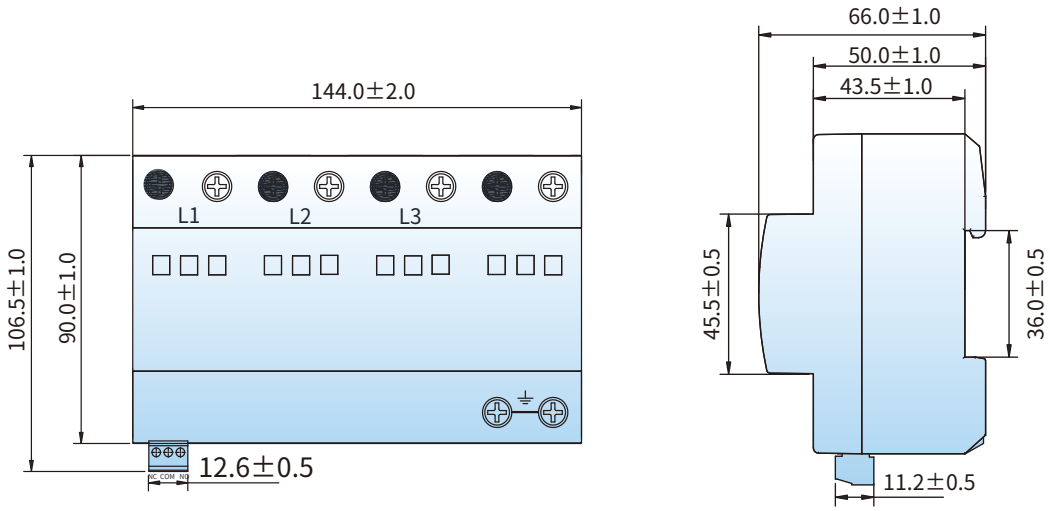

Figure 1.4.2

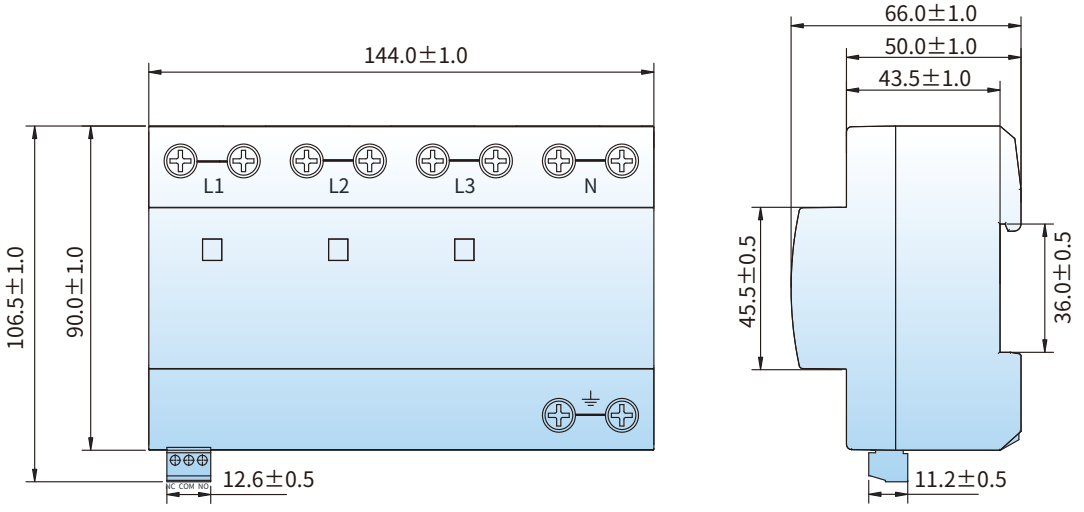

Figure 1.4.3

Type 2 AC Power SPD (LV)

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Application

The product is a Type 2 low-voltage surge protective device (SPD). It is designed for installation at the boundaries of subsequent protection zones (e.g., LPZ1-2, LPZ2-3) within low-voltage distribution systems. This device protects sensitive equipment by safely discharging the remnant surge currents and transient overvoltages resulting from indirect lightning effects or switching operations.

- Nominal discharge current In (8/20 μs): 20 kA/ 40 kA/ 50 kA
- Max. discharge current Imax (8/20 μs): 40 kA/ 80 kA/ 100 kA
- Max. continuous operating voltage Uc: AC 275 V/ AC 320 V/ AC 385 V
- Selectable circuit protection modes: 2P/ 3P/ 1N+NPG/ 3N+NPG/ 4P
- Utilizing high-performance metal oxide varistor (MOV) technology, the device offers high temporary overvoltage (TOV) withstand capability and provides excellent voltage limiting performance.

  Modular pluggable anti-loosening structure, enabling simple installation and easy maintenance.

VP	□	□ -	□ /	□□
1	2	3	4	5

SN	Name	Specification, type code
1	Design code	VP
2	Product Series	M
3	Max. continuous operating voltage Uc	275: AC 275 V; 320: AC 320 V; 385: AC 385 V
4	Max. discharge current Imax	40: 40 kA; 80: 80 kA; 100: 100 kA
5	Protection mode	2P: 2P; 3P: 3P; 1N+NPG: 1N+NPG; 3N+NPG: 3N+NPG; 4P: 4P

Example: VPM275-40/3N+NPG → Uc: AC 275 V; Imax: 40 kA; Protection mode: 3N+NPG.

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Parameter \ Model	VPM275-100 /3N+NPG	VPM275-40 /3N+NPG	VPM320-40 /3N+NPG	VPM320-100 /1N+NPG	VPM 385-40/2P	VPM385- 80 /3N+ NPG
SPD according to EN/IEC 61643-11	Type 2					
Protection mode	3+1 mode	3+1 mode	3+1 mode	1+1 mode	2+0 mode	3+1 mode
Nominal operating voltage Un	AC 230 V 50/60 Hz	AC 230/400 V 50/60 Hz	AC 230/400 V 50/60 Hz	AC 230 V 50/60 Hz	AC 230/400 V 50/60 Hz	AC 230/400 V 50/60 Hz
Max. continuous operating voltage Uc	AC 275 V 50/60 Hz	AC 275 V 50/60 Hz	AC 320 V 50/60 Hz (Varistor module Uc:320 V 50/60 Hz; GDT module Uc: 255 V 50/60 Hz)	L-N: AC 320 V 50/60 Hz N-PE: AC 255 V 50/60 Hz	AC 385 V 50/60 Hz	AC 385 V 50/60 Hz (Varistor module Uc: 385 V 50/60 Hz; GDT module Uc: 255 V 50/60 Hz)
Nominal discharge current In (8/20 μs)	50 kA	20 kA	20 kA	50 kA	20 kA	40 kA
Max. discharge current Imax (8/20 μs)	100 kA	40 kA	40 kA	100 kA	40 kA	80 kA
Voltage protection level Up	L-N≤ 2.3 kV, N-PE≤ 1.3 kV	L-N≤ 1.2 kV, N-PE≤ 1.0 kV	L-N≤ 1.6 kV, N-PE≤ 1.0 kV	L-N≤ 2.0 kV, N-PE≤ 1.3 kV	L-N≤ 1.8 kV, N-PE≤ 1.8 kV	L-N≤ 2.2 kV, N-PE≤ 1.2 kV
Leakage current	≤ 20 μA					
Response time	≤ 25 ns	L-N≤ 25 ns, N-PE≤ 100 ns	L-N≤ 25 ns, N-PE≤ 100 ns	L-N≤ 25 ns, N-PE≤ 100 ns	L-N≤ 25 ns, N-PE≤ 100 ns	≤ 25 ns
Max. backup fuse	160 A gL/gG	125 A gL/gG	125 A gL/gG	250 A gL/gG	125 A gL/gG	125 A gL/gG
Cross-sectional area	6 ~ 35 mm^2					
Stripping length terminals	12.5 mm					
Tightening torque	3 N·m					
Normal/Fault Indication	Green/Red					
Remote signaling mode	RSC: Remote Signal contact, NC-COM-NO contact					
Performances of remote signal contact	AC: 250 V/0.5 A; DC: 250 V/0.1 A, 125 V/0.2 A, 75 V/0.5 A					
Remote cross-sectional area	Max. 1.5 mm^2					
Installation method	35 mm DIN rail					
Housing material	UL94-V0					
Protection class	IP20					
Outline dimensions (without terminal)	90.00 mm ×108.00 mm × 65.50 mm (tolerance ± 1 mm)	89.50 mm × 71.50 mm × 65.20 mm (tolerance ± 1 mm)	89.50 mm × 71.50 mm × 65.20 mm (tolerance ± 1 mm)	90.00 mm × 54.00 mm × 65.50 mm (tolerance ± 1mm)	90.00 mm × 36.00 mm × 72.10 mm (tolerance ± 1mm)	90.00 mm × 108.00 mm × 65.50 mm (tolerance ± 1mm)
Module pluggable	/	Pluggable	Pluggable	/	Pluggable	/
Internal protection device	The lightning protection unit has a built-in thermal trip device					
Environmental protection characteristics	RoHS					
Short-circuit withstand capability	25 kArms					

Selection Guide

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Parameter / Model	Un	Uc	Up	In	Imax	Protection mode	Operating Principle	Size
VPM275-40/1N+NPG	AC 230 V	AC 275 V	1.2 kV	20 kA	40 kA	L-N & N-PE	Figure 1.5.1	Figure 1.6.1
VPM275-40/2P	AC 230 V	AC 275 V	1.2 kV	20 kA	40 kA	L-PE & N-PE	Figure 1.5.2	Figure 1.6.1
VPM275-40/3N+NPG	AC 230 V	AC 275 V	1.3 kV	20 kA	40 kA	L-N & N-PE	Figure 1.5.4	Figure 1.6.4
VPM275-100/2P	AC 230 V	AC 275 V	2.2 kV	50 kA	100 kA	L-PE & N-PE	Figure 1.5.2	Figure 1.6.1
VPM275-100/3N+NPG	AC 230 V	AC 275 V	2.3 kV	50 kA	100 kA	L-N & N-PE	Figure 1.5.4	Figure 1.6.5
VPM320-40/2P	AC 230 V	AC 320 V	1.6 kV	20 kA	40 kA	L-PE & N-PE	Figure 1.5.2	Figure 1.6.1
VPM320-40/3P	AC 230 V	AC 320 V	1.6 kV	20 kA	40 kA	L-PE	Figure 1.5.3	Figure 1.6.3
VPM320-40/3N+NPG	AC 230 V	AC 320 V	1.6 kV	20 kA	40 kA	L-N & N-PE	Figure 1.5.4	Figure 1.6.4
VPM320-100/3P	AC 230 V	AC 320 V	2.3 kV	50 kA	100 kA	L-PE	Figure 1.5.3	Figure 1.6.3
VPM320-100/1N+NPG	AC 230 V	AC 320 V	2.0 kV	50 kA	100 kA	L-N & N-PE	Figure 1.5.1	Figure 1.6.2
VPM385-40/2P	AC 230 V	AC 385 V	1.8 kV	20 kA	40 kA	L-PE & N-PE	Figure 1.5.2	Figure 1.6.1
VPM385-40/3P	AC 230 V	AC 385 V	1.8 kV	20 kA	40 kA	L-PE	Figure 1.5.3	Figure 1.6.3
VPM385-40/4P	AC 230 V	AC 385 V	1.8 kV	20 kA	40 kA	L-N & N-PE	Figure 1.5.5	Figure 1.6.4
VPM385-40/3N+NPG	AC 230 V	AC 385 V	1.8 kV	20 kA	40 kA	L-N & N-PE	Figure 1.5.4	Figure 1.6.4
VPM385-80/3N+NPG	AC 230 V	AC 385 V	2.2 kV	40 kA	80 kA	L-N & N-PE	Figure 1.5.4	Figure 1.6.5

