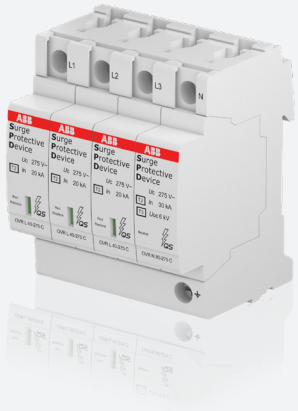
PRODUCT CATALOGUE CANADA

Surface Protection Devices

OVR series



- UL / CSA range of SPDs
- Type 1 and Type 2 for main electrical distribution equipment and control panel applications
- Hardwired and DIN rail versions

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Surge Protective Devices (SPDs) are designed to protect against transient surge conditions. Lighting and utility power anomalies only account for 20% of transient surges, while the other 80% are produced internally in a facility.

Professionally installed ABB SPDs provide superior protection and could prevent unnecessary downtime and costly repairs!

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OVR series
Introduction

Surge Protection Devices (SPDs) are designed to protect against transient surge conditions.

Transient surges can reach values of hundreds of thousands of volts or instantaneous current flow of tens of thousands of amperes, but typically last less than one hundred microseconds in duration.

Transient surges generated within a facility typically account for 80% of the surge activity.

These internally generated transients can be caused by switching power supplies (computers), electronic ballasts (building lighting) and variable frequency drives (air handlers, elevators, etc).

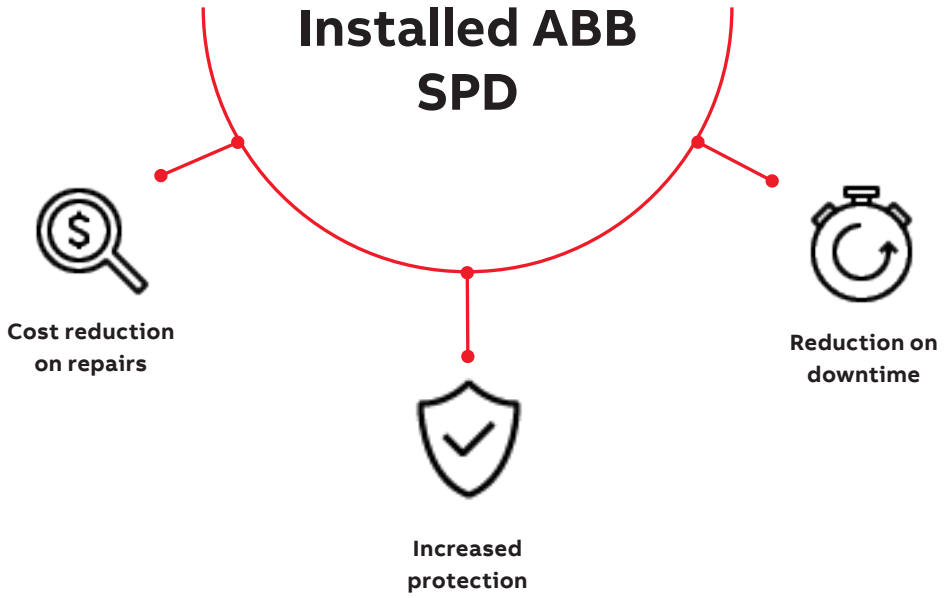
The most destructive transient voltage surges can be attributed to lightning and utility load switching; however, experts predict that these two events account for 20% of all transient surge activity.

Reliable data sources suggest that lightning strikes have current magnitudes in excess of 200,000 amps. Moreover, lightning strikes are not single strike events. Strikes typically consist of four to six “hits” and sometimes can be as high as 40kA.

Therefore, SPDs must be appropriately sized to provide adequate protection during multiple surge events.

Large transient surge conditions can damage printed circuit board traces and puncture semiconductors causing immediate or intermittent equipment failures. Continued exposure to surges can degrade printed circuit board traces or semiconductors resulting in seemingly random delayed equipment failures. Therefore, equipment failures cannot always be contributed to a single power quality event. Surge remnants on data lines can alter digital data and logic levels causing equipment failures and lockups.

Professionally installed ABB products provide superior protection against transient surges preventing unnecessary downtime and costly repairs.



OVR series
UL and IEC terminology

OVRH series from ABB are certified according to UL 1449 4th Edition and use different terminlogy than IEC certified units. The purpose is the same for both standards but it is important to differentiate the terminlogy and the Type of SPD

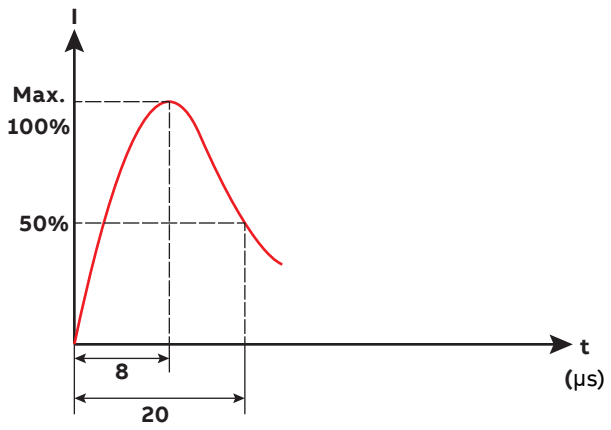
IEC 61643-11 terminology	Equivalent UL 1449 terminology	Description
I_{imp}	No equivalent	The maximum surge current rating for an SPD when subjected to a 10 x 350µs wave shape.
I_{max}	Single surge current rating	The maximum surge current rating for an SPD when subjected to an 8 x 20µs wave shape.
I_n	I_N	Nominal surge discharge current for 8 x 20µs wave shape.
I_{SCCR}	SCCR	Short-circuit current rating (withstand)
U_P	VPR	Voltage protection level or let-thru voltage level of the SPD when subjected to a test surge
U_C	MCOV	Maximum continuous operational voltage the SPD can be exposed to without failure
U_N	Operational voltage	Nominal operational voltage or application voltage

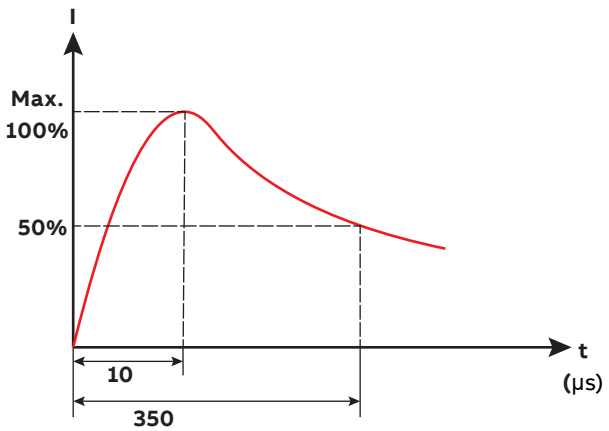
8 x 20µs wave shape

- Used for IEC Class II test (EN Type 2)
- I_{max} is the surge current value designation for IEC
- I_n is also tested using this wave shape
- UL single surge current rating

10 x 350 µs wave shape (IEC only)

- Used in IEC 61643-11 / Class I tested SPD or EN 61643-11 Type 1
- SPD must service 5 impulses increasing in magnitude to max I_{imp}
- Iimp is then the surge current value designation if SPD passes
- No equivalent test in UL standards





OVR series
UL Type 1 and IEC Class I SPDs

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01
OVRHSP series
Type 1 SPD
—
02
OVRT1 series
Class I SPD

—
01

UL Type 1 SPD (Line side)

Type 1 SPDs are permanently connected devices that can be installed anywhere between the secondary of the utility service transformer and the main distribution disconnect.

A Type1 SPD can also be installed anywhere on the load side of the main distribution and can be installed without the need for external over current protection (does not require an upstream fuse orbreaker).

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02

IEC Class I SPD (EN Type 1)

Recommended for service sector and industrial buildings protected by a lightning protection system or a meshed cage.

Protects against direct lightning strikes, but must be mounted inside another enclosure the distribution panel with external overcurrent protection for safe operation.

OVR series
UL Type 2 and IEC Class II SPDs

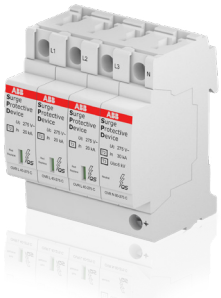
—
01
OVRHTE series
Type 2 SPD
—
02
OVRT2 series
Class II SPD

—
01

UL Type 2 SPD (Load side)

Type 2 SPDs are permanently connected devices that must be installed on the load side of the main distribution disconnect.

Type 2 devices may, or may not require external over current protection (may or may not require an upstream fuse or breaker).



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IEC Class II SPD (EN Type 2)

Class II SPDs are the main protection systems for all low voltage electrical installations.

Installed in each electrical switchboard, it prevents the spread of overvoltages in the electrical installations and protects the loads.

OVR series
UL Type 3 and IEC Class III SPDs

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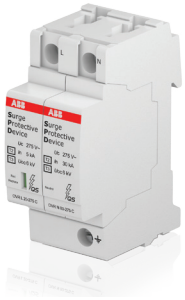
01
Surge bar (no ABB offering)
—
02
OVRT3 series Class III SPD

—
01

UL Type 3 SPD (cord connected)

Type 3 SPDs are installed at a conductor length of 10 meters (30 feet) or more from the electrical panel they are protecting.

These devices are typically cord connected, direct plug-in, receptacle type SPDs installed at the load equipment being protected.



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IEC Class III SPD (EN Type 3)

Recommended for service sector and industrial buildings protected by a lightning protection system or a meshed cage.

Protects against direct lightning strikes, but must be mounted inside another enclosure the distribution panel with external overcurrent protection for safe operation.

