Your Source for Automation Components

DIN Rail Surge Protection Devices, SPD

Prosurge's SP series surge arrester is UL1449-4th addition approved SPD especially designed for low-voltage power supply system surge protection at especially for point of entry (Category C,D, ANSI/IEEE C62.41) and sub-circuit (Category B, ANSI/IEEE C62.41) protection. It is a DIN-rail designed surge protective device featuring Prosurge's global patented protected TPAE technology design, providing fast and reliable protection for various power supply systems. Modules feature a special thermally protected MOV with arc-extinguish device, additional window fault indication and optional remote alarm contact, it can monitor the operating status of the surge protector. The SP series has a very high short circuit current rating of 200kArms, which eliminates the requirement for additional overcurrent protection devices.

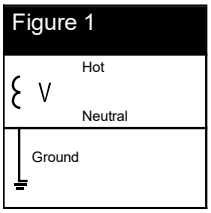
Applications:

- Power Supplies
- Telecom
- Industrial Automation
- Railway Systems
- Photovoltaic (PV) Systems
- UPS Systems
- Electricity
- Electrical Vehicle Charging Station
- Water Treatment Systems
- Motor Control And Starter Systems
- AC/DC Distribution
- Programmable Logic Controller (PLC)
- Power Transfer Equipments
- HVAC Applications
- IT / Data Centers
- Applications-AC/DC Drives, LT Panels, MCC, PCC, CNC Machines, PLC Etc.
- Medical Equipments
- Security Systems

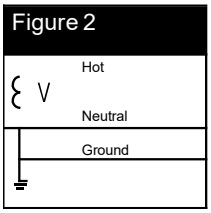
Features:

- UL recognized, Type1CA per UL1449 4th, Type2CA per CSA Electrical Certification Notice 516/CSA C22.2 No. 8 13, UL E319871
- Built-in Thermally Protected High Energy MOV Technology (Patented SMTMOV Technology)
- High Surge Energy Capability, up to 50kA 8/20μs per mode.
- Low Voltage Protection Level
- Din-Rail Mountable For Easy Installation
- Degradation Failure Indication
- Fail-Safe, Self-Protected Design, Short circuit rating up to 200kArms.
- Pluggable Module For Easy Replacement
- No Additional Over-Current Protection Devices Required
- Meets Both Standards of UL1449-4th Edition and IEC61643-11:2011

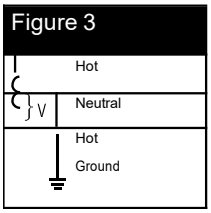
Power system graph:



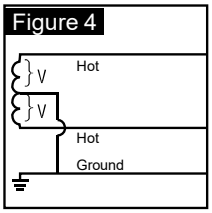
SINGLE POLE
1 HOT, 1 Neu/Gmd



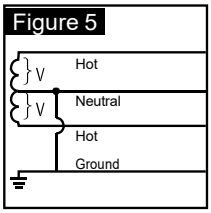
SINGLE POLE
1 HOT, 1 Neu, 1 Gmd



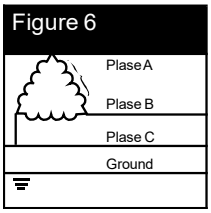
SPLIT
2 HOT, 1 Neu/Gmd



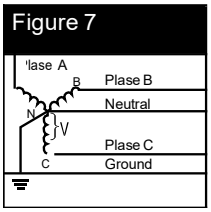
SPLIT
2 HOT, 1 Gmd



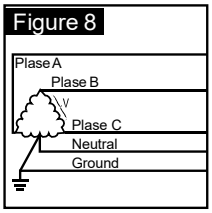
SPLIT
2 HOT, 1 Neu, 1 Gmd



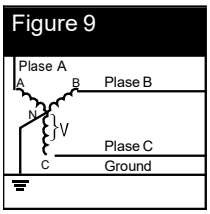
DELTA & HRG WYE
3 HOT,1 Gmd



WYE
3 HOT,1 Neu, 1 Gmd



HI-LEG DELTA(B High)
3 HOT,(B HIGH),
1 Neu, 1 Gmd



WYE
3 HOT, 1 Gmd

Figure1:120V, 127V, 220V, 230V, 240V, 277V, 347V… Single-phase, two-wire

Figure2: 120V, 127V 220V, 230V, 240V, 277V, 347V… Single-phase, two-wire + ground