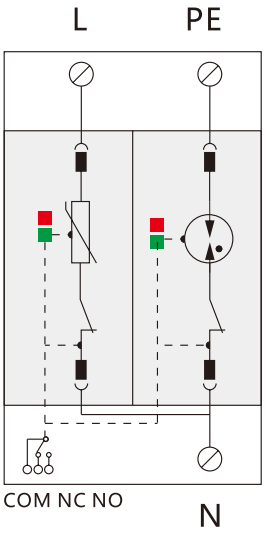


Figure 1.5.1

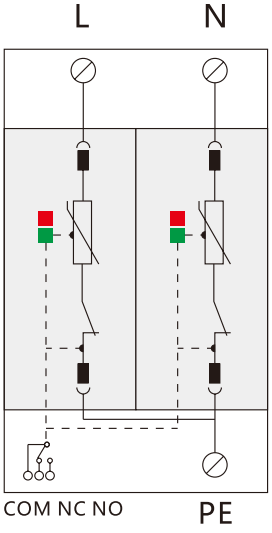


Figure 1.5.2

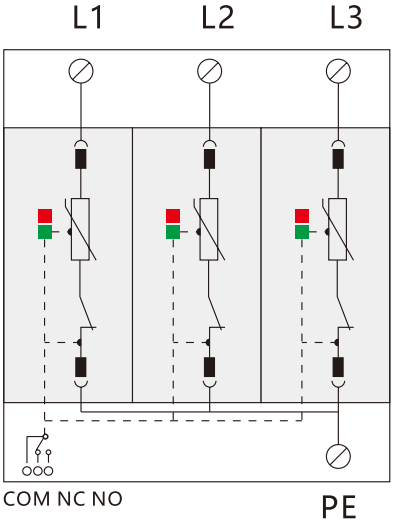


Figure 1.5.3

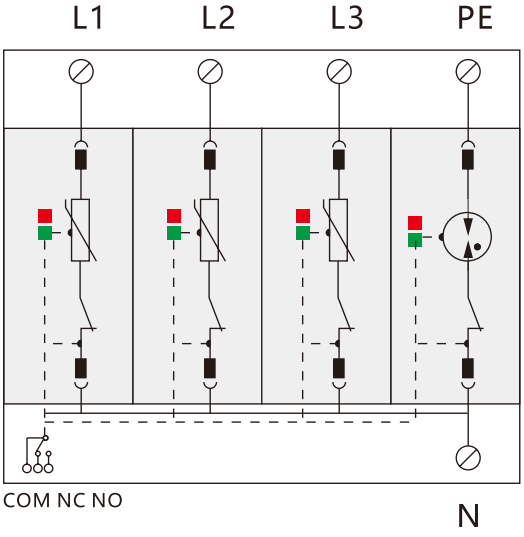


Figure 1.5.4

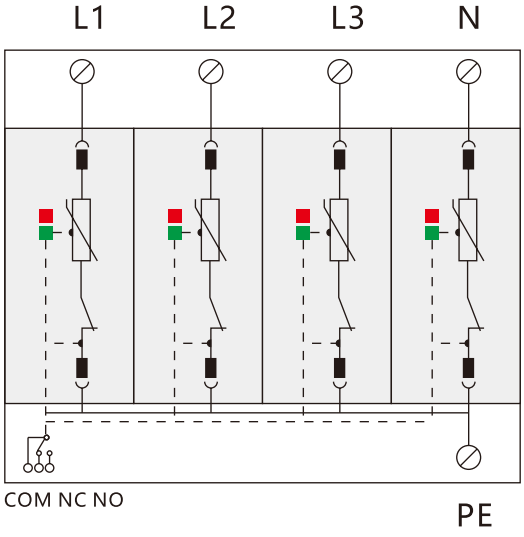


Figure 1.5.5

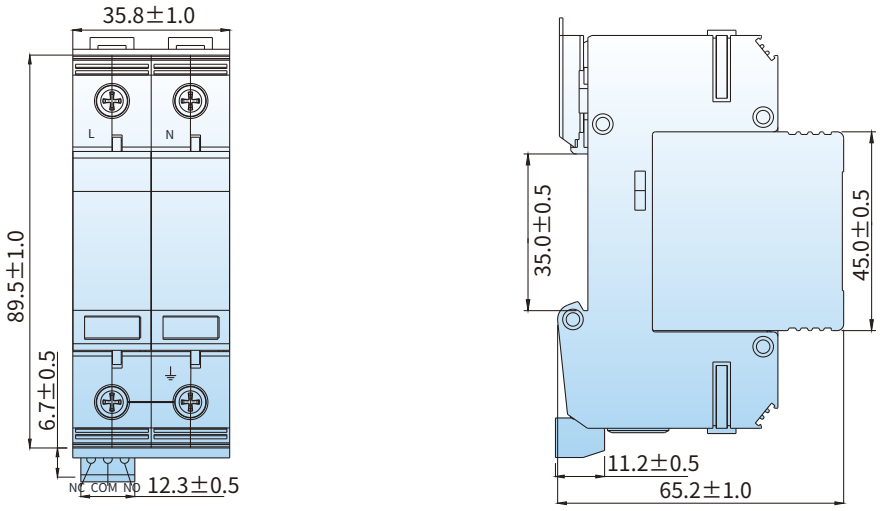


Figure 1.6.1

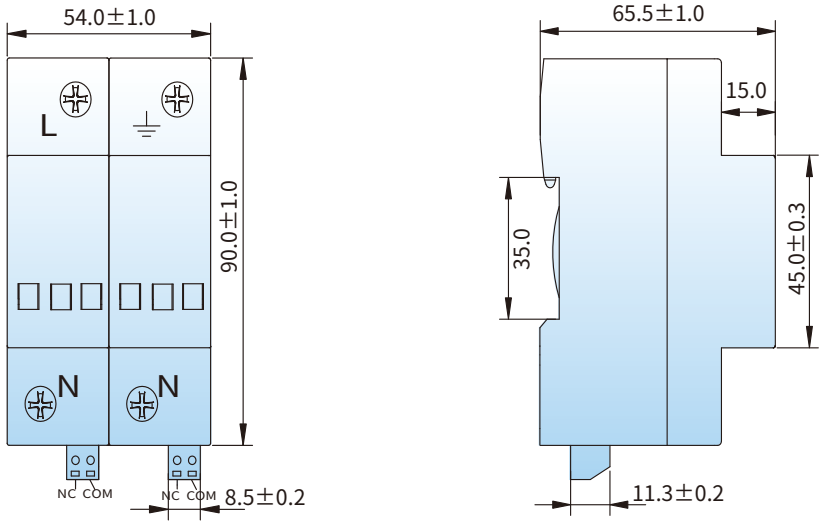


Figure 1.6.2

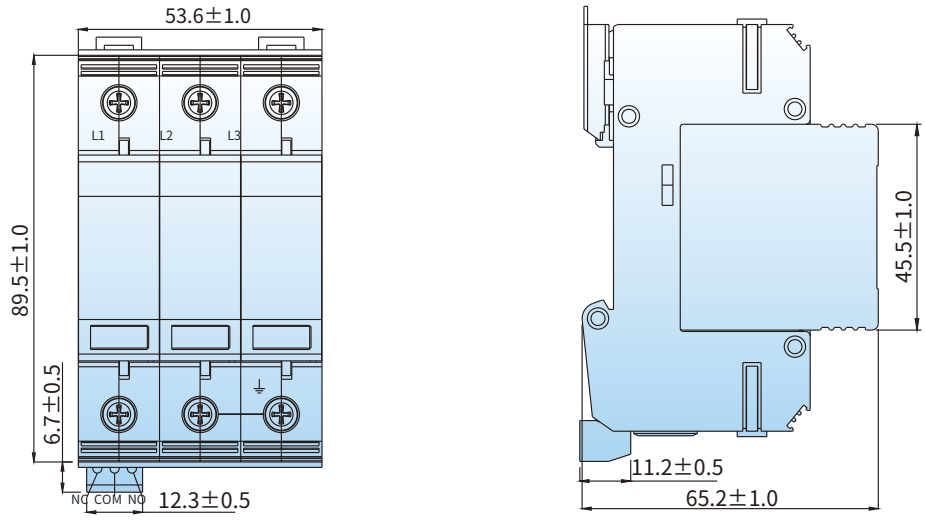


Figure 1.6.3

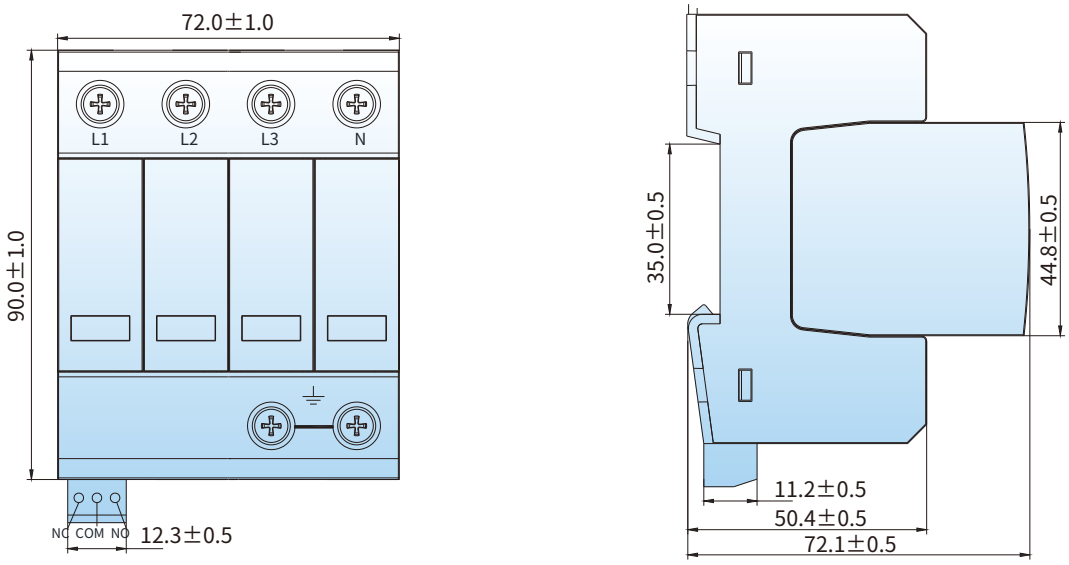


Figure 1.6.4

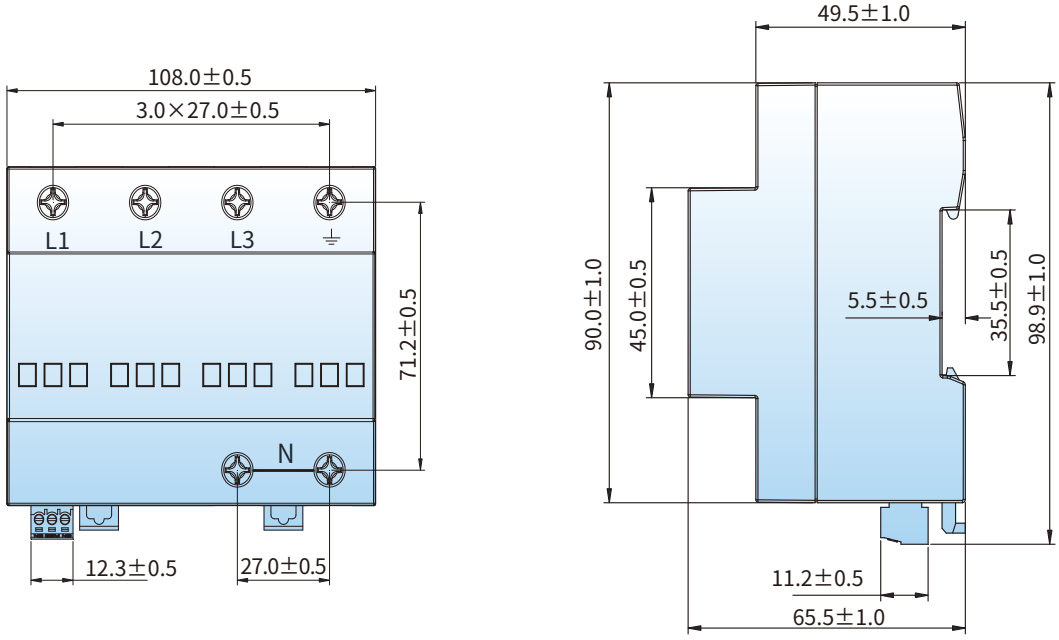


Figure 1.6.5

Type 2 AC Power SPD (HV)

VOZWEI

Application

This surge protective device (SPD) offers robust performance in diverse grid conditions and is specifically designed for application within new energy systems, including wind power, photovoltaic installations, and EV charging infrastructure. It is engineered for installation at key internal nodes such as converters, inverters, combiner boxes, grid-connection cabinets, and charging piles (typically within LPZ1 to LPZ2 zones). Its purpose is to protect sensitive electrical equipment from damage caused by induced transient overvoltages and switching surges.

- Nominal discharge current In (8/20 μs): 20 kA/ 25 kA/ 50 kA
- Max. discharge current Imax (8/20 μs): 40 kA/ 50 kA/ 100 kA
- Max. continuous operating voltage Uc: AC 750 V/ AC 1000 V
- Selectable circuit protection modes: 3P/ 4P/ 3P+1P/ 3N+NPG
- Utilizing high-performance metal oxide varistor (MOV) technology, the device offers high temporary overvoltage (TOV) withstand capability and provides excellent voltage limiting performance
- Modular pluggable anti-loosening structure, enabling simple installation and easy maintenance.

VP	□	□	-	□	/	□□
1	2	3		4		5

SN	Name	Specification, type code
1	Design code	VP
2	Product Series	M
3	Max. continuous operating voltage Uc	750: AC 750 V; 1000: AC 1000 V
4	Max. discharge current Imax	40: 40 kA; 50: 50 kA; 100: 100 kA
5	Protection mode	3P: 3P; 4P: 4P; 3P+1P: 3P+1P; 3N+NPG: 3N+NPG

Example: VPM1000-40/3P → Uc: AC 1000 V; Imax: 40 kA; Protection mode: 3P.

Selection Guide

VOZWEI

Parameter \ Model	VPM750-40/4P	VPM750-100/3N+NPG	VPM1000-40/3P	VPM1000-50/ 3N+NPG
SPD according to EN/IEC 61643-11	Type 2			
Protection mode	4+0 mode	3+0 mode	3+0 mode	3+1 mode
Nominal operating voltage Un	AC 690 V 50/60 Hz	AC 690 V 50/60 Hz	AC 800 V 50/60 Hz	AC 800 V 50/60 Hz
Max. continuous operating voltage Uc	AC 750 V 50/60 Hz	AC 750 V 50/60 Hz	AC 1000 V 50/60 Hz	AC 1000 V 50/60 Hz
Nominal discharge current In (8/20 μs)	20 kA	50 kA	20 kA	25 kA
Max. discharge current Imax (8/20 μs)	40 kA	100 kA	40 kA	50 kA
Voltage protection level Up	⩽ 3.0 kV	⩽ 5.0 kV	⩽ 4.0 kV	⩽ 5.0 kV
Leakage current	⩽ 20 μA			
Response time	⩽ 25 ns	⩽ 100 ns	⩽ 25 ns	⩽ 25 ns
Max. backup fuse	80 A gL/gG	160 A gL/gG	50 A-125 A gL/gG	80 A gL/gG
Cross-sectional area	6~35 mm^2			
Stripping length terminals	12.5 mm			
Tightening torque	3 N·m			
Normal/Fault Indication	Green/Red			
Remote signaling mode	RSC: Remote Signal contact, NC-COM-NO contact			
Performances of remote signal contact	AC: 250 V/0.5 A; DC: 250 V/0.1 A, 125 V/0.2 A, 75 V/0.5 A			
Remote cross-sectional area	Max. 1.5 mm^2			
Installation method	35 mm DIN rail			
Housing material	UL94-V0			
Protection class	IP20			
Outline dimensions (without terminal)	90.00 mm × 72.00 mm × 65.00 mm (tolerance ± 1 mm)	90.00 mm × 144.00 mm × 65.50 mm (tolerance ± 1 mm)	90.00 mm × 81.00 mm × 65.50 mm (tolerance ± 1 mm)	90.00 mm × 144.00 mm × 65.50 mm (tolerance ± 1 mm)
Module pluggable	Pluggable	/	/	/
Internal protection device	The lightning protection unit has a built-in thermal trip device			

Selection Guide

VOZWEI

Parameter / Model	Un	Uc	Up	In	Imax	Protection mode	Operating Principle	Size
VPM750-40/3P	AC 690 V	AC 750 V	3.0 kV	20 kA	40 kA	L-PE	Figure 1.7.1	Figure 1.8.1
VPM750-40/4P	AC 690 V	AC 750 V	3.0 kV	20 kA	40 kA	L-PE	Figure 1.7.2	Figure 1.8.2
VPM750-40/3P+1P	AC 690 V	AC 750 V	3.0 kV	20 kA	40 kA	L-PE	Figure 1.7.3	Figure 1.8.3
VPM750-40/3N+NPG	AC 690 V	AC 750 V	4.0 kV	20 kA	40 kA	L-PE	Figure 1.7.4	Figure 1.8.4
VPM750-100/3N+NPG	AC 690 V	AC 750 V	5.0 kV	50 kA	100 kA	L-PE	Figure 1.7.4	Figure 1.8.5
VPM1000-40/3P	AC 800 V	AC 1000 V	4.0 kV	20 kA	40 kA	L-PE	Figure 1.7.1	Figure 1.8.1
VPM1000-40/4P	AC 800 V	AC 1000 V	4.0 kV	20 kA	40 kA	L-PE	Figure 1.7.6	Figure 1.8.7
VPM1000-40/3N+NPG	AC 800 V	AC 1000 V	4.5 kV	20 kA	40 kA	L-PE	Figure 1.7.5	Figure 1.8.6
VPM1000-50/3N+NPG	AC 800 V	AC 1000 V	5.0 kV	25 kA	50 kA	L-N & N-PE	Figure 1.7.4	Figure 1.8.6