OVR series
UL Type 4 and Type 5 SPDs

—
01
OVRT2U series
Type 2 SPD
—
02
Type 5 MOV
components

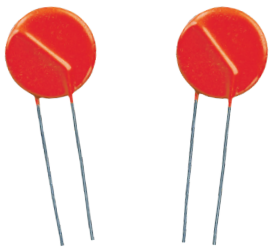
—
01

UL Type 4 SPD

Type 4 SPDs are considered component SPDs.

Component SPDs typically consist of one or more Type 5 components assembled together. Type 4 SPDs are not intended to be used by themselves, and must be integrated into other systems.

- Type 1 component assembly is a Type 4 SPD that once installed inside another piece of equipment would be tested as a Type 1 SPD (would not require external overcurrent protection).
- Type 2 component assembly is Type 4 SPD that once installed inside another piece of equipment would be tested as a Type 2 SPD. (would require external over current protection)



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UL Type 5 SPD

Type 5 SPDs are discrete component surge suppressors (such as MOVs) that may be mounted on a printed circuit board, connected by leads, or provided within an enclosure with mounting means and wiring terminations.

OVR series
Typical SPD applications

Wastewater
Wastewater treatment facilities are utilizing additional technologies to monitor and ensure clean water efficiently.

Surge protection devices are necessary to provide confidence and reliability in today's personnel restricted environments.

Renewable energy
Today's technologies are rapidly developing innovative ways to harvest electricity.

Surge protection devices provide protection against lighting and power quality anomalies caused by switching on the grid.

Healthcare
Almost every piece of modern medical equipment depends on electrical power.

The more sophisticated the technology, the more susceptible it is to the devastating effects of transient surge events.

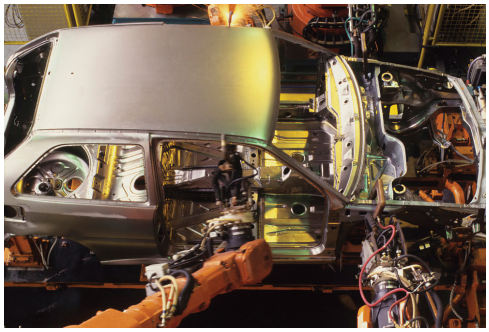
Education
Most school systems utilize state of the art multi-media outlets which result in more computers in the classrooms.

Surgeprotection devices helps to ensure these computers stay up and running, keeping growing minds energized!

OVR series
Typical SPD applications

Commercial / retail
Companies are now installing efficient ballasts, dimmers, and integrated renewable energy systems.

Surge protection devices help protect these new technologies which are more susceptible to power quality events.



Manufacturing / Industrial
Improvements to manufacturing devices have migrated manufacturers to human machine combinations for maximizing the manufacturing output capacities of facilities.

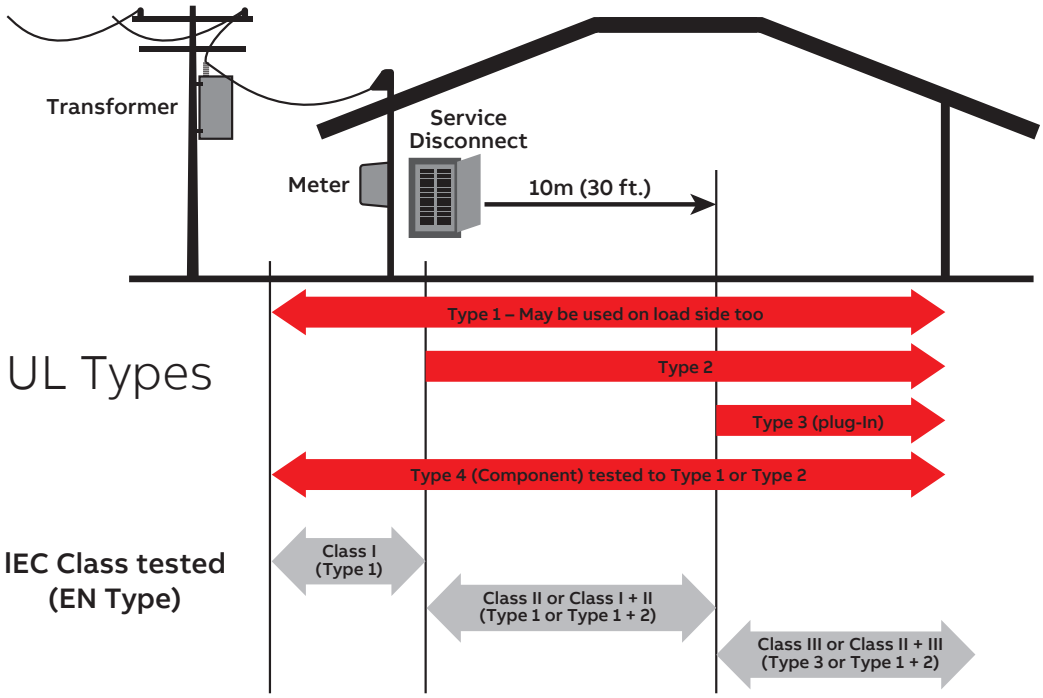
Surge protection devices protect this equipment from damage caused by large variations in the current and voltage, thus ensuring uptime in manufacturing production.

Information / data management
Data centers typically require an enormous amount of power equipment from transfer switches, to multiple remote power panels providing power to processing equipment.

Surge protection devices can help to protect this equipment from costly downtime.

Transportation
Air traffic controls, radar systems, weather stations, electronic highway signs, and outside security cameras are among a handful of the critical loads that require protection from the devastating effects of transient surge events.

OVR series
Typical locations for SPDs



SPD location	Recommended SPD		Protected equipment examples	
Service Entrance/Main Distribution (1,000 Amps and higher)				
The point of entry for utility power. A unit installed here protects the facility from a large external event, such as lightning or grid switching.	OVRHSP 400 OVRHSP 300 OVRHSP 240 OVRHSP 200		• Electrical switchgear • Switchboard • Distribution • MCCs	• Emergency power backup • Transfer switch • UPS system
Sub-Distribution	**Mid-Level Distribution (1,000 – 400 Amps)**	**Panelboard (400 – 100 Amps)**		
Closer to the critical load. A unit installed here protects from internally generated surges and isolates critical equipment from faults.	OVRHSP 120...240 OVRHSR 120...160 OVRHTE 80...100	OVRHSP 60...160 OVRHSR 120...160 OVRHTE 50...100 OVRHT3B OVRHT3C OVRHS3U	• Emergency power backup • Transfer switches • Control boxes • Switchgear • Generators • Computer servers • Telephone systems • Fax machines	• Building management systems • Surveillance equipment • Security systems • HVAC • Building management systems • Fire alarm panels • Copiers
Equipment Level Protection (100 Amps and below)				
Installing surge protection at panel distribution extends unit longevity by absorbing mini surges that reduce equipment life.	OVRHSP 60...80 OVRHTE 25...50 OVRHT3B OVRHT3C OVRHS3U OVRHLD 20...30		• X-Ray • CAT-scan • Life support equipment • Medical instrumentation • Computer servers • Elevators	• Parking lot lighting • Printers • Communication systems • Motors • Pumps • Drives

Notes

OVRH series (Hardwired SPDs)

OVRH series
Product range overview

Name	OVRHSP (200, 240, 300, 400)	OVRHSP (120, 160)	OVRHSP (60, 80, 100)	OVRHSR (120, 160)	OVRHTE	OVRHT3B	OVRHT3C	OVRHS3U	OVRHLD
Connection Ampacity	1,000A and higher	1,000A and below	400A and below	1,000A and below	100–80kA 1,000A and below 50kA 400A and below 25kA 100A and below	400A and below	400A and below	400A and below	100A and below
SPD Type	Type 1	Type 1	Type 1	Type 1	Type 2	Type 1	Type 1	Type 1 and Type 2	Type 1
Certifications	UL 1449	UL 1449	UL 1449	UL 1449	UL 1449	UL 1449	UL 1449	UL 1449	UL 1449
Surge Ratings	200, 240, 300, 400kA per phase	120, 160kA per phase	60, 80, 100kA per phase	120, 160kA per phase	25, 50, 80 and 100 per mode	50kA per phase	50kA per phase	40kA per phase	20, 25, 30kA per phase
LEDs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dry Relay Contacts	Standard	Standard	Optional	Standard	Optional	Not available	Not available	Optional	Not available
EMI Filter	Optional	Optional	Optional	Optional	Optional	Not available	Not available	Not available	Not available
Surge Counter	Optional	Optional	Not available	Not available	Not available	Not available	Not available	Not available	Not available
Warranty	10 years	10 years	10 years	10 years	5 years	3 year	3 year	1 year	1 year

OVRH series

OVRHSP (4,000A and below, 60...100kA)

Product Features

- Listed by ETL to UL 1449 4th Edition for Type 1 and Type 2 SPD applications
- Fail-safe design with individually fused Metal Oxide Varistors (MOV) eliminating single point failure, protecting against both overcurrent and overvoltage events
- 200kAIC short circuit rating permits direct bus connection to most electrical services
- Low let through voltage ensured by the lowest possible impedance path to ground and equal current sharing during surge events
- All weather sealed, powder-coated NEMA 4/IP65 housing is designed for any orientation and indoor/outdoor applications
- 10-year standard warranty

c UL us LISTED RoHS Compliant c ETL us Intertek

Network type	Voltage	Part number
1PH, 2W + GND	120 Vac	OVRHSPxx1201P
	240 Vac	OVRHSPxx2401P
2PH, 3W + GND	120/240 Vac	OVRHSPxx1202S
3PH, 4W + GND (Wye)	120/208 Vac	OVRHSPxx1203Y
	220/380 Vac	OVRHSPxx2203Y
	240/415 Vac	OVRHSPxx2403Y
	277/480 Vac	OVRHSPxx2773Y
3PH, 4W + GND (High-leg)	120/240 Vac	OVRHSPxx1203H
3PH, 3W + GND (Delta)	240 Vac	OVRHSPxx2403D

