NSP Series High-performance Lightning and Surge Protection Products

Powering Business Worldwide

Energizing a world that demands more.

We deliver:

- **Electrical solutions** that use less energy, improve power reliability and make the places we live and work safer and more comfortable
- **Hydraulic and electrical solutions** that enable machines to deliver more productivity without wasting power
- **Aerospace solutions** that make aircraft lighter, safer and less costly to operate, and help airports operate more efficiently
- **Vehicle drivetrain and powertrain solutions** that deliver more power to cars, trucks and buses, while reducing fuel consumption and emissions

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Powering Business Worldwide

NSP Series High-performance Lightning and Surge Protection Products

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NSP Series High-performance Lightning and Surge Protection Products

Product overview

The NSP series of surge protection devices is a new optimized series from Eaton, covering corresponding protection levels B and C (i.e., I and II). It protects your expensive and sensitive electronic and electrical equipment, such as large computing centers, digital and IT system equipment and precision electronic equipment, against lightning or surge voltage impulses due to opening and closing of large switches in circuits.

- High surge discharge capacity based on heavy zinc oxide varistor and spark gap technology conforming to IEC61643-1 and Chinese standard GB18802.1-2011.
- The series is classified into four sub-series: IEC, wind turbine, photovoltaic, and signal protection. NSP surge protection devices have been optimized for different industries and can cover most application environments.
- A new series of signal protection SPD is added to protect SCADA system, field bus, network and videos signal transmission systems.
- Equipotential bonding spark gap is developed to ensure a reliable grounding connection in case of lightning or surge and can cover applications in petrochemicals and other industries.
- In addition to our AC SPD series, we also provide dedicated 1000VDC products which are especially applicable to solar power systems or other DC loads.
- Most of the products in the NSP series (except signal protection SPD and equipotential bonding devices) are equipped with remote signalling (auxiliary contact) indication that transmits surge product status signals to your monitoring and controlling room so that you can know your product's status without on-site inspection.
- IEC surge protection devices provide maximum discharge current I_{max} (120, 80, 60, and 40) (8/20)μs to meet the protection needs of various buildings.
- Two parameter options are offered for Level I SPD protection devices: (10/350)μs and (8/20)μs.
- All NSP series products are among the most cost-effective products available, and multipolar products are equipped with standard bus bars, making installation quick and easy, and avoiding the need to use long cable connections with excessive residue voltage due to too.
- Compact: The 80 or 120kA single-pole devices in the IEC SPD series are only 36mm wide, and single-pole devices of less than 60kA are only 18mm wide, which greatly saves space in the electrical cabinet.
- Clear aging indication window provides reliable status indication so that you can see the product status without special testing, which greatly facilitates maintenance and replacement.
- High-performance flame-retardant casing materials ensure safe and reliable uses.
- IEC series products have authoritative third-party test reports, which are on file at the Meteorological Bureaus of major provinces (municipalities) in China, for use in building projects.

(See pages 8~42 for technical specifications)

NSP Series High-performance Lightning and Surge Protection Products

IEC surge protection devices (SPD)

	Number of Poles	IEC Level	Maximum Continuous Operating Voltage U_c	Nominal Discharge Current I_n (8/20)µs	Maximum Discharge Current I_{max} (8/20)µs	Type Designation	Article no.	Spare plug-in modules
	20kA Series							
	1-pole	T2	385Vac	20kA	40kA	**NSP20M1385IECR**	90000025000400	NSP20M385MOD
	1+N-pole	T2	385Vac	20kA+20kA	40kA+40kA	**NSP20H2385TTR**	90000025000401	NSP20M385MOD, NSP20G260MOD
	2-pole	T2	385Vac	2 x 20kA	2 x 40kA	**NSP20M2385TNR**	90000025000402	NSP20M385MOD
	3-pole	T2	385Vac	3 x 20kA	3 x 40kA	**NSP20M3385TNCR**	90000025000403	NSP20M385MOD
	3+N-pole	T2	385Vac	3 x 20kA+20kA	3 x 40kA+40kA	**NSP20H4385TTR**	90000025000404	NSP20M385MOD, NSP20G260MOD
	4-pole	T2	385Vac	4 x 20kA	4 x 40kA	**NSP20M4385TNSR**	90000025000405	NSP20M385MOD

IEC surge protection devices (SPD)

	Number of Poles	IEC Level	Maximum Continuous Operating Voltage U_c	Nominal Discharge Current I_n (8/20)µs	Maximum Discharge Current I_{max} (8/20)µs	Impulse Discharge Current I_{imp} (10/350)µs	Type Designation	Article no.	Spare plug-in modules
	30kA Series								
	1-pole	T1+T2	385Vac	30kA	60kA	3kA	**NSP30M1385IECR**	90000025000408	NSP30M385MOD
	1+N-pole	T1+T2	385Vac	30kA+30kA	60kA+60kA	3kA+12kA	**NSP30H2385TTR**	90000025000409	NSP30M385MOD, NSP30G260MOD
	2-pole	T1+T2	385Vac	2 x 30kA	2 x 60kA	2 x 3kA	**NSP30M2385TNR**	90000025000410	NSP30M385MOD
	3-pole	T1+T2	385Vac	3 x 30kA	3 x 60kA	3 x 3kA	**NSP30M3385TNCR**	90000025000411	NSP30M385MOD
	3+N-pole	T1+T2	385Vac	3 x 30kA+30kA	3 x 60kA+60kA	3 x 3kA+12.5kA	**NSP30H4385TTR**	90000025000412	NSP30M385MOD, NSP30G260MOD
	4-pole	T1+T2	385Vac	4 x 30kA	4 x 60kA	4 x 3kA	**NSP30M4385TNSR**	90000025000413	NSP30M385MOD

NSP Series High-performance Lightning and Surge Protection Products

IEC surge protection devices (SPD)

	Number of Poles	IEC Level	Maximum Continuous Operating Voltage U_c	Nominal Discharge Current I_n (8/20)µs	Maximum Discharge Current I_{max} (8/20)µs	Type Designation	Article no.	Spare plug-in modules
	40kA Series							
	1-pole	T2	385Vac	40kA	80kA	**NSP40S1385IECR**	90000025000416	NSP40S385MOD
	1+N-pole	T2	385Vac	40kA+40kA	80kA+80kA	**NSP40H2385TTR**	90000025000417	NSP40S385MOD, NSP40G260MOD
	2-pole	T2	385Vac	2 x 40kA	2 x 80kA	**NSP40S2385TNR**	90000025000418	NSP40S385MOD
	3-pole	T2	385Vac	3 x 40kA	3 x 80kA	**NSP40S3385TNCR**	90000025000419	NSP40S385MOD
	3+N-pole	T2	385Vac	3 x 40kA+40kA	3 x 80kA+80kA	**NSP40H4385TTR**	90000025000420	NSP40S385MOD, NSP40G260MOD
	4-pole	T2	385Vac	4 x 40kA	4 x 80kA	**NSP40S4385TNSR**	90000025000421	NSP40S385MOD

IEC surge protection devices (SPD)

	Number of Poles	IEC Level	Maximum Continuous Operating Voltage U_c	Nominal Discharge Current I_n (8/20)µs	Maximum Discharge Current I_{max} (8/20)µs	Type Designation	Article no.	Spare plug-in modules
	60kA Series							
	1-pole	T2	385Vac	60kA	120kA	**NSP60S1385IECR**	90000025000424	NSP60S385MOD
	1+N-pole	T2	385Vac	60kA+80kA	120kA+120kA	**NSP60H2385TTR**	90000025000425	NSP60S385MOD, NSP60G260MOD
	2-pole	T2	385Vac	2 x 60kA	2 x 120kA	**NSP60S2385TNR**	90000025000426	NSP60S385MOD
	3-pole	T2	385Vac	3 x 60kA	3 x 120kA	**NSP60S3385TNCR**	90000025000427	NSP60S385MOD
	3+N-pole	T2	385Vac	3 x 60kA+80kA	3 x 120kA+120kA	**NSP60H4385TTR**	90000025000428	NSP60S385MOD, NSP60G260MOD
	4-pole	T2	385Vac	4 x 60kA	4 x 120kA	**NSP60S4385TNSR**	90000025000429	NSP60S385MOD

Spare Plug-in Modules

Description	IEC Level	Maximum Continuous Operating Voltage U_c	Nominal Discharge Current I_n (8/20)µs	Maximum Discharge Current I_{max} (8/20)µs	Type Designation	Article no.
Plug-in	T2	260Vac	20kA	40kA	**NSP20G260MOD**	90000025000406
Plug-in	T2	385Vac	20kA	40kA	**NSP20M385MOD**	90000025000407
Plug-in	T1+T2	260Vac	30kA	60kA	**NSP30G260MOD**	90000025000414
Plug-in	T1+T2	385Vac	30kA	60kA	**NSP30M385MOD**	90000025000415
Plug-in	T2	255Vac	40kA	80kA	**NSP40G260MOD**	90000025000422
Plug-in	T2	385Vac	40kA	80kA	**NSP40S385MOD**	90000025000423
Plug-in	T2	255Vac	80kA	120kA	**NSP60G260MOD**	90000025000430
Plug-in	T2	385Vac	60kA	120kA	**NSP60S385MOD**	90000025000431

Wind turbine surge protection device (SPD)

Number of Poles	IEC Level	Maximum Continuous Operating Voltage U_c	Nominal Discharge Current I_n (8/20)µs	Maximum Discharge Current I_{max} (8/20)µs	Impulse Discharge Current I_{imp} (10/350)µs	Type Designation	Article no.
3-pole	T1+T2	440Vac	3 x 50kA	3 x 100kA	3 x 50kA	**NSP50S440TNCR**	90000025000432
3+N-pole	T1+T2	440Vac	3 x 50kA+100kA	3 x 100kA+100kA	3 x 50kA+100kA	**NSP50S440TTR**	90000025000433
4-pole	T1+T2	440Vac	4 x 50kA	4 x 100kA	4 x 50kA	**NSP50S440TNSR**	90000025000434
1-pole	T2	600Vac	3 x 15kA	3 x 30kA	NA	**NSP15M3690WER**	90000025000435
1-pole	T2	1000Vac	20kA	40kA	NA	**NSP20M11000WER**	90000025000436
1-pole	T2	600Vac	100kA	150kA	NA	**NSP100G12200WE**	90000025000437
3+N-pole	T2	1000Vac	3 x 20kA+100kA	3 x 40kA+150kA	NA	**NSP20H41000WER**	90000025000438

Photovoltaic surge protection device (SPD)

Number of Poles	IEC Level	Maximum Continuous Operating Voltage U_c	Nominal Discharge Current I_n (8/20)µs	Maximum Discharge Current I_{max} (8/20)µs	Type Designation	Article no.	Spare plug-in modules
3-pole	T2	1300Vdc	20kA	40kA	**NSP20M31000YPVR**	90000025000439	NSP20M625MOD
Plug-in	T2	650Vdc	20kA	40kA	**NSP20M625MOD**	90000025000440	
3-pole	T1+T2	1500Vdc	15kA	40kA	**NSP15M31500YPVR**	90000080100105	NSP15M750PVMOD
Plug-in	T1+T2	750Vdc	15kA	40kA	**NSP15M750PVMOD**	90000080100108	

Signal protection surge protection device (SPD)

Interface Type	Operating Voltage	Transmission Rate	Impulse Discharge Voltage 1kV/µs V	Nominal Discharge Current 8/20µs kA	Clamping Voltage 10/700µs V	Type Designation	Article no.
Wiring terminal	5V	2M	<600V	5kA	<30V	**NSP5GS1005HSTB**	90000025000441
Wiring terminal	12V	2M	<600V	5kA	<40V	**NSP5GS1012HSTB**	90000025000442
Wiring terminal	24V	2M	<600V	5kA	<60V	**NSP5GS1024HSTB**	90000025000443
RJ45	48V	100M	<600V	2.5kA(L-PE) 5kA(SE-PE)	<90V	**NSP5GS1048RJ45**	90000025000444
BNC	5V	10M	<600V	10kA	<30V	**NSP10GS1005BNC**	90000025000445

Equipotential Bonding Device

Number of Poles	Ignition Voltage (1.2/50µs) (kV)	Nominal Discharge Current I_n (8/20)µs	Maximum Discharge Current I_{max} (8/20)µs	Degree of protection	Type Designation	Article no.
1-pole	1.5kV	50kA	100kA	IP54	**NSP50S1255ESP**	90000025000446
1-pole	1.5kV	100kA	200kA	IP54	**NSP100S1255ESP**	90000025000447

NSP Series High-performance Lightning and Surge Protection Products

NSP20M1385IECR Power Type Surge Protection Device

General Description

Product standard: GB 18802.1-2011 / IEC61643-1:2005.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no more than 95%; Atmospheric pressure: 70kPa~106kPa.

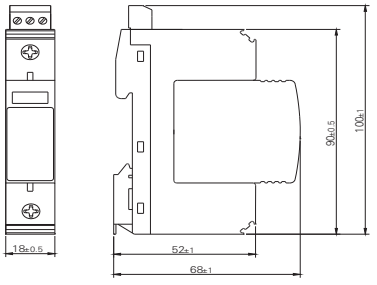
Features of product

The NSP20M1385IECR power type SPD is composed of a varistor type power module and a base, and is used for secondary protection of L/N-PE and L-N/PEN. The module features reverse-plugging protection. The power type SPD also features over-heat protection, failure indication and integrated remote signal alarm functions, and supports remote monitoring/control of the module installation reliability and module operating state.