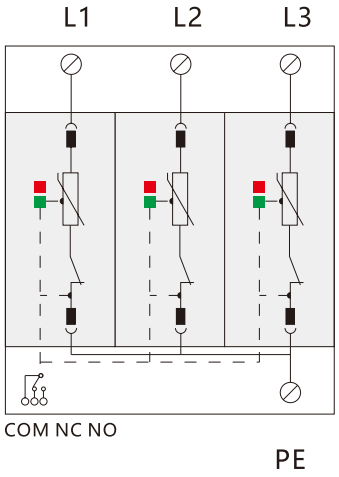


Figure 1.7.1

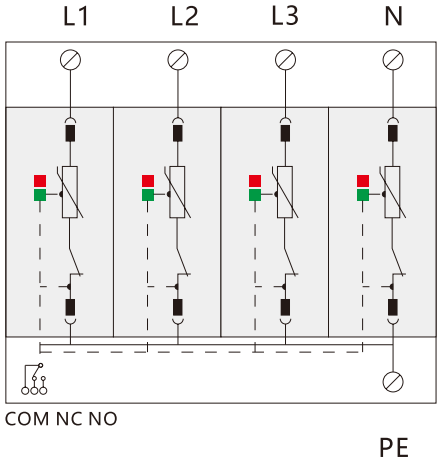


Figure 1.7.2

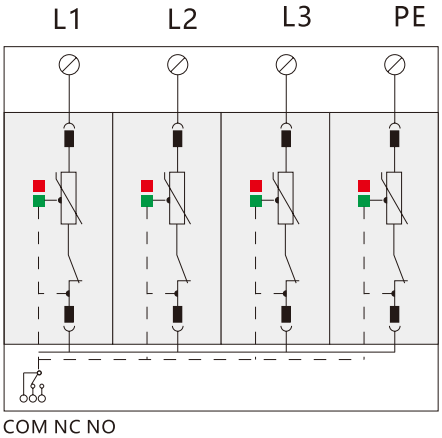


Figure 1.7.3

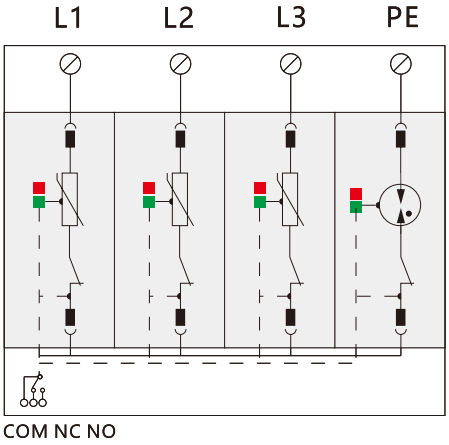


Figure 1.7.4

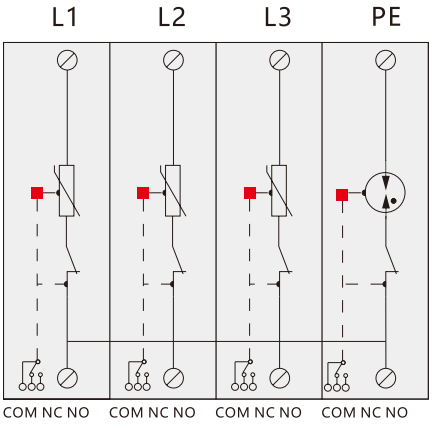


Figure 1.7.5

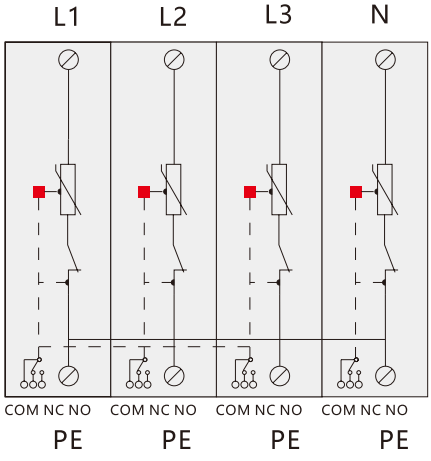


Figure 1.7.6

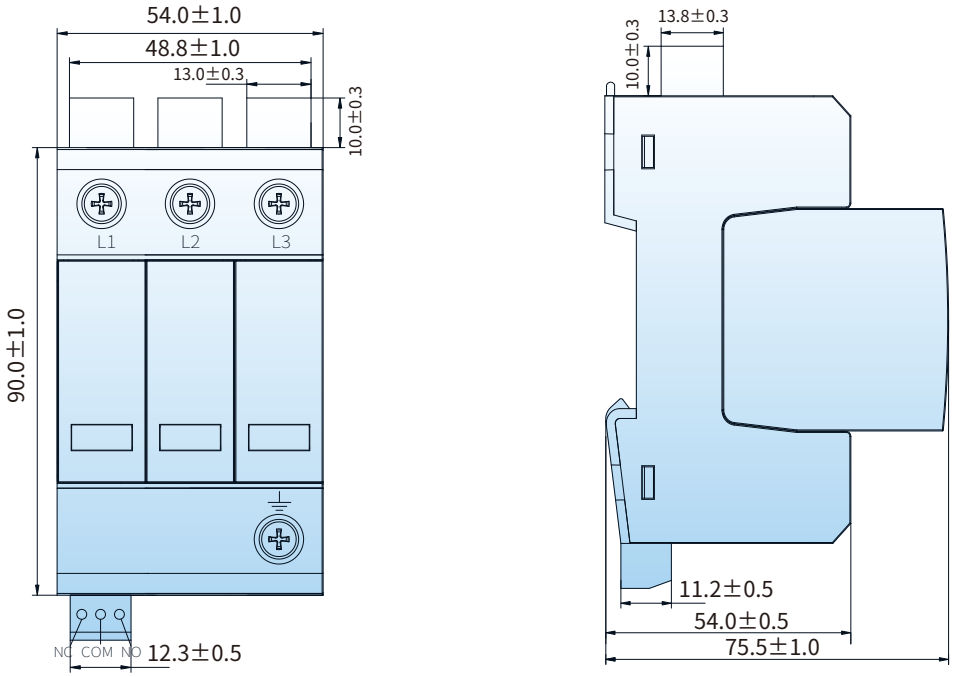


Figure 1.8.1

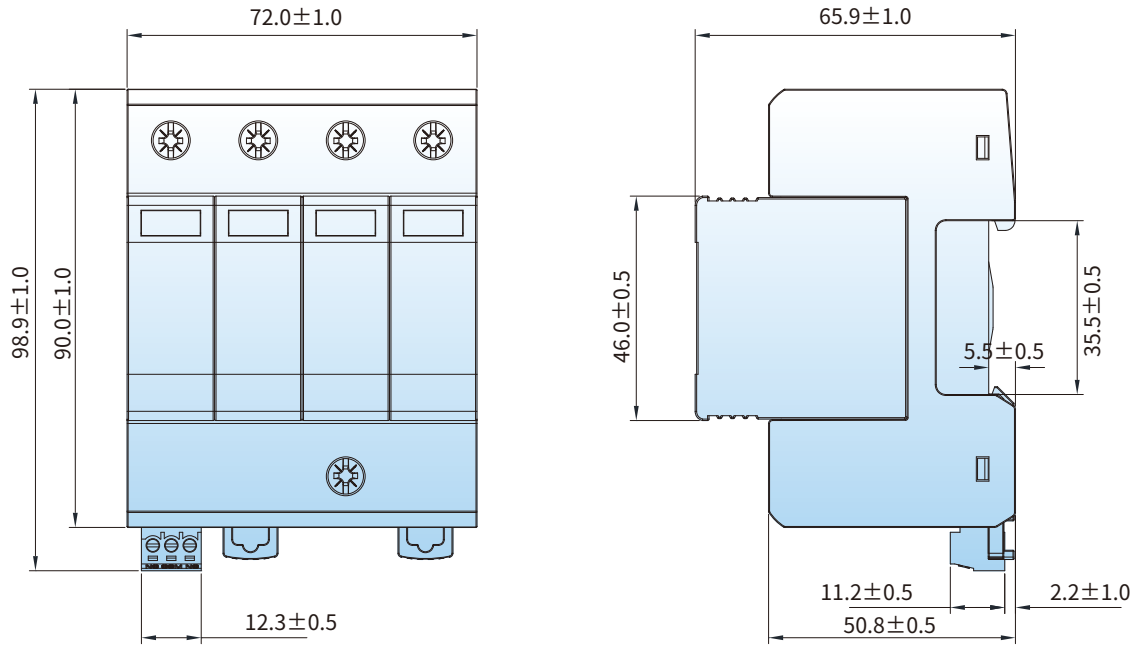


Figure 1.8.2

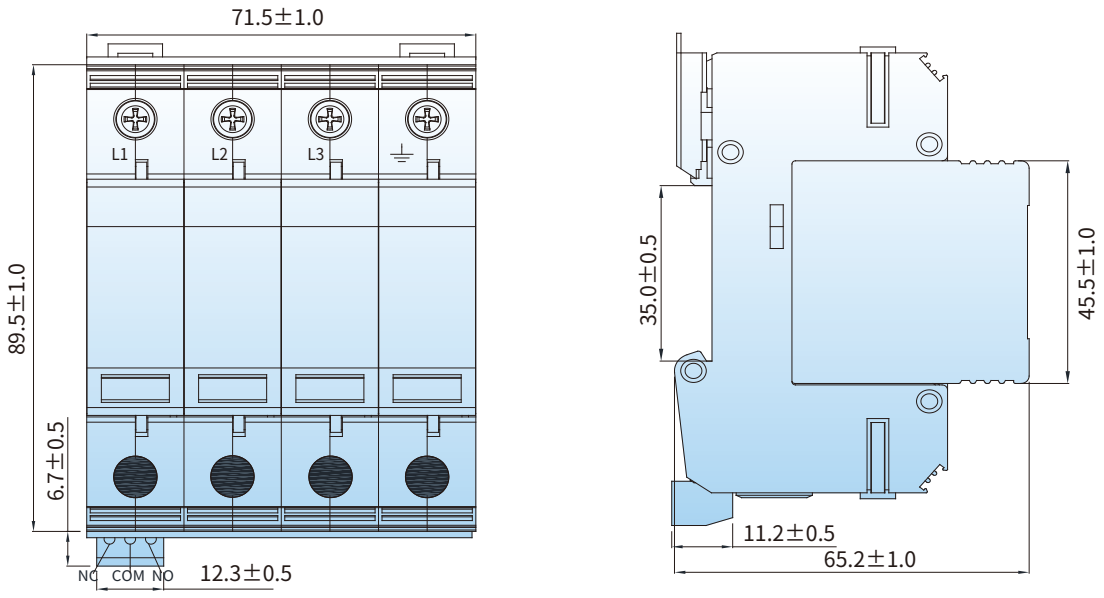


Figure 1.8.3

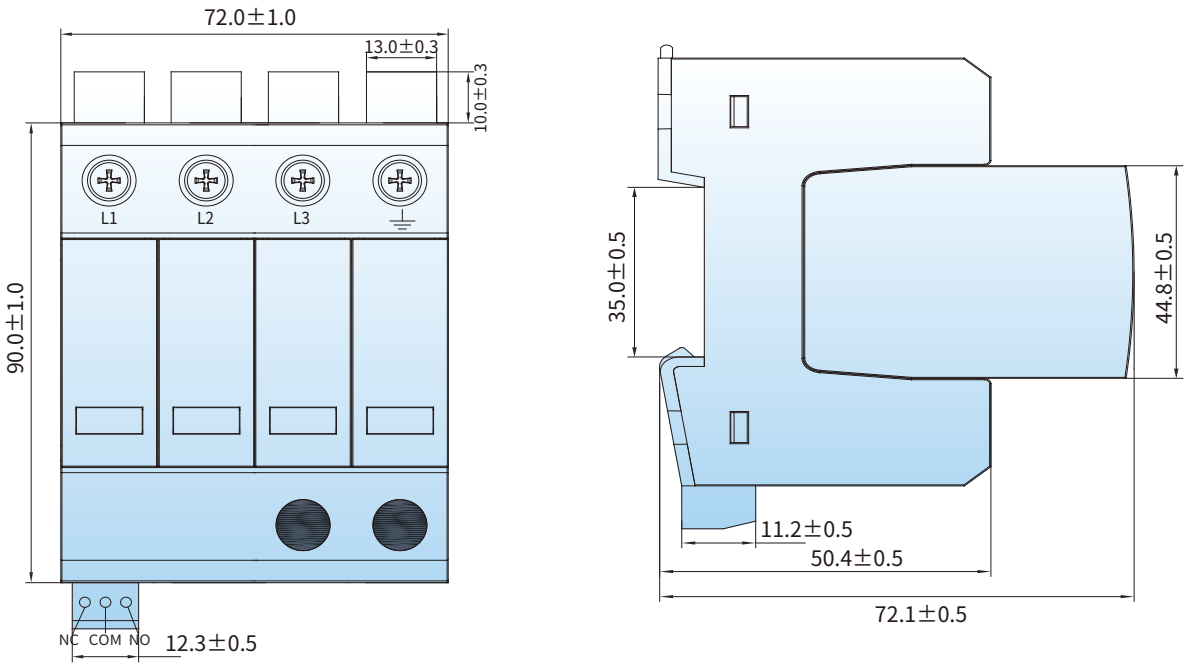


Figure 1.8.4

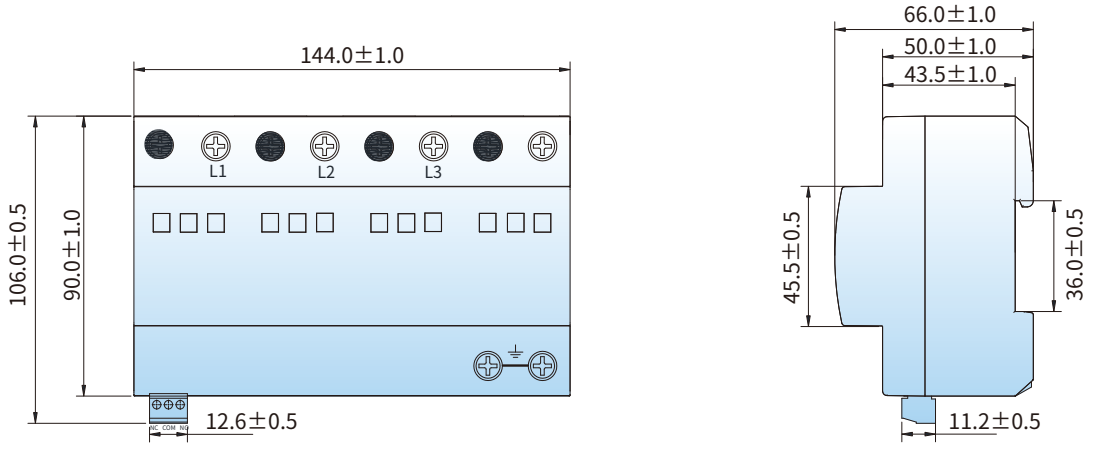


Figure 1.8.5

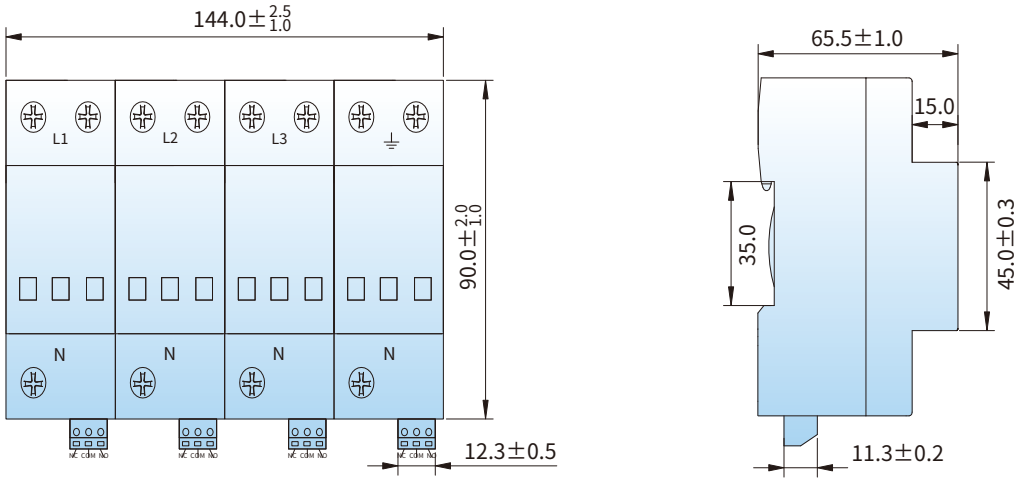


Figure 1.8.6

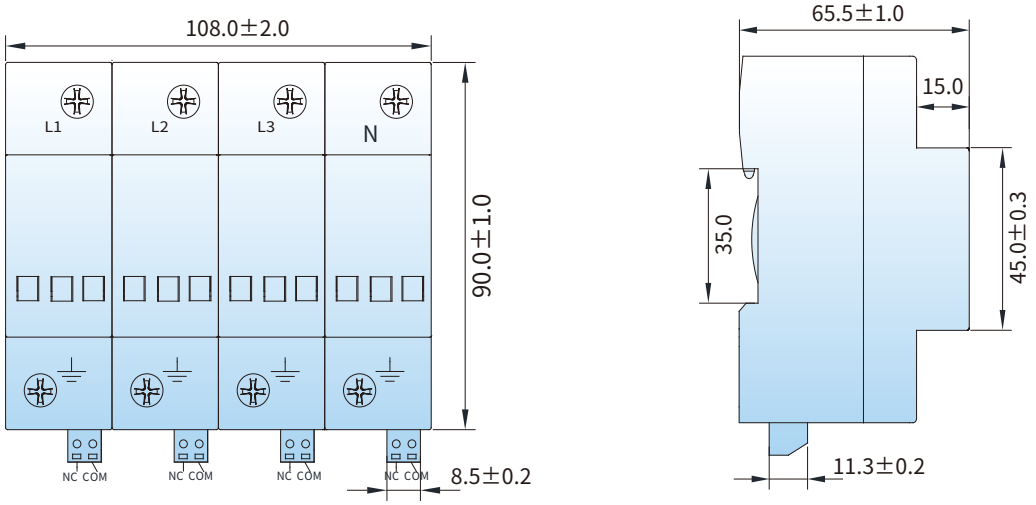


Figure 1.8.7

Combined Type 1+2 AC Power SPD (HV)

VOZWEI

Application

The VPH888 and VPM1000 series are combined Type 1+2 surge protective devices (SPDs). Their integrated design provides coordinated two-stage protection within a single unit: high-energy impulse current (Iimp) discharge for primary protection at the LPZ0-1 boundary, followed by fine protection with low residual voltage. This makes them ideal, space-saving solutions for main power inlets and distribution boards in commercial, industrial, and critical infrastructure applications requiring maximum reliability against lightning and surge threats.

- Nominal discharge current In(8/20 μs): 20 kA/ 25 kA
- Max. discharge current Imax (8/20 μs): 50 kA/ 80 kA
- Max. continuous operating voltage Uc: AC 880 V/ AC 1000 V
- Selectable circuit protection modes: 3P+1P/ 3N+NPG
- Utilizes advanced spark gap & MOV hybrid technology with reliable follow-current interruption capability
- Integrated thermal disconnect protection with remote alarm contact(NPG)
- Modular plug-and-play design (VPM series)/Robust integrated construction (VPH series)

Selection Guide

VOZWEI

Parameter \ Model	VPH888-12.5/3P+1P(T1+T2)	VPM1000-50/3N+NPG(T1+T2)
SPD according to EN/IEC 61643-11	Type 1+2	
Network	IT-TN	/
Protection mode	3+1 mode	
Nominal operating voltage Un	AC 690 V 50/60 Hz	AC 800 V 50/60 Hz
Max. continuous operating voltage Uc	AC 880 V 50/60 Hz	L-N: AC 1000 V; N-PE: AC 255 V
Impulse current Iimp (10/350 μs)	12.5 kA	
Nominal discharge current In (8/20 μs)	20 kA	25 kA
Max. discharge current Imax (8/20 μs)	80 kA	50 kA
Voltage protection level Up	⩽ 3.4 kV	L-N⩽ 5.0 kV; N-PE⩽ 2.0 kV; L-PE⩽ 7.0 kV
Leakage current	⩽ 20 μA	
Response time	⩽ 25 ns	L-N⩽ 25 ns; N-PE⩽ 100 ns
Max. backup fuse	250 A gL/gG	80 A gL/gG
Cross-sectional area	6~35 mm^2	
Stripping length terminals	12.5 mm	
Tightening torque	3 N·m	
Normal/Fault Indication	Green/Red	
Remote signaling mode	RSC: Remote Signal contact, NC-COM-NO contact	
Performances of remote signal contact	AC: 250 V/0.5 A; DC: 250 V/0.1 A, 125 V/0.2 A, 75 V/0.5 A	
Remote cross-sectional area	Max. 1.5 mm^2	
Installation method	35 mm DIN rail	
Housing material	PBT UL94-V0	PA66 UL94-V0
Protection class	IP20	
Operation temperature	-40°C ~ +80°C	-40°C ~ +70°C
Relative humidity	⩽ 95% (25°C)	
Operating altitude	⩽ 3000 m	
Outline dimensions (without terminal)	90.00 mm × 72.00 mm × 77.00 mm(tolerance ± 1 mm)	92.00 mm × 90.00 mm × 85.40 mm(tolerance ± 1 mm)
Module pluggable	Pluggable	
Internal protective devices	Built-in thermal tripping device	Low-temperature tripping device
Short-circuit withstand capability	25 kArms	/

Parameter / Model	Un	Uc	Up	In	Imax	Protection mode	Operating Principle	Size
VPH888-12.5/3P+1P (T1+T2)	AC 690 V	AC 880 V	3.4 kV	20 kA	80 kA	L-PE	Figure 1.9.1	Figure 1.10.1
VPM1000-50/3N+NPG (T1+T2)	AC 800 V	AC 1000 V	7.0 kV	25 kA	50 kA	L-N & N-PE	Figure 1.9.2	Figure 1.10.2

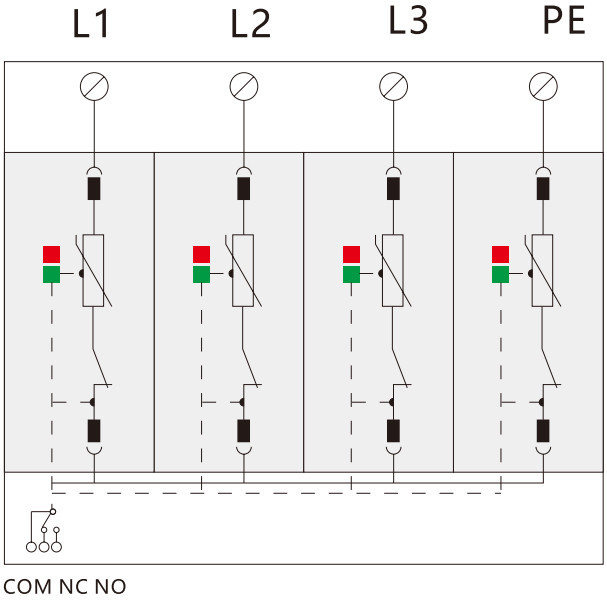


Figure 1.9.1

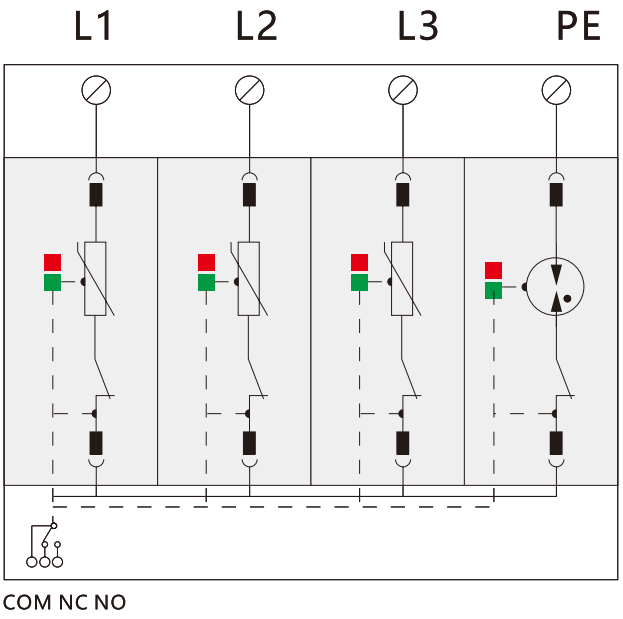


Figure 1.9.2

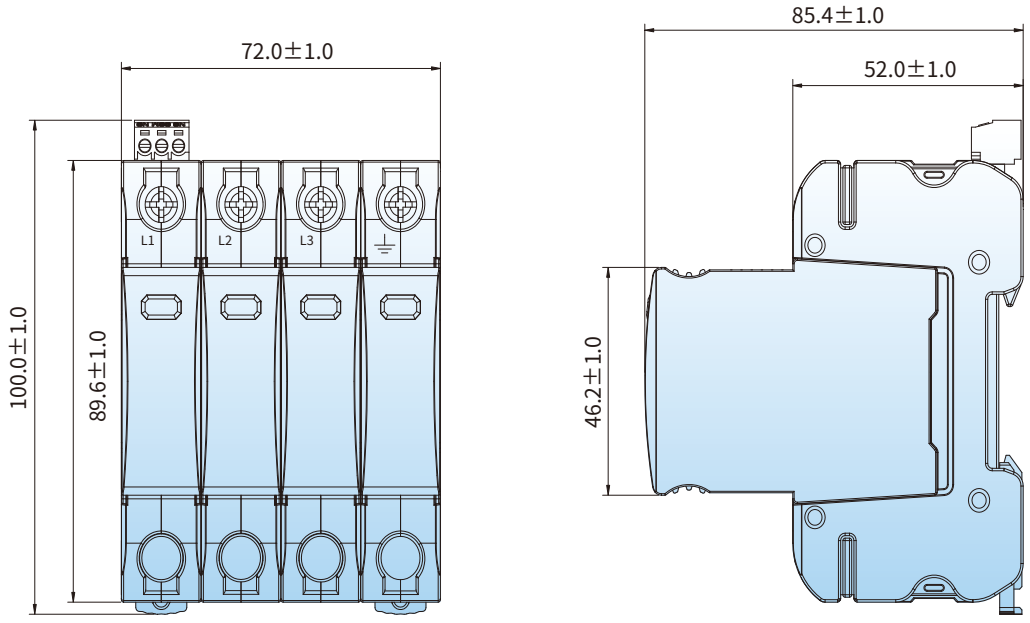


Figure 1.10.1

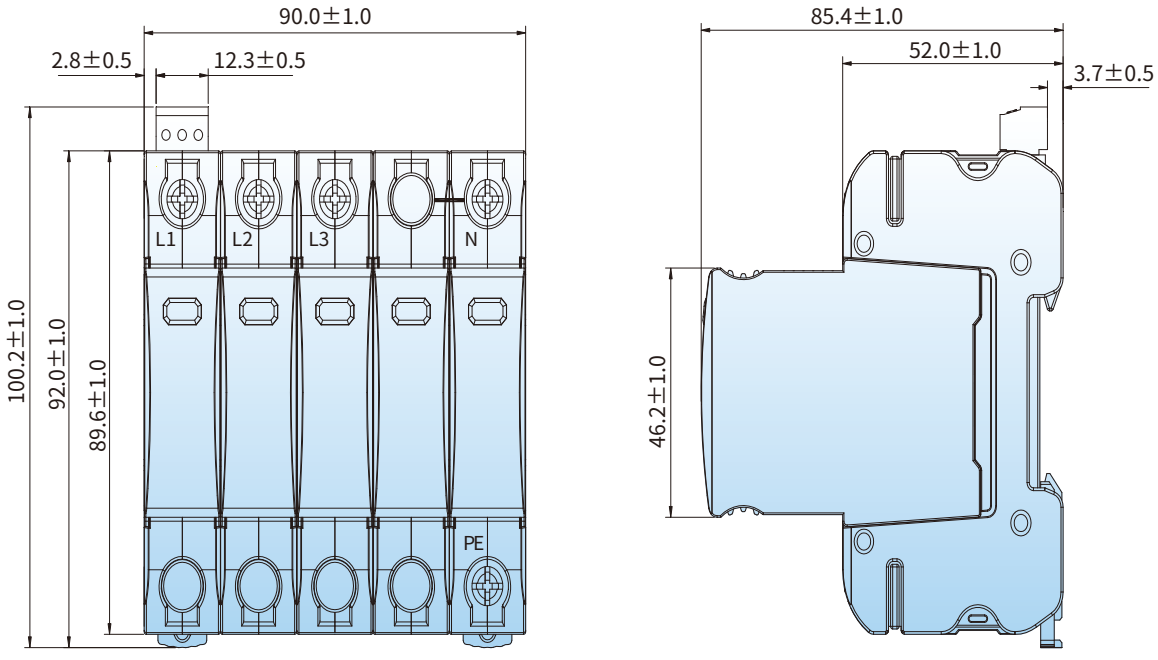


Figure 1.10.2

DC Power SPD


+
−
VOZWEI
VPD600-40
SPD Varistor T1 T2
Ucpv 830V⎓
Iimp 8.25kA
In 20kA
Imax 40kA
Up <2.8kV

Design Features

VOZWEI

Series	Images	Description	Imax	Features
VPD48		Type 2 DC Power SPD (LV)	40 kA	DC-Dedicated Modular Design
VPD600		Type 2 DC Power SPD (HV)	40 kA	DC-Dedicated Modular Design
VPD600-40/3P (T1+T2)		Combined Type 1+2 DC Power SPD (HV)	40 kA	Composite Technology Modular Design

Type 2 DC Power SPD (LV)

VOZWEI

Application

The product is safe and reliable, with strong grid adaptability. It provides protection between lines and between lines and protective earth (PE) for various DC voltage system ports, effectively safeguarding sensitive electrical equipment against damage caused by direct lightning strikes or induced transient overvoltages.

- Nominal discharge current In (8/20 μs): 20 kA
- Max. discharge current Imax (8/20 μs): 40 kA
- Max. continuous operating voltage Uc: DC 85 V
- Selectable circuit protection modes: 1P/ 2P
- Utilizing high-performance metal oxide varistor (MOV) technology, the device offers high temporary overvoltage (TOV) withstand capability and provides excellent voltage limiting performance
- Modular pluggable anti-loosening structure, enabling simple installation and easy maintenance

Selection Guide

VOZWEI

VP	□	□	-	□	/	□□
1	2	3		4		5

SN	Name	Specification, type code
1	Design code	VP
2	Product Series	D
3	Nominal operating voltage Un	48: DC 48 V
4	Max. discharge current Imax	40: 40 kA
5	Protection mode	1P: 1P; 2P: 2P

Example: VPD48-40/2P → Un: DC 48 V; Imax: 40 kA; Protection mode: 2P.