Desired value	xx Code
60kA	60
80kA	80
100kA	100

Option	Suffix
Advanced monitoring *	1
Transient filter (meets UL1283) **	3
Stainless steel enclosure	4
Advanced monitoring + SS enclosure	A
Transient filter + SS enclosure	C

* Includes dry relay contacts, audible alarm, alarm silence button and fault light

** Not recommended when using telecom rectifiers

Electrical characteristics	
Maximum surge current rating	xx per phase / half xx per mode
Nominal discharge current rating (I-n)	10kA
Operating frequency	47 ... 63Hz
Connection method	Parallel to electrical distribution
Modes of protection	All modes (L-N, L-G, N-G, LL)
Fault rating (SCCR)	200kAIC - No upstream protection required (breaker / fuse)
Response time	< 1 ns
Standard monitoring	Status indicator lights (1 per phase)
EMI / RFI filter attenuation	
Maximum attenuation frequency	41dB @ 106kHz
Mechanical characteristics	
Weight	4.5 kg (10 lbs.)
Enclosure type	Powder coated, impact-resistance steel, weather-proof NEMA 4
Installation location	Indoor / outdoor
Mounting method	Dual mounting flanges
Operating temperature	-40° to +70°C (-40° to +185°F)
Altitude	Up to 4000 m (13,000 ft.)
Product design	Parallel design with individually fused MOVs
Regulations & certifications	
UL 1449 4th edition	Type 1
UL 1283	Yes
IEEE C62.41.1, .2, C62.45	Yes
Listed by	ETL

OVRH series

OVRHSP (4,000A and below, 120...160kA)

Product Features

- Listed by UL 1449 4th Edition for Type 1 and Type 2 SPD applications
- Fail-safe design with individually fused Metal Oxide Varistors (MOV) eliminating single point failure, protecting against both overcurrent and overvoltage events
- 200kAIC short circuit rating permits direct bus connection to most electrical services
- Low let through voltage ensured by the lowest possible impedance path to ground and equal current sharing during surge events
- All weather sealed, powder-coated NEMA 4/IP65 housing is designed for any orientation and indoor/outdoor applications
- 10-year standard warranty

c UL US LISTED RoHS Compliant

Network type	Voltage	Part number
1PH, 2W + GND	120 Vac	OVRHSPxx1201P
	240 Vac	OVRHSPxx2401P
2PH, 3W + GND	120/240 Vac	OVRHSPxx1202S
3PH, 4W + GND (Wye)	120/208 Vac	OVRHSPxx1203Y
	220/380 Vac	OVRHSPxx2203Y
	240/415 Vac	OVRHSPxx2403Y
	277/480 Vac	OVRHSPxx2773Y
	347/600 Vac	OVRHSPxx3473Y
3PH, 4W + GND (High-leg)	120/240 Vac	OVRHSPxx1203H
3PH, 3W + GND (Delta)	240 Vac	OVRHSPxx2403D
	380 Vac	OVRHSPxx3803D
	480 Vac	OVRHSPxx4803D
	600 Vac	OVRHSPxx6003D

Desired value	xx Code
120kA	120
160kA	160

Option	Suffix
Surge counter	2
Transient filter (meets UL1283) *	3
Stainless steel enclosure	4
Transient filter + Surge counter	B
Transient filter + SS enclosure	C
Surge counter + SS enclosure	D
Filter + counter + SS enclosure	T

* Not recommended when using telecom rectifiers

Electrical characteristics	
Maximum surge current rating	xx per phase / half xx per mode
Nominal discharge current rating (I-n)	20kA
Operating frequency	47 ... 63Hz
Connection method	Parallel to electrical distribution
Modes of protection	All modes (L-N, L-G, N-G, LL)
Fault rating (SCCR)	200kAIC - No upstream protection required (breaker / fuse)
Response time	< 1 ns
Standard monitoring	Status indicator lights (1 per phase), dry contacts, alarm
EMI / RFI filter attenuation	
Maximum attenuation frequency	41dB @ 106kHz
Mechanical characteristics	
Weight	9 kg (20 lbs.)
Enclosure type	Powder coated, impact-resistance steel, weather-proof NEMA 4
Installation location	Indoor / outdoor
Mounting method	Dual mounting flanges
Operating temperature	-40° to +70°C (-40° to +185°F)
Altitude	Up to 4000 m (13,000 ft.)
Product design	Parallel design with individually fused MOVs
Regulations & certifications	
UL 1449 4th edition	Type 1
UL 1283	Yes
IEEE C62.41.1, .2, C62.45	Yes
Listed by	UL

OVRH series

OVRHSP (4,000A and below, 200...400kA)

Product Features

- Listed by UL 1449 4th Edition for Type 1 and Type 2 SPD applications
- Fail-safe design with individually fused Metal Oxide Varistors (MOV) eliminating single point failure, protecting against both overcurrent and overvoltage events
- 200kAIC short circuit rating permits direct bus connection to most electrical services
- Low let through voltage ensured by the lowest possible impedance path to ground and equal current sharing during surge events
- All weather sealed, powder-coated NEMA 4/IP65 housing is designed for any orientation and indoor/outdoor applications
- 10-year standard warranty

c UL us LISTED RoHS Compliant

Network type	Voltage	Part number
1PH, 2W + GND	120 Vac	OVRHSPxx1201P
	240 Vac	OVRHSPxx2401P
2PH, 3W + GND	120/240 Vac	OVRHSPxx1202S
3PH, 4W + GND (Wye)	120/208 Vac	OVRHSPxx1203Y
	220/380 Vac	OVRHSPxx2203Y
	240/415 Vac	OVRHSPxx2403Y
	277/480 Vac	OVRHSPxx2773Y
	347/600 Vac	OVRHSPxx3473Y
3PH, 4W + GND (High-leg)	120/240 Vac	OVRHSPxx1203H
3PH, 3W + GND (Delta)	240 Vac	OVRHSPxx2403D
	380 Vac	OVRHSPxx3803D
	480 Vac	OVRHSPxx4803D
	600 Vac	OVRHSPxx6003D

Desired value	xx Code
200kA	200
240kA	240
300kA	300
400kA	400

Option	Suffix
Surge counter	2
Transient filter (meets UL1283) *	3
Stainless steel enclosure	4
Transient filter + Surge counter	B
Transient filter + SS enclosure	C
Surge counter + SS enclosure	D
Filter + counter + SS enclosure	T

* Not recommended when using telecom rectifiers

Electrical characteristics	
Maximum surge current rating	xx per phase / half xx per mode
Nominal discharge current rating (I-n)	20kA
Operating frequency	47 ... 63Hz
Connection method	Parallel to electrical distribution
Modes of protection	All modes (L-N, L-G, N-G, LL)
Fault rating (SCCR)	200kAIC - No upstream protection required (breaker / fuse)
Response time	< 1 ns
Standard monitoring	Status indicator lights (1 per phase), dry contacts, alarm
EMI / RFI filter attenuation	
Maximum attenuation frequency	41dB @ 106kHz
Mechanical characteristics	
Weight	18 kg (40 lbs.)
Enclosure type	Powder coated, impact-resistance steel, weather-proof NEMA 4
Installation location	Indoor / outdoor
Mounting method	Dual mounting flanges
Operating temperature	-40° to +70°C (-40° to +185°F)
Altitude	Up to 4000 m (13,000 ft.)
Product design	Parallel design with individually fused MOVs
Regulations & certifications	
UL 1449 4th edition	Type 1
UL 1283	Yes
IEEE C62.41.1, .2, C62.45	Yes
Listed by	UL

OVRH series

OVRHSR (Wall recessed-4,000A and below, 120 to 160kA)

Product Features

- Listed by UL 1449 4th Edition for Type 1 and Type 2 SPD applications
- CE compliant
- Compact design to allow the SPD to be recessed into the wall
- Fail-safe design with individually fused Metal Oxide Varistors (MOV) eliminating single point failure, protecting against both overcurrent and overvoltage events
- 200kAIC short circuit rating permits direct bus connection to most electrical services
- Low let through voltage ensured by the lowest possible impedance path to ground and equal current sharing during surge events
- 10-year standard warranty

c UL us LISTED RoHS Compliant

Network type	Voltage	Part number
1PH, 2W + GND	120 Vac	OVRHSRxx1201P
	240 Vac	OVRHSRxx2401P
2PH, 3W + GND	120/240 Vac	OVRHSRxx1202S
3PH, 4W + GND (Wye)	120/208 Vac	OVRHSRxx1203Y
	220/380 Vac	OVRHSRxx2203Y
	240/415 Vac	OVRHSRxx2403Y
	277/480 Vac	OVRHSRxx2773Y
	347/600 Vac	OVRHSRxx3473Y
3PH, 4W + GND (High-leg)	120/240 Vac	OVRHSRxx1203H
3PH, 3W + GND (Delta)	240 Vac	OVRHSRxx2403D
	380 Vac	OVRHSRxx3803D
	480 Vac	OVRHSRxx4803D
	600 Vac	OVRHSRxx6003D

Desired value	xx Code
120kA	120
160kA	160

Option	Suffix
Transient filter (meets UL1283) **	3
Stainless steel enclosure	4
Transient filter + SS enclosure	C

** Not recommended when using telecom rectifiers

Stand alone option	Part number
Flush-mount plate kit	OVRHSP-FMP

Electrical characteristics	
Maximum surge current rating	xx per phase / half xx per mode
Nominal discharge current rating (I-n)	20kA
Operating frequency	47 ... 63Hz
Connection method	Parallel to electrical distribution
Modes of protection	All modes (L-N, L-G, N-G, LL)
Fault rating (SCCR)	200kAIC - No upstream protection required (breaker / fuse)
Response time	< 1 ns
Standard monitoring	Status indicator lights (1 per phase), dry contacts, alarm
EMI / RFI filter attenuation	
Maximum attenuation frequency	41dB @ 106kHz
Mechanical characteristics	
Weight	13.6 kg (30 lbs.)
Enclosure type	Powder coated, impact-resistance steel, weather-proof NEMA 4
Installation location	Indoor / outdoor
Mounting method	Dual mounting flanges
Operating temperature	-40° to +70°C (-40° to +185°F)
Altitude	Up to 4000 m (13,000 ft.)
Product design	Parallel design with individually fused MOVs
Regulations & certifications	
UL 1449 4th edition	Type 1
UL 1283	Yes
IEEE C62.41.1, .2, C62.45	Yes
Listed by	UL

