

Indelec



Surge Protection



Type 1 + 2 SPD

DGU 440

Designation

Part number

Electrical characteristics

Technology

Number of pole

Network nominal voltage

Neutral configuration

Max. AC operating system

Temporary Over Voltage (TOV)

Leakage current

Follow current

Impulse current by pole

Max. withstand 10/350 μ s

Nominal discharge current

15 x 8/20 μ s impulses

Max. discharge current

Max. withstand @ 8/20 μ s

Protection level (@In)

Admissible short-circuit current

U_C

U_T

I_{pe}

I_f

I_{imp}

I_n

I_{max} total

U_p

I_{sccr}

DGU 440

P8321H

MOV

One pole (1)

230/400 V

IT – TT - TN C1 mode

TT – TNS C2 mode with DE module for N/PE

440 Vac

580 Vac / 5 s

< 2 mA

None

25 kA

25 kA

140 kA

1,5 kV

50 000 A

Associated disconnectors

Thermal disconnector

Fuses

Installation ground fault breaker

internal

Fuses type gG – 315 A max.

Type "S" or delayed

Mechanical characteristics

Connection

Disconnection indicator

Remote signaling of disconnection

Mounting

Operating temperature

Ingress Protection

by screw : 6-35 mm² / by bus

mechanical indicator

output on changeover contact

DIN rail 35mm

-40°C / +85°C

IP20

Standards compliance

IEC 61 643-1 (international) Low voltage SPD – test class I and II

EN 61 643-11 (Europe) Low voltage SPD – test class I and II

NF EN 61 643-11 / UL1449 ed.4

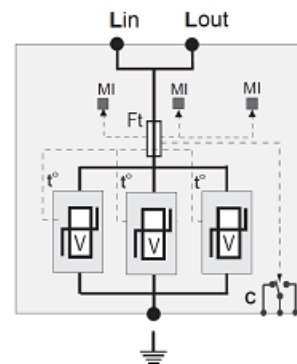
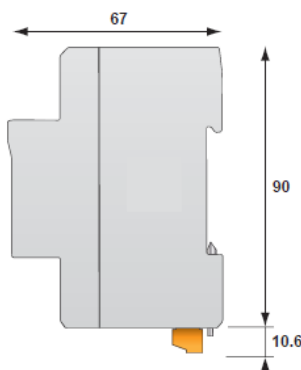
V : High energy MOV

MI : Disconnection indicator

Ft : Thermal fuse

t°: Thermal disconnection mechanism

C : Contact for remote signaling



Type 1 + 2 SPD

DGR 440

Designation

Part number

Electrical characteristics

Technology

Number of pole

Network nominal voltage

Neutral configuration

Max. AC operating system

Temporary Over Voltage (TOV)

Leakage current

Follow current

Impulse current by pole

Max. withstand 10/350 μ s

Nominal discharge current

15 x 8/20 μ s impulses

Max. discharge current

Max. withstand @ 8/20 μ s

Protection level (@In)

Admissible short-circuit current

U_C

U_T

I_{pe}

I_f

I_{imp}

I_n

I_{max} total

U_p

I_{sccr}

DGR 440

P8315H

MOV

One pole (1)

230/400 V

IT – TT – TN C1 mode

TT – TNS C2 mode with DE module for N/PE

440 Vac

580 Vac / 5 s

< 1 mA

None

15 kA

15 kA

100 kA

1.3 kV

100 000 A

Associated disconnectors

Thermal disconnector

Fuses

Installation ground fault breaker

internal

Fuses type gG – 315 A max.

Type "S" or delayed

Mechanical characteristics

Connection

Disconnection indicator

Remote signaling of disconnection

Mounting

Operating temperature

Ingress Protection

by screw : 6-35mm² / by bus

mechanical indicator

output on changeover contact

DIN rail 35mm

-40°C / +85°C

IP20

Standards compliance

IEC 61 643-1 (international) Low voltage SPD – test class I and II

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NF EN 61 643-11 / UL1449 ed.4

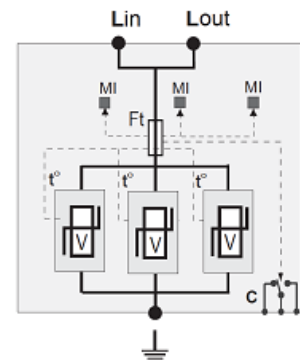
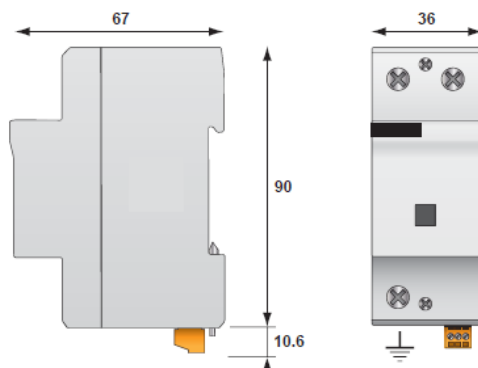
V : High energy MOV

MI : Disconnection indicator

Ft : Thermal fuse

t°: Thermal disconnection mechanism

C : Contact for remote signaling



Type 1 + 2 SPD DSU 440

Designation

DSU 440

Part number

P8331H

Electrical characteristics

Technology

MOV

Number of pole

One pole 1

Network nominal voltage

230/400 V

Neutral configuration

IT – TT - TN C1 mode

TT – TNS C2 mode with DE module for N/PE

Max. AC operating system

U_C 440 Vac

Temporary Over Voltage (TOV)

U_T 580 Vac / 5 s

Leakage current

I_{pe} < 1 mA

Follow current

I_f None

Impulse current by pole

I_{imp} 25 kA

Max. withstand 10/350 μ s

Nominal discharge current

I_n 25 kA

15 x 8/20 μ s impulses

Max. discharge current

I_{max} total 100 kA

Max. withstand @ 8/20 μ s

Protection level (@In)

U_p 1.5 kV

Admissible short-circuit current

I_{sccr} 25 000 A

Associated disconnectors

Thermal disconnector

internal

Fuses

Fuses type gG – 315 A max.