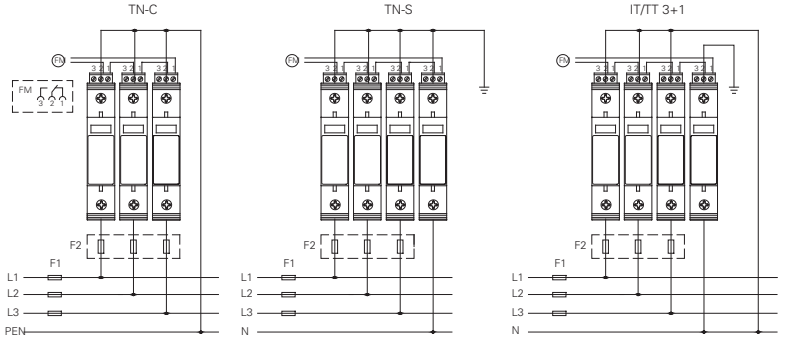
Technical data

	NSP20M1385IECR
Protection mode	L/N—PE, L—N/PEN
Maximum Continuous Operating Voltage U_c	385V 50/60Hz
Nominal Discharge Current I_n (8/20 μs)	20kA
Maximum Discharge Current I_{max} (8/20 μs)	40kA
Voltage Protection Level U_p	1.8kV
Response Time t_A	≤ 25ns
Maximum Back-up Fuse	125A gL/gG
Voltage/Current of Remote Signal Alarm Contact	AC: 250V/0.5A 125V/2A DC: 30V/2A
Torque: wiring terminal/remote signal interface	2.5/0.25Nm
Casing Material	PBT V-0
Casing Protection Level (IP code)	IP20
Installation mode	35mm standard DIN-rail
Application system	TN, TT, IT

Dimensions (mm)



Connection diagram



F1>125A gL/gG ➡ F2≤125A gL/gG

F1≤125A gL/gG ➡ ⊠

NSP20H2385TTR Power Type Surge Protection Device

General Description

Product standard: GB 18802.1-2011 / IEC61643-1:2005.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no more than 95%; Atmospheric pressure: 70kPa~106kPa.

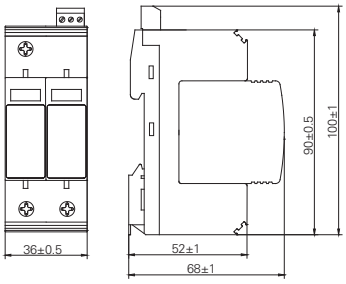
Features of product

The NSP20H2385TTR power type SPD is composed of a varistor type power module, a gas discharge tube power module and a base, and is used for secondary protection of L-N and N-PE. Different modules are protected from reverse-plugging and inter-plugging. The power type SPD features over-heat protection, failure indication and integrated remote signal alarm dry contacts, and supports remote monitoring/control of the module installation reliability and module operating state.

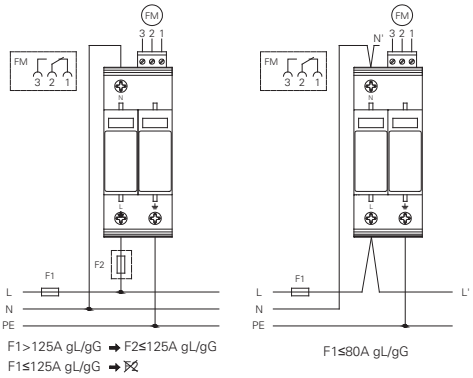
Technical data

	NSP20H2385TTR	
Protection mode	L-N	N-PE
Maximum Continuous Operating Voltage U_c	385V 50/60Hz	260V 50/60Hz
Nominal Discharge Current I_n (8/20 μs)	20kA	20kA
Maximum Discharge Current I_{max} (8/20 μs)	40kA	40kA
Voltage Protection Level U_p	1.8kV	1.5kV
Response Time t_A	≤ 25ns	≤ 100ns
Follow current interrupting rating I_{fi}	—	100Arms
Maximum Back-up Fuse	125A gL/gG	—
Voltage/Current of Remote Signal Alarm Contact	AC: 250V/0.5A 125V/2A DC: 30V/2A	
Torque: wiring terminal/remote signal interface	2.5/0.25Nm	
Casing Material	PBT V-0	
Casing Protection Level (IP code)	IP20	
Installation mode	35mm standard DIN-rail	
Application system	TN, TT	

Dimensions (mm)



Connection diagram



NSP20M2385TNR Power Type Surge Protection Device

General Description

Product standard: GB 18802.1-2011 / IEC61643-1:2005.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no more than 95%; Atmospheric pressure: 70kPa~106kPa.

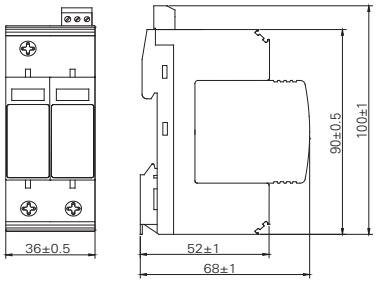
Features of product

The NSP20M2385TNR power type SPD is composed of 2 varistor type power modules and a base, and is used for secondary protection of L/N-PE. The module features reverse-plugging protection. This power type SPD is equipped with over-heat protection, failure indication and integrated remote signal alarm dry contacts, and supports remote monitoring/control of the module installation reliability and module operating state.

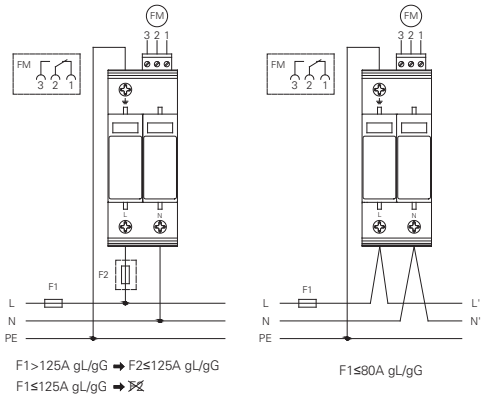
Technical data

	NSP20M2385TNR
Protection mode	L/N-PE
Maximum Continuous Operating Voltage U_c	385V 50/60Hz
Nominal Discharge Current I_n (8/20 μs)	20kA
Maximum Discharge Current I_{max} (8/20 μs)	40kA
Voltage Protection Level U_p	1.8kV
Response Time t_A	≤ 25ns
Maximum Back-up Fuse	125A gL/gG (Note: When the right end module is used for N-PE protection, no backup fuse is needed even if there is a fuse label on the module)
Voltage/Current of Remote Signal Alarm Contact	AC: 250V/0.5A 125V/2A DC: 30V/2A
Torque: wiring terminal/remote signal interface	2.5/0.25Nm
Casing Material	PBT V-0
Casing Protection Level (IP code)	IP20
Installation mode	35mm standard DIN-rail
Application system	TN

Dimensions (mm)



Connection diagram



F1>125A gL/gG ➡ F2≤125A gL/gG
F1≤125A gL/gG ➡ ⊠

F1≤80A gL/gG

NSP20M3385TNCR Power Type Surge Protection Device

General Description

Product standard: GB 18802.1-2011 / IEC61643-1:2005.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no more than 95%; Atmospheric pressure: 70kPa~106kPa.

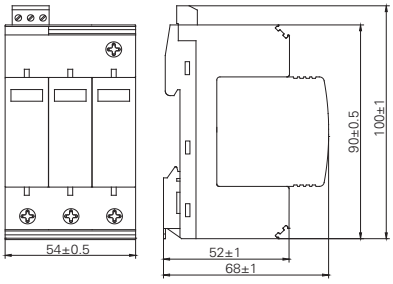
Features of product

The NSP20M3385TNCR power type SPD is composed of 3 varistor type power modules and a base, and is used for secondary protection of L-PEN. The module features reverse-plugging protection. The power type SPD is equipped with over-heat protection, failure indication and integrated remote signal alarm dry contacts, and supports remote monitoring/control of the module installation reliability and module operating state.

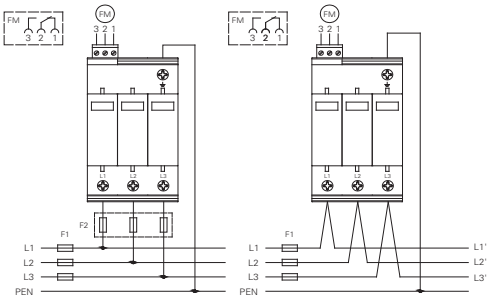
Technical data

	NSP20M3385TNCR
Protection mode	L-PEN
Maximum Continuous Operating Voltage U_c	385V 50/60Hz
Nominal Discharge Current I_n (8/20 μs)	20kA
Maximum Discharge Current I_{max} (8/20 μs)	40kA
Voltage Protection Level U_p	1.8kV
Response Time t_A	≤ 25ns
Maximum Back-up Fuse	125A gL/gG
Voltage/Current of Remote Signal Alarm Contact	AC: 250V/0.5A 125V/2A DC: 30V/2A
Torque: wiring terminal/remote signal interface	2.5/0.25Nm
Casing Material	PBT V-0
Casing Protection Level (IP code)	IP20
Installation mode	35mm standard DIN-rail
Application system	TN-C

Dimensions (mm)



Connection diagram



F1>125A gL/gG ➡ F2≤125A gL/gG
F1≤125A gL/gG ➡ ⊠

F1≤80A gL/gG

NSP20H4385TTR Power Type Surge Protection Device

General Description

Product standard: GB 18802.1-2011 / IEC61643-1:2005.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no more than 95%; Atmospheric pressure: 70kPa~106kPa.

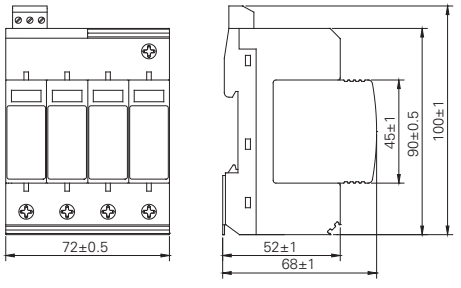
Features of product

The NSP20H4385TTR SPDpower type SPD is composed of 3 varistor type power modules, a gas discharge tube power module and a base, and is used for secondary protection of L-N and N-PE. Reverse-plugging and inter-plugging protection functions are provided among different modules. The power type SPD is equipped with over-heat protection, failure indication and integrated remote signal alarm dry contacts, and supports remote monitoring/control of the module installation reliability and module operating state.

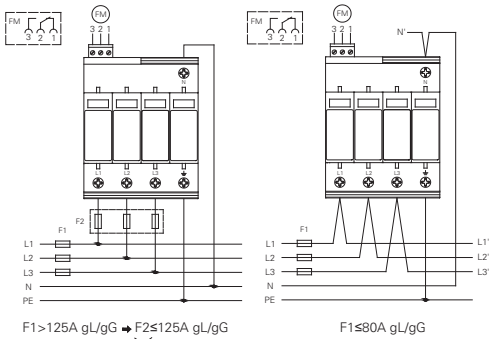
Technical data

	NSP20H4385TTR	
Protection mode	L-N	N-PE
Maximum Continuous Operating Voltage U_c	385V 50/60Hz	260V 50/60Hz
Nominal Discharge Current I_n (8/20 μs)	20kA	20kA
Maximum Discharge Current I_{max} (8/20 μs)	40kA	40kA
Voltage Protection Level U_p	1.8kV	1.5kV
Response Time t_A	≤ 25ns	≤ 100ns
Follow current interrupting rating I_{fi}	—	100Arms
Maximum Back-up Fuse	125A gL/gG	—
Voltage/Current of Remote Signal Alarm Contact	AC: 250V/0.5A 125V/2A DC: 30V/2A	
Torque: wiring terminal/remote signal interface	2.5/0.25Nm	
Casing Material	PBT V-0	
Casing Protection Level (IP code)	IP20	
Installation mode	35mm standard DIN-rail	
Application system	TN, TT	

Dimensions (mm)



Connection diagram



F1>125A gL/gG ➡ F2≤125A gL/gG
F1≤125A gL/gG ➡ ⊠

F1≤80A gL/gG

NSP20M4385TNSR Power Type Surge Protection Device

General Description

Product standard: GB 18802.1-2011 / IEC61643-1:2005.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no more than 95%; Atmospheric pressure: 70kPa~106kPa.

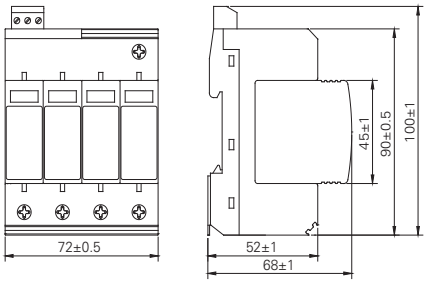
Features of product

The NSP20M4385TNSR power type SPD is composed of 4 varistor type power modules and a base, and is used for secondary protection of L-PE and N-PE. The module features reverse-plugging protection. The power type SPD is equipped with over-heat protection, failure indication and integrated remote signal alarm dry contacts, and supports remote monitoring/control of the module installation reliability and module operating state.