OVRH series

OVRHTE (1,000A and below, 25...100kA)

Product Features

- Listed by UL 1449 4th Edition for Type 2 SPD applications
- Protects facilities and equipment against the harmful effects of lightning strikes and internally generated electrical transients
- Includes pre-wired pigtail condcutors to streamline installation
- Features internal copper bus conduction path to minimize system impedances, lowering clamping voltage and increasing protection.
- Pre-wired with 24in (609.6mm) cables #10AWG (5mm^2)
- 5-year standard warranty

c UL us LISTED RoHS Compliant

Network type	Voltage	Part number
1PH, 2W + GND	120 Vac	OVRHTExx1201P
	240 Vac	OVRHTExx2401P
2PH, 3W + GND	120/240 Vac	OVRHTExx1202S
3PH, 4W + GND (Wye)	120/208 Vac	OVRHTExx1203Y
	220/380 Vac	OVRHTExx2203Y
	240/415 Vac	OVRHTExx2403Y
	277/480 Vac	OVRHTExx2773Y
	347/600 Vac	OVRHTExx3473Y
3PH, 4W + GND (High-leg)	120/240 Vac	OVRHTExx2403H
3PH, 3W + GND (Delta)	240 Vac	OVRHTExx2403D
	380 Vac	OVRHTExx3803D
	480 Vac	OVRHTExx4803D

Desired value	xx Code
25kA	25
50kA	50
80kA	80
100kA	100

Option	Suffix
Dry Form “C” relay contacts	5

Stand alone option	Part number
Metallic conduit kit includes: 19.05mm (3/4in) x 76.2mm (3in) metallic nipple and associated installation hardware	OVRHTEMCK
Plastic conduit kit includes: 457.2mm (18in) flexible conduit and associated installation hardware	OVRHTEMCKP

Electrical characteristics	
Maximum surge current rating	xx per phase / half xx per mode
Nominal discharge current rating (I-n)	20kA
Operating frequency	47 ... 63Hz
Connection method	Parallel to load (with breaker)
Modes of protection	All modes (L-N, L-G, N-G, LL)
Fault rating (SCCR)	65kAIC - upstream protection required (breaker / fuse)
Response time	< 1 ns
Standard monitoring	Status indicator lights (1 per phase)
EMI / RFI filter attenuation	
Maximum attenuation frequency	50dB @ 100kHz
Mechanical characteristics	
Weight	5.8 kg (12.7 lbs.)
Enclosure type	NEMA 4X fiberglase-reinforced polyester (FRP), sealed cover.
Installation location	Indoor / outdoor
Mounting method	Dual mounting flanges
Operating temperature	-40° to +60°C (-40° to +140°F)
Altitude	Up to 5000 m (16,400 ft.)
Product design	No internal fusing
Regulations & certifications	
UL 1449 4th edition	Type 2
UL 1283	Yes
IEEE C62.41.1, .2, C62.45	Yes
Listed by	UL

OVRH series

OVRHT3B (400A and below, 50 kA)

Product Features

- Listed to UL1449 4th Edition for Type 1 SPD applications
- 50kA protection per phase
- Individual thermally fused and protected MOVs
- LED indication
- Pre-wired conductors included
- Multiple MOVs per phase eliminates single point failure
- 3 years standard warranty.

c UL us LISTED RoHS Compliant

Network Type 1 SPD	Voltage	Part number
1PH, 2W + GND	120 Vac	OVRHT3B501201P
	240 Vac	OVRHT3B502401P
	277 Vac	OVRHT3B502771P
	480 Vac	OVRHT3B504801P
2PH, 3W + GND	120/240 Vac	OVRHT3B501202S
	240/480 Vac	OVRHT3B502402S
3PH, 4W + GND (Hi-Leg)	120/240 Vac	OVRHT3B502403H
3PH, 4W + GND (Wye)	120/208 Vac	OVRHT3B501203Y
	220/380 Vac	OVRHT3B502203Y
	230/400 Vac	OVRHT3B502303Y
	240/415 Vac	OVRHT3B502403Y
	277/480 Vac	OVRHT3B502773Y
	347/600 Vac	OVRHT3B503473Y
3PH, 3W + GND (Delta)	240 Vac	OVRHT3B502403D
	380 Vac	OVRHT3B503803D
	400 Vac	OVRHT3B504003D
	480 Vac	OVRHT3B504803D
	600 Vac	OVRHT3B506003D

Earthing Systems	Voltage	Part number
1PH, 2W + GND (TNC)	230 Vac	OVRHT3B501201P
1PH, 2W + GND (TNS)	230 Vac	OVRHT3B502773Y
1PH, 2W + GND (IT)	230 Vac	OVRHT3B503473Y
1PH, 2W + GND (TT)	230 Vac	OVRHT3B506003D

Electrical characteristics	
Nominal discharge current rating (I-n)	10kA
Operating frequency	47 ... 63Hz
Connection method	Parallel to load (with breaker)
Modes of protection	Model dependent
Fault rating (SCCR)	100kAIC
Response time	< 1 ns
Standard monitoring	Status indicator lights
Mechanical characteristics	
Weight	0.23 kg (0.5 lbs.)
Enclosure type	NEMA 4X non-metallic.
Installation location	Indoor / Outdoor
Mounting method	12.7mm (1/2in) - 14 NPT thread
Operating temperature	-35° to +80°C (-31° to +176°F)
Altitude	Up to 5000 m (16,400 ft.)
Product design	Individual therm. fused MOVs
Regulations & certifications	
UL 1449 4th edition	Type 1
UL 96A	Yes
IEEE C62.41.1, .2, C62.45	Yes
Listed by	UL

OVRH series

OVRHT3C (400A and below, 50 kA)

Product Features

- Listed to UL1449 4th Edition for Type 1 SPD applications
- 50kA protection per phase
- Individual thermally fused and protected MOVs
- LED indication
- Pre-wired conductors included
- Multiple MOVs per phase eliminates single point failure
- 3 years standard warranty.

c UL us LISTED RoHS Compliant

Network Type 1 SPD	Voltage	Part number
1PH, 2W + GND	120 Vac	OVRHT3C501201P
	240 Vac	OVRHT3C502401P
	277 Vac	OVRHT3C502771P
	480 Vac	OVRHT3C504801P
2PH, 3W + GND	120/240 Vac	OVRHT3C501202S
	240/480 Vac	OVRHT3C502402S
3PH, 4W + GND (Hi-Leg)	120/240 Vac	OVRHT3C502403H
3PH, 4W + GND (Wye)	120/208 Vac	OVRHT3C501203Y
	220/380 Vac	OVRHT3C502203Y
	230/400 Vac	OVRHT3C502303Y
	240/415 Vac	OVRHT3C502403Y
	277/480 Vac	OVRHT3C502773Y
	347/600 Vac	OVRHT3C503473Y
3PH, 3W + GND (Delta)	240 Vac	OVRHT3C502403D
	380 Vac	OVRHT3C503803D
	400 Vac	OVRHT3C504003D
	480 Vac	OVRHT3C504803D
	600 Vac	OVRHT3C506003D

Earthing Systems	Voltage	Part number
1PH, 2W + GND (TNC)	230 Vac	OVRHT3B501201P
1PH, 2W + GND (TNS)	230 Vac	OVRHT3B502773Y
1PH, 2W + GND (IT)	230 Vac	OVRHT3B503473Y
1PH, 2W + GND (TT)	230 Vac	OVRHT3B506003D

Electrical characteristics	
Nominal discharge current rating (I-n)	10kA
Operating frequency	47 ... 63Hz
Connection method	Parallel to load (with breaker)
Modes of protection	Model dependent
Fault rating (SCCR)	100kAIC
Response time	< 1 ns
Standard monitoring	Status indicator lights
Mechanical characteristics	
Weight	0.23 kg (0.5 lbs.)
Enclosure type	NEMA 4X non-metallic.
Installation location	Indoor / Outdoor
Mounting method	12.7mm (1/2in) - 14 NPT thread
Operating temperature	-35° to +80°C (-31° to +176°F)
Altitude	Up to 5000 m (16,400 ft.)
Product design	Individual therm. fused MOVs
Regulations & certifications	
UL 1449 4th edition	Type 1
UL 96A	Yes
IEEE C62.41.1, .2, C62.45	Yes
Listed by	UL

OVRH series

OVRHS3U (400A and below, 40 kA)

Product Features

- Listed to UL1449 4th Edition for Type 1 or Type 2 SPD applications
- Individual fusing for each Metal Oxide Varistors (MOVs)
- LED indicating proper functioning of L-N and N-G MOVs
- Pre-wired with 18in (450 mm) cables #14AWG (2mm²)
- 1 year standard warranty

c UL us LISTED RoHS Compliant

Network Type 1 SPD	Voltage	Part number
1PH, 2W + GND	120 Vac	OVRHS3U401201P
2PH, 3W + GND	120/240 Vac	OVRHS3U401202S
3PH, 4W + GND (Delta)	240V	OVRHS3U402403D
3PH, 4W + GND (Wye)	120/208 Vac	OVRHS3U401203Y
Network Type 2 SPD	**Voltage**	**Part number**
1PH, 2W + GND	240V	OVRHS3U402401P
2PH, 3W + GND*	120/240V	OVRHS3U801202SR
3PH, 3W + GND (Delta)	480V	OVRHS3U404803D
3PH, 4W + GND (Hi-Leg)	120/240V	OVRHS3U401203H
3PH, 4W + GND (Wye)	277/480V	OVRHS3U402773Y
3PH, 3W + GND (Wye)	230/400V	OVRHS3U402303Y