Figure3: 120/240V, 240/480V… Split-phase, three-wire

Figure4: 120/240V, 240/480V… Split-phase, Two-wire + ground

Figure5: 120/240V, 240/480V… Split-phase, three-wire + ground

Figure6: 240V, 480V, 600V… Three-phase, DELTA, three-wire + ground

Figure7: 220Y/127V, 380Y/220V, 400Y/230V, 480Y/277V, 600Y/347V…. Three-phase WYE (star), four-wire + ground

Figure8: 240H/120V, 480H/240V… Three-phase, High-leg DELTA , three-wire + ground

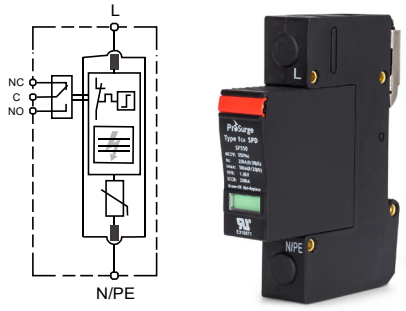
Figure9: 220Y/127V, 380Y/220V, 400Y/230V, 480Y/277V, 600Y/347V…. Three-phase WYE (star), three-wire + ground

General Product Specifications

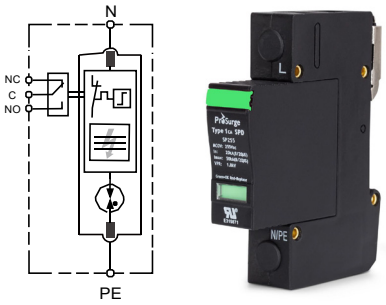
Model	SP series
SPD category	Type1ca per UL1449 4th Type 2ca per UL1449 4th &CSA
Connection Type	Parallel Connected
Power frequency	50-60 Hz
Nominal discharge current(8/20) In	20 kA
Maximum discharge current(8/20) Imax	50 kA*
Short-Circuit Current Rating	200 kArms
Follow current	MOV model: Nil; GDT model: 200A self cutoff
Thermal disconnector	Internal: green - normal ; red - failure
Wire Range	6-12AWG Solid / Stranded CU
Mounting	35mm DIN-Rail
Degree of Protection	IP 20
Flammability	UL94 V0
Operating & Storage Temperature	– 40℃ to + 85℃
Remote alarm contact	NO/NC/C, Isolated Form C
Remote alarm contact capability Un/In	AC: 250V/0.5A DC: 250V/0.1A; 75V/0.5A
Remote alarm contact connecting wire	Max. # 16AWG

◆ **SPD models using for Single-phase two-wire system:**

Part No (Type1ca)	Part No (Type2ca)	Pole	Nominal Voltage	Maximum Continuous Operating Voltage, MCOV	Voltage Protection Rating, VPR
			(VAC)	(VAC)	(kV)
SP150(-S)	SP150C(-S)	1	120V	150	0.7
SP180(-S)	SP150C(-S)	1	120~127V	180	1.0
SP275A(-S)	SP275AC(-S)	1	220~230V	275	1.0
SP320(-S)	SP320C(-S)	1	240~277V	320	1.2
SP385(-S)	SP385C(-S)	1	240~277V	385	1.5
SP420(-S)	SP420C(-S)	1	277~347V	420	1.5
SP550(-S)	SP550C(-S)	1	~480V	550	1.8
SP690(-S)	SP690C(-S)	1	~600V	690	2.5
SP150T(-S)	SP150TC(-S)	NPE model	150V	150	0.9
SP255T(-S)	SP255TC(-S)	NPE model	255V	255	0.9



Single-phase, two-wire (MOV Module)

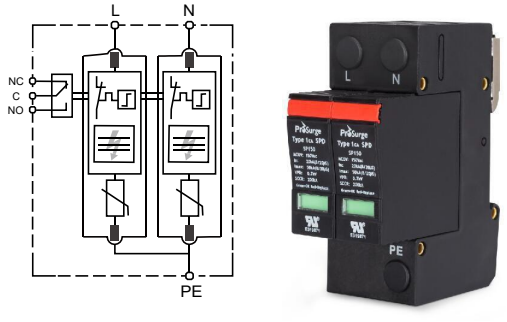


N-PE (GDT module)