Parameter \ Model	VPD48-40/2P
SPD according to EN/IEC 61643-11	Type 2
Protection mode	V+-PE & V--PE
Nominal operating voltage Un	DC 48 V
Max. continuous operating voltage Uc	DC 85 V
Nominal discharge current In (8/20 μs)	20 kA
Max. discharge current Imax (8/20 μs)	40 kA
Voltage protection level Up	⩽ 0.6 kV
Leakage current	⩽ 20 μA
Response time	⩽ 25 ns
Cross-sectional area	6~25 mm^2
Tightening torque	3 N · m
Normal/Fault Indication	Green/Red
Remote signaling mode	RSC: Remote Signal Contact, NC-COM-NO contact
Performances of remote signal contact	AC: 250 V/0.5 A; DC: 250 V/0.1 A, 125 V/0.2 A, 75 V/0.5 A
Remote cross-sectional area	Max. 1.5 mm^2
Installation method	35 mm DIN rail
Housing material	UL94-V0
Protection class	IP20

Model \ Parameter	Un	Uc	Up	In	Imax	Protection mode	Operating Principle	Size
VPD48-40/1P	DC 48 V	DC 85 V	0.6 kV	20 kA	40 kA	V+/V--PE	Figure 2.1.1	Figure 2.2.1
VPD48-40/2P	DC 48 V	DC 85 V	0.6 kV	20 kA	40 kA	V+-PE & V--PE	Figure 2.1.2	Figure 2.2.2

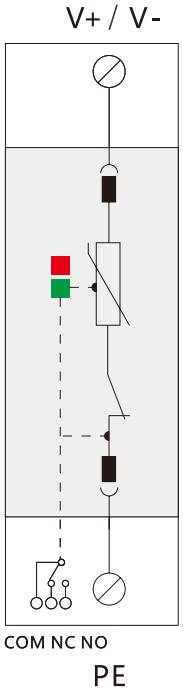


Figure2.1.1

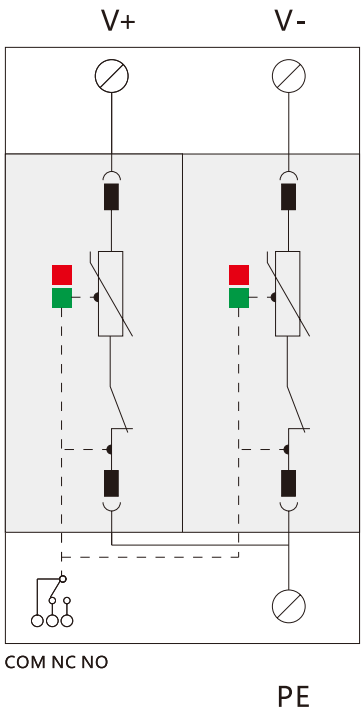


Figure2.1.2

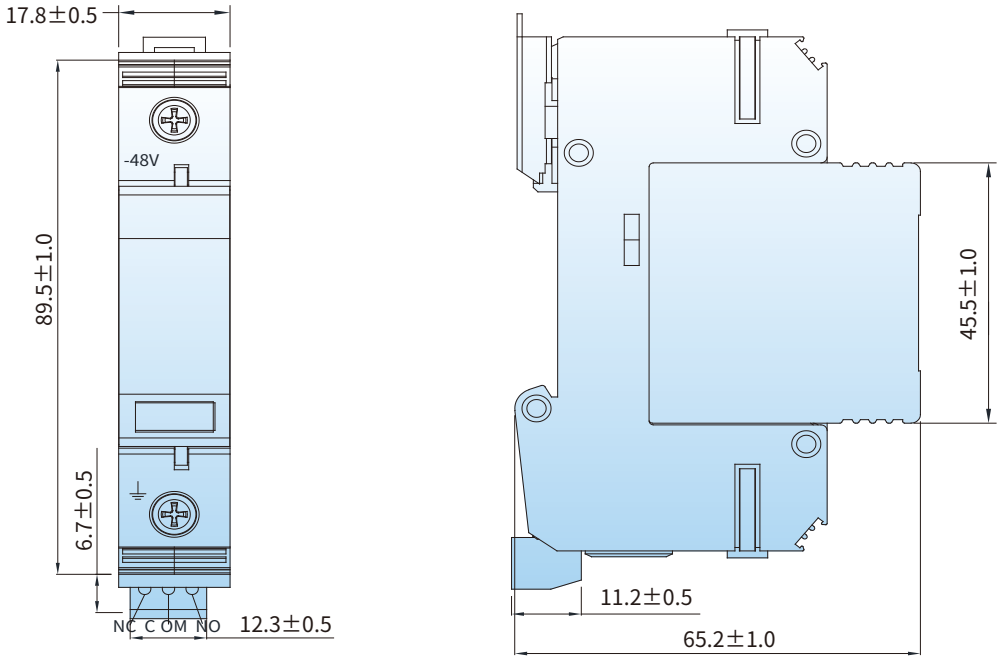


Figure 2.2.1

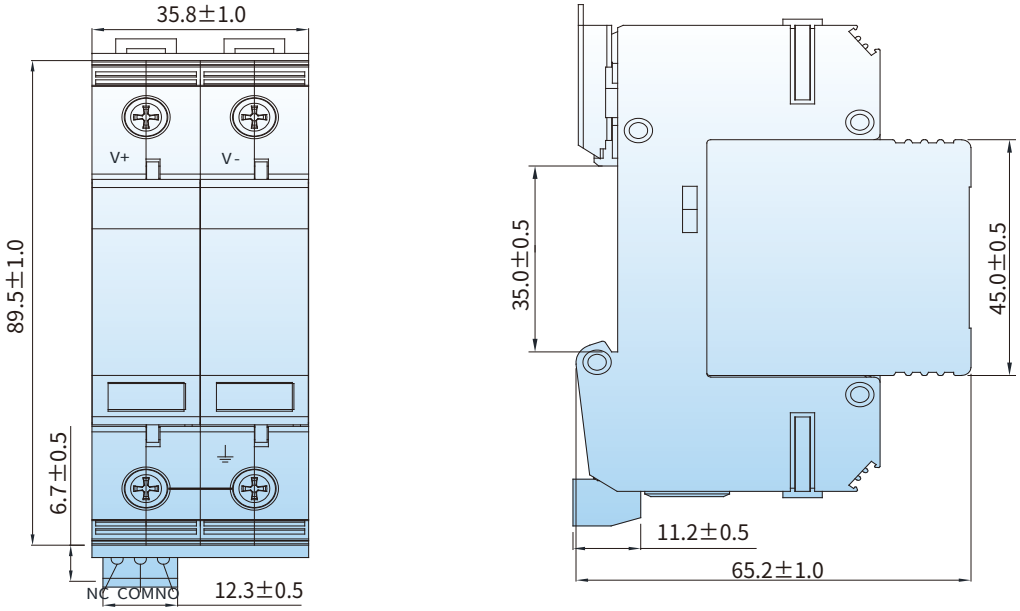


Figure 2.2.2

Type 2 DC Power SPD (HV)

VOZWEI

Application

The product delivers proven safety and reliability with robust grid adaptability. It is ideally suited for renewable energy applications including photovoltaic and energy storage systems. Designed for installation in DC distribution systems spanning LPZ1 to LPZ3 zones covering converters, inverters, and combiner boxes it effectively protects sensitive electrical equipment against damage from indirect lightning effects and induced transient overvoltages.

- Nominal discharge current In (8/20 μs): 20 kA
- Max. discharge current Imax (8/20 μs): 40 kA
- Max. continuous operating voltage Uc: DC 600 V/ DC 830 V
- Selectable circuit protection modes: 2P/ 3P
- Utilizing high-performance metal oxide varistor (MOV) technology, the device offers high temporary overvoltage (TOV) withstand capability and provides excellent voltage limiting performance
- Modular pluggable anti-loosening structure, enabling simple installation and easy maintenance

VP	□	□	-	□	/	□□
1	2	3		4		5

SN	Name	Specification, type code
1	Design code	VP
2	Product Series	D
3	Nominal operating voltage Un	600: DC 600 V
4	Max. discharge current Imax	40: 40 kA
5	Protection mode	2P: 2P; 3P: 3P

Example: VPD600-40/2P → Un: DC 600 V; Imax: 40 kA; Protection mode: 2P.

Parameter \ Model	VPD600-40/2P
SPD according to EN/IEC 61643-11	Type 2
Protection mode	V+-PE & V--PE
Nominal operating voltage Un	DC 600 V
Max. continuous operating voltage Uc	DC 600 V
Nominal discharge current In (8/20 μs)	20 kA
Max. discharge current Imax (8/20 μs)	40 kA
Voltage protection level Up	⩽ 2.2 kV
Response time	⩽ 25 ns
Max. backup fuse	125 A gL/gG
Cross-sectional area	6~25 mm^2
Tightening torque	3 N·m
Normal/Fault Indication	Green/Red
Remote signaling mode	RSC: Remote Signal Contact, NC-COM-NO contact
Performances of remote signal contact	AC: 250 V/0.5 A; DC: 250 V/0.1 A, 125 V/0.2 A, 75 V/0.5 A
Remote cross-sectional area	Max.1.5 mm^2
Installation method	35 mm DIN rail
Housing material	UL94-V0
Outline dimensions (without terminal)	89.50 mm × 35.80 mm × 65.20 mm (tolerance ± 1 mm)
Environmental protection characteristics	RoHS

Model \ Parameter	Un	Uc	Up	In	Imax	Protection mode	Operating Principle	Size
VPD600-40/2P	DC 600 V	DC 600 V	2.5 kV	20 kA	40 kA	V+-PE & V--PE	Figure 2.3.1	Figure 2.4.1
VPD600-40/3P	DC 600 V	DC 830 V	2.8 kV	20 kA	40 kA	V+ & V--PE	Figure 2.3.2	Figure 2.4.2

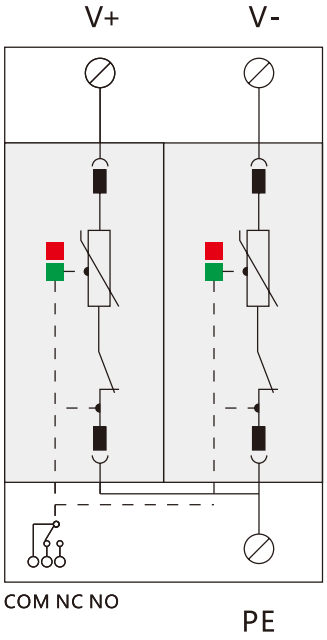


Figure 2.3.1

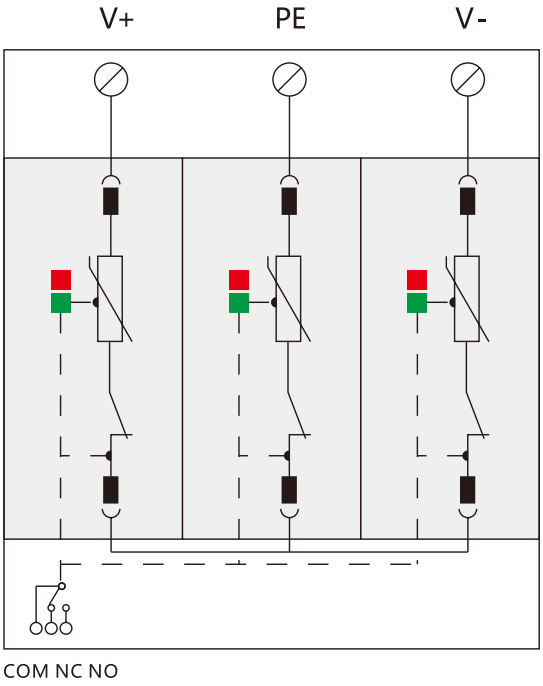


Figure 2.3.2

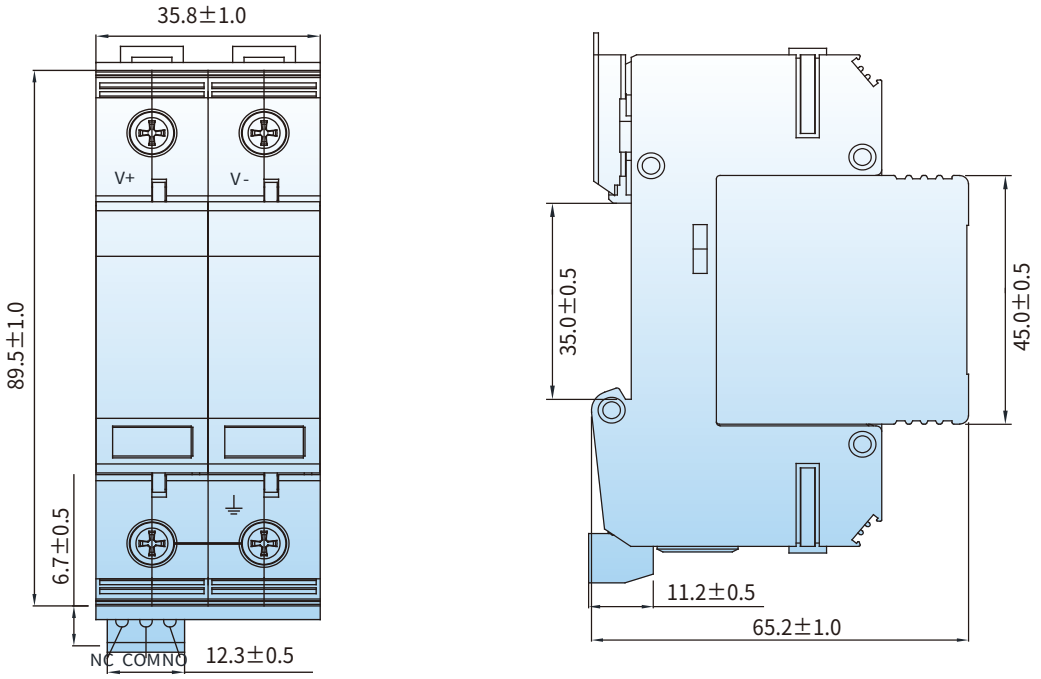


Figure 2.4.1

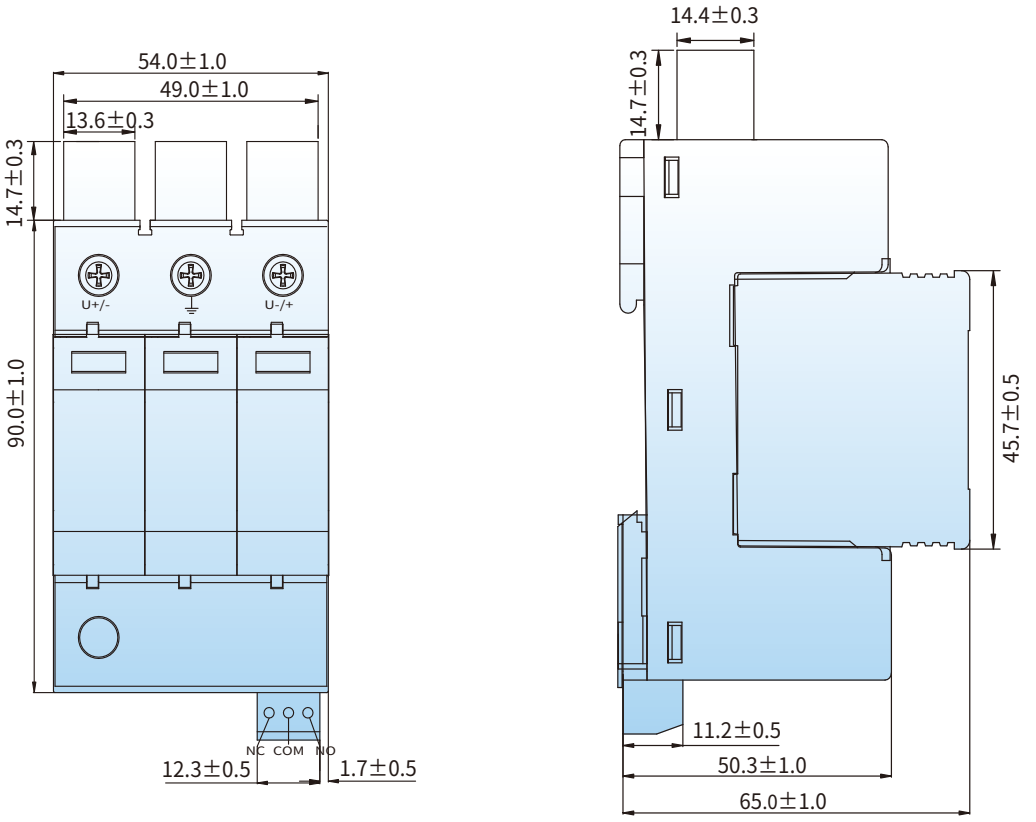


Figure 2.4.2

Combined Type 1+2 DC Power SPD (HV)

VOZWEI

Application

The product demonstrates high safety, reliability, and exceptional grid compatibility. It is ideally suited for renewable energy applications including photovoltaic and energy storage systems. Designed for installation in DC power distribution systems, converters, inverters, and combiner boxes within LPZ0 to LPZ1 zones, it provides reliable protection for sensitive electrical equipment against damage caused by direct lightning strikes or induced transient overvoltages.

- Nominal discharge current In (8/20 μs): 20 kA
- Max. discharge current Imax (8/20 μs): 40 kA
- Max. continuous operating voltage Uc: DC 830 V
- Selectable circuit protection modes: 2P
- Utilizing high-performance metal oxide varistor (MOV) technology, the device offers high temporary overvoltage (TOV) withstand capability and provides excellent voltage limiting performance
- Modular pluggable anti-loosening structure, enabling simple installation and easy maintenance

VP	□	□	-	□	/	□□
1	2	3		4		5

SN	Name	Specification, type code
1	Design code	VP
2	Product Series	D
3	Nominal operating voltage Un	600: DC 600 V
4	Max. discharge current Imax	40: 40 kA
5	Protection mode	2P: 2P
6	Test type	T1+T2: Type 1+2

Example: VPD600-40/3P(T1+T2) → Un: DC 600 V; Imax: 40 kA; Protection mode: 2P; Test type: Type 1+2.