Installation ground fault breaker

Type "S" or delayed

Mechanical characteristics

Connection

by screw :4-25mm² / by bus

Disconnection indicator

mechanical indicator

Remote signaling of disconnection

output on changeover contact

Mounting

DIN rail 35mm

Operating temperature

-40°C /+85°C

Ingress Protection

IP20

Standards compliance

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NF EN 61 643-11 / UL1449 ed.4

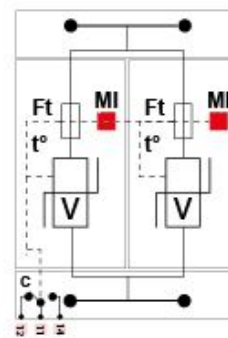
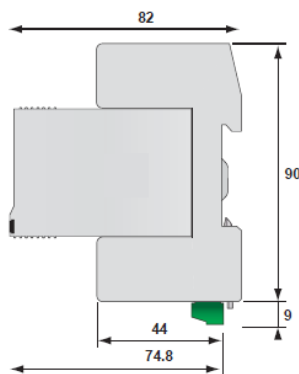
V : High energy MOV

MI : Disconnection indicator

Ft : Thermal fuse

t°: Thermal disconnection mechanism

C : Contact for remote signaling



Type 1 + 2 SPD

DSR 440

Designation

Part number

Electrical characteristics

Technology

Number of pole

Network nominal voltage

Neutral configuration

Max. AC operating system

Temporary Over Voltage (TOV)

Leakage current

Follow current

Impulse current by pole

Max. withstand 10/350µs

Nominal discharge current

15 x 8/20µs impulses

Max. discharge current

Max. withstand @ 8/20µs

Protection level (@In)

Admissible short-circuit current

U_C

U_T

I_{pe}

I_f

I_{imp}

I_n

I_{max} total

U_p

I_{scrr}

DSR 440

P8332H

MOV

One pole 1

230/400 V

IT – TT – TN C1 mode

TT – TNS C2 mode with DE module for N/PE

440 Vac

580 Vac / 5 s

< 1 mA

None

12.5 kA

12.5 kA

50 kA

1,3 kV

25 000 A

Associated disconnectors

Thermal disconnector

Fuses

Installation ground fault breaker

internal

Fuses type gG – 125 A max.

Type "S" or delayed

Mechanical characteristics

Connection

Disconnection indicator

Remote signaling of disconnection

Mounting

Operating temperature

Ingress Protection

by screw :4-25mm² / by bus

mechanical indicator

output on changeover contact

DIN rail 35mm

-40°C /+85°C

IP20

Standards compliance

IEC 61 643-1 (international) Low voltage SPD – test class I and II

EN 61 643-11 (Europe) Low voltage SPD – test class I and II

NF EN 61 643-11 / UL1449 ed.4

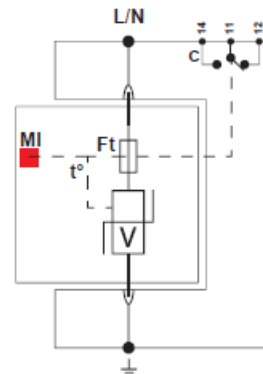
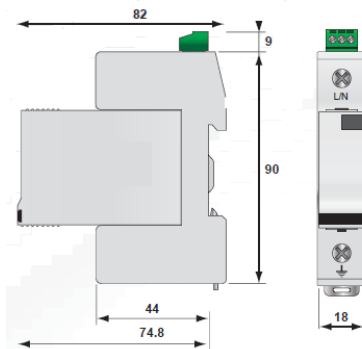
V : High energy MOV

MI : Disconnection indicator

Ft : Thermal fuse

t*: Thermal disconnection mechanism

C : Contact for remote signaling



Type 1 + 2 SPD

DMR 440 – Single phase

Designation

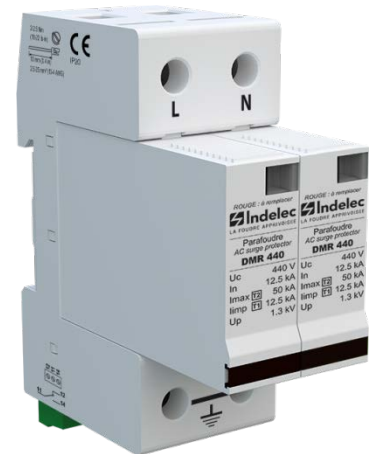
Part number

Electrical characteristics

Technology		MOV
Number of pole		2 poles – 1 Ph+N
Network nominal voltage		230v
Protection mode		C1
Neutral configuration		IT – TT - TNS
Max. AC operating system	U_C	440 Vac
Temporary Over Voltage (TOV)	U_T	580 Vac / 5 s
Leakage current	I_{pe}	< 1 mA
Follow current	I_f	None
Impulse current by pole	I_{imp}	12.5 kA
<i>Max. withstand 10/350μs</i>		
Nominal discharge current	I_n	12.5 kA
<i>15 x 8/20μs impulses</i>		
Max. discharge current	I_{max} total	100kA
<i>Max. withstand @ 8/20μs</i>		
Max. discharge current	I_{max}	50 kA
<i>Max. withstand @ 8/20μs</i>		
Protection level (@In)	U_p	1.3kV
Admissible short-circuit current	I_{sccr}	25 000 A