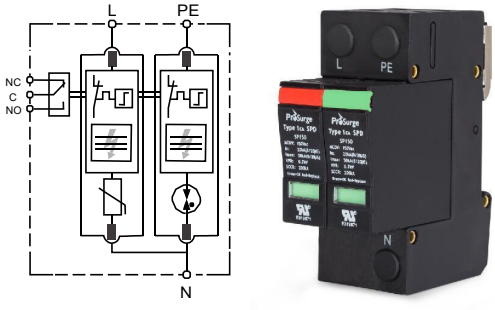
◆ **SPD models using for Single-phase two-wire + ground system:**

Part No (Type1ca)	Part No (Type2ca)	Pole	Nominal Voltage	Maximum Continuous Operating Voltage, MCOV (VAC)			Voltage Protection Rating, VPR (kV)		
			(VAC)	L-N	L-G	N-G	L-N	L-G	N-G
SP150/2P(-S)	SP150C/2P(-S)	2	120V	-	150	150	-	0.7	0.7
SP150/PN(-S)	SP150C/PN(-S)	2		150	-	150*	0.7	-	0.9
SP180/2P(-S)	SP180C/2P(-S)	2	120~127V	-	180	180	-	1.0	1.0
SP180/PN(-S)	SP180C/PN(-S)	2		180	-	150*	1.0	-	0.9
SP275A/2P(-S)	SP275AC/2P(-S)	2	220~230V	-	275	275	-	1.0	1.0
SP275A/PN(-S)	SP275AC/PN(-S)	2		275	-	255*	1.0	-	0.9
SP320/2P(-S)	SP320C/2P(-S)	2	240~277V	-	320	320	-	1.2	1.2
SP320/PN(-S)	SP320C/PN(-S)	2		320	-	255*	1.2	-	0.9
SP385/2P(-S)	SP385C/2P(-S)	2	240~277V	-	385	385	-	1.5	1.5
SP385/PN(-S)	SP385C/PN(-S)	2		385	-	255*	1.5	-	0.9
SP420/2P(-S)	SP420C/2P(-S)	2	277~347V	-	420	420	-	1.5	1.5
SP420/PN(-S)	SP420C/PN(-S)	2		420	-	255*	1.5	-	0.9
SP550/2P(-S)	SP550C/2P(-S)	2	~480V	-	550	550	-	1.8	1.8
SP690/2P(-S)	SP690C/2P(-S)	2	~600V	-	690	690	-	2.5	2.5

✧ **PN : GDT Module is used for N-PE pole**



Single-phase, two-wire + ground (2+0)



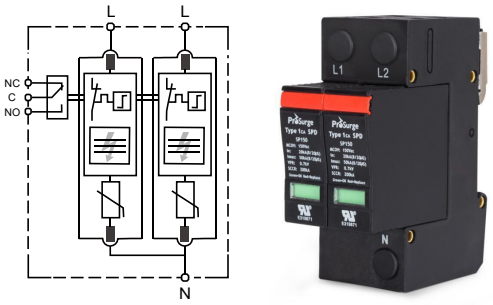
Single-phase, two-wire + ground (1+1)

Your Source for Automation Components

DIN Rail Surge Protection Devices, SPD

◆ **SPD models using for Split-phase three-wire system: (NEW)**

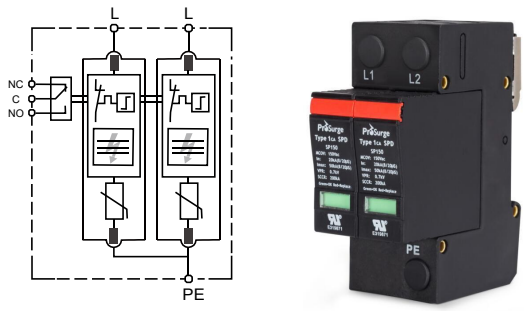
Part No (Type1ca)	Part No (Type2ca)	Pole	Nominal Voltage	Maximum Continuous Operating Voltage, MCOV (VAC)			Voltage Protection Rating, VPR (kV)		
			(VAC)	L-N	L-G	N-G	L-N	L-G	N-G
SP150/2SPN(-S)	SP150C/2SPN(-S)	2	120/240V	150	-	-	0.7	-	-
SP180/2SPN(-S)	SP180C/2SPN(-S)	2	120/240V	180	-	-	1.0	-	-
SP320/2SPN(-S)	SP320C/2SPN(-S)	2	240/480V	320	-	-	1.2	-	-