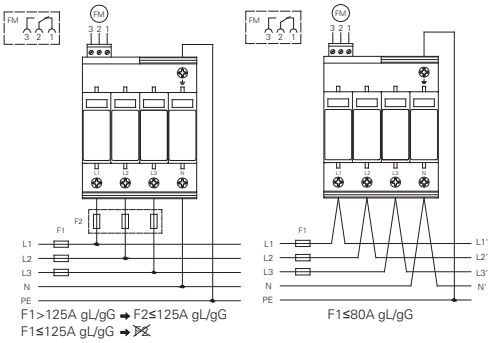
Technical data

	NSP20M4385TNSR
Protection mode	L/N-PE
Maximum Continuous Operating Voltage U_c	385V 50/60Hz
Nominal Discharge Current I_n (8/20 μs)	20kA
Maximum Discharge Current I_{max} (8/20 μs)	40kA
Voltage Protection Level U_p	1.8kV
Response Time t_A	≤ 25ns
Maximum Back-up Fuse	125A gL/gG (Note: When the right end module is used for N-PE protection, no backup fuse is needed even if there is a fuse label on the module)
Voltage/Current of Remote Signal Alarm Contact	AC: 250V/0.5A 125V/2A DC: 30V/2A
Torque: wiring terminal/remote signal interface	2.5/0.25Nm
Casing Material	PBT V-0
Casing Protection Level (IP code)	IP20
Installation mode	35mm standard DIN-rail
Application system	TN-S

Dimensions (mm)



Connection diagram



F1>125A gL/gG ➡ F2≤125A gL/gG
F1≤125A gL/gG ➡ ⊠

F1≤80A gL/gG

NSP30M1385IECR Power Type Surge Protection Device

General Description

Product standard: GB 18802.1-2011/IEC61643-1:2005.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no more than 95%; Atmospheric pressure: 70kPa~106kPa.

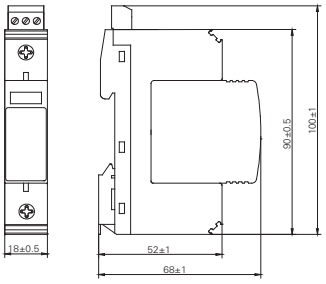
Features of product

The NSP30M1385IECR power type SPD is composed of a varistor type power module and a base, and is used for primary and secondary protection of L/N-PE and L-N/PEN. The module features reverse-plugging protection. The power type SPD is equipped with over-heat protection, failure indication and integrated remote signal alarm functions, and supports remote monitoring/control of the module installation reliability and module operating state.

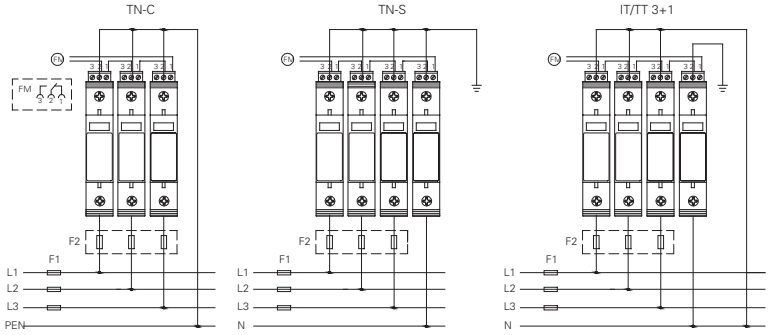
Technical data

	NSP30M1385IECR
Protection mode	L/N—PE, L—N/PEN
Maximum Continuous Operating Voltage U_c	385V 50/60Hz
Nominal Discharge Current I_n (8/20 μs)	30kA
Maximum Discharge Current I_{max} (8/20 μs)	60kA
Impulse Discharge Current I_{imp} (10/350 μs)	3kA
Voltage Protection Level U_p	2kV
Response Time t_A	≤ 25ns
Maximum Back-up Fuse	160A gL/gG
Voltage/Current of Remote Signal Alarm Contact	AC: 250V/0.5A 125V/2A DC: 30V/2A
Torque: wiring terminal/remote signal interface	2.5/0.25Nm
Casing Material	PBT V-0
Casing Protection Level (IP code)	IP20
Installation mode	35mm standard DIN-rail
Application system	TN, TT, IT

Dimensions (mm)



Connection diagram



F1>160A gL/gG ➡F2≤160A gL/gG

F1≤160A gL/gG ➡F2

NSP30H2385TTR Power Type Surge Protection Device

General Description

Product standard: GB 18802.1-2011 / IEC61643-1:2005.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no more than 95%; Atmospheric pressure: 70kPa~106kPa.

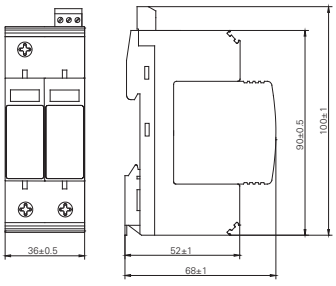
Features of product

The NSP30H2385TTR power type SPD is composed of a varistor type power module, a gas discharge tube and a base, and is used for primary and secondary protection of L-N and N-PE. Different modules are protected from reverse-plugging and inter-plugging. The power type SPD is equipped with over-heat protection, failure indication and integrated remote signal alarm dry contacts, and supports remote monitoring/control of the module installation reliability and module operating state.

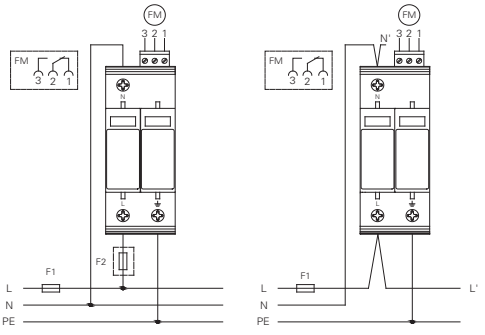
Technical data

	NSP30H2385TTR	
Protection mode	L-N	N-PE
Maximum Continuous Operating Voltage U_c	385V 50/60Hz	260V 50/60Hz
Nominal Discharge Current I_n (8/20 μs)	30kA	30kA
Maximum Discharge Current I_{max} (8/20 μs)	60kA	60kA
Impulse Discharge Current I_{imp} (10/350 μs)	3kA	12kA
Voltage Protection Level U_p	2kV	1.5kV
Response Time t_A	≤ 25ns	≤ 100ns
Maximum Back-up Fuse	160A gL/gG	—
Follow current interrupting rating I_{fi}	—	100Arms
Voltage/Current of Remote Signal Alarm Contact	AC: 250V/0.5A 125V/2A DC: 30V/2A	
Torque: wiring terminal/remote signal interface	2.5/0.25Nm	
Casing Material	PBT V-0	
Casing Protection Level (IP code)	IP20	
Installation mode	35mm standard DIN-rail	
Application system	TN, TT	

Dimensions (mm)



Connection diagram



F1>160A gL/gG ➡F2≤160A gL/gG
F1≤160A gL/gG ➡✂

F1≤80A gL/gG

NSP Series High-performance Lightning and Surge Protection Products

NSP30M2385TNR Power Type Surge Protection Device

General Description

Product standard: GB 18802.1-2011/IEC61643-1:2005.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no more than 95%; Atmospheric pressure: 70kPa~106kPa.

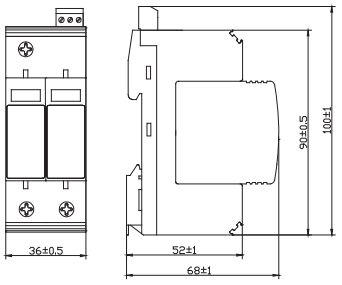
Features of product

The NSP30M2385TNR power type SPD is composed of 2 varistor type power modules and a base, and is used for primary and secondary protection of L/N-PE. The module features reverse-plugging protection. The power type SPD is equipped with over-heat protection, failure indication and integrated remote signal alarm dry contacts, and supports remote monitoring/control of the module installation reliability and module operating state.

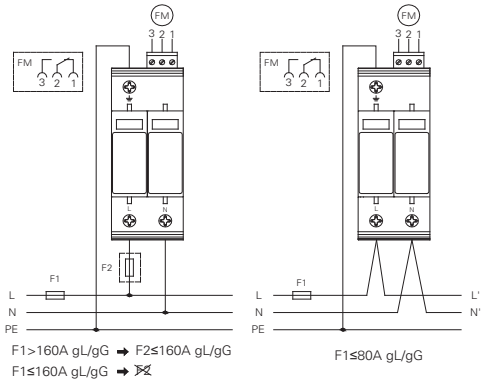
Technical data

	NSP30M2385TNR
Protection mode	L/N-PE
Maximum Continuous Operating Voltage U_c	385V 50/60Hz
Nominal Discharge Current I_n (8/20 μs)	30kA
Maximum Discharge Current I_{max} (8/20 μs)	60kA
Impulse Discharge Current I_{imp} (10/350 μs)	3kA
Voltage Protection Level U_p	2kV
Response Time t_A	≤ 25ns
Maximum Back-up Fuse	160A gL/gG (Note: When the right end module is used for N-PE protection then the backup fuse is not needed even if there is a fuse label on the module)
Voltage/Current of Remote Signal Alarm Contact	AC: 250V/0.5A 125V/2A DC: 30V/2A
Torque: wiring terminal/remote signal interface	2.5/0.25Nm
Casing Material	PBT V-0
Casing Protection Level (IP code)	IP20
Installation mode	35mm standard DIN-rail
Application system	TN-S

Dimensions (mm)



Connection diagram



NSP30M3385TNCR Power Type Surge Protection Device

General Description

Product standard: GB 18802.1-2011/IEC61643-1:2005.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no more than 95%; Atmospheric pressure: 70kPa~106kPa.

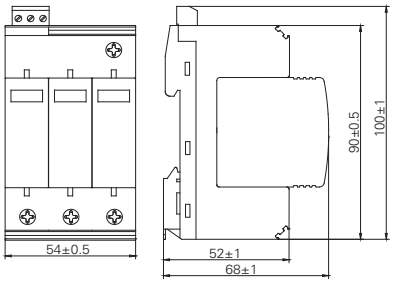
Features of product

The NSP30M3385TNCR power type SPD is composed of 3 varistor type power modules and a base, and is used for primary and secondary protection of L/N-PE. The module features reverse-plugging protection. The power type SPD is equipped with over-heat protection, failure indication and integrated remote signal alarm dry contacts, and supports remote monitoring/control of the module installation reliability and module operating state.

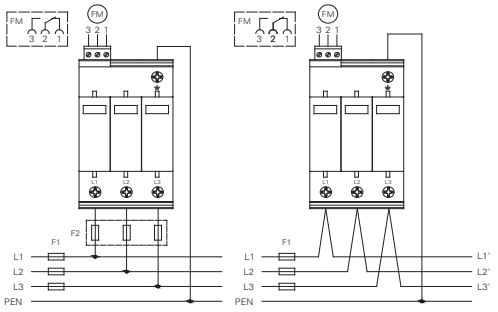
Technical data

	NSP30M3385TNCR
Protection mode	L/N-PE
Maximum Continuous Operating Voltage U_c	385V 50/60Hz
Nominal Discharge Current I_n (8/20 μs)	30kA
Maximum Discharge Current I_{max} (8/20 μs)	60kA
Impulse Discharge Current I_{imp} (10/350 μs)	3kA
Voltage Protection Level U_p	2kV
Response Time t_A	≤ 25ns
Maximum Back-up Fuse	160A gL/gG
Voltage/Current of Remote Signal Alarm Contact	AC: 250V/0.5A 125V/2A DC: 30V/2A
Torque: wiring terminal/remote signal interface	2.5/0.25Nm
Casing Material	PBT V-0
Casing Protection Level (IP code)	IP20
Installation mode	35mm standard DIN-rail
Application system	TN-S

Dimensions (mm)



Connection diagram



F1>160A gL/gG ➡ F2≤160A gL/gG
F1≤160A gL/gG ➡ 🚫

F1≤80A gL/gG

NSP Series High-performance Lightning and Surge Protection Products

NSP30H4385TTR Power Type Surge Protection Device

General Description

Product standard: GB 18802.1-2011 / IEC61643-1:2005.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no more than 95%; Atmospheric pressure: 70kPa~106kPa.

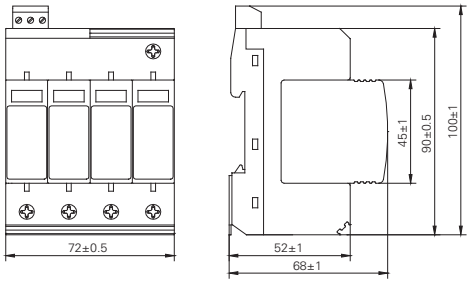
Features of product

The NSP30H4385TTR power type SPD is composed of 3 varistor type power modules, a gas discharge tube power module and a base, and is used for primary and secondary protection of L-N and N-PE. Reverse-plugging and inter-plugging protection functions are provided among different modules. The power type SPD is equipped with over-heat protection, failure indication and integrated remote signal alarm dry contacts, and supports remote monitoring of module installation reliability and module operating state.