DMR 440

P8329H



Associated disconnectors

Thermal disconnector	internal
Fuses	Fuses type gG – 125 A max.
Installation ground fault breaker	Type "S" or delayed

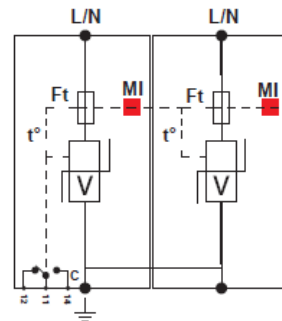
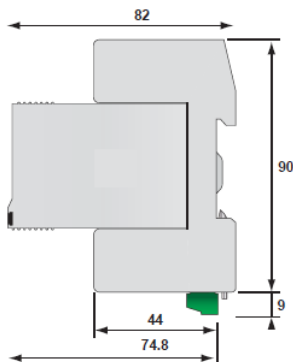
Mechanical characteristics

Connection	by screw :4-25mm ² / by bus
Disconnection indicator	mechanical indicator
Remote signaling of disconnection	output on changeover contact
Mounting	DIN rail 35mm
Operating temperature	-40°C /+85°C
Ingress Protection	IP20

Standards compliance

IEC 61 643-1 (international) Low voltage SPD – test class I and II
 EN 61 643-11 (Europe) Low voltage SPD – test class I and II
 NF EN 61 643-11 / UL1449 ed.4

V : High energy MOV
 MI : Disconnection indicator
 Ft : Thermal fuse
 t° : Thermal disconnection mechanism
 C : Contact for remote signaling



Type 1 + 2 SPD

DTR 440 – 3 Phases + N

Designation

Part number

Electrical characteristics

Technology

Number of pole

Network nominal voltage

Protection mode

Neutral configuration

Max. AC operating system

Temporary Over Voltage (TOV)

Leakage current

Follow current

Impulse current by pole

Max. withstand 10/350µs

Nominal discharge current

15 x 8/20µs impulses

Max. discharge current

Max. withstand @ 8/20µs

Max. discharge current

Max. withstand @ 8/20µs

Protection level (@In)

Admissible short-circuit current

DTR 440

P8330H

MOV

4 poles – 3 Ph+N

230v

C1

IT – TT - TNS

440 Vac

580 Vac / 5 s

< 1 mA

None

12.5 kA

12.5 kA

200kA

50 kA

1.3kV

25 000 A

U_C

U_T

I_{pe}

I_f

I_{imp}

I_n

I_{max} total

I_{max}

U_p

I_{sccr}



Associated disconnectors

Thermal disconnector

Fuses

Installation ground fault breaker

internal

Fuses type gG – 125 A max.

Type "S" or delayed

Mechanical characteristics

Connection

Disconnection indicator

Remote signaling of disconnection

Mounting

Operating temperature

Ingress Protection

by screw :4-25mm² / by bus

mechanical indicator

output on changeover contact

DIN rail 35mm

-40°C / +85°C

IP20

V : High energy MOV

MI : Disconnection indicator

Ft : Thermal fuse

t[°] : Thermal disconnection mechanism

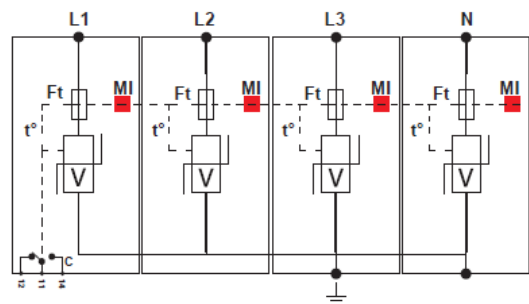
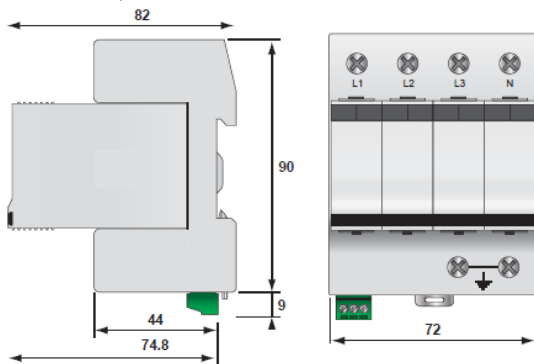
C : Contact for remote signaling

Standards compliance

IEC 61 643-1 (international) Low voltage SPD – test class I and II

EN 61 643-11 (Europe) Low voltage SPD – test class I and II

NF EN 61 643-11 / UL1449 ed.4



Type 1 + 2 + 3 SPD

DGV 440

Designation

Part number

Electrical characteristics

Technology

Number of pole

Network nominal voltage

Neutral configuration

Max. AC operating system

Temporary Over Voltage (TOV)

Leakage current

Follow current

Impulse current by pole

Max. withstand 10/350µs

Nominal discharge current

15 x 8/20µs impulses

Max. discharge current

Max. withstand @ 8/20µs

Max. discharge current

Max. withstand @ 8/20µs

Protection level (@In)

Admissible short-circuit current

U_C

U_T

I_{pe}

I_f

I_{imp}

I_n

I_{max} total

I_{max}

U_p

I_{scrr}

DGV 440

P8312H

Specific gas discharge tube + MOV

One pole (1)

230v/400v

IT – TT – TNS C1 mode

It – TT – C2 mode with DE module for N/PE

440 Vac

580 Vac / 5 s

None

None

25 kA

25 kA

70kA

20 kV

1.5kV

50 000 A

Associated disconnectors

Thermal disconnector

Fuses

Installation ground fault breaker

internal

Fuses type gG – 315 A max.