* 80kA unit including 1283 liste filter, dry contacts option not available

Option	Suffix
Dry relay contacts	5
Dry relay contacts + mounting bracket	P

Electrical characteristics	
Nominal discharge current rating (I-n)	20kA
Operating frequency	47 ... 63Hz
Connection method	Parallel to load
Modes of protection	All modes (L-N, L-G, N-G, LL)
Fault rating (SCCR)	100kAIC
Response time	< 1 ns
Standard monitoring	Status indicator light
Mechanical characteristics	
Weight	0.9 kg (2 lbs.)
Enclosure type	NEMA 1 non-metallic
Installation location	Indoor
Mounting method	12.7mm (1/2in) - 14 NPT thread
Operating temperature	-40° to +80°C (-40° to +176°F)
Altitude	Up to 5000 m (16,400 ft.)
Product design	Individually fused MOVs
Regulations & certifications	
UL 1449 4th edition	Type 1 and Type 2
UL 1283	Only for OVRHS3U802402SR
IEEE C62.41.1, .2, C62.45	Yes
Listed by	UL

OVRH series

OVRHLD (100A and below, 20...30 kA)

Product Features

- Listed by ETL to UL 1449 4th Edition for Type 1 SPD applications
- Multiple metal oxide varistors (MOVs), with individual current fusing and thermal disconnects for each MOV
- LED indicating proper functioning of L-N MOVs
- Pre-wired with 18in (450 mm) cables #14AWG (2mm²)
- 1 year warranty

Description	Part number
xxkA, yyyV, L-N / N-G (1 LED)	OVRHLDxx-yyy-1
xxkA, yyyV, L1-N / L2-N (2 LEDs)	OVRHLDxx-yyy-2
xxkA, yyyV, L1-G / L2-G (2 LEDs)	OVRHLDxx-yyy-3
xxkA, yyyV, L1-G / N-G (1 LED)	OVRHLDxx-yyy-4
xxkA, yyyV, L-N / L-G (2 LEDs)	OVRHLDxx-yyy-5
xxkA, yyyV, L-N (1 LED)	OVRHLDxx-yyy-6
xxkA, yyyV, L-G (1 LED)	OVRHLDxx-yyy-7
xxkA, yyyV, N-G (0 LED)	OVRHLDxx-yyy-8
xxkA, yyyV, L1-L2 (1 LED)	OVRHLDxx-yyy-9

Desired value	xx Code
20kA	20
25kA	25
30kA	30

Desired value	yyy Code
120V	120
127V	127
230V	230
277V	277

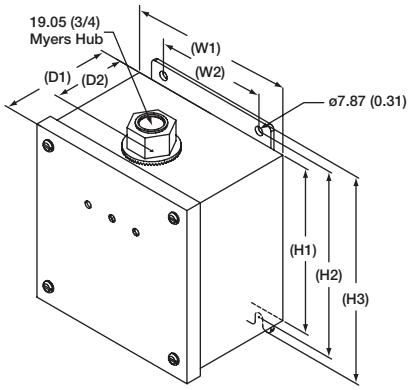
Option *	Suffix
Mounting bracket	6

* Add applicable suffix number to the end of part number

Electrical characteristics	
Nominal discharge current rating (I-n)	10kA
Operating frequency	47 ... 63Hz
Connection method	Parallel to load
Modes of protection	L-N, L-G, N-G
Fault rating (SCCR)	65kAIC
Response time	< 1 ns
Standard monitoring	Status indicator lights 1 per phase
Mechanical characteristics	
Weight	0.5 kg (1 lbs.)
Enclosure type	NEMA 1 non-metallic.
Installation location	Indoor
Mounting method	NPS thread or bracket
Operating temperature	-40° to +80°C (-40° to +176°F)
Altitude	Up to 5000 m (16,400 ft.)
Product design	Individually fused MOVs, Overcurrent fusing, thermal fusing
Regulations & certifications	
UL 1449 4th edition	Type 1
UL 1283	No
IEEE C62.41.1, .2, C62.45	Yes
Listed by	ETL

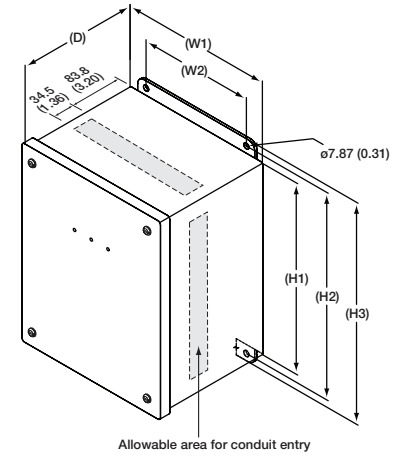
OVRH series
Dimensions

Dimensions OVRHSP (60 to 100kA)



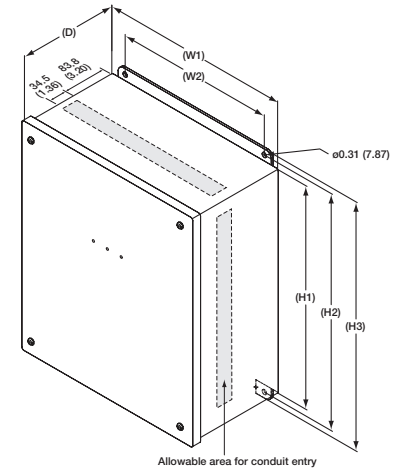
Value	Millimeters / inches
H1	152.4 / 6.00
H2	171.5 / 6.75
H3	190.5 / 7.50
W1	152.4 / 6.00
W2	101.6 / 4.00
D1	105.7 / 4.16
D2	50.8 / 2.00

Dimensions OVRHSP (120 to 160kA)



Value	Millimeters / inches
H1	254.0 / 10.00
H2	273.1 / 10.75
H3	292.1 / 11.50
W1	203.2 / 8.00
W2	152.4 / 6.00
D	157.5 / 6.20

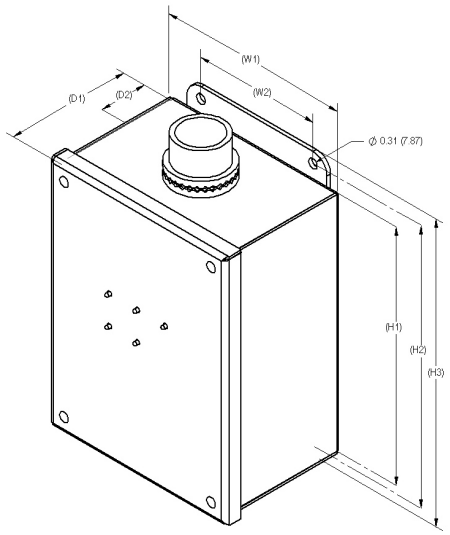
Dimensions

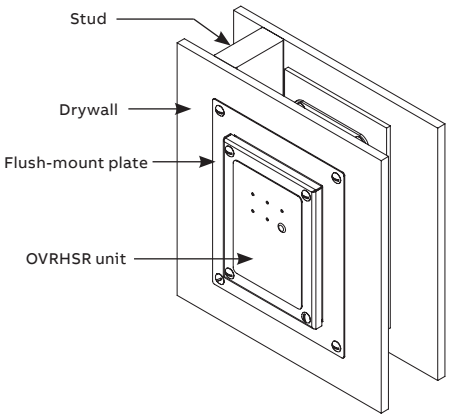


Value	Millimeters / inches
H1	355.6 / 14.00
H2	374.7 / 14.75
H3	393.7 / 15.50
W1	304.8 / 12.00
W2	254.0 / 10.00
D	157.5 / 6.20

OVRH series
Dimensions

Dimensions OVRHSR (120 to 160kA)

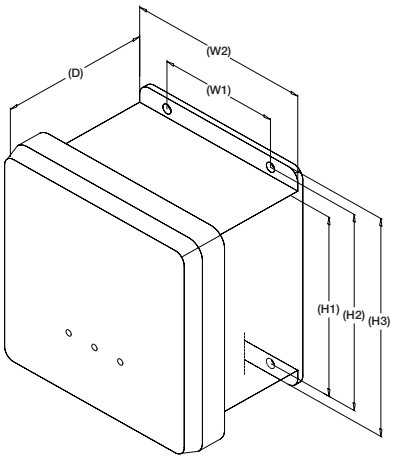




Value	Millimeters / inches
H1	254.0 / 10.00
H2	273.1 / 10.75
H3	292.1 / 11.50
W1	203.2 / 8.00
W2	152.4 / 6.00
D1	106.9 / 4.20
D2	50.8 / 2.00

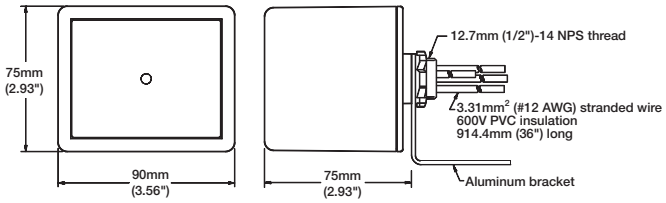
OVRH series
Dimensions

Dimensions OVRHTE



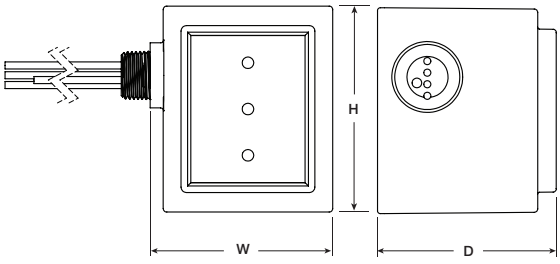
Value	Millimeters / inches
H1	156.7 / 6.17
H2	171.5 / 6.75
H3	190.4 / 7.50
W1	101.9 / 4.01
W2	155.4 / 6.12
D	127.5 / 5.01