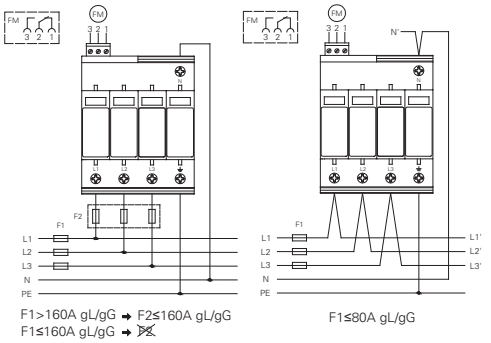
Technical data

	NSP30H4385TTR	
Protection mode	L-N	N-PE
Maximum Continuous Operating Voltage U_c	385V 50/60Hz	260V 50/60Hz
Nominal Discharge Current I_n (8/20 μs)	30kA	30kA
Maximum Discharge Current I_{max} (8/20 μs)	60kA	60kA
Impulse Discharge Current I_{imp} (10/350 μs)	3kA	12kA
Voltage Protection Level U_p	2kV	1.5kV
Response Time t_A	≤ 25ns	≤ 100ns
Maximum Back-up Fuse	160A gL/gG	—
Follow current interrupting rating I_{fi}	—	100Arms
Voltage/Current of Remote Signal Alarm Contact	AC: 250V/0.5A 125V/2A DC: 30V/2A	
Torque: wiring terminal/remote signal interface	2.5/0.25Nm	
Casing Material	PBT V-0	
Casing Protection Level (IP code)	IP20	
Installation mode	35mm standard DIN-rail	
Application system	TN, TT	

Dimensions (mm)



Connection diagram



F1>160A gL/gG → F2≤160A gL/gG
F1≤160A gL/gG → ⊠

F1≤80A gL/gG

NSP30M4385TNSR Power Type Surge Protection Device

General Description

Product standard: GB 18802.1-2011/IEC61643-1:2005.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no more than 95%; Atmospheric pressure: 70kPa~106kPa.

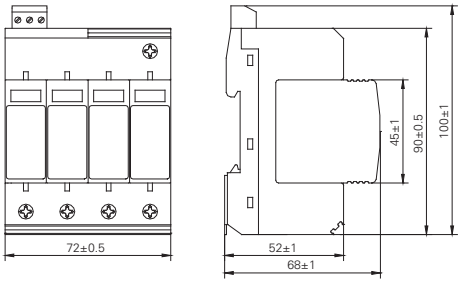
Features of product

The NSP30M4385TNSR power type SPD is composed of 4 varistor type power modules and a base, and is used for primary and secondary protection of L/N-PE. The module features reverse-plugging protection. The power type SPD is equipped with over-heat protection, failure indication and integrated remote signal alarm dry contacts, and supports remote monitoring/control of the module installation reliability and module operating state.

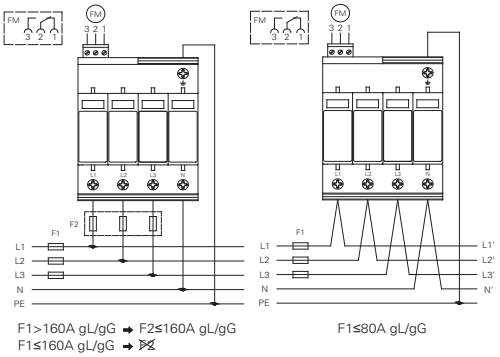
Technical data

	NSP30M4385TNSR
Protection mode	L/N-PE
Maximum Continuous Operating Voltage U_c	385V 50/60Hz
Nominal Discharge Current I_n (8/20 μs)	30kA
Maximum Discharge Current I_{max} (8/20 μs)	60kA
Impulse Discharge Current I_{imp} (10/350 μs)	3kA
Voltage Protection Level U_p	2kV
Response Time t_A	≤ 25ns
Maximum Back-up Fuse	160A gL/gG (Note: When the right end module is used for N-PE protection then the backup fuse is not needed even if there is a fuse label on the module.
Voltage/Current of Remote Signal Alarm Contact	AC: 250V/0.5A 125V/2A DC: 30V/2A
Torque: wiring terminal/remote signal interface	2.5/0.25Nm
Casing Material	PBT V-0
Casing Protection Level (IP code)	IP20
Installation mode	35mm standard DIN-rail
Application system	TN-S

Dimensions (mm)



Connection diagram



F1>160A gL/gG ➡ F2≤160A gL/gG
F1≤160A gL/gG ➡ ⊠

F1≤80A gL/gG

NSP Series High-performance Lightning and Surge Protection Products

NSP40S1385IECR Power Type Surge Protection Device

General Description

Product standard: GB 18802.1-2011/IEC61643-1:2005.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no more than 95%; Atmospheric pressure: 70kPa~106kPa.

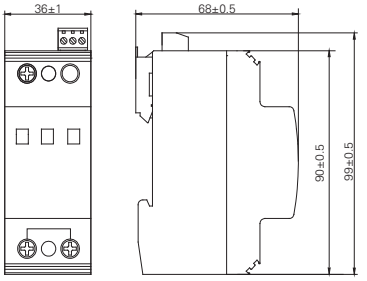
Features of product

The NSP40S1385IECR power type SPD is composed of a varistor type power module and is used for primary and secondary protection of power systems. The power type SPD is equipped with over-heat and over-current protection, failure indication, Kelvin terminal and remote signal alarm dry contact, and supports remote monitoring/control of the module installation reliability and operating state.

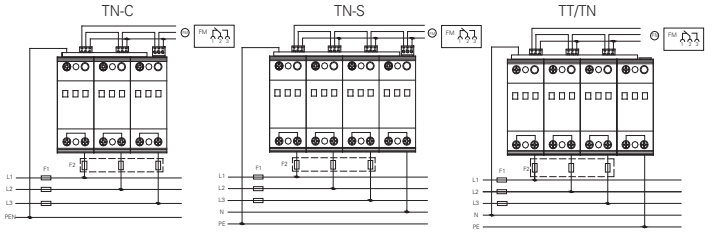
Technical data

	NSP40S1385IECR
Protection mode	L/N-PE; L-N/PEN
Maximum Continuous Operating Voltage U_c	385V 50/60Hz
Nominal Discharge Current I_n (8/20 μs)	40kA
Maximum Discharge Current I_{max} (8/20 μs)	80kA
Voltage Protection Level U_p	2.2kV
Response Time t_A	≤ 25ns
Maximum Back-up Fuse	250A gL/gG
Follow current interrupting rating I_{fi}	/
Voltage/Current of Remote Signal Alarm Contact	AC: 250V/0.5A 125V/2A DC: 30V/2A
Torque: wiring terminal/remote signal interface	2.5/0.25Nm
Casing Material	PBT V-0
Casing Protection Level (IP code)	IP20
Installation mode	35mm standard DIN-rail
Application system	TN, TT

Dimensions (mm)



Connection diagram



F1>250A gL/gG → F2≤250A gL/gG
F1≤250A gL/gG → ✕

NSP40H2385TTR Power Type Surge Protection Device

General Description

Product standard: GB 18802.1-2011/IEC61643-1:2005.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no more than 95%; Atmospheric pressure: 70kPa~106kPa.

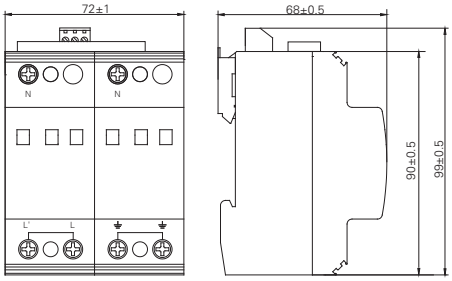
Features of product

The NSP40H2385TTR power type SPD is composed of a varistor type power module and a gas discharge tube power module, and is used for primary and secondary protection of power systems. The power type SPD is equipped with over-heat and over-current protection, failure indication, Kelvin terminal and remote signal alarm, and supports monitoring/control of the module operating state.

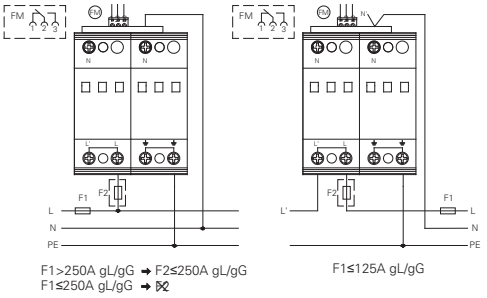
Technical data

	NSP40H2385TTR	
Protection mode	L-N	N-PE
Maximum Continuous Operating Voltage U_c	385V 50/60Hz	255V 50/60Hz
Nominal Discharge Current I_n (8/20 μs)	40kA	40kA
Maximum Discharge Current I_{max} (8/20 μs)	80kA	80kA
Voltage Protection Level U_p	2.2kV	1.5kV
Response Time t_A	≤ 25ns	≤ 100ns
Maximum Back-up Fuse	250A gL/gG	/
Follow current interrupting rating I_{fi}	/	100Arms
Voltage/Current of Remote Signal Alarm Contact	AC: 250V/0.5A 125V/2A DC: 30V/2A	
Torque: wiring terminal/remote signal interface	2.5/0.25Nm	
Casing Material	PBT V-0	
Casing Protection Level (IP code)	IP20	
Installation mode	35mm standard DIN-rail	
Application system	TN, TT	

Dimensions (mm)



Connection diagram



NSP Series High-performance Lightning and Surge Protection Products

NSP40S2385TNR Power Type Surge Protection Device

General Description

Product standard: GB 18802.1-2011/IEC61643-1:2005.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no more than 95%; Atmospheric pressure: 70kPa~106kPa.

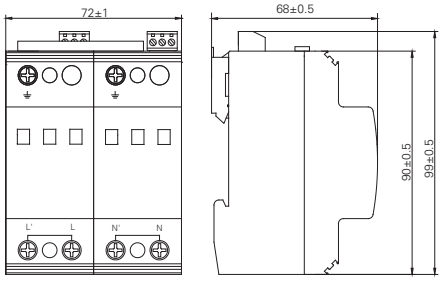
Features of product

The NSP40S2385TNR power type SPD is composed of 2 varistor type power modules and is used for primary and secondary protection of power systems. The power type SPD is equipped with over-heat and over-current protection, failure indication, Kelvin terminal and remote signal alarm, and supports monitoring/control of the module operating state.

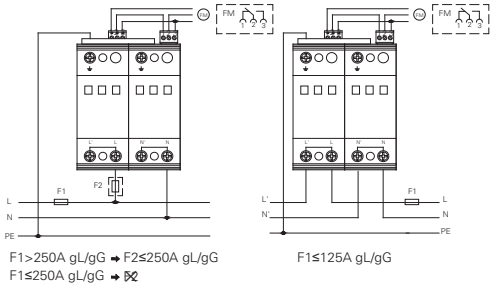
Technical data

	NSP40S2385TNR
Protection mode	L/N-PE
Maximum Continuous Operating Voltage U_c	385V 50/60Hz
Nominal Discharge Current I_n (8/20 μs)	40kA
Maximum Discharge Current I_{max} (8/20 μs)	80kA
Voltage Protection Level U_p	2.2kV
Response Time t_A	≤ 25ns
Maximum Back-up Fuse	250A gL/gG (Note: When the right end module is used for N-PE protection then the backup fuse is not needed even if there is a fuse label on the module)
Follow current interrupting rating I_{fi}	/
Voltage/Current of Remote Signal Alarm Contact	AC: 250V/0.5A 125V/2A DC: 30V/2A
Torque: wiring terminal/remote signal interface	2.5/0.25Nm
Casing Material	PBT V-0
Casing Protection Level (IP code)	IP20
Installation mode	35mm standard DIN-rail
Application system	TN-S

Dimensions (mm)



Connection diagram



F1>250A gL/gG ➡ F2≤250A gL/gG
F1≤250A gL/gG ➡ ⊠

F1≤125A gL/gG

NSP40S3385TNCR Power Type Surge Protection Device

General Description

Product standard: GB 18802.1-2011/IEC61643-1:2005.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no more than 95%; Atmospheric pressure: 70kPa~106kPa.

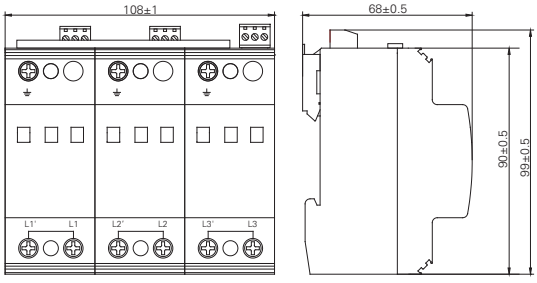
Features of product

The NSP40S3385TNCR power type SPD is composed of 3 varistor type power modules and is used for primary and secondary protection of power systems. The power type SPD is equipped with over-heat and over-current protection, failure indication, Kelvin terminal and remote signal alarm, and supports monitoring/control of the module operating state.