Type "S" or delayed

Mechanical characteristics

Connection

Disconnection indicator

Remote signaling of disconnection

Mounting

Operating temperature

Ingress Protection

by screw : 6 – 35 mm² / by bus

mechanical indicator

output on changeover contact

DIN rail 35mm

-40°C / +85°C

IP20

Standards compliance

IEC 61 643-1 (international) Low voltage SPD – test class I, II and III

EN 61 643-11 (Europe) Low voltage SPD – test class I, II and III

NF EN 61 643-11 / UL1449 ed.4

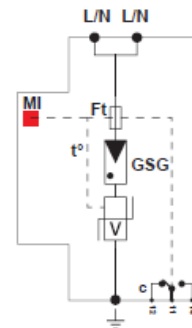
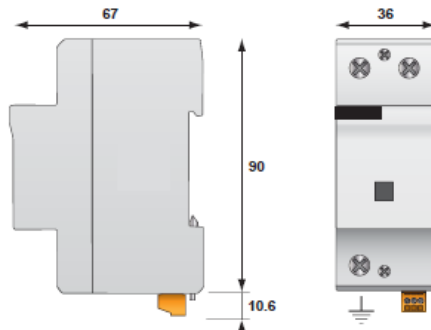
V : High energy MOV

MI : Disconnection indicator

Ft : Thermal fuse

t*: Thermal disconnection mechanism

C : Contact for remote signaling



Type 1 + 2 SPD N – PE DE

Designation

Part number

Electrical characteristics

Technology	
Number of pole	
Network nominal voltage	
Connection mode	
Neutral configuration	
Max. AC operating system	U_C
Temporary Over Voltage (TOV)	U_T
Leakage current	I_{pe}
Follow current	I_f
Max surge Impulse current by pole	I_{imp}
<i>Max. withstand 10/350μs</i>	
Nominal discharge current	I_n
<i>15 x 8/20μs impulses</i>	
Max. discharge current	I_{max} total
<i>Max. withstand @ 8/20μs</i>	
Max. discharge current	I_{max}
<i>Max. withstand @ 8/20μs</i>	
Protection level (@In)	U_p
Admissible short-circuit current	I_{sccr}

DE

P8318H

Specific gas discharge tube
One pole (1)
230v/400v
N-PE C2 mode
TT – TNS
255 Vac
1200V/200ms
None
Yes
100 kA
50 kA
50kA
150 kV
<1.5kV
25 000 A



Associated disconnectors

Thermal disconnector	External
Installation ground fault breaker	Type "S" or delayed

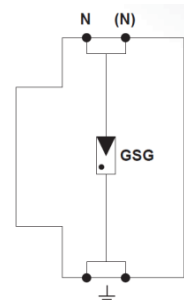
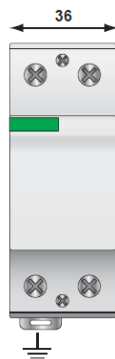
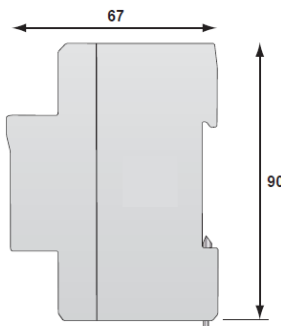
Mechanical characteristics

Connection	by screw :6 – 35 mm ² / by bus
Mounting	DIN rail 35mm
Operating temperature	-40°C /+85°C
Ingress Protection	IP20

Standards compliance

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 EN 61 643-11 (Europe) Low voltage SPD – test class I and II
 NF EN 61 643-11 / UL1449 ed.4

V : High energy MOV
 MI : Disconnection indicator
 Ft : Thermal fuse
 t* : Thermal disconnection mechanism
 C : Contact for remote signaling



SPD Range

Type 2 et 2 + 3



	Number of pole	Network	I _{max} by pole	I _n	U _p
TYPE 2 , Compact, pluggable module					
DMT 440	2	230/400V	40 kA	20 kA	1.8 kV
DTT 440	4	230/400V	40 kA	20 kA	1.8 kV
DMX 440	2	230/400V	15 kA	5 kA	1.3 kV
DTX 440	4	230/400V	15 kA	5 kA	1.3 kV
TYPE 2+3, Compact, monobloc					
DMZ 255	2	230V	10 kA	5 kA	1.5 kV

Type 2 SPD

DGT 440

Designation

Part number

Electrical characteristics

Technology	
Number of pole	
Network nominal voltage	
Protection mode	
Neutral configuration	
Max. AC operating system	U_C
Temporary Over Voltage (TOV)	U_T
Leakage current	I_{pe}
Nominal discharge current	I_n
<i>15 x 8/20µs impulses</i>	
Max. discharge current	I_{max}
<i>Max. withstand @ 8/20µs</i>	
Protection level (@In)	U_p
Admissible short-circuit current	I_{sccr}

Associated disconnectors

Thermal disconnector
Fuses
Installation ground fault breaker

Mechanical characteristics

Connection
Disconnection indicator
Remote signaling of disconnection
Mounting
Operating temperature
Ingress Protection

Standards compliance

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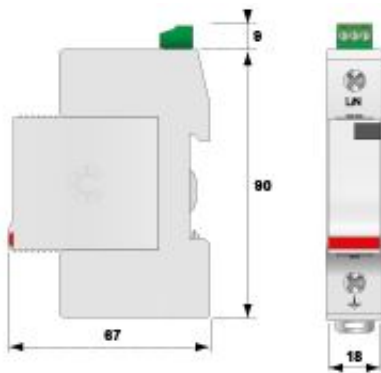
DGT 440