Dimensions OVRHT3B



Value	Millimeters / inches
W	90.0 / 3.36
D	75.0 / 2.93
H	75.0 / 2.93

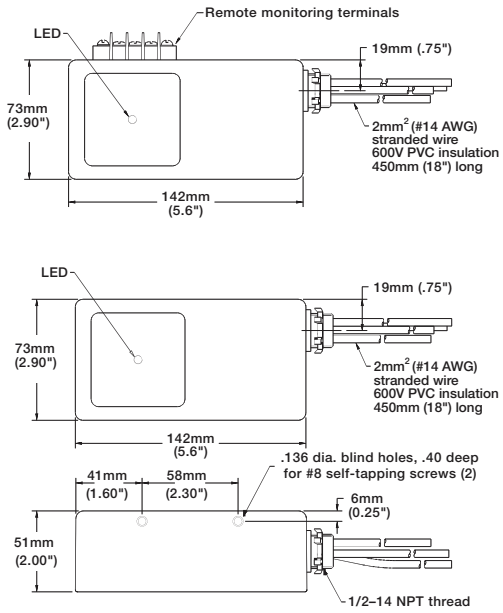
Dimensions OVRHT3C



Value	Millimeters / inches
W	80.8/ 3.18
D	78.7 / 3.10
H	90.4 / 3.56

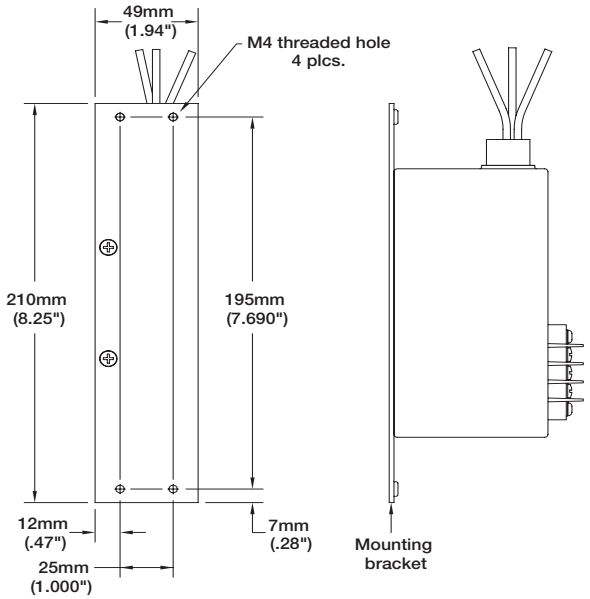
OVRH series
Dimensions

Dimensions OVRHS3U (with and without dry contacts option)



Value	Millimeters / inches
W	73.0 / 2.90
D	51.0 / 2.00
H	142.0 / 5.60

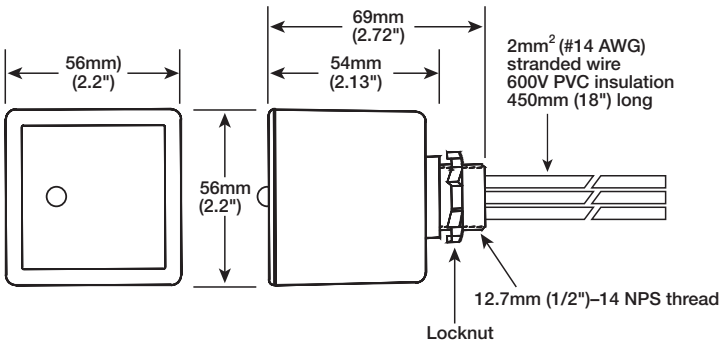
Dimensions mounting bracket OVRHS3U



Value	Millimeters / inches
W	49.0 / 1.94
H	210.0 / 8.25

OVRH series
Dimensions

Dimensions OVRHLD



Value	Millimeters / inches
W	56.0 / 2.20
D	54.0 / 2.13 69.0 / 2.72
H	56.0 / 2.20

Notes

OVRT series (DIN rail SPDs)

Protection and safety
UL 1449 4th edition

The Underwriters Laboratories (UL) standard for surge protective devices (SPDs) has been the primary safety standard for surge protection since the first edition was published in 1985, the fourth edition became mandatory for AC SPDs in March 2016.

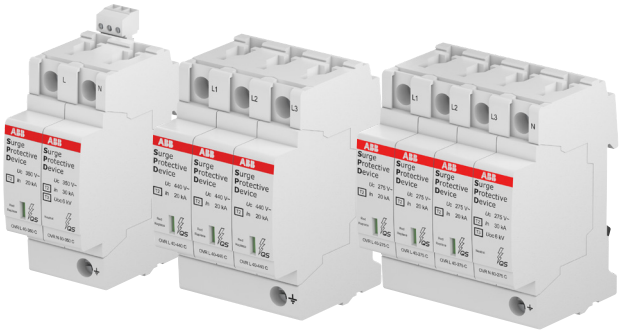
The objective of UL 1449 has always been to increase safety in terms of surge protection.

Change in the standard's name: From TVSS to SPDs
Prior to UL 1449 3rd Edition taking effect, the devices this standard covers were known as Transient Voltage Surge Suppressors (TVSS), operating on power circuits not exceeding 600 V. With the inception of the 3rd and 4th Edition, these devices are now known as Surge Protective Devices (SPDs), and may operate on power circuits not exceeding 1500 V DC.

This new designation moves the UL standard closer to the international designation and to IEC standards.

The different type designations of surge protective devices
The UL 1449 placed SPDs into five different Type categories based on installation location within an electrical system. While Type 1, Type 2 and Type 3 categories refer to different types of SPDs that can be installed at specific locations, Type 4 and Type 5 categories refer to components used in an SPDs configuration.

Type 1 – "Permanently connected SPDs intended for installation between the secondary of the service transformer and the line side of the service equipment overcurrent device."
Type 2 – "Permanently connected SPDs intended for installation on the load side of the service equipment overcurrent device."
Type 3 – "Point of utilization SPDs, installed at a minimum conductor length of 10 meters (30 feet) from the electrical service panel."
Type 4 - Component assemblies – "Component assembly consisting of one or more Type 5 components together with a disconnect (integral or external) or a means of complying with the limited current tests."
Type 1, 2, 3 - Component assemblies – "Consists of a Type 4 component assembly with internal or external short circuit protection."
Type 5 – "Discrete component surge suppressors, such as MOVs that may be mounted on a PWB, connected by its leads or provided within an enclosure with mounting means and wiring terminations."



The closer an SPD is installed to the equipment, the better the protection is. This is a push in the direction of providing stepped protection including external and internal surge protection.

The measured voltage protection level
The Measured Limiting Voltage (MLV) is the maximum magnitude of voltage measured at the application of a specific impulse wave shape.

When applying a certain surge current on the SPD the measured voltage at the device terminals is the so called "let-through voltage."

In UL 1449 2nd Edition, the let-through voltage was referred to as Suppressed Voltage Rating (SVR) and was calculated with a 0.5 kA surge wave form at 6 kV. The new designation is Voltage Protection Rating (VPR) and is calculated with a 3 kA surge wave form at 6 kV.

All products you will find in this chapter have been certified according to the UL 1449 4th Edition.

The MLV will allow comparison of different types of SPDs with regards to the let-through voltage. However, it is important to note that the surge current used to measure the let-through voltage is six times higher in the 3rd and 4th Edition than in the 2nd Edition. This means that, comparing the obsolete SVR designation with the new VPR ratings will not be valid, as VPR ratings will of course be higher than SVR ratings.

Protection and safety
OVRT2 series – Selection guide

Complete facility protection
Installing surge protection at the main distribution panel is only the beginning of protecting the entire operation. As most transient surges are created internally, it is necessary to install surge protection at sub-distribution panels (equipment protection) to be fully protected. Stepping down the Imax level from the service entrance panel toward equipment to be protected is recommended.
For example, if a 40 kA Imax SPD is installed in the main distribution panel, then 15 kA Imax SPDs should be installed in sub-distribution panels for equipment protection.

Coordination
It may be necessary to add a second surge protector, wired to the incoming unit, to achieve the required voltage protection and/or surge capacity. For Type 2 or 4 SPDs, installing this second unit a minimum of 1 m from the first unit will allow the two to work together, achieving the required protection.

Wiring rules
The impedance of the cables increases the voltage across the connected equipment. Therefore, the length of the cable between the surge protector and the equipment should be minimized.
The surge protective device should be installed as close to the equipment to be protected as possible. If this is not possible (the equipment is over 30 m from the panel), then a second surge protector must be installed.

Choosing the correct model

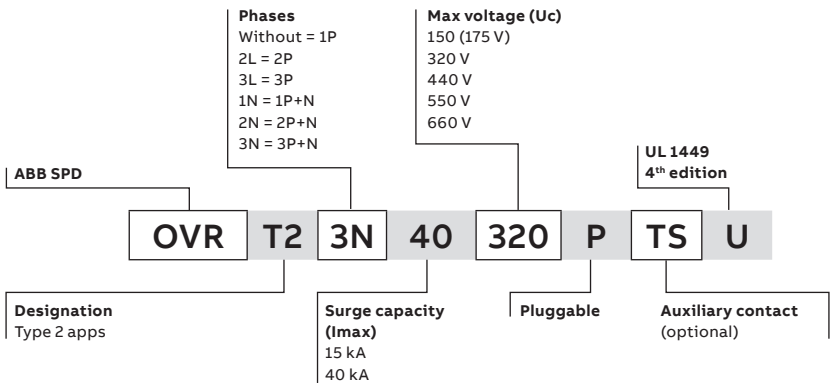
1) Determine the service voltage
Consult qualified personnel if the facility or operation service voltage is unknown.

2) Select the SPD maximum continuous operating voltage (MCOV, Uc)
The MCOV should correspond to the service voltage.
Example: If the service voltage is 480 V Delta, an SPD with 550 V or 660 V MCOV will be required.
Surge protection devices must also provide a level of protection compatible with the withstand voltage of the equipment. This withstand voltage depends on the type of equipment and its sensitivity. The incoming surge protector may not provide adequate protection by itself, as certain electrical phenomena may greatly increase its residual voltage if cable lengths exceed 10 m. A second SPD may be necessary.