Parameter / Model	VPD600-40/3P(T1+T2)
SPD according to EN/IEC 61643-11	Type 1+2
Protection mode	V+ & V--PE
Nominal operating voltage Un	DC 600 V
Max. continuous operating voltage Uc	DC 830 V
Nominal discharge current In (8/20 μs)	20 kA
Max. discharge current Imax (8/20 μs)	40 kA
Voltage protection level Up	⩽ 2.8 kV
Max. backup fuse	125 A gL/gG
Cross-sectional area	6~25 mm^2
Stripping length terminals	12.5 mm
Installation method	35 mm DIN rail
Housing material	PA66 UL94-V0
Protection class	IP20
Operating temperature	-40°C ~ +80°C
Relative humidity	⩽ 95% (25°C)
Operating altitude	⩽ 4000 m

Model / Parameter	Un	Uc	Up	In	Imax	Protection mode	Operating Principle	Size
VPD600-40/3P(T1+T2)	DC 600 V	DC 830 V	2.8 kV	20 kA	40 kA	V+ & V--PE	Figure 2.5.1	Figure 2.6.1

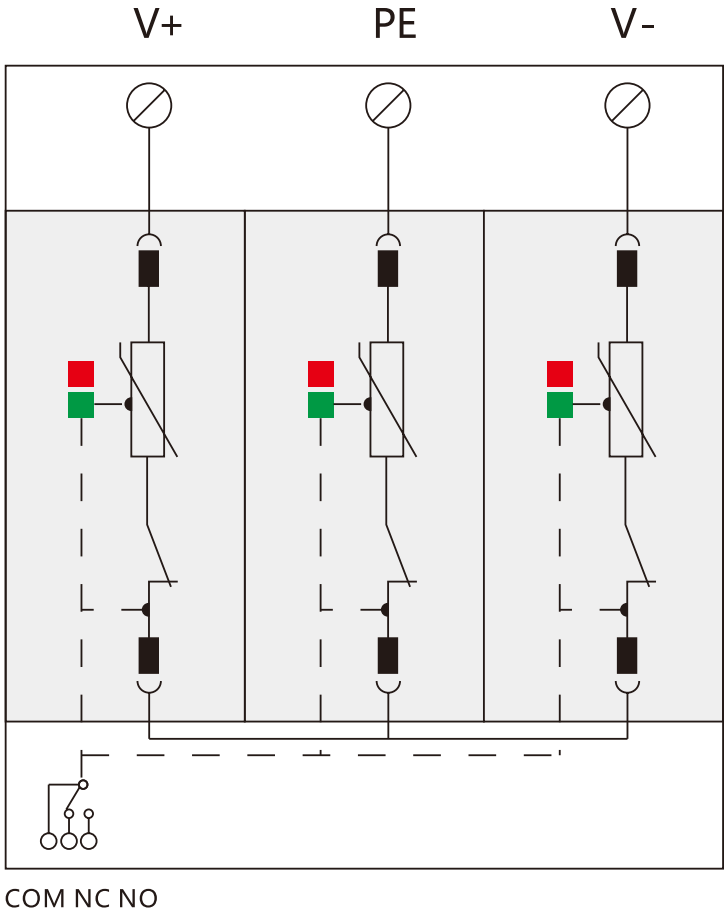


Figure 2.5.1

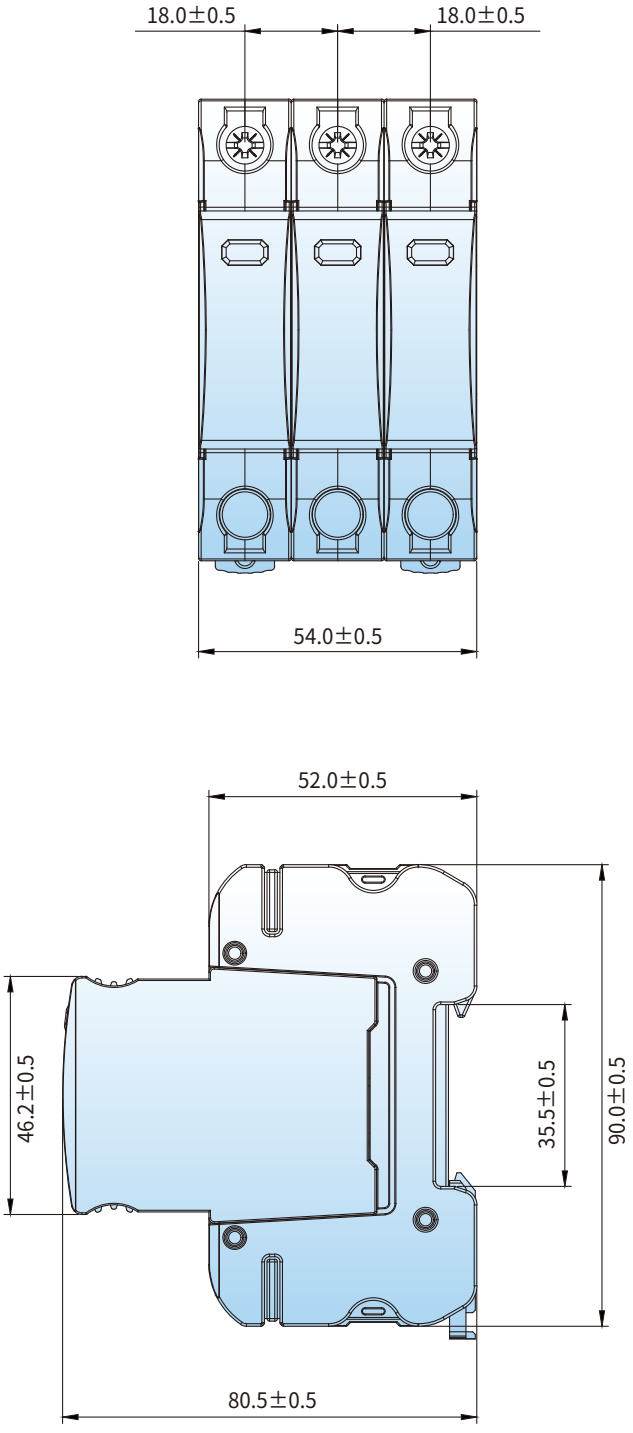


Figure 2.6.1

Photovoltaic SPD

Design Features

VOZWEI

Series	Images	Description	Imax	Features
VPD750 VPD1000 VPD1500 VPD2000		Type 2 Photovoltaic SPD	40 kA	DC-Dedicated Modular Design
VPD1000-40/3P (T1+T2) VPD1500-40/3P (T1+T2)		Combined Type 1+2 Photovoltaic SPD	40 kA	DC-Dedicated Composite Technology Modular Design

Application

The product delivers proven safety and reliability with robust grid adaptability. It is ideally suited for renewable energy applications including photovoltaic and energy storage systems. Designed for installation in DC distribution systems spanning LPZ1 to LPZ3 zones covering converters, inverters, and combiner boxes it effectively protects sensitive electrical equipment against damage from direct lightning strikes and induced transient overvoltages.

- Nominal discharge current In (8/20 μs): 20 kA
- Max. discharge current Imax (8/20 μs): 40 kA
- Max. continuous operating voltage Uc: DC 1000 V/ DC 1300 V/ DC 1800 V/ DC 2450 V
- Selectable circuit protection modes: 2P/ 3P
- Utilizing high-performance metal oxide varistor (MOV) technology, the device offers high temporary overvoltage (TOV) withstand capability and provides excellent voltage limiting performance
- Modular pluggable anti-loosening structure, enabling simple installation and easy maintenance

Selection Guide

VOZWEI

VP	□	□	-	□	/	□□
1	2	3		4		5

SN	Name	Specification, type code
1	Design code	VP
2	Product Series	D
3	Nominal operating voltage Un	750: DC 750 V; 1000: DC 1000 V; 1500: DC 1500 V; 2000: DC 2000 V
4	Max. discharge current Imax	40: 40 kA
5	Protection mode	2P: 2P; 3P: 3P

Example: VPD750-40/2P → Un: DC 750 V; Imax: 40 kA; Protection mode: 2P.

Selection Guide

VOZWEI

Parameter \ Model	VPD750-40/2P	VPD1000-40/3P	VPD1500-40/3P	VPD2000-40/3P
SPD according to EN/IEC 61643-11	Type 2			
Protection mode	V+-PE & V--PE	V+-V- & V+-PE & V--PE	V+-V- & V+-PE & V--PE	V+-V- & V+/V--PE
Nominal operating voltage Un	DC 750 V	DC 1000 V	DC 1500 V	DC 2000 V
Max. continuous operating voltage Uc	DC 1000 V	DC 1300 V	DC 1800 V	DC 2450 V
Impulse current Iimp (10/350 μs)	/	/	/	5.0 kA
Nominal discharge current In (8/20 μs)	20 kA			
Max. discharge current Imax (8/20 μs)	40 kA			
Voltage protection level Up	⩽ 3.2 kV	⩽ 4.0 kV	⩽ 5.5 kV	⩽ 8.5 kV
Rated short-circuit current Iscpv	1000 A			
Response time	⩽ 25 ns	⩽ 25 ns	⩽ 25 ns	V+-V-⩽ 25 ns, V+/V—PE⩽ 100 ns
Max. backup fuse	125 A gL/gG			
Cross-sectional area	6 ~ 25 mm^2	6 ~ 25 mm^2	6 ~ 25 mm^2	1.5 ~ 25 mm^2
Tightening torque	3 N·m	3 N·m	3 N·m	Wiring terminal: 2.5 N·m, remote signal terminal: 0.25 N·m
Normal/Fault Indication	Green/Red			
Remote signaling mode	RSC: Remote Signal Contact, NC-COM-NO contact	RSC: Remote Signal Contact, NC-COM-NO contact	RSC: Remote Signal Contact, NC-COM-NO contact	Alarm dry contact (RSC: Remote Signal Contact), 12-11-14 contacts
Performances of remote signal contact	AC: 250 V/0.5 A; DC: 250 V/0.1 A, 125 V/0.2 A, 75 V/0.5 A	AC: 250 V/0.5 A; DC: 250 V/0.1 A, 125 V/0.2 A, 75 V/0.5 A	AC: 250 V/0.5 A; DC: 250 V/0.1 A, 125 V/0.2 A, 75 V/0.5 A	AC: 250 V/0.5 A; 125 V/1 A, DC: 30 V/0.1 A
Remote cross-sectional area	Max.1.5 mm^2			
Installation method	35 mm DIN rail			
Housing material	UL94-V0			
Protection class	IP20			
Outline dimensions (without terminal)	89.50 mm×35.80 mm ×65.20 mm (tolerance ± 1 mm)	104.70 mm×54.00 mm ×65.00 mm (tolerance ± 1 mm)	104.70 mm×54.00 mm ×65.00 mm (tolerance ± 1 mm)	100.00 mm×108.00 mm ×85.00 mm (tolerance ± 1 mm)
Operating temperature	-40°C ~ +70°C	-40°C ~ +70°C	-40°C ~ +80°C	-40°C ~ +85°C
Relative humidity	⩽ 95% (25°C)			
Operating altitude	⩽ 3000 m	⩽ 3000 m	⩽ 4000 m	-500 m ~ 4000 m
Product certification	/	TUV	TUV	TUV
Environmental protection characteristics	RoHS			

Selection Guide

VOZWEI

Parameter / Model	Un	Uc	Up	In	Imax	Protection mode	Operating Principle	Size
VPD750-40/2P	DC 750 V	DC 1000 V	3.2 kV	20 kA	40 kA	V+-PE & V--PE	Figure 3.1.1	Figure 3.2.1
VPD1000-40/3P	DC 1000 V	DC 1300 V	4.0 kV	20 kA	40 kA	V+-V- & V+-PE & V--PE	Figure 3.1.2	Figure 3.2.2
VPD1500-40/3P	DC 1500 V	DC 1800 V	5.5 kV	20 kA	40 kA	V+-V- & V+-PE & V--PE	Figure 3.1.2	Figure 3.2.3
VPD2000-40/3P	DC 2000 V	DC 2450 V	8.5 kV	20 kA	40 kA	V+-V- & V+/V--PE	Figure 3.1.3	Figure 3.2.3

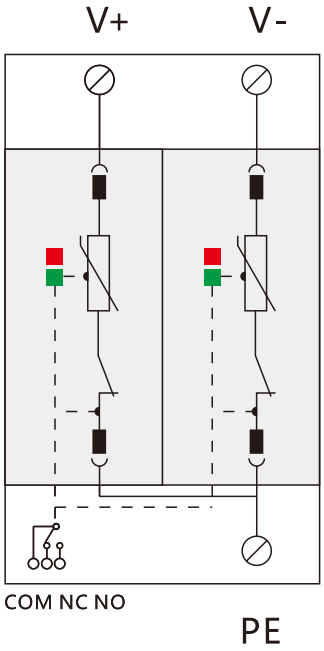


Figure 3.1.1

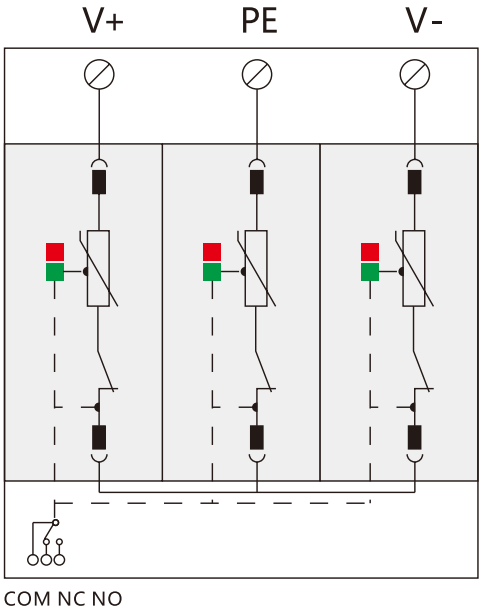


Figure 3.1.2

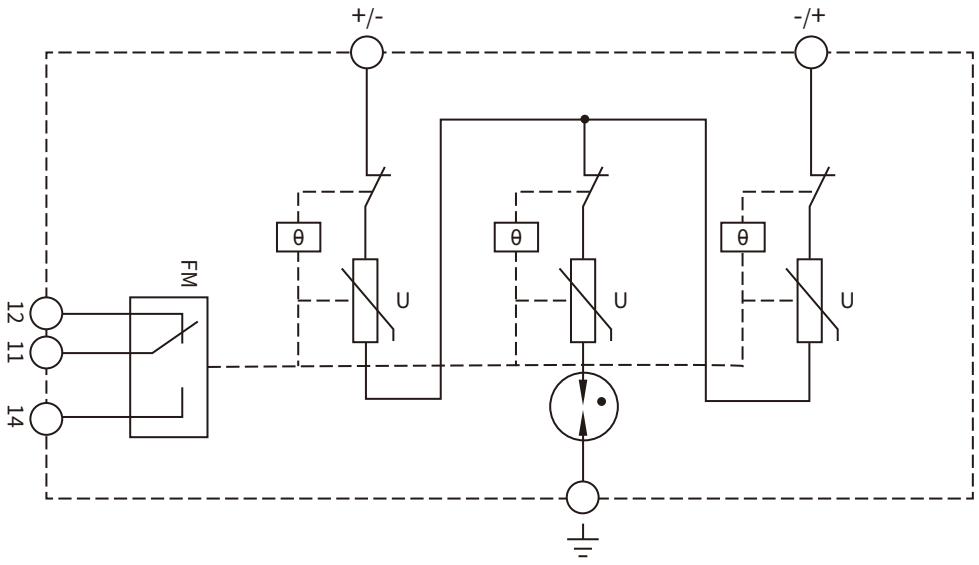


Figure 3.1.3

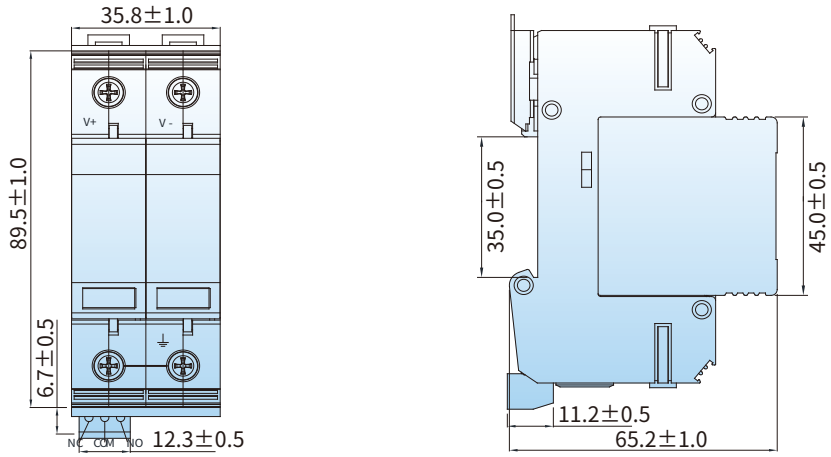


Figure3.2.1

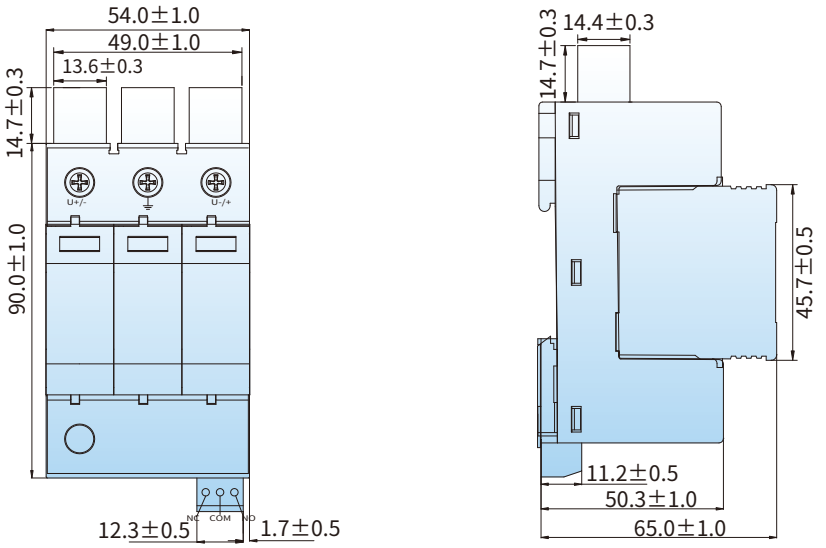


Figure 3.2.2

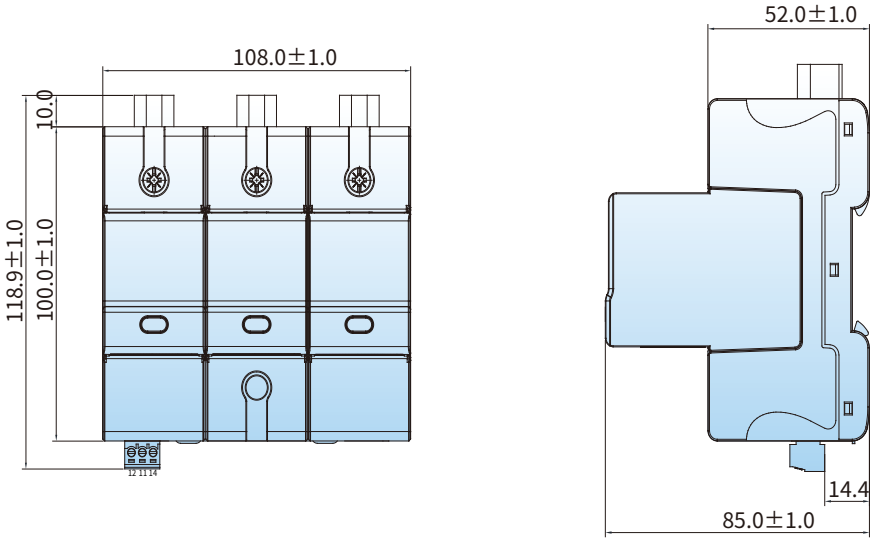


Figure 3.2.3

Combined Type 1+2 Photovoltaic SPD

VOZWEI

Application

The product demonstrates high safety, reliability, and exceptional grid compatibility. It is ideally suited for renewable energy applications including photovoltaic and energy storage systems. Designed for installation in DC power distribution systems, converters, inverters, and combiner boxes within LPZ0 to LPZ1 zones, it provides reliable protection for sensitive electrical equipment against damage caused by direct lightning strikes or induced transient overvoltages.

- Nominal discharge current In (8/20 μs): 20 kA
- Max. discharge current Imax (8/20 μs): 40 kA
- Max. continuous operating voltage Uc: DC 1300 V/ DC 1500 V
- Selectable circuit protection modes: 3P
- Utilizing high-performance metal oxide varistor (MOV) technology, the device offers high temporary overvoltage (TOV) withstand capability and provides excellent voltage limiting performance
- Modular pluggable anti-loosening structure, enabling simple installation and easy maintenance

VP	–	□	□	–	□	/	□	□
1		2	3		4		5	6

SN	Name	Specification, type code
1	Design code	VP
2	Product Series	D
3	Nominal operating voltage Un	1000: DC 1000 V; 1500: DC 1500 V
4	Max. Discharge Current Imax	40: 40 kA
5	Protection mode	3P: 3P
6	Test type	T1+T2

Example: VPD1000-40/3P(T1+T2) → Un: DC 1000 V; Imax: 40 kA; Protection mode: 3P; Test type: T1+T2.