P8433H

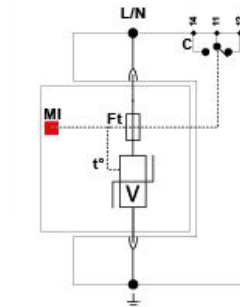
Technology	MOV
Number of pole	1 pole
Network nominal voltage	230/400v
Protection mode	C1
Neutral configuration	C1
Max. AC operating system	TT-TNS-TNC-IT C1 mode, TT –TNS C2 mode
Max. AC operating system	440Vac
Temporary Over Voltage (TOV)	580 Vac / 5s
Leakage current	<1 ma
Nominal discharge current	10kA
<i>15 x 8/20µs impulses</i>	
Max. discharge current	40KA
<i>Max. withstand @ 8/20µs</i>	
Protection level (@In)	1.5kV
Admissible short-circuit current	25 000 A

internal
Fuses type gG – 50 A max.
Type “S” or delayed

by screw :4-25mm², by bus
mechanical indicator
output on changeover contact
DIN rail 35mm
-40°C /+85°C
IP20



V : High energy MOV
MI : Disconnection indicator
Ft : Thermal fuse
t° : Thermal disconnection mechanism
C : Contact for remote signaling



Type 2 SPD

DMT , DTT 440

Designation

Part number

Electrical characteristics

Technology

Number of pole

Network nominal voltage

Protection mode

Neutral configuration

Max. AC operating system

Temporary Over Voltage (TOV)

Leakage current

Nominal discharge current

15 x 8/20µs impulses

Max. discharge current

Max. withstand @ 8/20µs

Max. discharge current

Max. withstand @ 8/20µs

Protection level (@In)

Admissible short-circuit current

DMT 440

P8322H

DTT 440

P8323H

MOV

2 poles (Ph+N)

230v

C1

IT-TT-TN

440Vac

580 Vac / 5s

<1 ma

20kA

80kA

40kA

1.8kV

10 000 A

MOV

4 poles-(3Ph + N)

230/400v

C1

IT-TT-TN

440 Vac

580 Vac / 5s

<1 ma

20kA

160kA

40kA

1.8 kv

10 000 A



DMT 440



DTT 440

Associated disconnectors

Thermal disconnector

Fuses

Installation ground fault breaker

internal

Fuses type gG – 50 A max.

Type "S" or delayed

Mechanical characteristics

Connection

Disconnection indicator

Remote signaling of disconnection

Mounting

Operating temperature

Ingress Protection

by screw :1.5-10mm² (L /N), 2.5-25 mm² (PE)

mechanical indicator

output on changeover contact

DIN rail 35mm

-40°C /+85°C

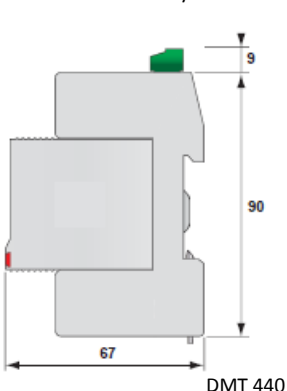
IP20

Standards compliance

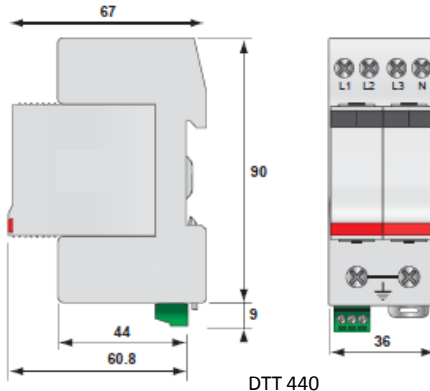
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EN 61 643-11 (Europe) Low voltage SPD – test class I and II

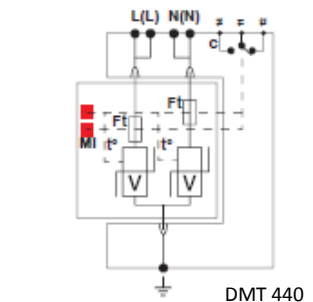
NF EN 61 643-11 / UL1449 ed.4



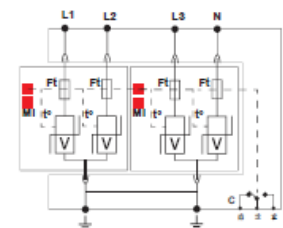
DMT 440



DTT 440



DMT 440



DTT 440

V : High energy MOV

MI : Disconnection indicator

Ft : Thermal fuse

t°: Thermal disconnection mechanism

C : Contact for remote signaling

Type 2 SPD

DMX , DTX 440

Designation

Part number

Electrical characteristics

	DMX 440 P8324H	DTX 440 P8325H
Technology	MOV	MOV
Number of pole	2 poles (Ph+N)	4 poles-(3Ph + N)
Network nominal voltage	230v	230/400v
Protection mode	C1	C1
Neutral configuration	IT-TT-TN	IT-TT-TN
Max. AC operating system	U_C 440Vac	440 Vac
Temporary Over Voltage (TOV)	U_T 580 Vac / 5s	580 Vac / 5s
Leakage current	I_{pe} <1 ma	<1 ma
Nominal discharge current	I_n 5 KA	5 KA
15 x 8/20μs impulses		
Max. discharge current	I_{max} total 30 KA	60 KA
Max. withstand @ 8/20μs		
Max. discharge current	I_{max} 15 KA	15 KA
Max. withstand @ 8/20μs		
Protection level (@In)	U_p 1.3kV	1.3 kv
Admissible short-circuit current	I_{sccr} 10 000 A	10 000 A

Associated disconnectors

Thermal disconnector	internal
Fuses	Fuses type gG – 20 A max.
Installation ground fault breaker	Type “S” or delayed