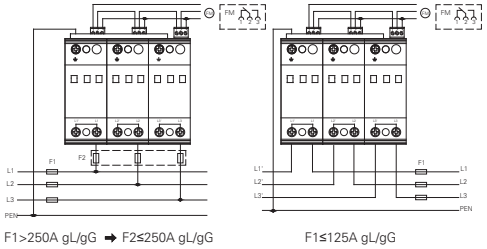
Technical data

	NSP40S3385TNCR
Protection mode	L-PEN
Maximum Continuous Operating Voltage U_c	385V 50/60Hz
Nominal Discharge Current I_n (8/20 μs)	40kA
Maximum Discharge Current I_{max} (8/20 μs)	80kA
Voltage Protection Level U_p	2.2kV
Response Time t_A	≤ 25ns
Maximum Back-up Fuse	250A gL/gG
Follow current interrupting rating I_{fi}	/
Voltage/Current of Remote Signal Alarm Contact	AC: 250V/0.5A 125V/2A DC: 30V/2A
Torque: wiring terminal/remote signal interface	2.5/0.25Nm
Casing Material	PBT V-0
Casing Protection Level (IP code)	IP20
Installation mode	35mm standard DIN-rail
Application system	TN-C

Dimensions (mm)



Connection diagram



F1>250A gL/gG ➡ F2≤250A gL/gG
F1≤250A gL/gG ➡ ⊠

F1≤125A gL/gG

NSP40H4385TTR Power Type Surge Protection Device

General Description

Product standards: GB 18802.1-2011/IEC61643-1:2005, YD/T1235.1-2002, and YD/T1235.2-2002.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no more than 95%; Atmospheric pressure: 70kPa~106kPa.

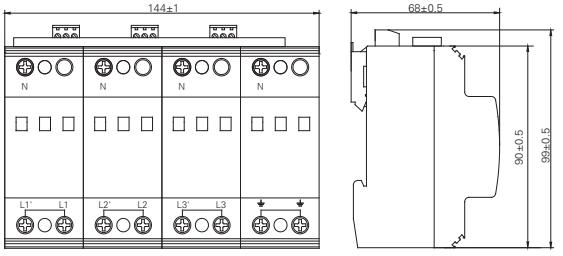
Features of product

The NSP40H4385TTR power type SPD is composed of 3 varistor type power modules and a gas discharge tube power module, and is used for primary and secondary protection of power systems. The power type SPD is equipped with over-heat and over-current protection, failure indication, Kelvin terminal and remote signal alarm, and supports monitoring/control of the module operating state.

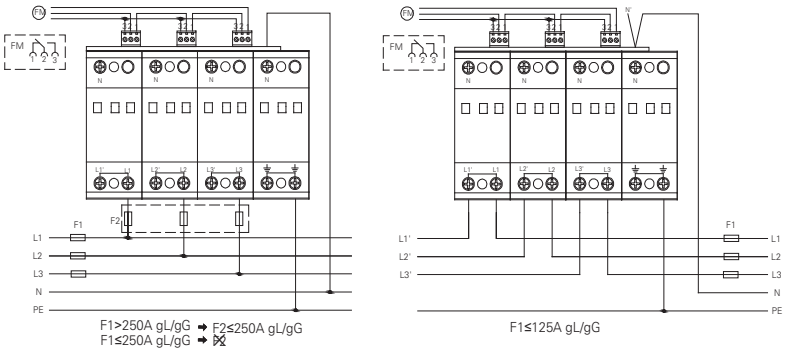
Technical data

	NSP40H4385TTR	
Protection mode	L-N	N-PE
Maximum Continuous Operating Voltage U_c	385V 50/60Hz	255V 50/60Hz
Nominal Discharge Current I_n (8/20 μs)	40kA	40kA
Maximum Discharge Current I_{max} (8/20 μs)	80kA	80kA
Voltage Protection Level U_p	2.2kV	1.5kV
Response Time t_A	≤ 25ns	≤ 100ns
Maximum Back-up Fuse	250A gL/gG	/
Follow current interrupting rating I_{fi}	/	100Arms
Voltage/Current of Remote Signal Alarm Contact	AC: 250V/0.5A 125V/2A DC: 30V/2A	
Torque: wiring terminal/remote signal interface	2.5/0.25Nm	
Casing Material	PBT V-0	
Casing Protection Level (IP code)	IP20	
Installation mode	35mm standard DIN-rail	
Application system	TN, TT	

Dimensions (mm)



Connection diagram



NSP40S4385TNSR Power Type Surge Protection Device

General Description

Product standard: GB 18802.1-2011/IEC61643-1:2005.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no more than 95%; Atmospheric pressure: 70kPa~106kPa.

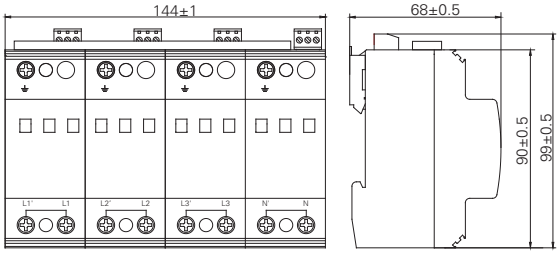
Features of product

The NSP40S4385TNSR power type SPD is composed of 4 varistor type power modules and is used for primary and secondary protection of power systems. The power type SPD is equipped with over-heat and over-current protection, failure indication, Kelvin terminal and remote signal alarm, and supports monitoring/control of the module operating state.

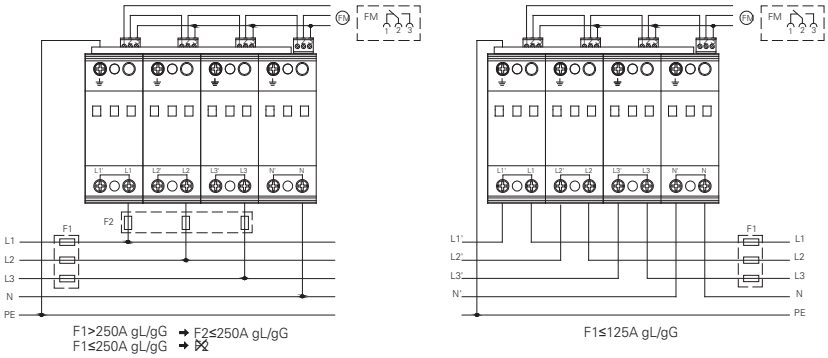
Technical data

	NSP40S4385TNSR
Protection mode	L/N-PE
Maximum Continuous Operating Voltage U_c	385V 50/60Hz
Nominal Discharge Current I_n (8/20 μs)	40kA
Maximum Discharge Current I_{max} (8/20 μs)	80kA
Voltage Protection Level U_p	2.2kV
Response Time t_A	≤ 25ns
Maximum Back-up Fuse	250A gL/gG (Note: When the right end module is used for N-PE protection, no backup fuse is needed even if there is a fuse label on the module)
Follow current interrupting rating I_{fi}	/
Voltage/Current of Remote Signal Alarm Contact	AC: 250V/0.5A 125V/2A DC: 30V/2A
Torque: wiring terminal/remote signal interface	2.5/0.25Nm
Casing Material	PBT V-0
Casing Protection Level (IP code)	IP20
Installation mode	35mm standard DIN-rail
Application system	TN-S

Dimensions (mm)



Connection diagram



NSP60S1385IECR Power Type Surge Protection Device

General Description

Product standard: GB 18802.1-2011/IEC61643-1:2005.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no greater than 95%; Atmospheric pressure: 70kPa~106kPa.

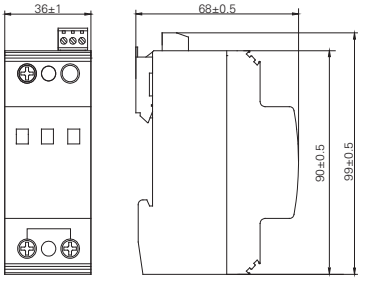
Features of product

The NSP60S1385IECR power type SPD has a varistor type power module and is used for primary protection of power supply systems. Equipped with overheat and overcurrent protection, failure indication, Kelvin terminal and remote signal alarm, the product allows monitoring and control of the module operating state.

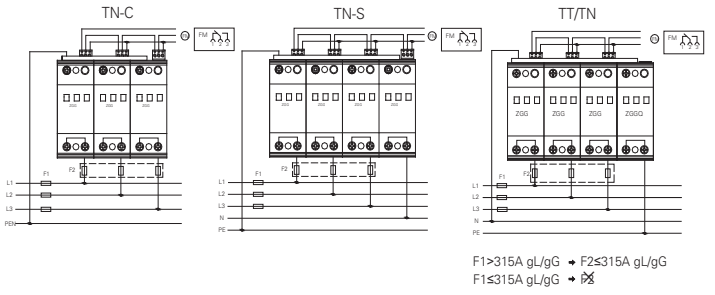
Technical data

	NSP60S1385IECR
Protection mode	L/N-PE; L-N/PEN
Maximum Continuous Operating Voltage U_c	385V 50/60Hz
Nominal Discharge Current I_n (8/20 μs)	60kA
Maximum Discharge Current I_{max} (8/20 μs)	120kA
Voltage Protection Level U_p	2.5kV
Response Time t_A	≤ 25ns
Maximum Back-up Fuse	315A gL/gG
Follow current interrupting rating I_{fi}	/
Voltage/Current of Remote Signal Alarm Contact	AC: 250V/0.5A 125V/2A DC: 30V/2A
Torque: wiring terminal/remote signal interface	2.5/0.25Nm
Casing Material	PBT V-0
Casing Protection Level (IP code)	IP20
Installation mode	35mm standard DIN-rail
Application system	TN, TT

Dimensions (mm)



Connection diagram



NSP60H2385TTR Power Type Surge Protection Device

General Description

Product standard: GB 18802.1-2011/IEC61643-1:2005.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no greater than 95%; Atmospheric pressure: 70kPa~106kPa.

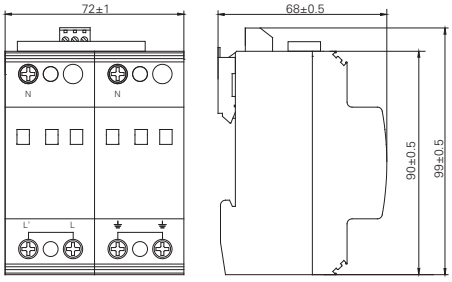
Features of product

The NSP60H2385TTR power type SPD is composed of a varistor power module and a gas discharge tube power module, and is used for primary level protection of power supply systems. Equipped with overheat and overcurrent protection, failure indication, Kelvin terminal and remote signal alarm, the product allows monitoring and control of the module operating state.

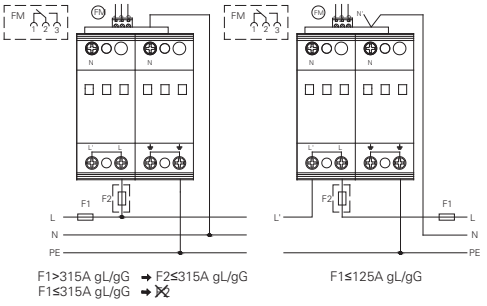
Technical data

	NSP60H2385TTR	
Protection mode	L-N	N-PE
Maximum Continuous Operating Voltage U_c	385V 50/60Hz	255V 50/60Hz
Nominal Discharge Current I_n (8/20 μs)	60kA	80kA
Maximum Discharge Current I_{max} (8/20 μs)	120kA	120kA
Voltage Protection Level U_p	2.5kV	2.0kV
Response Time t_A	≤ 25ns	≤ 100ns
Maximum Back-up Fuse	315A gL/gG	/
Follow current interrupting rating I_{fi}	/	100Arms
Voltage/Current of Remote Signal Alarm Contact	AC: 250V/0.5A 125V/2A DC: 30V/2A	
Torque: wiring terminal/remote signal interface	2.5/0.25Nm	
Casing Material	PBT V-0	
Casing Protection Level (IP code)	IP20	
Installation mode	35mm standard DIN-rail	
Application system	TN, TT	

Dimensions (mm)



Connection diagram



NSP60S2385TNR Power Type Surge Protection Device

General Description

Product standard: GB 18802.1-2011/IEC61643-1:2005.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no greater than 95%; Atmospheric pressure: 70kPa~106kPa.

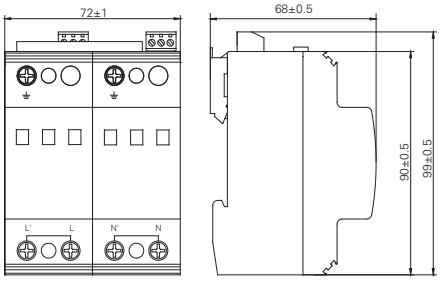
Features of product

The NSP60S2385TNR power type SPD has 2a varistor type power modules and is used for primary and secondary protection of power supply systems. Equipped with overheat and overcurrent protection, failure indication, Kelvin terminal and remote signal alarm, the product allows monitoring and control of the module operating state.

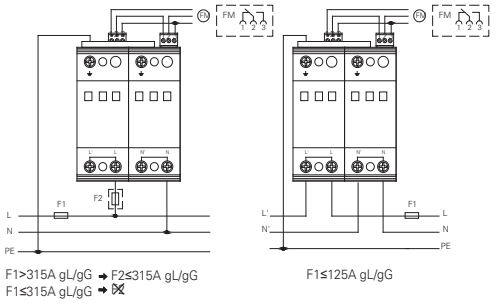
Technical data

	NSP60S2385TNR
Protection mode	L/N-PE
Maximum Continuous Operating Voltage U_c	385V 50/60Hz
Nominal Discharge Current I_n (8/20 μs)	60kA
Maximum Discharge Current I_{max} (8/20 μs)	120kA
Voltage Protection Level U_p	2.5kV
Response Time t_A	≤ 25ns
Maximum Back-up Fuse	315A gL/gG (Note: When the right end module is used for N-PE protection, no backup fuse is needed even if this module bears a fuse label.)
Follow current interrupting rating I_{fi}	/
Voltage/Current of Remote Signal Alarm Contact	AC: 250V/0.5A 125V/2A DC: 30V/2A
Torque: wiring terminal/remote signal interface	2.5/0.25Nm
Casing Material	PBT V-0
Casing Protection Level (IP code)	IP20
Installation mode	35mm standard DIN-rail
Application system	TN-S

Dimensions (mm)



Connection diagram



F1>315A gL/gG ➜ F2≤315A gL/gG
F1≤315A gL/gG ➜ ⊠

F1≤125A gL/gG

NSP60S3385TNCR Power Type Surge Protection Device

General Description

Product standard: GB 18802.1-2011/IEC61643-1:2005.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no greater than 95%; Atmospheric pressure: 70kPa~106kPa.