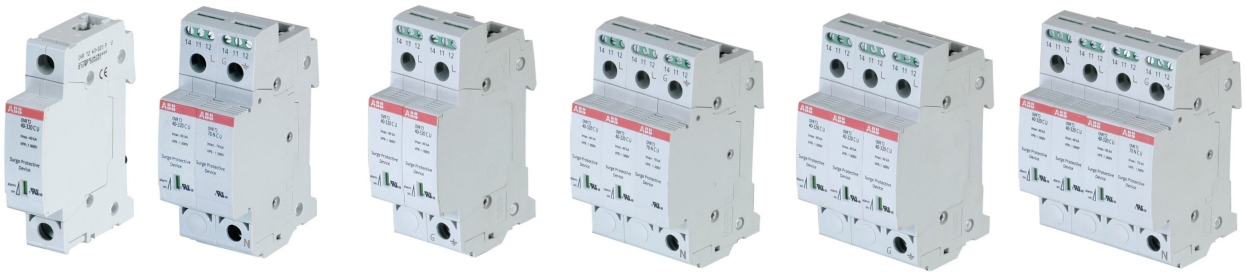
3) Select the SPD surge capacity (Imax)
Surge capacity is the amount of energy the SPD can withstand from a single surge event. The higher the surge capacity, the longer the device will protect the system. A second surge protector may be required if the surge capacity of the first is not capable of diverting all surge current to ground. See coordination below.

4) Remote monitoring (Optional)
Integrated auxiliary contact for remote monitoring available on models with "TS" designation.
Consult "Selection tables" on next page for help in the selection of SPDs.

OVR DIN rail SPD - Product type description



OVRT series
Product range overview



Name	**OVRT2**	**OVRT2 1N**	**OVRT2 2L**	**OVRT2 2N**	**OVRT2 3L**	**OVRT2 3N**
Nbr of poles	1p units	1p+N+Gnd	2p+Gnd	2p+N+Gnd	3p+Gnd	3p+N+Gnd
Network type	All networks	Single phase 2w+Gnd	Split phase 2w+Gnd	Split phase 3w+Gnd	Three phase 3w+Gnd	Three phase 4w+Gnd
SPD Type	Type 4 for Type 2	Type 4 for Type 2	Type 4 for Type 2	Type 4 for Type 2	Type 4 for Type 2	Type 4 for Type 2
Certifications	UL 1449 CSA C22.2 No. 269.4-14	UL 1449 CSA C22.2 No. 269.4-14	UL 1449 CSA C22.2 No. 269.4-14	UL 1449 CSA C22.2 No. 269.4-14	UL 1449 CSA C22.2 No. 269.4-14	UL 1449 CSA C22.2 No. 269.4-14
Marking	cURus, CE	cURus, CE	cURus, CE	cURus, CE	cURus, CE	cURus, CE
Surge Ratings	15 kA 40 kA	15 kA 40 kA	15 kA 40 kA	15 kA 40 kA	15 kA 40 kA	15 kA 40 kA
Voltage	Up to 600 Vac	Up to 347 Vac	120/240 Vac	120/240 Vac	Up to 480 Vac	Up to 347/600 Vac
End-of-life signal contact	Only on 40 kA units	Only on 40 kA units	Only on 40 kA units	Only on 40 kA units	Only on 40 kA units	Only on 40 kA units
Replaceable cartridge	Yes	Yes	Yes	Yes	Yes	Yes
SPD technology	MOV	MOV	MOV	MOV	MOV	MOV
Thermally protected	No, upstream protection needed	No, upstream protection needed	No, upstream protection needed	No, upstream protection needed	No, upstream protection needed	No, upstream protection needed

OVRT2 series
OVRT2 Single pole

Product Features

- Type 4 SPD, UL 1449 4th Edition for Type 2 applications
- Metal Oxide Varistors (MOV) technology
- Single pole design
- Replaceable and pluggable cartridges
- DIN rail mounted SPD
- State indication flag standard on all units
- End-of-life signal standard on 40 kA units

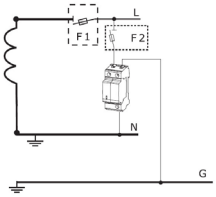
Network type	Voltage	MCOV	VPR	Max. disch.	Nominal Disch.	Part number	Repl. Cartridge
Pole to be connected between L-N, L-G or L-L	120 Vac	150 Vac	0.6 kV	15 kA	5 kA	OVRT215150PU	OVRT215150CU
				40 kA	20 kA	OVRT240150PU	OVRT240150CU
						OVRT240150PTSU	OVRT240150CU
	240...277 Vac	320 Vac	1.0 kV	15 kA	5 kA	OVRT215320PU	OVRT215320CU
				40 kA	20 kA	OVRT240320PTSU	OVRT240320CU
	347 Vac	440 Vac	1.3 kV	40 kA	20 kA	OVRT240440PTSU	OVRT240440CU
	480 Vac	550 Vac	1.7 kV	40 kA	20 kA	OVRT240550PTSU	OVRT240550CU
	600 Vac	660 Vac	1.9 kV	40 kA	20 kA	OVRT240660PTSU	OVRT240660CU
Neutral pole to be connected between N-G	230 Vac	255 Vac	1.2 kV	70 kA	20 kA	OVRT270NPU	OVRT270NCU

Electrical characteristics	
Operating frequency	(AC) 47...63Hz
Modes of protection	L-N, L-G, N-G or L-L
Fault rating (SCCR)	200kAIC - Upstream protection required (breaker / fuse)
Response time	< 25 ns
Standard monitoring	Cartridge state indicator flag.
Mechanical characteristics	
Weight	120 g (0.25 lbs.)
Housing material	Thermo-plastic, Grey RAL 7035 / V0
Installation location	Type 1, indoor
Mounting method	DIN Rail
Operating temperature	-40° to +80°C (-40° to +175°F)
Wire range (stranded / solid)	#6...14 / #4...14 AWG
Product design	MOV technology

OVRT2 series
OVRT2 1N

Product Features

- Type 4 SPD, UL 1449 4th Edition for Type 2 applications
- Metal Oxide Varistors (MOV) technology
- 1p+N+Gnd complete design
- Replaceable and pluggable cartridges
- DIN rail mounted SPD
- State indication flag standard on all units
- End-of-life signal standard on 40 kA units

Network type	Voltage	MCOV	VPR	Max. disch.	Nominal Disch.	Part number	Repl. Cartridge
Single phase 2w+Gnd 	120 Vac	175 Vac	1.2 kV	15 kA	5 kA	OVRT21N15150PU	OVRT215150CU
				40 kA	20 kA	OVRT21N40150PU	OVRT240150CU
						OVRT21N40150PTSU	OVRT240150CU
	240...277 Vac	320 Vac	1.2 kV	15 kA	5 kA	OVRT21N15320PU	OVRT215320CU
				40 kA	20 kA	OVRT21N40320PTSU	OVRT240320CU
	347 Vac	440 Vac	1.2 kV	40 kA	10 kA	OVRT21N40440PTSU	OVRT240440CU
	480 Vac	550 Vac	1.2 kV	40 kA	10 kA	OVRT21N40550PTSU	OVRT240550CU
	600 Vac	660 Vac	1.2 kV	40 kA	10 kA	OVRT21N40660PTSU	OVRT240660CU
Neutral pole	230 Vac	255 Vac	1.2 kV	70 kA	20 kA	-	OVRT270NCU

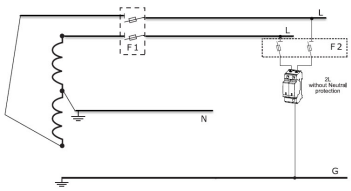
Electrical characteristics	
Operating frequency	50...60Hz
Modes of protection	L-N and N-G
Fault rating (SCCR)	200kAIC - Upstream protection required (breaker / fuse)
Response time	< 25 ns
Standard monitoring	Cartridge state indicator flag.

Mechanical characteristics	
Weight	240 g (0.53 lbs.)
Housing material	Thermo-plastic, Grey RAL 7035 / V0
Installation location	Type 1, indoor
Mounting method	DIN Rail
Operating temperature	-40° to +80°C (-40° to +175°F)
Wire range (stranded / solid)	#6...14 / #4...14 AWG
Product design	MOV technology

OVRT2 series
OVRT2 2L

Product Features

- Type 4 SPD, UL 1449 4th Edition for Type 2 applications
- Metal Oxide Varistors (MOV) technology
- 2p+Gnd complete design
- Replaceable and pluggable cartridges
- DIN rail mounted SPD
- State indication flag standard on all units
- End-of-life signal standard on 40 kA units

Network type	Voltage	MCOV	VPR	Max. disch.	Nominal Disch.	Part number	Repl. Cartridge
Split phase 2w+Gnd 	120 Vac	175 Vac	0.6 kV	15 kA	5 kA	OVRT22L15150PU	OVRT215150CU
				40 kA	20 kA	OVRT2240150PTSU	OVRT240150CU
	277 Vac	320 Vac	1.0 kV	15 kA	5 kA	OVRT22L15320PU	OVRT215320CU
				40kA	20 kA	OVRT22L40320PTSU	OVRT240320CU

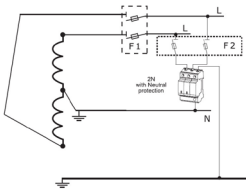
Electrical characteristics	
Operating frequency	50...60Hz
Modes of protection	L-L and L-G
Fault rating (SCCR)	200kAIC - Upstream protection required (breaker / fuse)
Response time	< 25 ns
Standard monitoring	Cartridge state indicator flag.