Mechanical characteristics

Connection	by screw :1.5-10mm ² (L /N), 2.5-25 mm ² (PE)
Disconnection indicator	mechanical indicator
Remote signaling of disconnection	output on changeover contact
Mounting	DIN rail 35mm
Operating temperature	-40°C /+85°C
Ingress Protection	IP20

Standards compliance

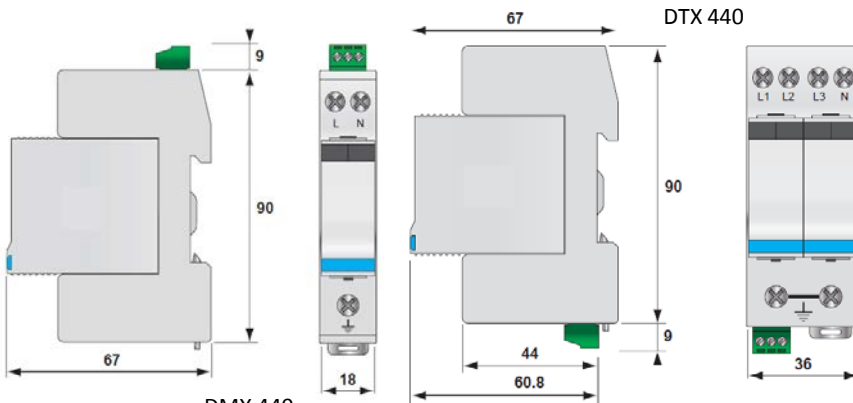
IEC 61 643-1 (International) Low voltage SPD – test class I and II
 EN 61 643-11 (Europe) Low voltage SPD – test class I and II
 NF EN 61 643-11 / UL1449 ed.4



DMX 440



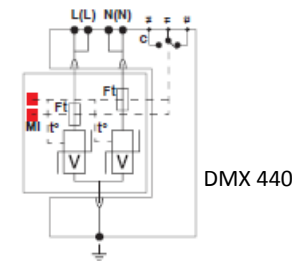
DTX 440



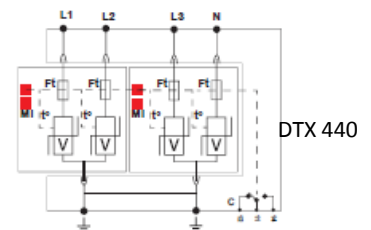
DMX 440

DTX 440

V : High energy MOV
 MI : Disconnection indicator
 Ft : Thermal fuse
 t°: Thermal disconnection mechanism
 C : Contact for remote signaling



DMX 440



DTX 440



Type 2 + 3 SPD

DMZ 255 Single phase

Designation

Part number

Electrical characteristics

Technology

Number of pole

Network nominal voltage

Protection mode

Neutral configuration

Max. AC operating system

Temporary Over Voltage (TOV)

Leakage current

Follow current

Nominal Impulse current

Max. withstand 10/350µs

Nominal discharge current

15 x 8/20µs impulses

Max. discharge current

Max. withstand @ 8/20µs

Protection level (@In)

Admissible short-circuit current

U_C

U_T

I_{pe}

I_f

I_n

I_n

I_{max}

U_p

I_{sccr}

DMZ 255

P8326H

Specific gas discharge tube

2 – Ph+N

230v

C2

IT - TT – TNS

255 Vac

335 V / 5 s

<1mA

Without

5 kA

30 kA

15 KA

1.5kV (L/PE or N/PE) 1 kV (L/N)

10 000 A

Associated disconnectors

Thermal disconnector

Fuses

Installation ground fault breaker

internal

Fuses type gG – 20 A max.

Type "S" or delayed

Mechanical characteristics

Connection

Disconnection indicator

Remote signaling of disconnection

Mounting

Operating temperature

Ingress Protection

by screw : 2.5mm² max

LED indicator

output on changeover contact

DIN rail 35mm

-40°C /+85°C

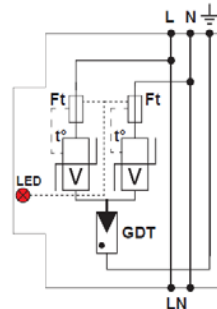
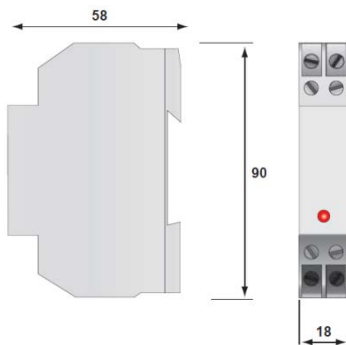
IP20

Standards compliance

IEC 61 643-1 (international) Low voltage SPD – test class II and III

EN 61 643-11 (Europe) Low voltage SPD – test class II and II I

NF EN 61 643-11 / UL1449 ed.4



V : High energy MOV

MI : Disconnection indicator

Ft : Thermal fuse

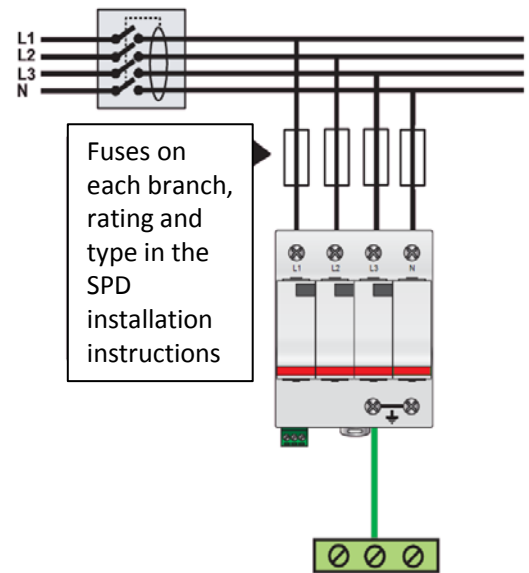
t°: Thermal disconnection mechanism

C : Contact for remote signaling

Fuses for Surge Protection Device

To comply with standards and safety, the AC surge protectors must be protected against a possible end of life in short-circuit: the user must install on each SPD branch, a protection against short-circuit current (fuses or breaker). The rating of this fuses is given by the SPD manufacturer in the product datasheet or installation instructions. The choice of this rating depends of 2 criteria:

- Withstand of the short-circuit current test in the IEC 61643-1 standard: the fuse must cut safety the short-circuit current before an harsh destruction of the SPD.
- Withstand of the discharge currents (I_n or I_{imp}): the fuse must be able to conduct the discharge current of the SPD without blowing.



INDELEC selected fuses and DIN rail holders to fit with his SPD range. The fuses equipped with failure indicators to check easily their opening and the holders can be supplied with or without contact for remote signal of fuse status .

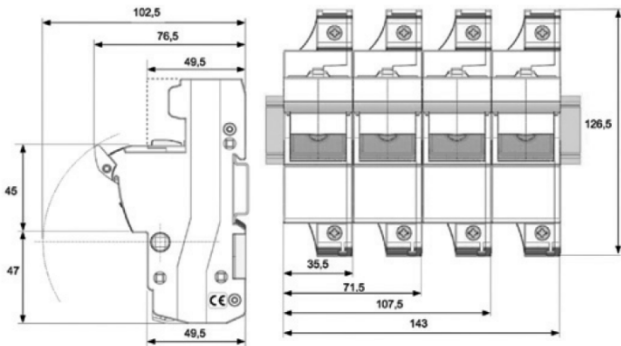
Surge protector	associated fuses caliber
DGU 440 DSU 440 DGV 440	315 A gG
DSR 440 DMR 440 DTR 440	125 A gG
DMT 440 DTT 440	50 A gG
DMX 440 DTX 440	20 A gG

Gg cylindrical Fuses & Fuse holder

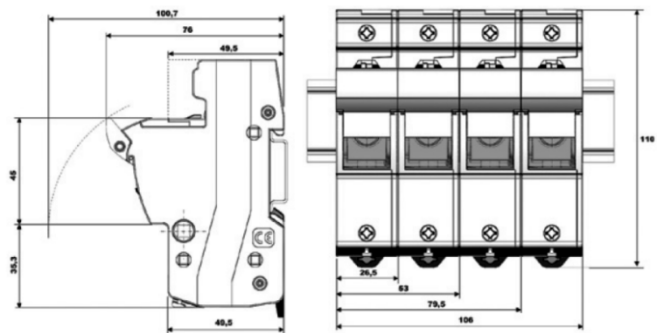
- Modular fuse holder
- DIN Rail Mounting
- Microswitch for fusion signaling
- Equipped with gG cylindrical fuses with striker



Caliber	Designation	Part number
125 A	Fuse holder 22x58 1PH+N + fuses 125 A gG	P8927
	Fuse holder 22x58 3PH+N + fuses 125 A gG	P8925
50 A	Fuse holder 14x51 1PH+N + fuses 50A gG	P8905
	Fuse holder 14x51 3PH+N + fuses 50 A gG	P8907
20 A	Fuse holder 14x51 1PH+N + fuses 25A gG	P8908
	Fuse holder 14x51 3PH+N + fuses 25 A gG	P8900



Fuse holder 22x58



fuse holder 14x51



Knife type (NH2) Fuse – NH2 Fuse Holder

- Set of fuse holder bases, dividers, partition walls, terminal cover and cover
- NH fuse bases (NH) gG class with high breaking capacity (HPC)

Designation	Part number
NH2 fuses gG 315A	P8943
1PH+N NH2 Fuse Holder*	P8930
3PH NH2 Fuse Holder*	P8931
3PH+N NH2 Fuse Holder*	P8932
Microswitch 1 pole	P8941
Extractor handle	P8940

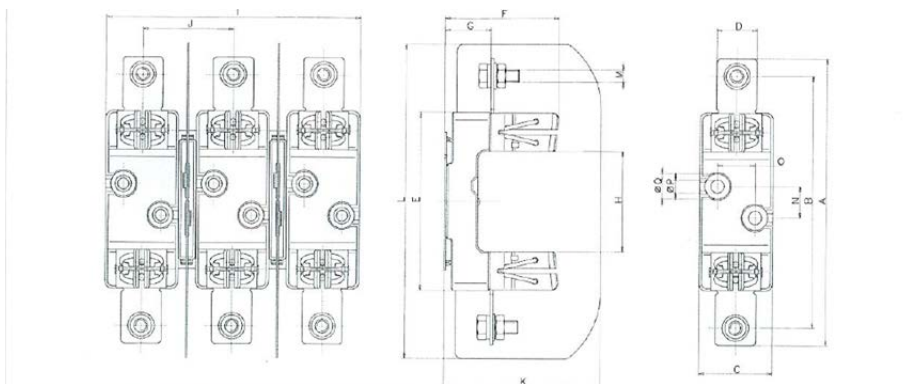


P8941

P8940



* Delivered without T2 fuse



Taille	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
NH2	225	200	58	32	142	91	37	80	202	72	127	250	M12	25	30	10,5	20,5



Surge Protection Cabinets

Surge protection cabinets are dedicated to 230 / 400V Low Voltage Network (single phase or 3 phases+N).

These cabinets are based on the use of Indelec modular SPD. The implementation of these cabinets do not require any additional device, they are equipped with Surge protection device and relevant external protection fuses.