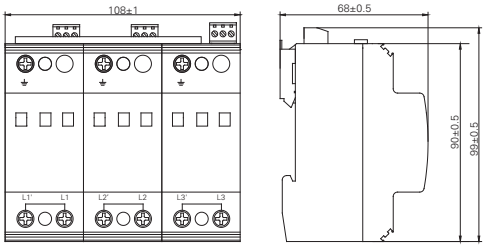
Features of product

The NSP60S3385TNCR power type SPD has 3 varistor type power supply modules and is used for primary and secondary protection of power supply systems. Equipped with overheat and overcurrent protection, failure indication, Kelvin terminal and remote signal alarm, the product allows monitoring and control of the module operating state.

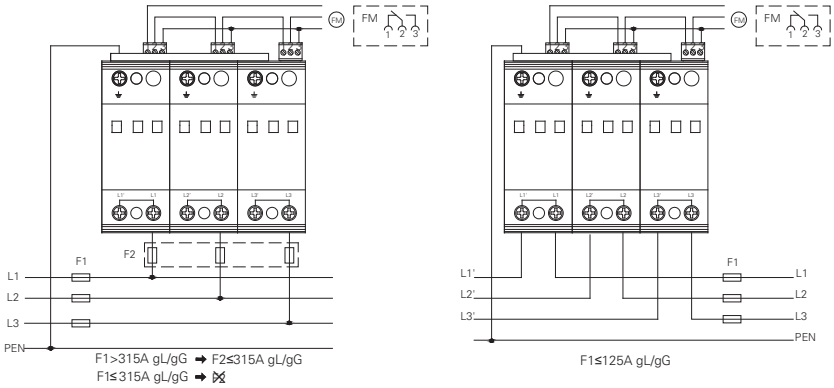
Technical data

	NSP60S3385TNCR
Protection mode	L/N-PE
Maximum Continuous Operating Voltage U_c	385V 50/60Hz
Nominal Discharge Current I_n (8/20 μs)	60kA
Maximum Discharge Current I_{max} (8/20 μs)	120kA
Voltage Protection Level U_p	2.5kV
Response Time t_A	≤ 25ns
Maximum Back-up Fuse	315A gL/gG
Follow current interrupting rating I_{fi}	/
Voltage/Current of Remote Signal Alarm Contact	AC: 250V/0.5A 125V/2A DC: 30V/2A
Torque: wiring terminal/remote signal interface	2.5/0.25Nm
Casing Material	PBT V-0
Casing Protection Level (IP code)	IP20
Installation mode	35mm standard DIN-rail
Application system	TN-C

Dimensions (mm)



Connection diagram



NSP60H4385TTR Power Type Surge Protection Device

General Description

Product standard: GB 18802.1-2011/IEC61643-1:2005.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no greater than 95%; Atmospheric pressure: 70kPa~106kPa.

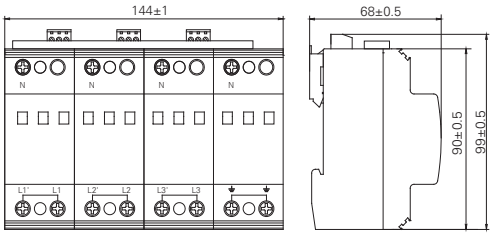
Features of product

The NSP60H4385TTR power type SPD, composed of 3 varistor type power modules and a gas discharge tube power supply module, and is used for the primary protection of power supply systems. Equipped with overheat and overcurrent protection, failure indication, Kelvin terminal and remote signal alarm, the product allows monitoring and control of the module operating state.

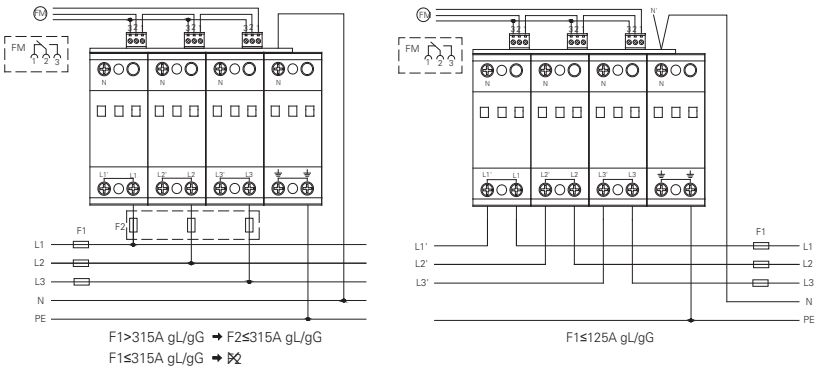
Technical data

	NSP60H4385TTR	
Protection mode	L-N	N-PE
Maximum Continuous Operating Voltage U_c	385V 50/60Hz	255V 50/60Hz
Nominal Discharge Current I_n (8/20 μs)	60kA	80kA
Maximum Discharge Current I_{max} (8/20 μs)	120kA	120kA
Voltage Protection Level U_p	2.5kV	2.0kV
Response Time t_A	≤ 25ns	≤ 100ns
Maximum Back-up Fuse	315A gL/gG	/
Follow current interrupting rating I_{fi}	/	100Arms
Voltage/Current of Remote Signal Alarm Contact	AC: 250V/0.5A 125V/2A DC: 30V/2A	
Torque: wiring terminal/remote signal interface	2.5/0.25Nm	
Casing Material	PBT V-0	
Casing Protection Level (IP code)	IP20	
Installation mode	35mm standard DIN-rail	
Application system	TN, TT	

Dimensions (mm)



Connection diagram



F1>315A gL/gG ➡ F2≤315A gL/gG
F1≤315A gL/gG ➡ ⊠

F1≤125A gL/gG

NSP60S4385TNSR Power Type Surge Protection Device

General Description

Product standard: GB 18802.1-2011/IEC61643-1:2005.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no greater than 95%; Atmospheric pressure: 70kPa~106kPa.

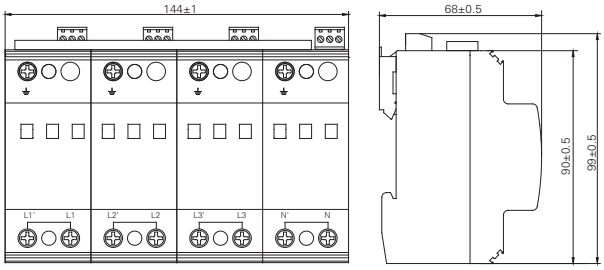
Features of product

The NSP60S4385TNSR power type SPD has 4 varistor type power modules and is used for primary and secondary protection of power supply systems. Equipped with overheat and overcurrent protection, failure indication, Kelvin terminal and remote signal alarm, the product allows monitoring and control of the module operating state.

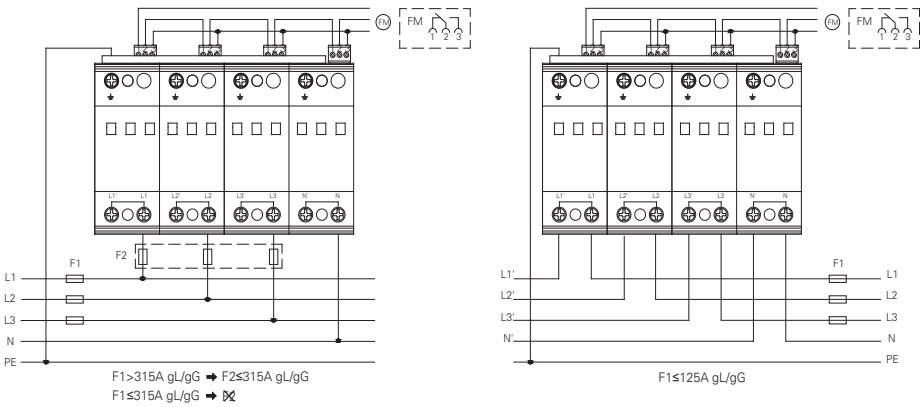
Technical data

	NSP60S4385TNSR
Protection mode	L/N-PE
Maximum Continuous Operating Voltage U_c	385V 50/60Hz
Nominal Discharge Current I_n (8/20 μs)	60kA
Maximum Discharge Current I_{max} (8/20 μs)	120kA
Voltage Protection Level U_p	2.5kV
Response Time t_A	≤ 25ns
Maximum Back-up Fuse	315A gL/gG (Note: When the right end module is used for N-PE protection, no backup fuse is needed even if this module bears a fuse label.)
Follow current interrupting rating I_{fi}	/
Voltage/Current of Remote Signal Alarm Contact	AC: 250V/0.5A 125V/2A DC: 30V/2A
Torque: wiring terminal/remote signal interface	2.5/0.25Nm
Casing Material	PBT V-0
Casing Protection Level (IP code)	IP20
Installation mode	35mm standard DIN-rail
Application system	TN-S

Dimensions (mm)



Connection diagram



NSP50S440TNCR Power Type Surge Protection Device

General Description

Product standards: IEC61643-11: 2011 (Class I), EN61643-11: 2012 (Type 1), UL1449: Ed3, and GB18802.1-2011.

This power type SPD is made of special non-metallic material and utilizes stacked discharge technology and a completely sealed design. It features a large impulse discharge current, low clamping voltage, no arc leakage, no current leakage, and strong follow current interruption capability. It is mainly used for primary lightning protection of power supplies. Suitable for different electrical grid systems (TN-C and IT), it protects equipment from damage by direct lightning or lightning induction. The product uses standard 35mm DIN-rail installation and is flame-retardant and easy to be wired.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no more than 95%; Atmospheric pressure: 70kPa~106kPa.

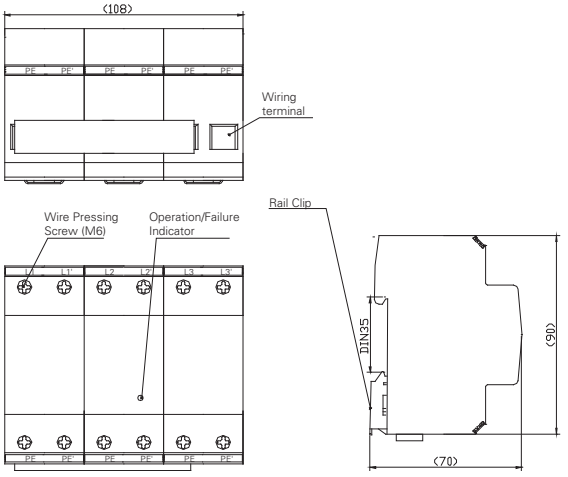
Operating Principle

This power type SPD is installed on power lines. When lightning invades the power transmission line, the device activates immediately, discharging the lightning current to the ground and limiting its overvoltage to within the withstand voltage of electrical equipment so as to guarantee the safe operation of such equipment.

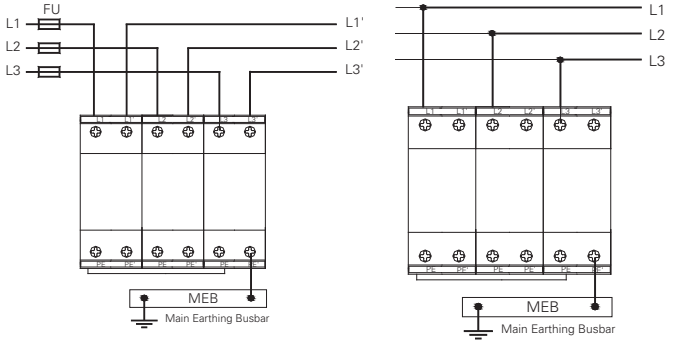
Technical data

Nominal operating voltage AC	Maximum continuous operating voltage AC	Voltage protection level (L1/L2/L3-PE)	Nominal discharge current (L1/L2/L3-PE) 8/20μs	Maximum discharge current (L1/L2/L3-PE) 8/20μs	Impulse discharge current (L1/L2/L3-PE) 10/350μs	Enclosure protection class	Response time	External dimensions L×B×H	Weight
V	V	kV	kA	kA	kA		ns	mm	kg
400	440	≤ 2.5	50kA	100kA	50kA	IP20	≤ 100	90 × 108 × 70	1.1

Dimensions (mm)



Connection diagram



NSP50S440TTR Power Type Surge Protection Device

General Description

Product standards: IEC61643-11: 2011 (Class I), EN61643-11: 2012 (Type 1), UL1449: Ed3, and GB18802.1-2011.

The product is made of special non-metallic material and utilizes stacked discharge technology and a completely sealed design. It features a large impulse discharge current, low clamping voltage, no arc leakage, no current leakage, and strong follow current interruption capability. It is mainly used for the primary lightning protection of power supplies. Suitable for different electrical grid systems (TN, TT and IT), it protects equipment against damage by direct lightning or lightning induction. The product uses standard 35mm DIN-rail installation and is flame-retardant and easy to connect.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no greater than 95%; Atmospheric pressure: 70kPa~106kPa.