Split-phase, three-wire

◆ **SPD models using for Split-phase two-wire + ground system: (NEW)**

Part No (Type1ca)	Part No (Type2ca)	Pole	Nominal Voltage	Maximum Continuous Operating Voltage, MCOV (VAC)			Voltage Protection Rating, VPR (kV)		
			(VAC)	L-N	L-G	N-G	L-N	L-G	N-G
SP150/2SPG(-S)	SP150C/2SPG(-S)	2	120/240V	-	150	-	-	0.7	-
SP180/2SPG(-S)	SP180C/2SPG(-S)	2	120/240V	-	180	-	-	1.0	-
SP320/2SPG(-S)	SP320C/2SPG(-S)	2	240/480V	-	320	-	-	1.2	-



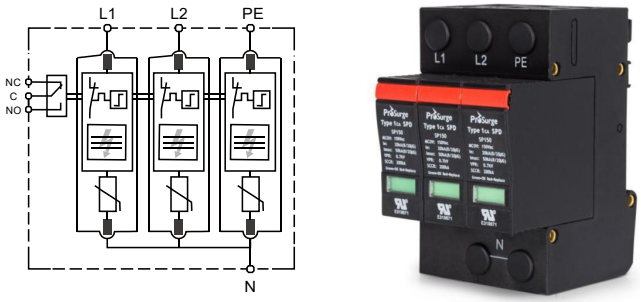
Split-phase, two-wire + ground

Your Source for Automation Components

DIN Rail Surge Protection Devices, SPD

◆ **SPD models using for Split-phase three-wire+ ground system (NEW)**

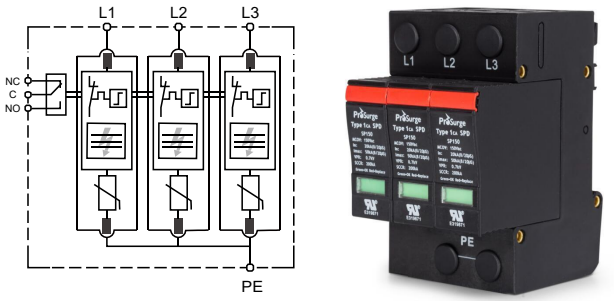
Part No (Type1ca)	Part No (Type2ca)	Pole	Nominal Voltage	Maximum Continuous Operating Voltage, MCOV (VAC)			Voltage Protection Rating, VPR (kV)		
			(VAC)	L-N	L-G	N-G	L-N	L-G	N-G
SP150/3SP(-S)	SP150C/3SP(-S)	3	120/240V	150	-	150	0.7	-	0.7
SP180/3SP(-S)	SP180C/3SP(-S)	3	120/240V	180	-	180	1.0	-	1.0
SP320/3SP(-S)	SP320C/3SP(-S)	3	240/480V	320	-	320	1.2	-	1.2



Split-phase, three-wire + ground

◆ **SPD models using for Three-phase delta three-wire + ground system (NEW)**

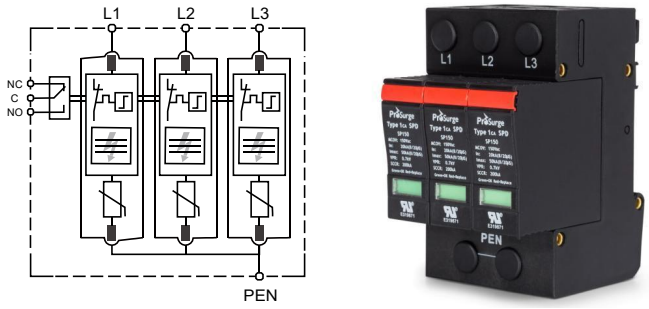
Part No (Type1ca)	Part No (Type2ca)	Pole	Nominal Voltage	Maximum Continuous Operating Voltage, MCOV (VAC)			Voltage Protection Rating, VPR (kV)		
			(VAC)	L-N	L-G	N-G	L-N	L-G	N-G
SP320/3D(-S)	SP320C/3D(-S)	3	240V	-	320	-	-	1.2	-
SP550/3D(-S)	SP550C/3D(-S)	3	480V	-	550	-	-	1.8	-
SP690/3D(-S)	SP690C/3D(-S)	3	600V	-	690	-	-	2.5	-