Selection Guide

VOZWEI

Parameter \ Model	VPD1000-40/3P (T1+T2)	VPD1500-40/3P (T1+T2)
SPD according to EN/IEC 61643-11	Type 1+2	
Protection mode	V+ & V--/PE	
Nominal operating voltage Un	DC 1000 V	DC 1250 V
Max. continuous operating voltage Uc	DC 1300 V	DC 1500 V
Impulse current Iimp (10/350 μs)	6.25 kA	
Nominal discharge current In (8/20 μs)	20 kA	
Max. discharge current Imax (8/20 μs)	40 kA	
Voltage protection level Up	⩽ 4.0 kV	⩽ 5.0 kV
Rated short-circuit current Iscpv	1000 A	
Leakage current	⩽ 20 μA	
Response time	⩽ 25 ns	
Max. backup fuse	125 A gL/gG	
Cross-sectional area	6 ~ 25 mm^2	
Tightening torque	3 N · m	
Normal/Fault Indication	Green/Red	
Remote signaling mode	RSC: Remote Signal contact, NC-COM-NO contact	
Performances of remote signal contact	AC: 250 V/0.5 A; DC: 250 V/0.1 A, 125 V/0.2 A, 75 V/0.5 A	
Remote cross-sectional area	Max.1.5 mm^2	
Installation method	35 mm DIN rail	
Housing material	UL94-V0	
Protection class	IP20	
Operating temperature	-40°C ~ +80°C	
Relative humidity	⩽ 95% (25°C)	
Operating altitude	⩽ 4000 m	
Outline dimensions (without terminal)	90.00 mm × 50.00 mm × 80.50 mm (tolerance ± 1 mm)	

Parameter \ Model	Un	Uc	Up	In	Imax	Protection mode	Operating Principle	Size
VPD1000-40/3P(T1+T2)	DC 1000 V	DC 1300 V	4.0 kV	20 kA	40 kA	V+ & V--/PE	Figure 3.3.1	Figure 3.4.1
VPD1500-40/3P(T1+T2)	DC 1250 V	DC 1500 V	5.0 kV	20 kA	40 kA	V+ & V--/PE	Figure 3.3.1	Figure 3.4.1

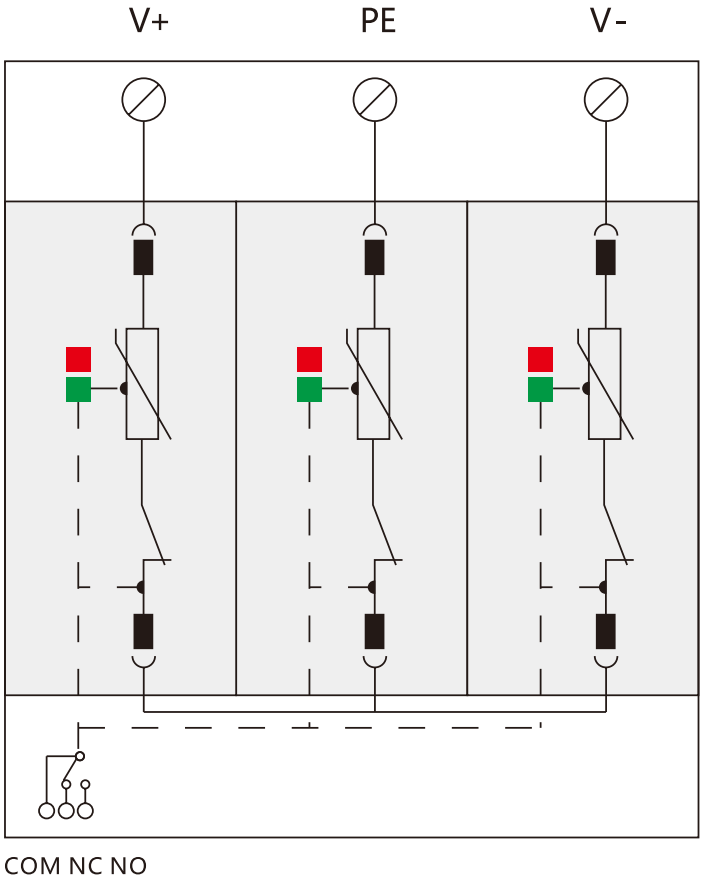


Figure 3.3.1

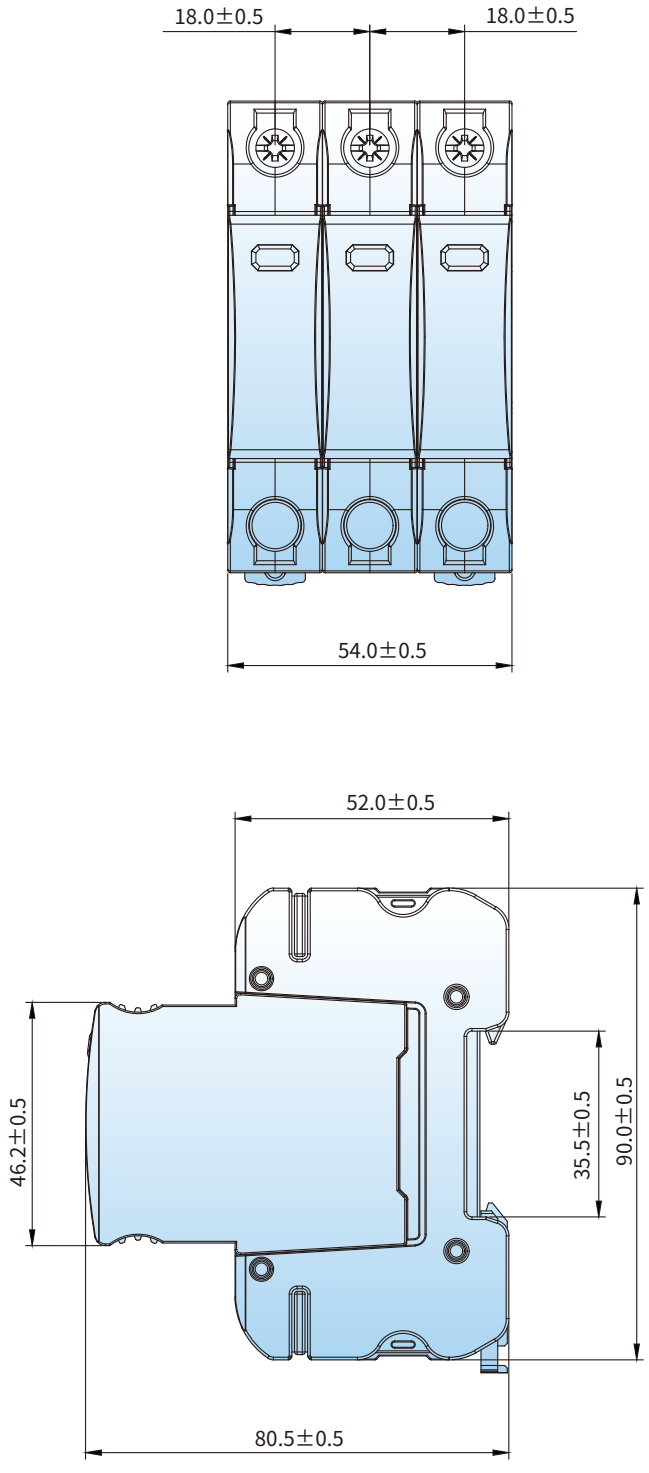


Figure 3.4.1

1U Power SPD

Design Features

VOZWEI

Series	Images	Description	Imax	Features
VPM275-1U VPM385-1U		Standard Rack-mountable	20 kA	Basic alarm functionality
VPM385-1UN		Intelligent Rack-mountable	40 kA	Network management capability

Application

The product features a standard 1U height chassis design for rack mounting. It incorporates multiple globally pioneering technologies and has applied for numerous invention and utility model patents. With excellent grid adaptability, it is widely suitable for various electrical applications. Designed for installation in low-voltage distribution systems from LPZ0 to LPZ2 zones, it effectively protects sensitive electrical equipment against damage caused by direct lightning strikes or induced transient overvoltages.

- Nominal discharge current In (8/20 μs): 10 kA/ 20 kA
- Max. discharge current Imax (8/20 μs): 20 kA/ 40 kA
- Max. continuous operating voltage Uc: AC 275 V/ AC 385 V
- Selectable circuit protection modes: 1N+NPG/ 3N+NPG
- Utilizing high-performance metal oxide varistor (MOV) technology, the device offers high temporary overvoltage (TOV) withstand capability and provides excellent voltage limiting performance.
- 1U modular pluggable anti-loosening structure for simple installation and easy maintenance.

VP	□	□ -	□ /	□□ -	1U -	N
1	2	3	4	5	6	7

SN	Name	Specification, type code
1	Design code	VP
2	Product Series	M
3	Max. continuous operating voltage Uc	275 V: AC 275 V; 385 V: AC 385 V
4	Max. Discharge Current Imax	40: 40 kA
5	Protection mode	1N+NPG: 1N+NPG; 3N+NPG: 3N+NPG
6	Structure	1U: 1U Plug-and-Play Anti-Detachment
7	Intelligent Features	N: Network

Example: VPM385-40/3N+NPG-1UN → Uc: AC 385V; Imax: 40 kA; Protection mode: 3N+NPG; Structure: 1U; Intelligent Features: N.

Selection Guide

VOZWEI

Parameter \ Model	VPM385-40/3N+NPG-1U	VPM385-40/3N+NPG-1UN
SPD according to EN/IEC 61643-11	Type 2	
Protection mode	3+1 mode	3+1 mode
Nominal operating voltage Un	AC 230/400 V 50/60 Hz	AC 230/400 V 50/60 Hz
Max. continuous operating voltage Uc	AC 385 V 50/60 Hz (MOV module Uc: 385 V 50/60 Hz, GDT module Uc: 255 V 50/60 Hz)	AC 385 V 50/60 Hz (Uc: 385 V 50/60 Hz for the pressure-sensitive module, Uc: 255 V 50/60 Hz for the discharge tube module)
Nominal discharge current In (8/20 μs)	20 kA	20 kA
Max. discharge current Imax (8/20 μs)	40 kA	40 kA
Voltage protection level Up	L-N ⩽ 1.8 kV, N-PE ⩽ 1.0 kV	L-N ⩽ 1.7 kV, N-PE ⩽ 1.0 kV
Leakage current	⩽ 20 μA	
Response time	L-N ⩽ 25 ns, N-PE ⩽ 100 ns	
Normal/Fault Indication	Green/Red	
Remote signaling mode	RSC: Remote Signal contact, NC-COM contact	
Performances of remote signal contact	AC: 250 V/0.5 A; DC: 250 V/0.1 A, 125 V/0.2 A, 75 V/0.5 A	
Remote cross-sectional area	Max.1.5 mm^2	
Installation method	Fixed with 4-M3* × 8 screws	Plug-in type: The rear end connector is 2.0 ± 0.1 mm thick
Housing material	PA66 UL94-V0	
Protection class	IP20	
Outline dimensions (without terminal)	138.00 mm × 48.00 mm × 40.00 mm (tolerance ± 1 mm)	123.50 mm × 76.00 mm × 40.00 mm (tolerance ± 1 mm)
Module pluggable	Pluggable module (for easy replacement of pressure sensitive module on panel)	/
Internal protection device	The lightning protection unit has a built-in thermal trip device	
Access wire terminal	DBN 90° Strip terminal (DBN 5.5-16-90, DBN 8-16-90, DBN 14-16-90)	/
Remote installation mode	/	Plug-in: The rear end plug-in remote PCB board thickness is 1.6 mm
Terminal crimp length	16.0 mm	/
Wire crimping installation force	> 100 N	/

Selection Guide

VOZWEI

Parameter / Model	Un	Uc	Up	In	Imax	Protection mode	Operating Principle	Size
VPM385-40/3N+NPG-1U	AC 230 V	AC 385 V	1.8 kV	20 kA	40 kA	L-N & N-PE	Figure 4.1.2	Figure 4.2.1
VPM385-40/3N+NPG-1UN	AC 230 V	AC 385 V	1.7 kV	20 kA	40 kA	L-PE & N-PE	Figure 4.1.2	Figure 4.2.2
VPM385-40/1N+NPG-1U	AC 230 V	AC 385 V	1.8 kV	20 kA	40 kA	L-PE & N-PE	Figure 4.1.1	Figure 4.2.3
VPM385-40/2P-1U	AC 230 V	AC 385 V	1.8 kV	20 kA	40 kA	L-PE & N-PE	Figure 4.1.3	Figure 4.2.3
VPM385-40/3P-1U	AC 230 V	AC 385 V	1.8 kV	20 kA	40 kA	L-PE & N-PE	Figure 4.1.4	Figure 4.2.4

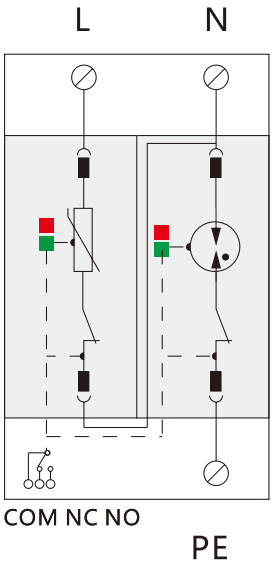


Figure 4.1.1

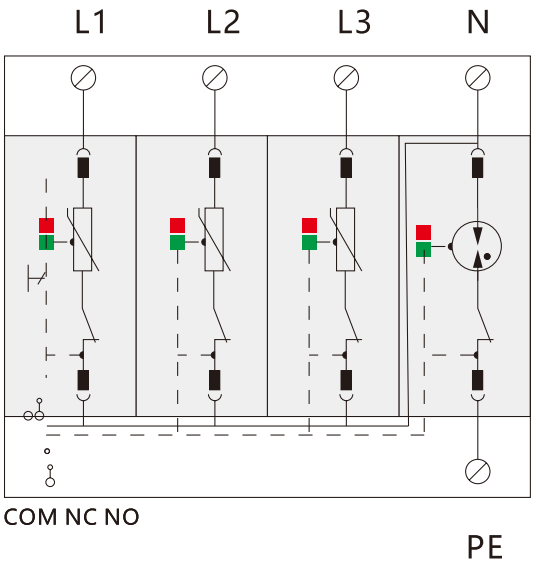


Figure 4.1.2

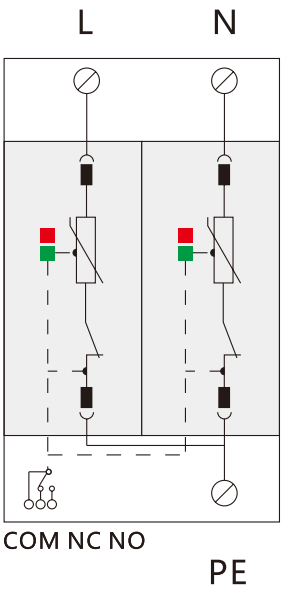


Figure 4.1.3

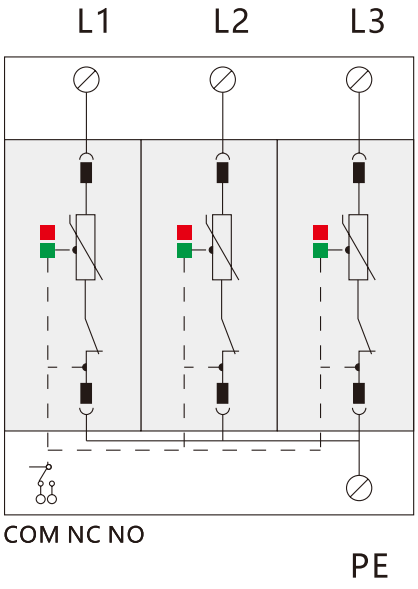


Figure 4.1.4

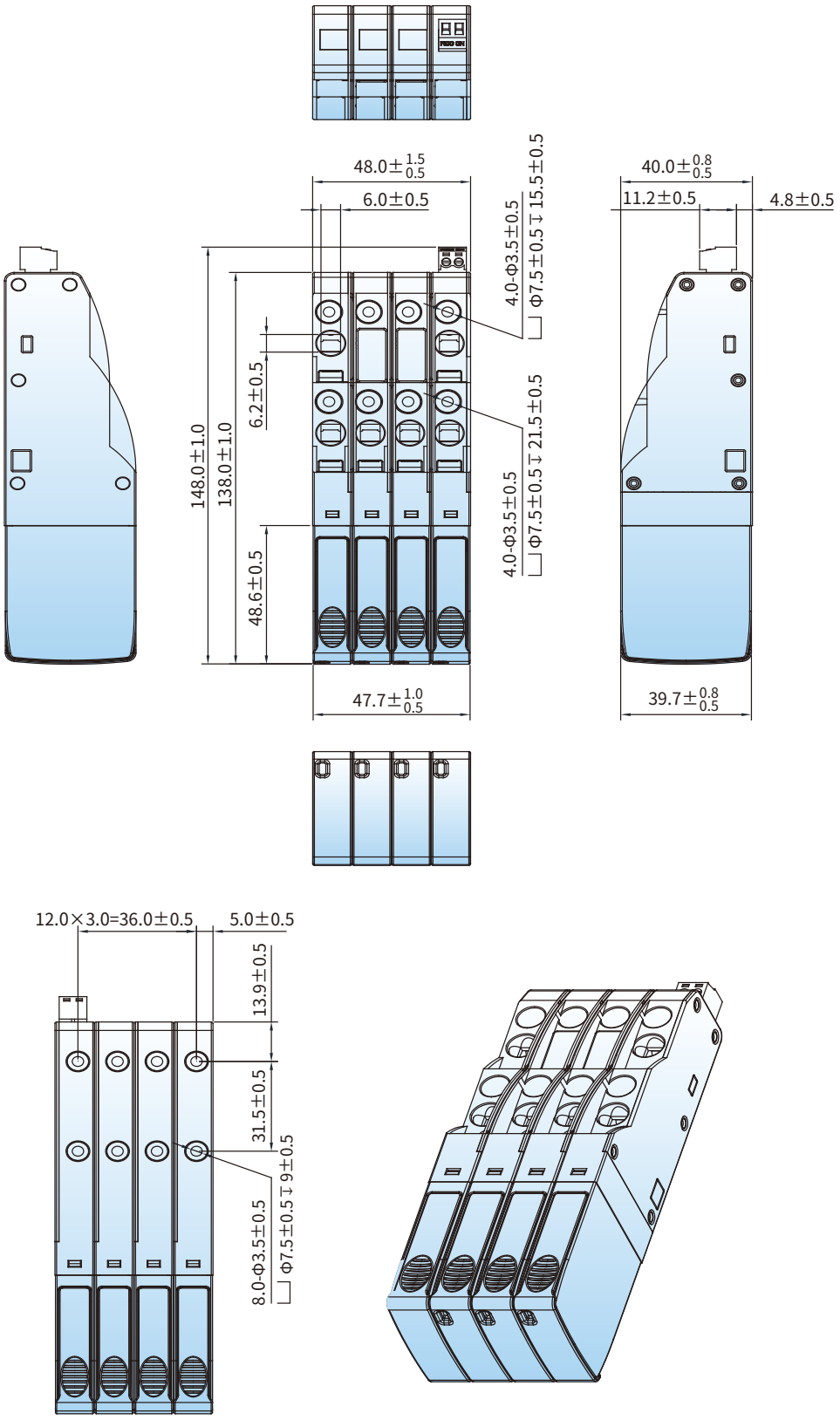

48.0±1.5 0.5
6.0±0.5
4.0-Φ3.5±0.5
⌴ Φ7.5±0.5↧15.5±0.5
4.0-Φ3.5±0.5
⌴ Φ7.5±0.5↧21.5±0.5
148.0±1.0
138.0±1.0
6.2±0.5
48.6±0.5
47.7±1.0 0.5
40.0±0.8 0.5
11.2±0.5
4.8±0.5
39.7±0.8 0.5
12.0×3.0=36.0±0.5
5.0±0.5
13.9±0.5
31.5±0.5
8.0-Φ3.5±0.5
⌴ Φ7.5±0.5↧9±0.5

Figure 4.2.1

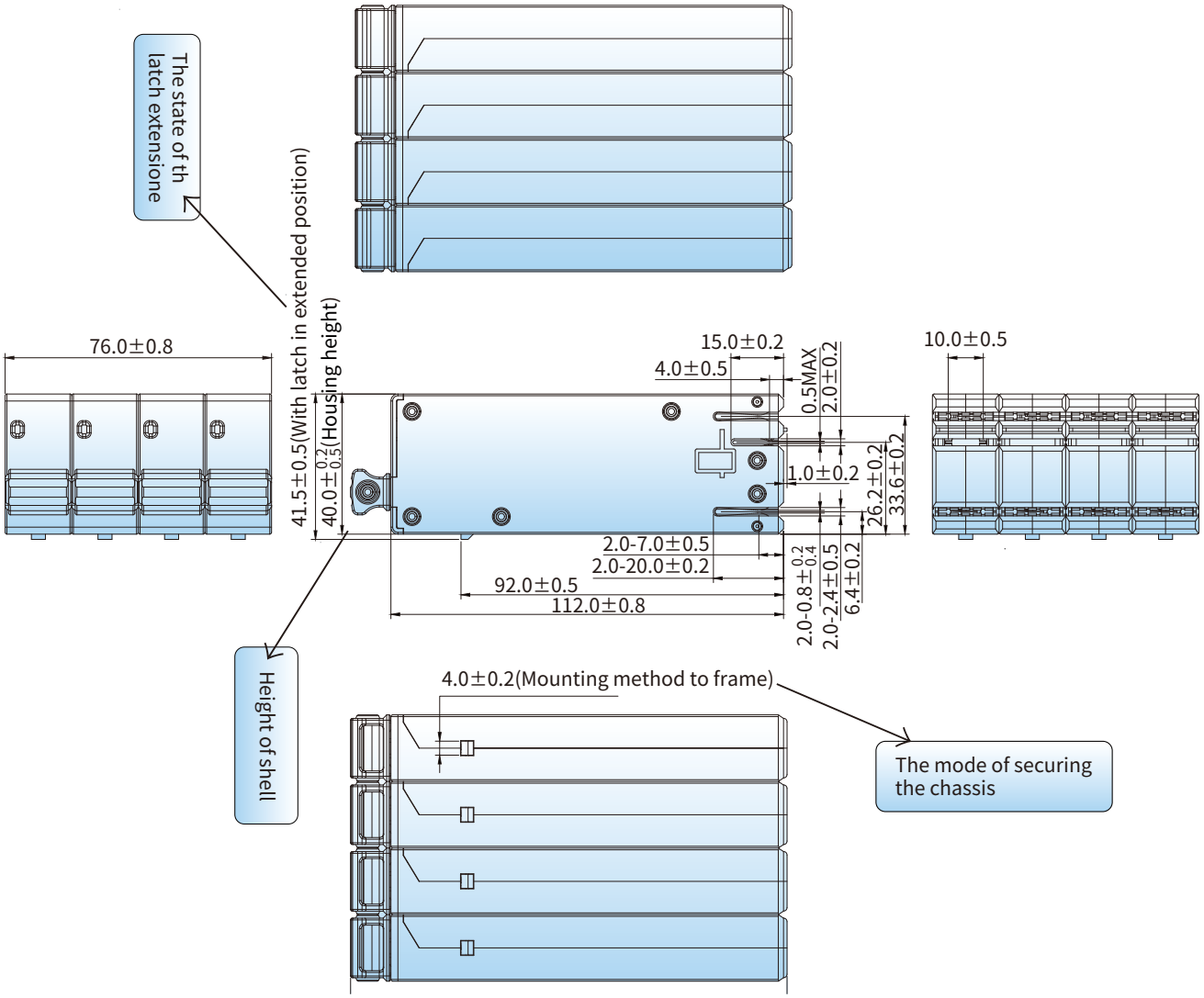

The state of th
latch extensione
41.5±0.5(With latch in extended position)
40.0±0.2/0.5(Housing height)
76.0±0.8
15.0±0.2
4.0±0.5
0.5MAX
2.0±0.2
1.0±0.2
26.2±0.2
33.6±0.2
10.0±0.5
2.0-7.0±0.5
2.0-20.0±0.2
92.0±0.5
112.0±0.8
2.0-0.8±0.2/0.4
2.0-2.4±0.5
6.4±0.2
Height of shell
4.0±0.2(Mounting method to frame)
The mode of securing
the chassis