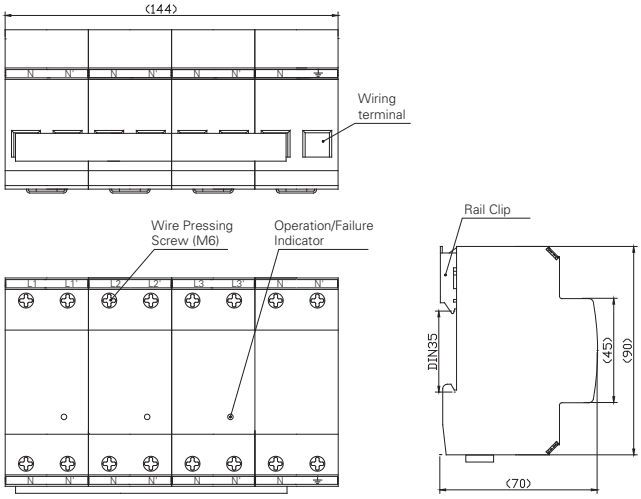
Operating Principle

This power type SPD is installed on power lines. When lightning invades the power transmission line, the device will activate immediately, discharging the lightning current to the ground and limiting its overvoltage to within the withstand voltage of electrical equipment so as to guarantee the safe operation of such equipment.

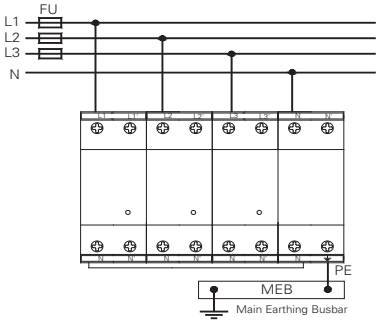
Technical data

Nominal operating voltage AC	Maximum continuous operating voltage AC	Voltage protection level	Nominal discharge current 8/20μs	Impulse discharge current 10/350μs	Enclosure protection class	Response time	External dimensions L×B×H	Weight
V	V	kV	kA	kA		ns	mm	kg
400	440	≤ 2.5(L-N) ≤ 1.5(N-PE)	50kA(L-N) 100(N-PE)	50kA(L-N) 100(N-PE)	IP20	≤ 100	90 × 144 × 70	1.4

Dimensions (mm)



Connection diagram



NSP Series High-performance Lightning and Surge Protection Products

NSP50S440TNSR Power Type Surge Protection Device

General Description

Product standards: IEC61643-11: 2011 (Class I), EN61643-11: 2012 (Type 1), UL1449: Ed3, and GB18802.1-2011.

The power type SPD is made of special non-metallic material and utilizes stacked discharge technology and a completely sealed design. It features a large impulse discharge current, low clamping voltage, no arc leakage, no current leakage, and strong follow current interruption capability. It is mainly used for primary lightning protection of power supplies. Suitable for TNS electrical grid systems, it protects equipment against damage by direct lightning or lightning induction. The product uses standard 35mm DIN-rail installation and is flame-retardant and easy to connect.

Environmental Conditions

Temperature: -40°C ~80°C; relative humidity: no greater than 95%; Atmospheric pressure: 70kPa~106kPa.

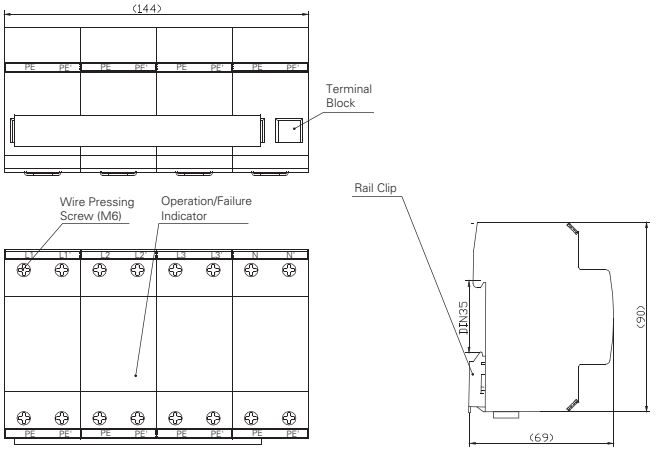
Operating Principle

This power type SPD is installed on power lines. When lightning invades the power transmission line, the device will activate immediately, discharging the lightning current to the ground and limiting its overvoltage to within the withstand voltage of electrical equipment so as to guarantee the safe operation of such equipment.

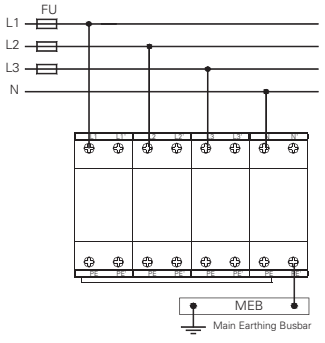
Technical data

Nominal operating voltage AC	Maximum continuous operating voltage AC	Voltage protection level (L/N-PE)	Nominal discharge current (L/N-PE) 8/20μs	Impulse discharge current (L/N-PE) 10/350μs	Enclosure protection class	Response time	External dimensions L×B×H	Weight
V	V	kV	kA	kA		ns	mm	kg
400	440	≤ 2.5	50kA	50kA	IP20	≤ 100	90 × 144 × 70	1.4

Dimensions (mm)



Connection diagram



NSP15M3690WER Power Type Surge Protection Device

General Description

Product standards: UL 1449 ed3, IEC 61643-1: 2005 and EN 61643-11/A11: 2007.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no greater than 95%; Atmospheric pressure: 70kPa~106kPa.

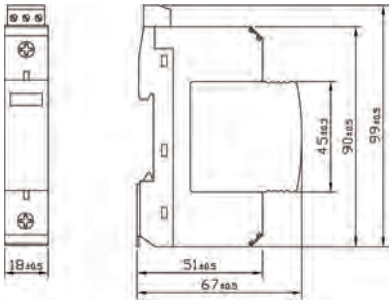
Features of product

The NSP15M3690WER power type SPD is used for L/N-PE or L-N protection. The module features reverse-plugging protection, overheat protection, failure indication and centralized dry contact for a remote signal alarm, and supports remote monitoring of module installation reliability and operating status.

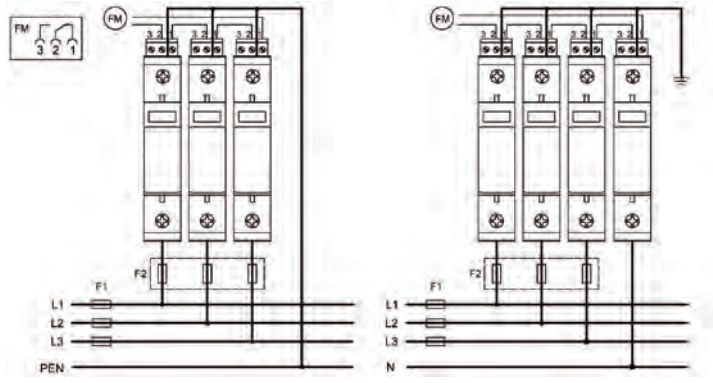
Technical data

	NSP15M3690WER
Nominal AC voltage of system U_0 (V AC)	400
Maximum Continuous Operating Voltage U_c (V AC)	600
Nominal Discharge Current I_n (8/20 μs) (kA)	15
Maximum Discharge Current I_{max} (8/20 μs) (kA)	30
Voltage Protection Level U_p (kV)	≤ 3kV
Response Time t_A (ns)	≤ 25
Action time of deterioration indication device (320 mA) (min)	≤ 1
Line-side overcurrent protection (A gL/gG)	100
Cross sectional area of copper connecting lead of terminal (mm²)	Multi-core wire: 4~25, single core wire: 4~35
Maximum wiring area of remote signaling interface (mm²)	1.5
Voltage/Current of Remote Signal Alarm Contact	AC: 250V/0.75A 125V/3A DC: 30V/2A
Insulation between alarm circuit and main circuit	Enhanced insulation between alarm circuit and main circuit
Torque: wiring terminal/remote signal interface (Nm)	4.5/0.25
Casing Material	PBT V-0
Casing Protection Level (IP code)	IP20
Installation mode	35mm standard DIN-rail

Dimensions (mm)



Connection diagram



NSP Series High-performance Lightning and Surge Protection Products

NSP20H41000WER Power Type Surge Protection Device

General Description

Product standard: IEC 61643-1:2005.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no greater than 95%; Atmospheric pressure: 70kPa~106kPa.

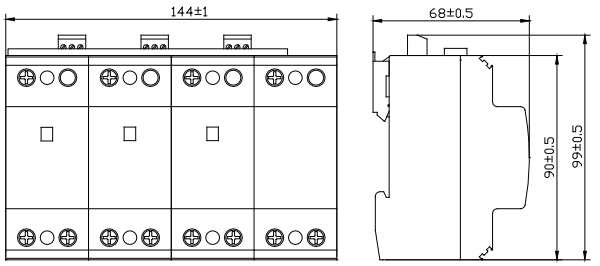
Features of product

The NSP20H41000WER power type SPD is composed of 3 varistor type power modules and a gas discharge tube power module, and is used for secondary protection of power supply systems. Equipped with overheat and overcurrent protection, failure indication, Kelvin terminal and remote signal alarm, the product can monitor and control module operating status.

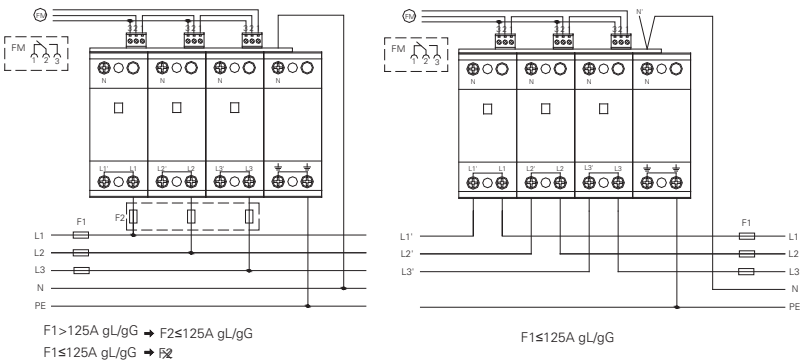
Technical data

	NSP20H41000WER	
Protection mode	L-N	N-PE
Maximum Continuous Operating Voltage U_c	1000V 50/60Hz	600V 50/60Hz
Nominal Discharge Current I_n (8/20 μs)	20kA	100kA
Maximum Discharge Current I_{max} (8/20 μs)	40kA	150kA
Voltage Protection Level U_p	4kV	8kV
Response Time t_A	≤ 25ns	≤ 100ns
Maximum Back-up Fuse	125A gL/gG	/
Follow current interrupting rating I_{fi}	/	100Arms
Voltage/Current of Remote Signal Alarm Contact	AC: 250V/0.5A 125V/2A DC: 30V/2A	
Torque: wiring terminal/remote signal interface	2.5/0.25Nm	
Casing Material	PBT V-0	
Casing Protection Level (IP code)	IP20	
Installation mode	35mm standard DIN-rail	

Dimensions (mm)



Connection diagram



F1>125A gL/gG ➔ F2≤125A gL/gG
F1≤125A gL/gG ➔ F2

F1≤125A gL/gG

NSP20M31000YPVR Power Type Surge Protection Device

General Description

Product standards: GB 18802.1-2011, IEC 61643.1-2005 and EN 60950-1: 2006.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no greater than 95%; Atmospheric pressure: 70kPa~106kPa.

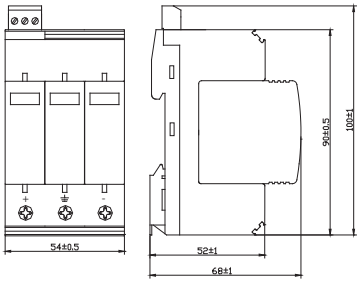
Features of product

The NSP20M31000YPVR power type SPD is composed of 3 varistor pluggable power modules and an integrated base in a "Y" connection configuration. It is used for + — - and +/- — PE protection. The module features reverse plugging and inter-plugging protection. This device also features overheat protection, failure indication and integrated dry contact for remote signal alarm, and supports remote monitoring of module installation reliability and operating status.

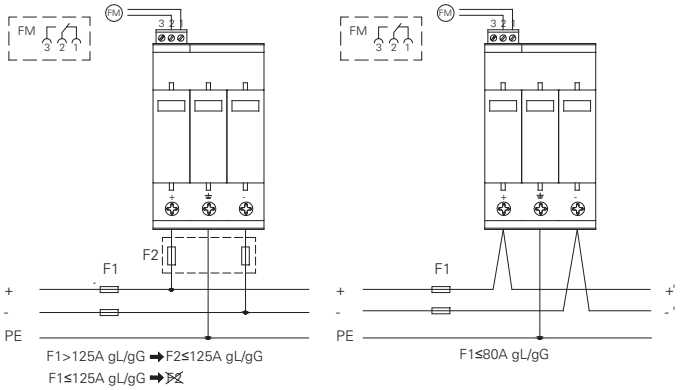
Technical data

	NSP20M31000YPVR
Protection mode	+ — - ; +/- —PE
Maximum Continuous Operating Voltage U_c	1300V DC
Nominal Discharge Current I_n (8/20 μs)	20kA
Maximum Discharge Current I_{max} (8/20 μs)	40kA
Voltage Protection Level U_p	4.0kV
Response Time t_A	≤ 25ns
Maximum Back-up Fuse	125A gL/gG
Voltage/Current of Remote Signal Alarm Contact	AC: 250V/0.5A 125V/2A DC: 30V/2A
Torque: wiring terminal/remote signal interface	2.5/0.25Nm
Casing Material	PBT V-0
Casing Protection Level (IP code)	IP20
Installation mode	35mm standard DIN-rail
Mass (net weight)	(325±16.25) g
Application system	Photovoltaic system; DC system

Dimensions (mm)



Connection diagram



NSP15M31500YPVR Power Type Surge Protection Device

General Description

Standard: EN 50539-11:2013.