Three-phase delta, three-wire + ground

◆ **SPD models using for Three-phase WYE three-wire + ground system**

Part No (Type1ca)	Part No (Type2ca)	Pole	Nominal Voltage	Maximum Continuous Operating Voltage, MCOV (VAC)			Voltage Protection Rating, VPR (kV)		
			(VAC)	L-N	L-G	N-G	L-N	L-G	N-G
SP150/3P(-S)	SP150C/3P(-S)	3	208Y/120V	-	150	-	-	0.7	-
SP180/3P(-S)	SP180C/3P(-S)	3	220Y/127V	-	180	-	-	1.0	-
SP275A/3P(-S)	SP275AC/3P(-S)	3	380Y/220V 400Y/230V	-	275	-	-	1.0	-
SP320/3P(-S)	SP320C/3P(-S)	3	415Y/240V 480Y/277V	-	320	-	-	1.2	-
SP385/3P(-S)	SP385C/3P(-S)	3	415Y/240V 480Y/277V	-	385	-	-	1.5	-
SP420/3P(-S)	SP420C/3P(-S)	3	600Y/347V	-	420	-	-	1.5	-
SP550/3P(-S)	SP550C/3P(-S)	3		-	550	-	-	1.8	-
SP690/3P(-S)	SP690C/3P(-S)	3		-	690	-	-	2.5	-

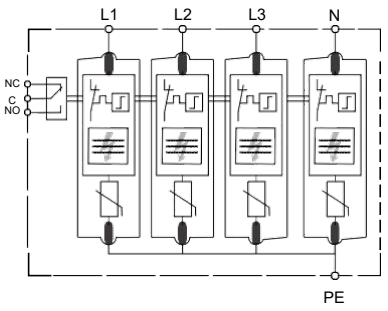


Three-phase WYE, three-wire + ground

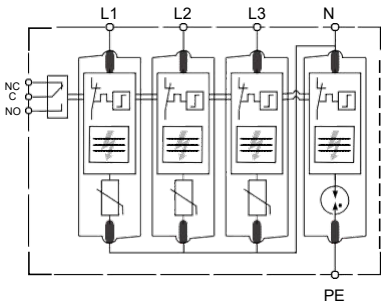
◆ **SPD models using for Three-phase WYE(star) four-wire +ground system:**

Part No (Type1ca)	Part No (Type2ca)	Pole	Nominal Voltage	Maximum Continuous Operating Voltage, MCOV (VAC)			Voltage Protection Rating, VPR (kV)		
			(VAC)	L-N	L-G	N-G	L-N	L-G	N-G
SP150/4P(-S)	SP150C/4P(-S)	4	208Y/120V	-	150	150	-	0.7	0.7
SP150/3PN(-S)	SP150C/3PN(-S)	4		150	-	150*	0.7	-	0.9
SP180/4P(-S)	SP180C/4P(-S)	4	220Y/127V	-	180	180	-	1.0	1.0
SP180/3PN(-S)	SP180C/3PN(-S)	4		180	-	150*	1.0	-	0.9
SP275A/4P(-S)	SP275AC/4P(-S)	4	380Y/220V 400Y/230V	-	275	275	-	1.0	1.0
SP275A/3PN(-S)	SP275AC/3PN(-S)	4		275	-	255*	1.0	-	0.9
SP320/4P(-S)	SP320C/4P(-S)	4	415Y/240V 480Y/277V	-	320	320	-	1.2	1.2
SP320/3PN(-S)	SP320C/3PN(-S)	4		320	-	255*	1.2	-	0.9
SP385/4P(-S)	SP385C/4P(-S)	4	415Y/240V 480Y/277V	-	385	385	-	1.5	1.5
SP385/3PN(-S)	SP385C/3PN(-S)	4		385	-	255*	1.5	-	0.9
SP420/4P(-S)	SP420C/4P(-S)	4	600Y/347V	-	420	420	-	1.5	1.5
SP420/3PN(-S)	SP420C/3PN(-S)	4		420	-	255*	1.5	-	0.9
SP550/4P(-S)	SP550C/4P(-S)			-	550	550	-	1.8	1.8
SP690/4P(-S)	SP690C/4P(-S)			-	690	690	-	2.5	2.5

✧ **PN : GDT Module for N-PE pole**



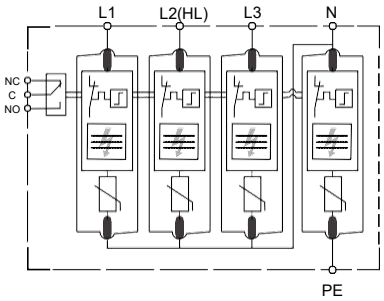
WYE Three-phase, Four--wire + ground (4+0)