Figure 4.2.2

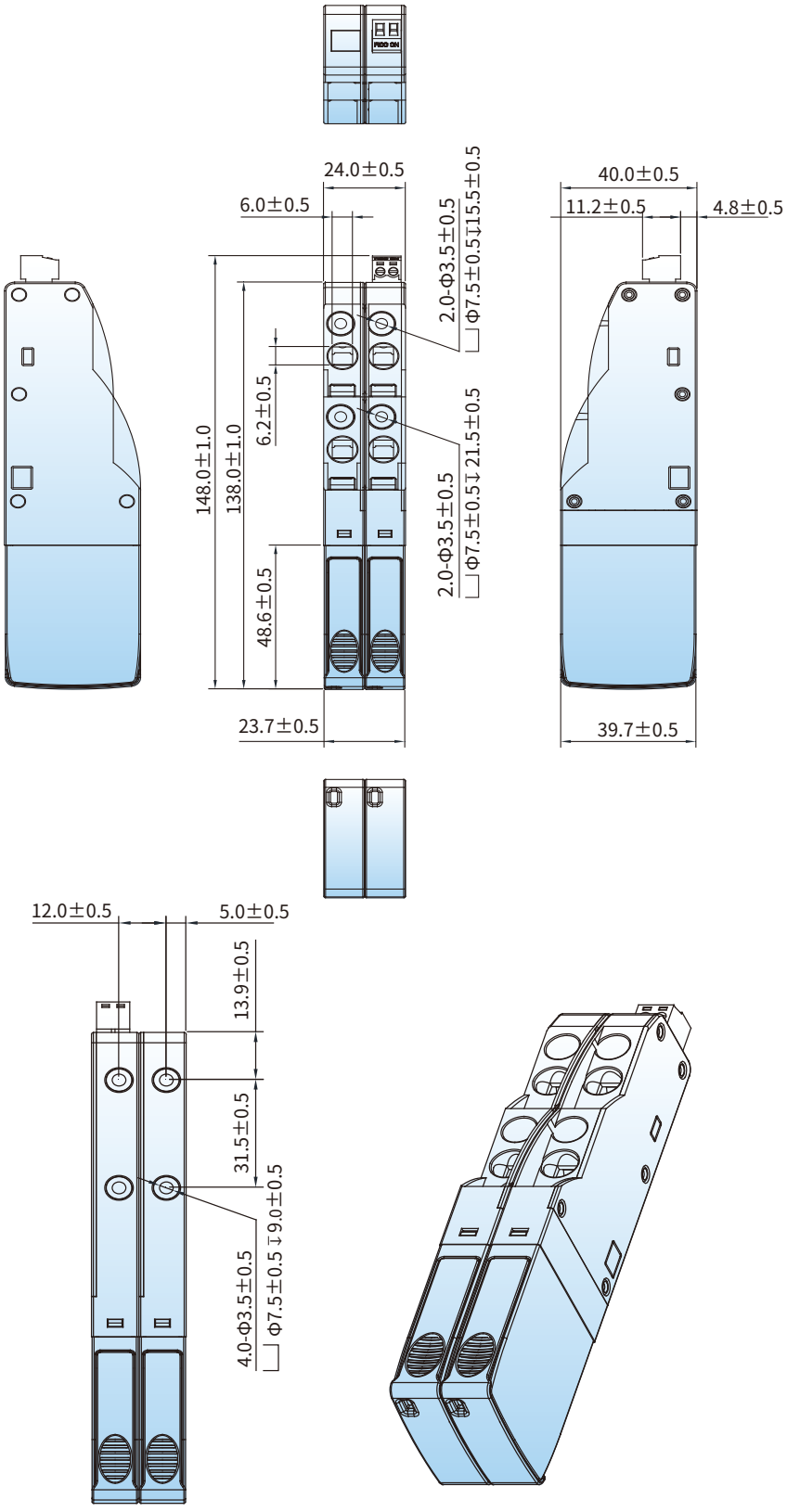

24.0±0.5
6.0±0.5
2.0-Φ3.5±0.5
□Φ7.5±0.5↧15.5±0.5
148.0±1.0
138.0±1.0
6.2±0.5
48.6±0.5
2.0-Φ3.5±0.5
□Φ7.5±0.5↧21.5±0.5
23.7±0.5
40.0±0.5
11.2±0.5
4.8±0.5
39.7±0.5
12.0±0.5
5.0±0.5
13.9±0.5
31.5±0.5
4.0-Φ3.5±0.5
□Φ7.5±0.5↧9.0±0.5

Figure 4.2.3

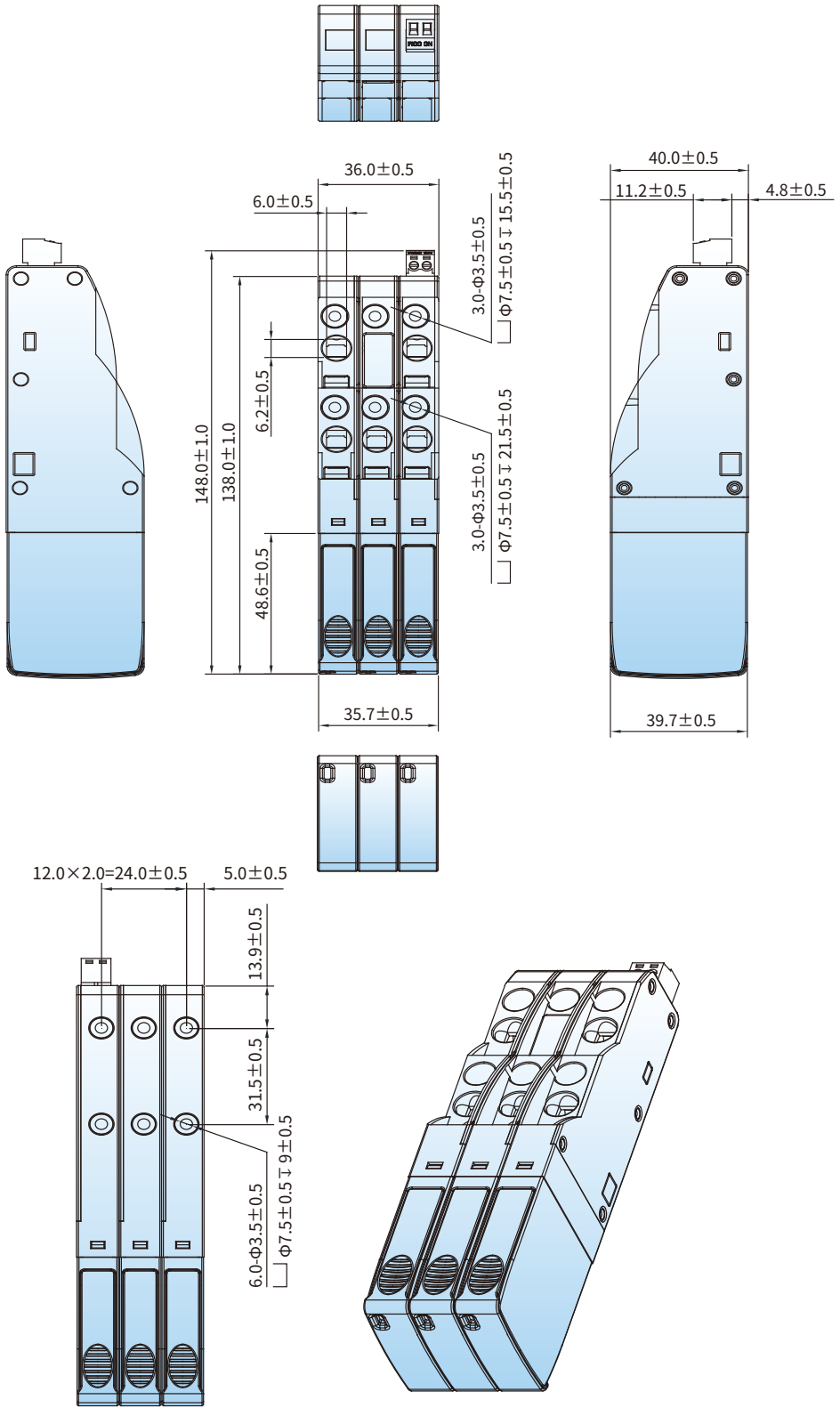

36.0±0.5
6.0±0.5
40.0±0.5
11.2±0.5
4.8±0.5
3.0-Φ3.5±0.5
Φ7.5±0.5↧15.5±0.5
3.0-Φ3.5±0.5
Φ7.5±0.5↧21.5±0.5
6.2±0.5
148.0±1.0
138.0±1.0
48.6±0.5
35.7±0.5
39.7±0.5
12.0×2.0=24.0±0.5
5.0±0.5
13.9±0.5
31.5±0.5
6.0-Φ3.5±0.5
Φ7.5±0.5↧9±0.5

Figure 4.2.4

LED Street Light SPD

Design Features

VOZWEI

Series	Images	Imax	Features
VPM220-10/CFLP-1 VPM220-10/CFLP-2		10 kA	Cost-effective Compact Type for Single-phase Systems
VPM220-10/TS VPM220-10/TH VPM220-10/T		10 kA	Standard Smart Type for Three-phase Systems

Application

The product serves as a Category III transient overvoltage suppressor, designed for final-stage protection of single-phase 100-240 V AC power supplies. Installed within the equipment being protected, it implements lightning protection from LPZ2 to LPZ3 zones according to the lightning protection zone concept. Providing both differential-mode and common-mode protection, it effectively safeguards LED lighting systems against damage caused by direct lightning strikes or induced transient overvoltages.

- Nominal discharge current In (8/20 μs): 5 kA
- Max. discharge current Imax (8/20 μs): 10 kA
- Max. continuous operating voltage Uc: AC 275 V/ AC 320 V/ AC 385 V
- Full protection modes: Differential-mode and common-mode
- Optional features: LED status indicator, built-in overcurrent fuse protection
- Integrated structure with IP65 rating; single-port and two-port options available; supports series/parallel installation for easy mounting
- Utilizes high-performance surge protection components, featuring high TOV withstand capability and low limiting voltage

Selection Guide

VOZWEI

VP	□	220	–	□	/	C	FL	T	P	–	□
1	2	3		4		5	6	7	8		9

SN	Name	Specification, type code
1	Design code	VP
2	Product Series	M
3	Rated supply voltage	220 V
4	Max. Discharge Current Imax	10: 10 kA
5	Protection mode	C: Full Protection
6	Features & Characteristics	FL: Fuse, LED Alarm Indication; L: Fuse & LED Alarm Indication
7	Interface & Connection	T: Two-Port
8	Design & Construction	P: Plastic Housing
9	Max. continuous operating voltage Uc	1: AC 270 V; 2: AC 320 V

Example: VPM220-10/CFLP-1 → Rated supply voltage: 220 V; Imax: 10 kA; Protection mode: Full Protection; Features & Characteristics: Fuse;Design & Construction: Plastic Housing; Uc: AC 270 V.

Selection Guide

VOZWEI

Parameter \ Model	VPM220-10/CFLP-1	VPM220-10/T	VPM220-10/TH
SPD according to EN/IEC 61643-11		Type 3	
Protection mode		L-PE & N-PE & L-N	
Nominal operating voltage Un	AC 220-240 V 50/60 Hz	AC 220-240 V 50/60 Hz	AC 100 V-277 V 50/60 Hz
Max. continuous operating voltage Uc	AC 275 V 50/60 Hz	AC 385 V 50/60 Hz	AC 320 V 50/60 Hz
Nominal discharge current In (8/20 μs)		5 kA	
Max. discharge current Imax (8/20 μs)		10 kA	
Voltage protection level Up	L-PE/N-PE ⩽ 1.5 kV, L-N ⩽ 1.3 kV	⩽ 1.5 kV	L-N/L-PE ⩽ 1.5 kV, N-PE ⩽ 2.6 kV
Leakage current	⩽ 20 μA	⩽ 10 μA	⩽ 20 μA
Response time	L-N ⩽ 25 ns, L-PE/N-PE ⩽ 100 ns	⩽ 25 ns	L-N/L-PE ⩽ 100 ns, N-PE ⩽ 25 ns
Normal/Fault Indication		Green/Red	
Installation method	Parallel installation	Parallel installation	Series installation
Housing material		UL94-V0	
Protection class	IP20	IP65	IP65
Relative humidity		⩽ 95% (25°C)	
Operating temperature		-40°C ~ +80°C	
Operating altitude		⩽ 4000 m	
Outline dimensions (without terminal)	79.00 mm × 35.00 mm × 20.00 mm (tolerance ± 1 mm)	73.00 mm × 42.00 mm × 30.40 mm (tolerance ± 1 mm)	/
Internal protection device	The lightning protection unit has a built-in thermal trip device		
Extraction wire	L–Brown, N–Blue, PE-Yellow-Green, Wire Length 120 mm	L-Brown, N-Blue (European standard wire, H05 V-K 1.0)	L-Black, N-White, PE-Green
Power Distribution System	TN	LED	LED

Model \ Parameter	Un	Uc	Up	In	Imax	Protection mode	Operating Principle	Size
VPM220-10/CFLP-1	AC 230 V	AC 275 V	1.5 kV	5 kA	10 kA	L-PE & N-PE & L-N	Figure 5.1.1	Figure 5.2.1
VPM220-10/CFLP-2	AC 230 V	AC 320 V	1.6 kV	5 kA	10 kA	L-PE & N-PE & L-N	Figure 5.1.1	Figure 5.2.1
VPM220-10/T	AC 220 V-240 V	AC 385 V	1.5 kV	5 kA	10 kA	L-PE & N-PE & L-N	Figure 5.1.2	Figure 5.2.2
VPM220-10/TH	AC 220 V-240 V	AC 320V	1.5 kV	5 kA	10 kA	L-PE & N-PE & L-N	Figure 5.1.3	Figure 5.2.3
VPM220-10/TS	AC 100 V-277 V	AC 320 V	1.5 kV	5 kA	10 kA	L-PE & N-PE & L-N	Figure 5.1.4	Figure 5.2.4

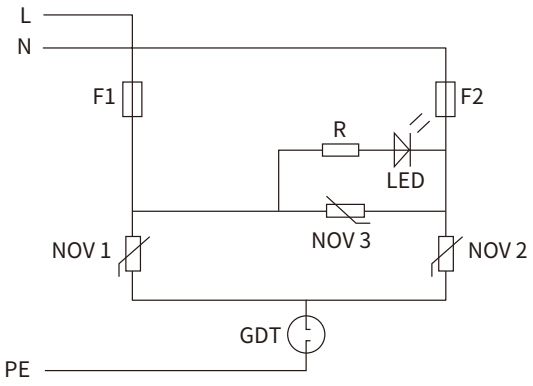


Figure 5.1.1

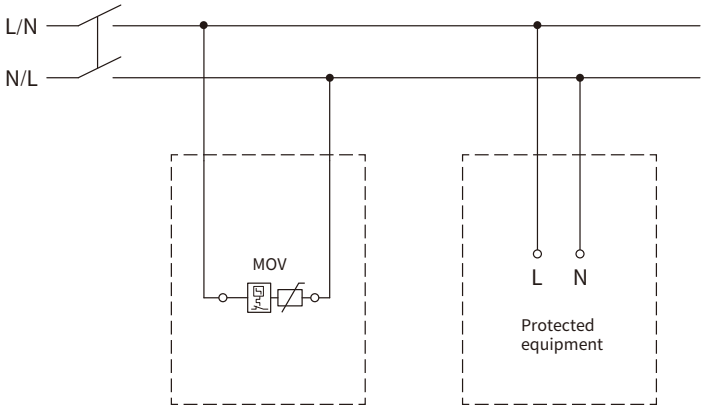


Figure 5.1.2

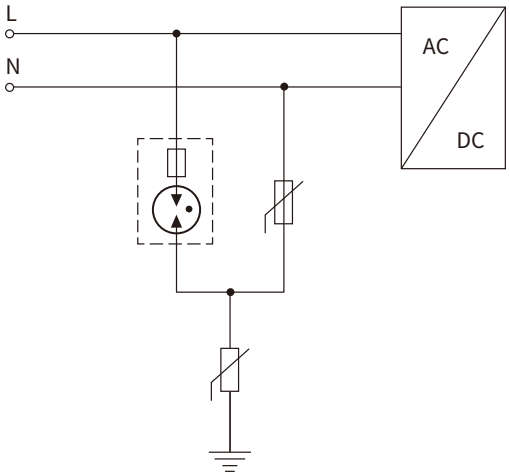
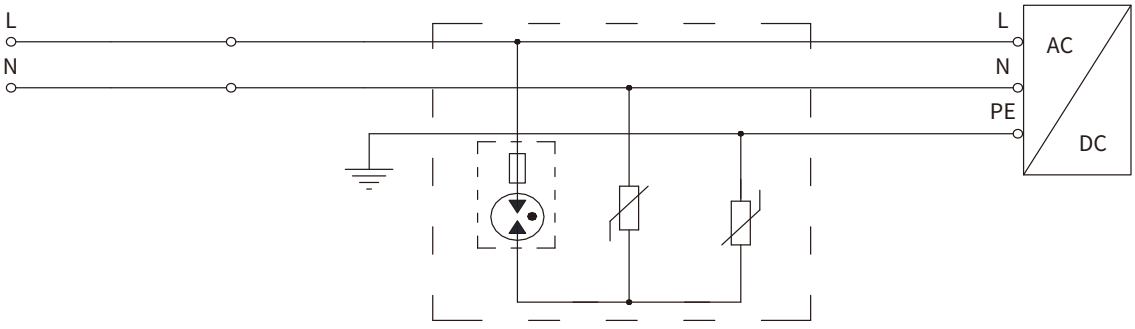


Figure 5.1.3



The discharge tube in the diagram incorporates a thermal cut-off function.