Environmental Conditions

Temperature: -40°C~85°C; relative humidity: Less than 95%;
Altitude: -500m-+4000m

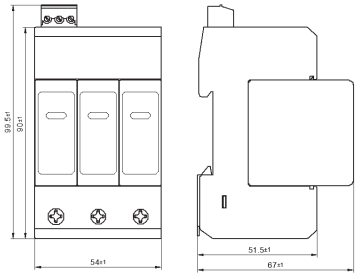
Features of product

The NSP15M31500YPVR power type SPD is composed of 3 varistor pluggable power modules and an integrated base in a "Y" connection configuration. It is used for + — - and +/- — PE protection. The module features reverse plugging and inter-plugging protection. This device also features overheat protection, failure indication and integrated dry contact for remote signal alarm, and supports remote monitoring of module installation reliability and operating status.

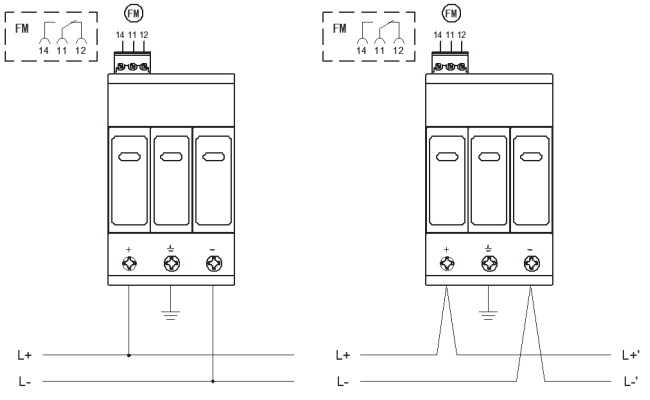
Technical data

	NSP15M31500YPVR
Protection mode	+ — - ; +/- —PE
Maximum Continuous Operating Voltage U_c	1500V DC
Nominal Discharge Current I_n (8/20 μs)	15kA
Maximum Discharge Current I_{max} (8/20 μs)	40kA
Impulse Discharge Current I_{imp} (10/350μs)	1kA
Voltage Protection Level U_p	4.5kV
Response Time t_A	≤ 25ns
Voltage/Current of Remote Signal Alarm Contact	AC: 250V/0.5A 125V/1A DC: 30V/0.1A
Torque: wiring terminal/remote signal interface	2.5/0.25Nm
Casing Material	PBT&PA66
Casing Protection Level (IP code)	IP20
Installation mode	35mm standard DIN-rail
Mass (net weight)	350g
Application system	Photovoltaic system; DC system

Dimensions (mm)



Connection diagram



NSP5GS10xxHSTB Series Signal Surge Protector

General Description

NSP5GS10xxHSTB series signal surge protectors conform to product standard GB/T18802.21-2004/IEC61643-21: 2000.

This series of products are used for protecting interconnected industrial control networks, RS422/485 interfaces, dedicated lines, automatic control and instrument lines, data lines, telephone equipment and facsimile machines, and also for protecting sensors and secondary instruments in current loops. They can suppress inducted lightning impulses from signal lines so as to protect system equipment from inducted lighting strikes. The products feature quick response times (ns) and low voltage protection levels, and are compact and light-weight. They utilize terminal connections with rail installation clip seats for easy installation on 35mm standard DIN-rails.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no greater than 95%; Atmospheric pressure: 70kPa~106kPa.

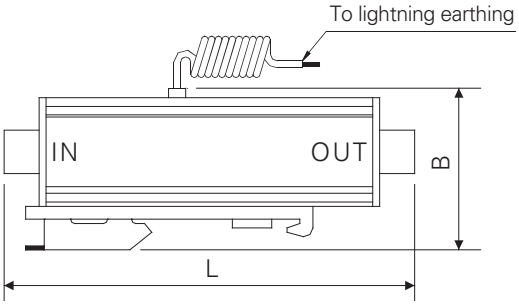
Operating Principle

The surge protector is connected in series to the front end of the equipment to be protected. When the transmission line is subjected to lightning induction, the lightning current is discharged to the ground via the lightning sub-circuit of the protector, and the lightning overvoltage is be clamped within the permitted voltage range of equipment, thus ensuring the equipment's safety.

Technical data

Product model	Connection mode	Protected pin	Operating voltage (V)	Transmission rate bit/s	Insertion loss dB	Impulse discharge voltage 1kV/μs V	Clamping voltage 10/700μs V	Nominal discharge current 8/20μs kA	External dimensions L×B×H mm	Weight g
NSP5GS1005HSTB	Two-pin Connection Terminal	Any pair line	5	2M	≤ 0.5	≤ 600	≤ 30	5	95×27×25	70
NSP5GS1012HSTB			12				≤ 40			
NSP5GS1024HSTB			24				≤ 60			

Dimensions (mm)



NSP Series High-performance Lightning and Surge Protection Products

NSP5GS1048RJ45 Series Signal Surge Protector

General Description

NSP5GS1048RJ45 signal surge protector conforms to product standard "GB/T18802.21—2004/IEC 61643-21: 2000."

NSP5GS1048RJ45 signal surge protector is mainly used for protecting the internal interface circuits of high speed Ethernets, and features a high transmission rate (100Mbit/s), quick response and low protection voltage levels. This enables it to effectively improve the overvoltage resistance and lightning pulse resistance of high speed Ethernets. This product has rail installation clip seats that can be conveniently installed on 35mm standard DIN-rails.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no greater than 95%; Atmospheric pressure: 86kPa~106kPa.

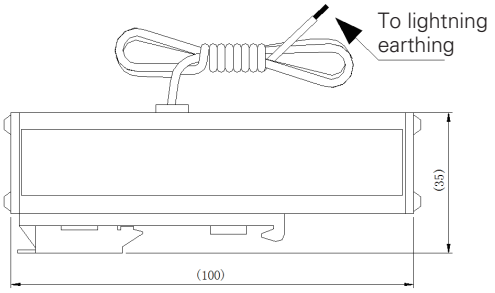
Operating Principle

The surge protector is connected in series to the front end of the equipment to be protected in the system. When the transmission line suffers lightning induction, the lightning current will be discharged to the ground via the lightning sub-circuit of the protector, and the lightning overvoltage will be clamped to within the withstand voltage range of the equipment, thus ensuring the equipment's safety.

Technical data

Connection mode	Protected pin	Operating voltage (V)	Transmission rate bit/s	Insertion loss dB	Voltage protection class 1kV/μs V	Clamping voltage 10/700μs V	Impulse durability 1.2/50μ 8/20μs kA		External dimensions L × B × H mm	Weight g
						L - L	L - PE	SE - PE		
RJ45	1, 2, 3, 6 pins	48	100M	≤ 1	≤ 600	≤ 90	5KV, 2.5KA	10KV, 5KA	100 × 35 × 25	105

Dimensions (mm)



The product has RJ45 sockets at both input and output ends, and the output end is connected with the equipment to be protected via CAT 5 twisted pair cable with an RJ45 plug.

NSP10GS1005BNC Signal Surge Protector

General Description

NSP10GS1005BNC signal surge protectors conforms to product standard GB/T18802.21-2004/IEC61643-21: 2000.

The product is used for protecting the signal systems of cameras, monitors and mobile communication devices. By suppressing induction lightning impulses from signal lines, it protects equipment from lightning strikes.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no greater than 95%; Atmospheric pressure: 70kPa~106kPa.

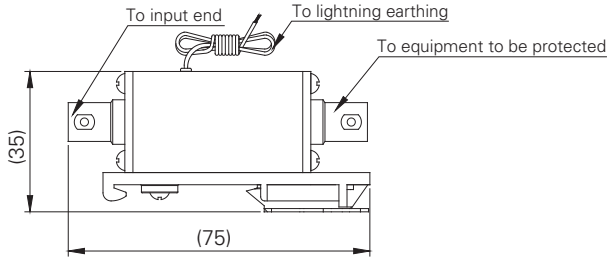
Operating Principle

The surge protector is connected in series to the front end of the equipment to be protected. When the transmission line encounters lightning induction, the lightning current will be discharged to the ground via the lightning sub-circuit of the protector, and the lightning overvoltage will be clamped to within the withstand voltage range of the equipment, thus ensuring the equipment's safety.

Technical data

Product model	Connection mode		Operating voltage (V)	Characteristic impedance Ω	Transmission rate bit/s	Insertion loss dB	Stationary wave ratio	Impulse discharge voltage 1kV/μs V	Clamping voltage 10/700μs V	Nominal discharge current 8/20μs kA	External dimensions L×B×H mm	Weight g
	Input	Output										
SP10GS1005BNC	BNC socket		5	75	10M	≤ 0.3	≤ 1.2	≤ 600	≤ 30	10	75×25×35	85

Dimensions (mm)



NSP50S1255ESP Equipotential Bonding device

General Description

NSP50S1255ESP explosive-proof equipotential bonding device conforms to product standard GB18802.1-2011/IEC61643-1: 2005.

NSP50S1255ESP explosive-proof equipotential bonding device is used at insulation flange connection points, cathode-protected pipeline couplings and environments where explosive proof is required. When the voltage difference between both ends of the equipotential bonding device is greater than the peak voltage limit, the bonding device will get conducted so as to force the voltage at both of its ends to be basically equal, thus eliminating the potential difference and, therefore, the danger to human and equipment safety due to excessively high potential difference.

Environmental Conditions

Temperature: -40°C~80°C; Relative humidity: no greater than 95%; elevation: ≤3000m

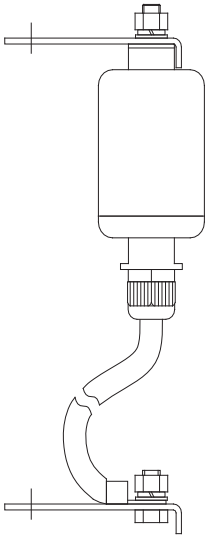
Operating Principle

In normal states, there is high impedance at both ends of the equipotential bonding device. Once there is voltage difference between both ends, the product will quickly conduct to form an equipotential body between both ends, thus eliminating the potential difference between them.

Technical data

	NSP50S1255ESP
Nominal Discharge Current I_n (8/20 μs) (kA)	50
Maximum Discharge Current I_{max} (8/20 μs) (kA)	100
Impulse Discharge Current I_{imp} (10/350 μs) (kA)	25
Ignition voltage (1.2/50μs) (kV)	≤ 1.5
DC breakdown voltage (100V/s) (V)	800 +/-20%
Explosion-proof class	EX (ia) II C T4
Casing Protection Level	IP54
External dimensions (L×D)	Φ60×200mm
Connection form	25mm² connecting cable, M10 bolt
Connecting wire length	100mm
Casing Material	Stainless steel

Dimensions (mm)



NSP100S1255ESP Equipotential Bonding device

General Description

NSP100S1255ESP equipotential bonding device conforms to product standard GB 18802.1 -2011/IEC61643-1: 2005.

This product is used for special sites and certain independent grounding systems. During a lightning strike, different grounding bodies may strike back due to unequal ground potentials. In this case, this product is needed. When the potential difference between both ends of the equipotential bonding device is greater than the peak voltage limit, the bonding device will conduct so as to force the ground potentials at both of its ends to be basically equal, thus eliminating the discharge between grounding bodies and, therefore, the danger to human and equipment safety due to excessively high ground potential difference.

Under normal operating conditions, the equipotential bonding device is constantly in open-circuit to avoid mutual interference between different grounding bodies. When unequal lightning ground potential is encountered, it will get conducted so as to force the ground potentials to be basically equal.

Environmental Conditions

Temperature: -40°C~80°C; relative humidity: no greater than 95%; Atmospheric pressure: 70kPa~106kPa.

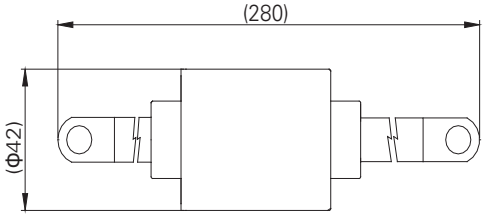
Operating Principle

In normal states, there is high impedance at both ends of the equipotential bonding device. Once there is potential difference between grounding grids, the product will quickly conduct to form an equipotential body between two grounding bodies, thus eliminating the potential difference between grounding grids.

Technical data

Nominal discharge current 8/20μs kA	Maximum discharge current 8/20μs kA	Ignition voltage 1.2/50μs V	DC breakdown voltage V	Connection form	External dimensions L×B×H mm	Weight g
100	200	< 1500	≤ 800 +/-20%	M8 bolt	φ42×280	250

Dimensions (mm)



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