WYE Three-phase, Four-wire + ground (3+1)

◆ **SPD models using for Three-phase High-Leg DELTA four-wire + ground system: (NEW)**

Part No (Type1ca)	Part No (Type2ca)	Pole	Nominal Voltage	Maximum Continuous Operating Voltage, MCOV (VAC)			Voltage Protection Rating, VPR (kV)		
			(VAC)	L-N	L-G	N-G	L-N	L-G	N-G
SP240/3H(-S)	SP240C/3H(-S)	4	240H/120V	150 320(HL)	-	150	0.7 1.2(HL)	-	0.7
SP480/3H(-S)	SP480C/3H(-S)	4	480H/240V	320 550(HL)	-	320	1.2 1.8(HL)	-	1.2



Three-phase High-Leg DELTA, four-wire + ground

Certification marking:

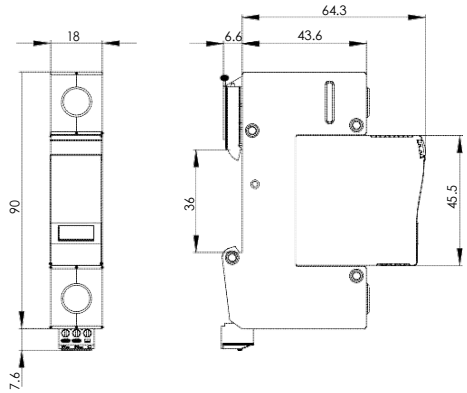
Type 1CA

Type 2CA

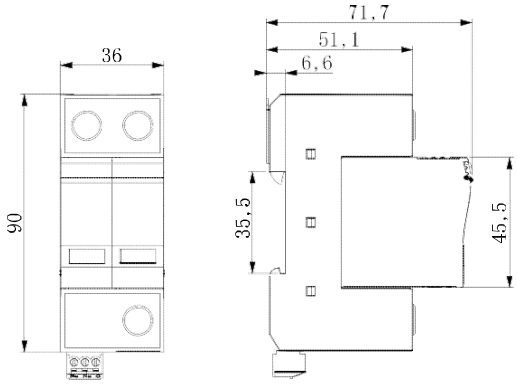
DIN Rail Surge Protection Devices, SPD

Your Source for Automation Components

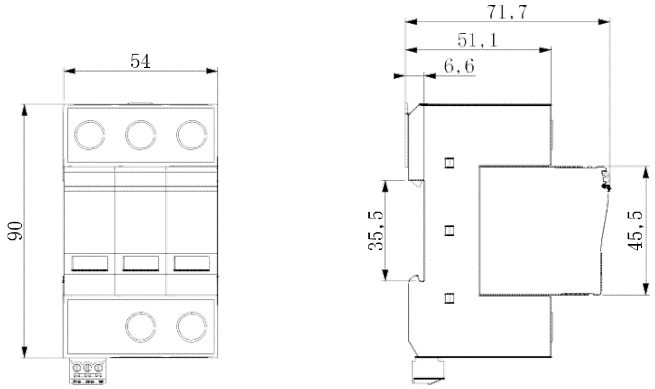
Dimensions:



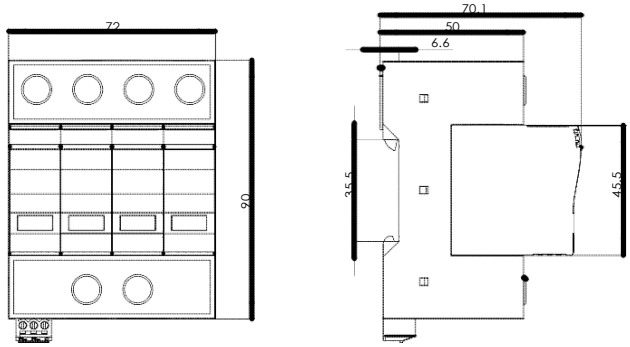
1Pole (18mm width)



2Pole (36mm width)



3Pole (54mm width)



4Pole (72mm width)

Window indicator & Remote signal

Red Mark & C-No connect	**Fault, need to be replaced**
Green Mark & C-Nc connect	OK