Mechanical characteristics	
Weight	240 g (0.53 lbs.)
Housing material	Thermo-plastic, Grey RAL 7035 / V0
Installation location	Type 1, indoor
Mounting method	DIN Rail
Operating temperature	-40° to +80°C (-40° to +175°F)
Wire range (stranded / solid)	#6...14 / #4...14 AWG
Product design	MOV technology

OVRT2 series
OVRT2 2N

Product Features

- Type 4 SPD, UL 1449 4th Edition for Type 2 applications
- Metal Oxide Varistors (MOV) technology
- 2p+N+Gnd complete design
- Replaceable and pluggable cartridges
- DIN rail mounted SPD
- State indication flag standard on all units
- End-of-life signal standard on 40 kA units

Network type	Voltage	MCOV	VPR	Max. disch.	Nominal Disch.	Part number	Repl. Cartridge
Split phase 2w+N+Gnd 	120 Vac	175 Vac	0.7 kV	15 kA	5 kA	OVRT22N15150PU	OVRT215150CU
			0.6 kV	40 kA	20 kA	OVRT22N40150PTSU	OVRT240150CU
	277 Vac	320 Vac	0.7 kV	15 kA	5 kA	OVRT22N15320PU	OVRT215320CU
			1.1 kV	40 kA	20 kA	OVRT22N40320PTSU	OVRT240320CU
	347 Vac	440 Vac	1.4 kV	40 kA	10 kA	OVRT22N40440PTSU	OVRT240440CU
	480 Vac	550 Vac	1.8 kV	40 kA	10 kA	OVRT22N40550PTSU	OVRT240550CU
	600 Vac	660 Vac	2.0 kV	40 kA	10 kA	OVRT22N40660PTSU	OVRT240660CU
Neutral pole	230 Vac	255 Vac	1.2 kV	70 kA	20 kA	-	OVRT270NCU

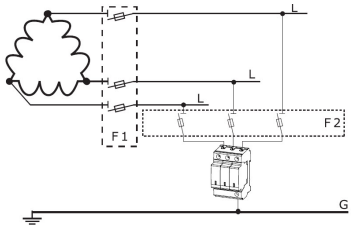
Electrical characteristics	
Operating frequency	50...60Hz
Modes of protection	L-L, L-N , N-G and L-G
Fault rating (SCCR)	200kAIC - Upstream protection required (breaker / fuse)
Response time	< 25 ns
Standard monitoring	Cartridge state indicator flag.

Mechanical characteristics	
Weight	360 g (0.80 lbs.)
Housing material	Thermo-plastic, Grey RAL 7035 / V0
Installation location	Type 1, indoor
Mounting method	DIN Rail
Operating temperature	-40° to +80°C (-40° to +175°F)
Wire range (stranded / solid)	#6...14 / #4...14 AWG
Product design	MOV technology

OVRT2 series
OVRT2 3L

Product Features

- Type 4 SPD, UL 1449 4th Edition for Type 2 applications
- Metal Oxide Varistors (MOV) technology
- 3p+Gnd complete design
- Replaceable and pluggable cartridges
- DIN rail mounted SPD
- State indication flag standard on all units
- End-of-life signal standard on 40 kA units

Network type	Voltage	MCOV	VPR	Max. disch.	Nominal Disch.	Part number	Repl. Cartridge
	120 Vac	175 Vac	0.6 kV	15 kA	5 kA	OVRT23L15150PU	OVRT215150CU
				40 kA	20 kA	OVRT23L40150PTSU	OVRT240150CU
	277 Vac	320 Vac	1.0 kV	15 kA	5 kA	OVRT23L15320PU	OVRT215320CU
				40 kA	20 kA	OVRT23L40320PTSU	OVRT240320CU
	347 Vac	440 Vac	1.3 kV	40 kA	10 kA	OVRT23L40440PTSU	OVRT240320CU
	480 Vac	550 Vac	1.7 kV	40 kA	10 kA	OVRT23L40550PTSU	OVRT240550CU

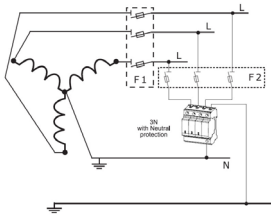
Electrical characteristics	
Operating frequency	50...60Hz
Modes of protection	L-L and L-G
Fault rating (SCCR)	200kAIC - Upstream protection required (breaker / fuse)
Response time	< 25 ns
Standard monitoring	Cartridge state indicator flag.

Mechanical characteristics	
Weight	360 g (0.80 lbs.)
Housing material	Thermo-plastic, Grey RAL 7035 / V0
Installation location	Type 1, indoor
Mounting method	DIN Rail
Operating temperature	-40° to +80°C (-40° to +175°F)
Wire range (stranded / solid)	#6...14 / #4...14 AWG
Product design	MOV technology

OVRT2 series
OVRT2 3N

Product Features

- Type 4 SPD, UL 1449 4th Edition for Type 2 applications
- Metal Oxide Varistors (MOV) technology
- 3p+N+Gnd complete design
- Replaceable and pluggable cartridges
- DIN rail mounted SPD
- State indication flag standard on all units
- End-of-life signal standard on 40 kA units

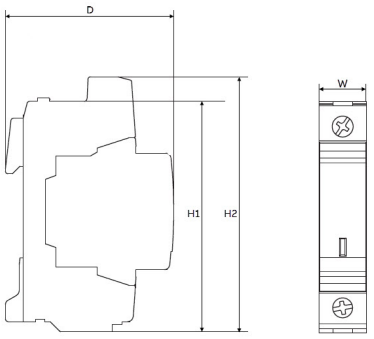
Network type	Voltage	MCOV	VPR	Max. disch.	Nominal Disch.	Part number	Repl. Cartridge
Three phase 4w+Gnd 	120 Vac	175 Vac	0.6 kV	15 kA	5 kA	OVRT23NN15150PU	OVRT215150CU
			1.2 kV	40 kA	20 kA	OVRT23N40150PTSU	OVRT240150CU
	277 Vac	320 Vac	1.2 kV	15 kA	5 kA	OVRT23N15320PU	OVRT215320CU
				40 kA	20 kA	OVRT23N40320PTSU	OVRT240320CU
	347 Vac	440 Vac	1.2 kV	40 kA	10 kA	OVRT23N40440PTSU	OVRT240440CU
	480 Vac	550 Vac	1.2 kV	40 kA	10 kA	OVRT23N40550PTSU	OVRT240550CU
	600 Vac	660 Vac	1.2 kV	40 kA	10 kA	OVRT23N40660PTSU	OVRT240660CU
Neutral pole	230 Vac	255 Vac	1.2 kV	70 kA	20 kA	-	OVRT270NCU

Electrical characteristics	
Operating frequency	50...60Hz
Modes of protection	L-L and L-G
Fault rating (SCCR)	200kAIC - Upstream protection required (breaker / fuse)
Response time	< 25 ns
Standard monitoring	Cartridge state indicator flag.

Mechanical characteristics	
Weight	480 g (1.05 lbs.)
Housing material	Thermo-plastic, Grey RAL 7035 / V0
Installation location	Type 1, indoor
Mounting method	DIN Rail
Operating temperature	-40° to +80°C (-40° to +175°F)
Wire range (stranded / solid)	#6...14 / #4...14 AWG
Product design	MOV technology

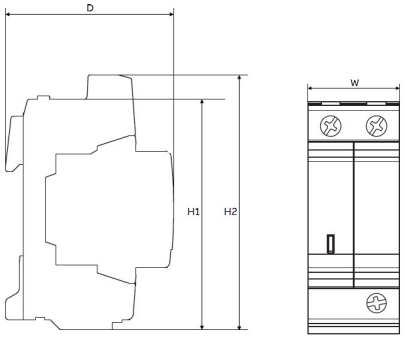
OVRT2 series
Dimensions

Dimensions OVRT2



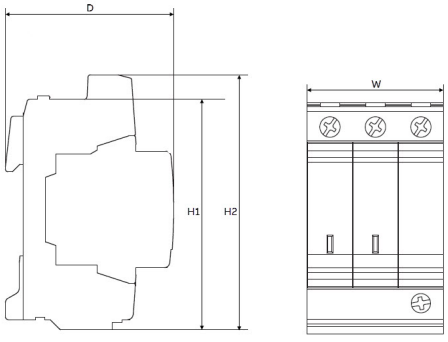
Value	Millimeters / inches
W	17.8 / 0.70
D	64.8 / 2.55
H1 (without TS option)	85.0 / 3.35
H2 (with TS option)	98.5 / 3.88

Dimensions OVRT2 1N, OVRT2 2L



Value	Millimeters / inches
W	35.6 / 1.40
D	64.8 / 2.55
H1 (without TS option)	85.0 / 3.35
H2 (with TS option)	98.5 / 3.88

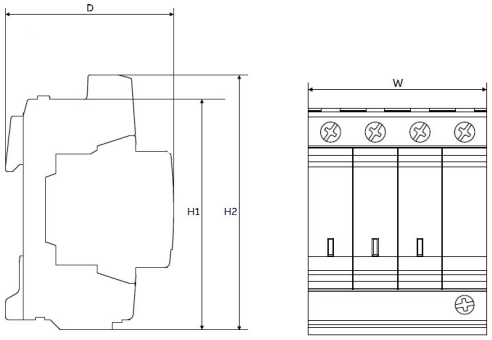
Dimensions OVRT2 2N, OVRT2 3L



Value	Millimeters / inches
W	53.4 / 2.10
D	64.8 / 2.55
H1 (without TS option)	85.0 / 3.35
H2 (with TS option)	98.5 / 3.88

OVRT2 series
Dimensions

Dimensions OVRT2 3N



Value	Millimeters / inches
W	71.2 / 2.80
D	64.8 / 2.55
H1 (without TS option)	85.0 / 3.35
H2 (with TS option)	98.5 / 3.88

Notes

ABB - Campus Montréal
800 Hymus Boulevard
St-Laurent, Qc Canada
H4S 0B5

abb.com/low-voltage

1SXP430001C0203, May 2019