Figure 5.1.4

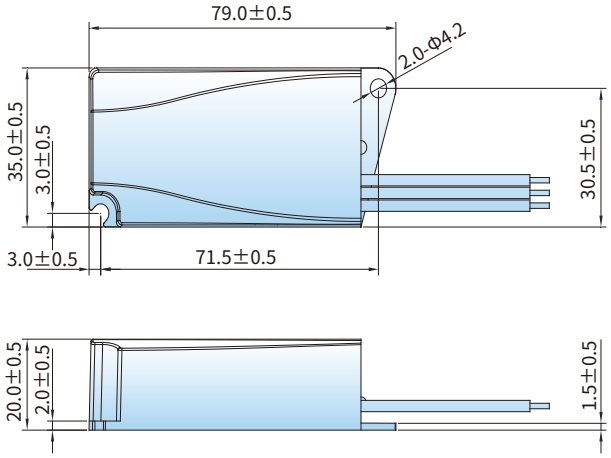


Figure 5.2.1

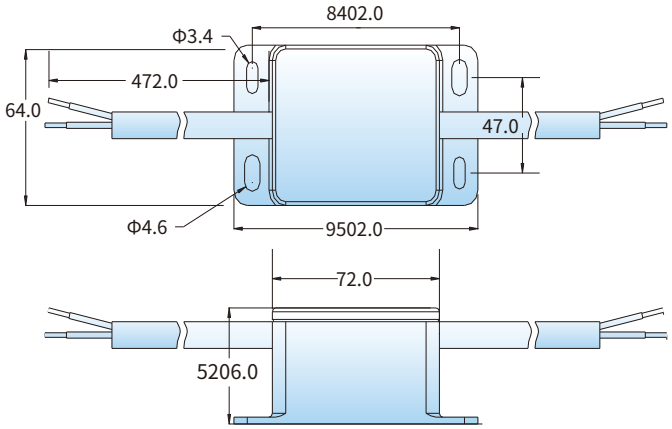


Figure 5.2.2

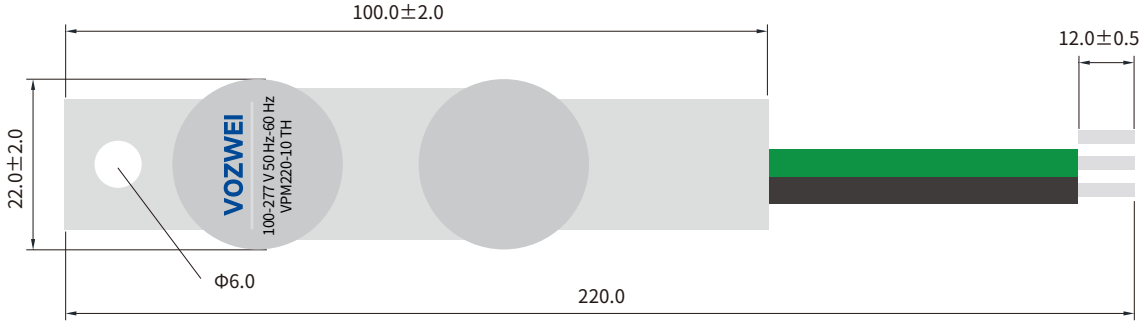
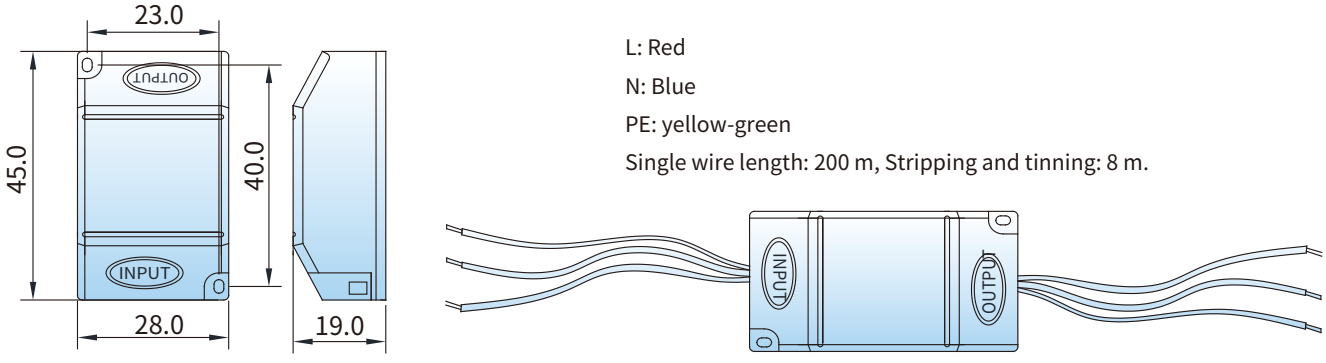


Figure 5.2.3



L: Red

N: Blue

PE: yellow-green

Single wire length: 200 m, Stripping and tinning: 8 m.

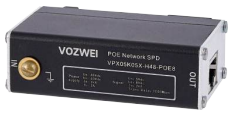
Figure 5.2.4

Signal SPD


VOZWEI
POE Network SPD
VPX05K05X-H48-POE8
IN
OUT
Power supply
Un: 48Vdc
Uc: 60Vdc
In: 2kA
IL: 2A
Signal
Un: 5Vdc
Uc: 8Vdc
In: 2kA
Trans.Rate: 1000Mbps

Design Features

VOZWEI

Series	Images	Description	Imax	Features
VPX05K05X-H48-POE8		Type 2 Signal SPD	10 kA	Simultaneously protects data signals and PoE power
VP-05K2 VP-05K4 VP-24K2 VP-24K4		Type 3 Signal SPD	10 kA	Provides fine protection for branch circuits and equipment fronts

Type 2 Signal SPD

VOZWEI

Application

The product is a multi-port signal surge protective device engineered for high-density network protection with Power over Ethernet (PoE) support. It is specifically designed for installation at network switches, IP device endpoints, and communication cabinets in LPZ 2 to LPZ 3 zones (commonly referred to as Type 3 or Class D protection). It effectively safeguards sensitive network equipment such as IP cameras, wireless access points, and VoIP phones against damage from induced transient overvoltages on both data lines and PoE power lines.

- Utilizes precision GDT/TVS multi-stage protection circuit with low capacitance design
- Plug-and-play operation with visual protection status indicators
- Compact metal housing for 19-inch rack mounting (1U)
- Protection modes: Line-Line & Line-Ground for all data pairs and power pairs

Parameter \ Model		VPX05K05X-H48-POE
SPD according to EN/IEC 61643-11		Type 2
Protected pin		All 8 pins protected
Signal part	Nominal operating voltage Un	DC 3.3 V
	Max. continuous operating voltage, Uc	DC 6 V
	Series impedance/per line	1 Ω
	Nominal discharge current In	1 kA
	Transfer rate	1000 Mbps
	Protection voltage C2(1 kA, 8/20 μs)	L/L:≤ 40 V (after 2 μs), L/PE:≤ 300 V (after 2 μs)
	Protection voltage C3(1 kV/μs)	L/L:≤ 20 V, L/PE:≤ 300 V
Power supply part	Nominal operating voltage Un	DC 48 V
	Max. continuous operating voltage Uc	DC 60 V
	Max. load current	1 A
	Series impedance/per line	0.5 Ω
	Nominal discharge current In	2 kA
	Protection voltage	≤ 300 V (after 2 μs)
Installation method		35 mm DIN rail
Housing material		Aluminum Profile
Protection class		IP20
Outline dimensions (without terminal)		78.00 mm × 54.00 mm × 25.00 mm (tolerance ± 1 mm)
Operating temperature		-40°C ~ +70°C
Relative humidity		5% ~ 95% (25°C)
Operating altitude		≤ 4000 m

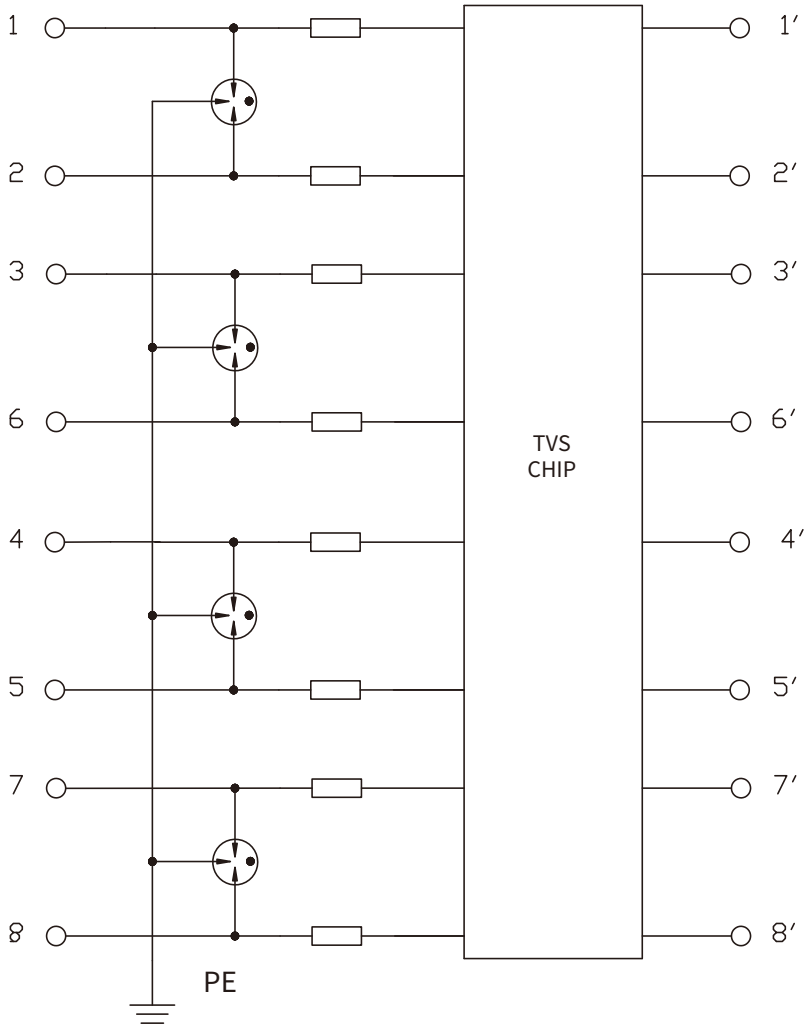


Figure 6.1.1

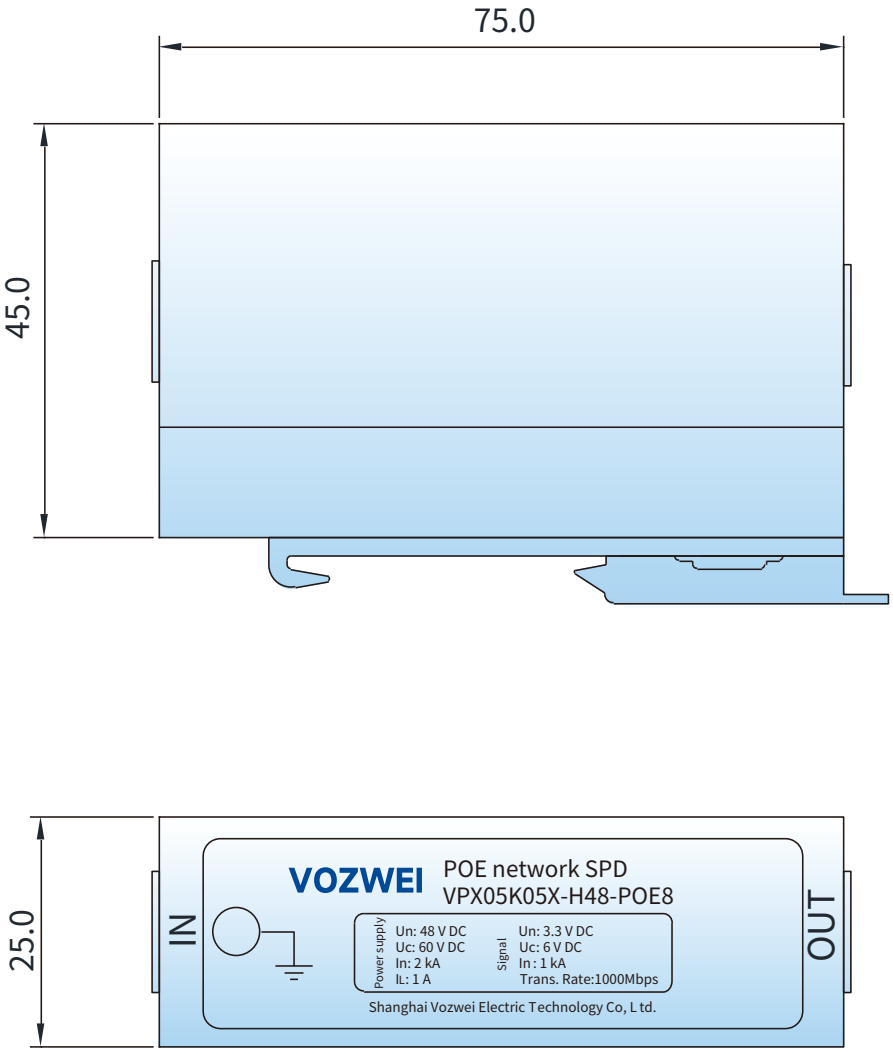

75.0
45.0
25.0
IN
OUT
VOZWEI
POE network SPD
VPX05K05X-H48-POE8
Power supply
Un: 48 V DC
Uc: 60 V DC
In: 2 kA
IL: 1 A
Signal
Un: 3.3 V DC
Uc: 6 V DC
In : 1 kA
Trans. Rate:1000Mbps
Shanghai Vozwei Electric Technology Co, L td.

Figure 6.2.1

Application

The product series adopts a multi-stage protection architecture. The front stage utilizes gas discharge tubes (GDTs) to withstand high lightning current impulses, while the rear stage employs low-capacitance TVS diodes for fast response speed. It provides protection for 1-pair and 2-pair lines, effectively safeguarding communication signal equipment from transient overvoltage interference and damage.

- Normal discharge current In (8/20 μs): 5 kA
- Max. dischasrge current Imax (8/20 μs): 10 kA
- Max. continuous operating voltage Uc: DC 8 V/ DC 32 V
- Online hot-swappable capability
- High current-carrying capacity, low limiting voltage, fast response time
- Low transmission attenuation, maximum transmission rate: 10 Mbps

Selection Guide

Parameter \ Model	VP-05K2	VP-24K2
SPD according to EN/IEC 61643-11	Type 3	
Protection mode	Common mode, differential mode	
Protection line	L-L & L-PE	
Nominal operating voltage Un	DC 5 V	DC 24 V
Max. continuous operating voltage Uc	DC 8 V	DC 32 V
Impact limit voltage (1 kV/μs)	< 20 V	< 40 V
Impulse current limp (10/350 μs)	0.5 kA	
Nominal discharge current In (8/20 μs)	5 kA	
Max. discharge current Imax (8/20 μs)	10 kA	
Leakage current	700 mA	
Normal/Fault Indication	Green/Red	
Installation method	35 mm DIN rail	
Housing material	PBT UL94-V0	
Protection class	IP20	
Outline dimensions (without terminal)	90.00 mm × 12.50 mm × 74.50 mm (tolerance ± 1 mm)	90.00 mm × 25.00 mm × 74.50 mm (tolerance ± 1 mm)
Insertion loss (at maximum load)	< 1 dB	
Cut-off frequency	3 Mbps	
Max. series impedance	1 Ω	
Wiring method	Crimping frame connection	
Grounding method	Compatible with rail grounding or dedicated port grounding	

Model \ Parameter	Un	Uc	Up	In	Imax	$I_{n\text{-}total}$	Protection mode	Operating Principle	Size
VP-05K2	DC 5 V	DC 8 V	< 100 V	5 kA	10 kA	20 kA	Common mode, differential mode	Figure 6.3.1	Figure 6.4.1
VP-05K4	DC 5 V	DC 8 V	L-L≤ 30 V L-PE≤ 600 V	5 kA	10 kA	40 kA	Common mode, differential mode	Figure 6.3.1	Figure 6.4.1
VP-24K2	DC 24 V	DC 32 V	< 150 V	5 kA	10 kA	20 kA	Common mode, differential mode	Figure 6.3.1	Figure 6.4.1
VP-24K4	DC 24 V	DC 32 V	< 150 V	5 kA	10 kA	40 kA	Common mode, differential mode	Figure 6.3.1	Figure 6.4.1

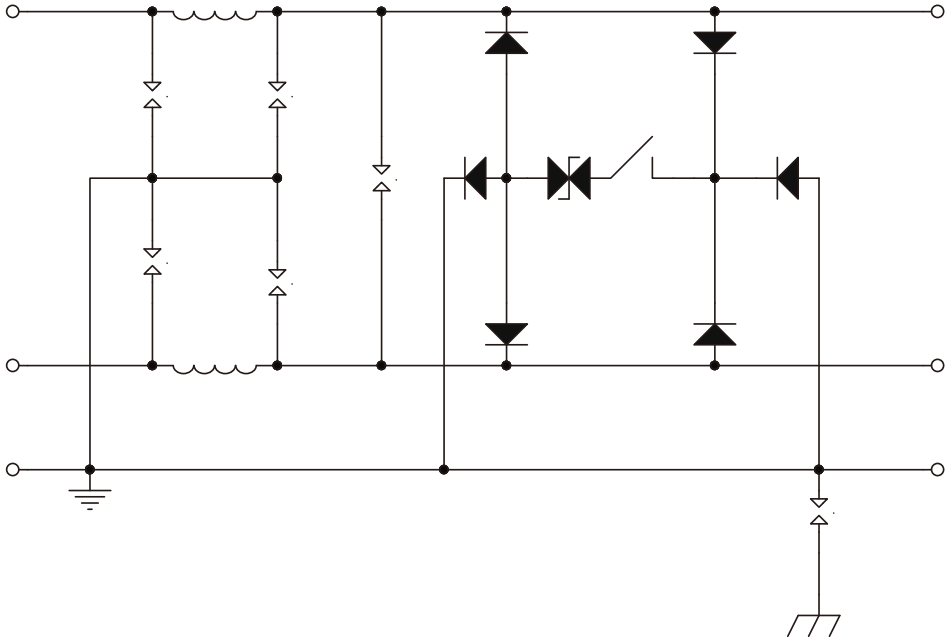


Figure 6.3.1

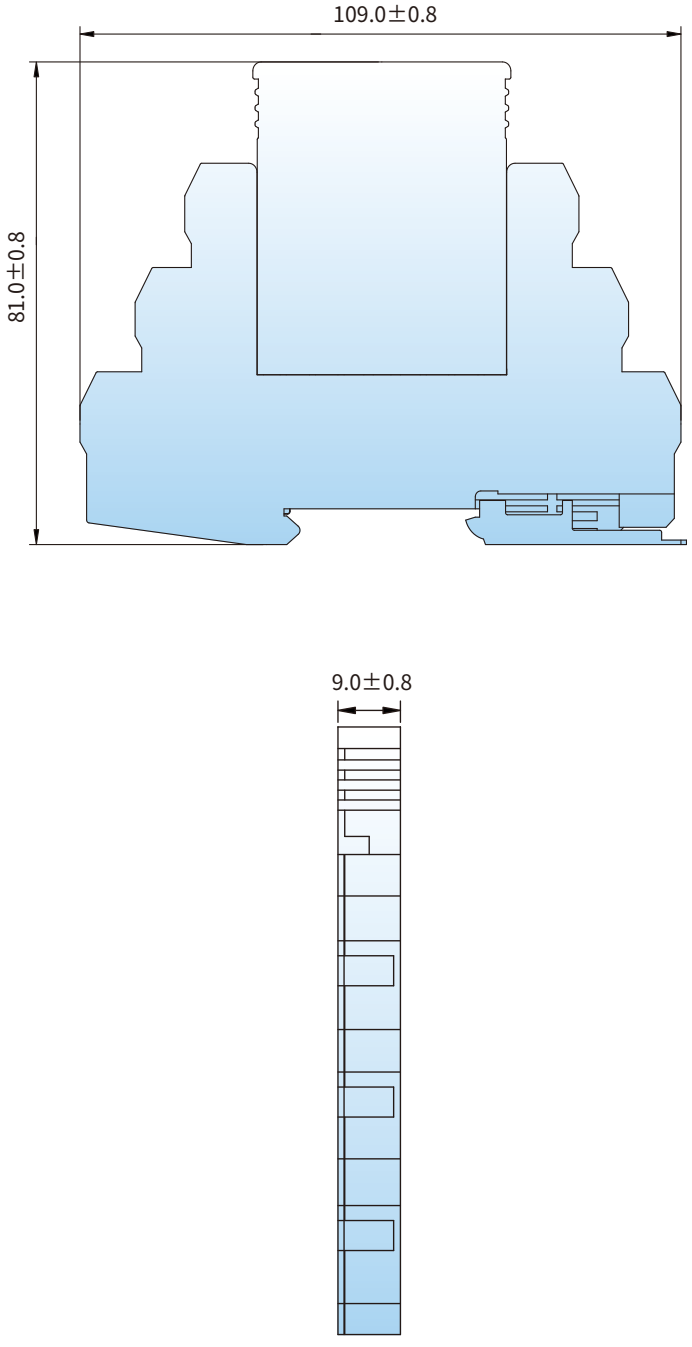


Figure 6.4.1

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