Several configurations are possible.



- Pre-wired cabinet type 1 and 2
- metallic or plastic box
- Waterproof
- Protection in common mode and differential
- Compliant to IEC / EN 61643-11



Surge protection device

Type 2, Direct Current

Specifications

Designation		DS220 12Vdc	DS220 24Vdc	DS230 48Vdc	DS240 75 V dc	DS240 110 Vdc
Part number		C3318	C3319	C3320	C3502	C3503
nominal voltageDC	Un	12 Vdc	24Vdc	48Vdc	75Vdc	150Vdc
maximal voltage DC	Uc	24Vdc	38Vdc	65Vdc	100Vdc	125Vdc
Nominal discharge current	In	10kA	10kA	15kA	20kA	20kA
Maximal discharge current	Imax	20kA	20kA	30kA	40kA	40kA
Protection level	Up	250V	250V	300V	390V	500V

Associated disconnectors

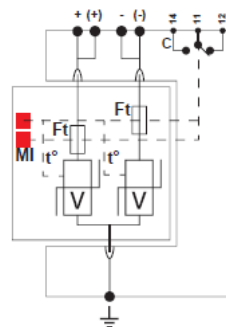
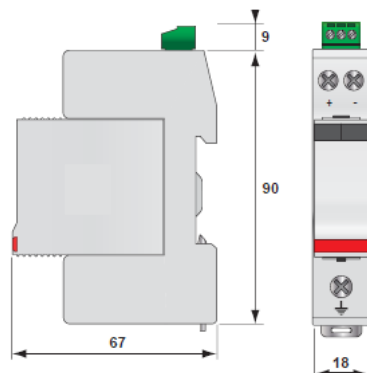
Thermal disconnector internal
 Protection Fuses (if required) Fuses type gG – 20 A (12 V cc à 48 V cc)
 Fuses type gG - 50A (75Vdc à 110Vdc).

Mechanical characteristics

Connection by screw 1.5 à 10 mm² maxi
 (active conductors)
 Disconnection indicator 2 mechanical indicators
 Mounting DIN rail 35mm
 Operating temperature -40°C /+85°C
 Ingress Protection IP20
 Plastic Thermoplastique UL94-V0

Standards compliance

CEI 61 643-1 international Low Voltage SPD - Test class II
 EN 61 643-11 Europe parafoudres basse tension – Essais classe II



V : High energy MOV
 MI : Disconnection indicator
 Ft : Thermal fuse
 t* : Thermal disconnection mechanism
 C : Contact for remote signaling

Specifications

Designation					
Protection 1 paire + blindage	DLA 150Vdc	DLA 48Vdc	DLA 24Vdc	DLA 12Vdc	DLA 6Vdc
Protection 2 paires + blindage	DLA2 150Vdc	DLA2 48Vdc	DLA2 24Vdc	DLA2 12Vdc	DLA2 6Vdc
Part number	P82960 P82970	P82961 P82971	P82962 P82972	P82963 P82973	P82964 P82974
Network	RTC-ADSL SDL-SHDSL	RNIS-T0 Ligne 48V	LS 4-20mA	RS232 RS485	RS422
Nominal voltage (Un)	150 V	48V	24V	12V	6V
Voltage max (Uc)	170V	53V	28V	15V	8V
Current max. (Ii)	300 mA	300 mA	300 mA	300 mA	300 mA
Impulse current (Iimp) on wave 10/350 μ s -	5kA	5kA	5kA	5kA	5kA
Nominal impulse current (In) On wave 8/20 μ s -	5kA	5kA	5kA	5kA	5kA
Max. discharge current I _{max} On wave 8/20 μ s -1 choc	20kA	20kA	20kA	20kA	20kA
Protection level In (Up)	220V	70V	40V	30V	20V
frequency max.	> 10 MHz	> 3 MHz	> 3 MHz	> 3 MHz	> 3 MHz

Mechanical characteristics

Connection

Mounting

Operating temperature

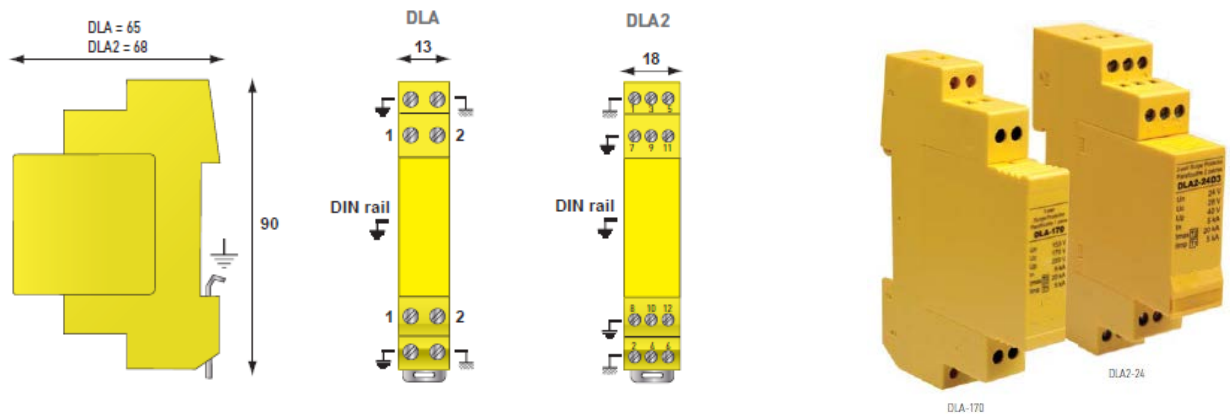
Plastic

by screw 0.4 – 1.5 mm² max

DIN rail 35mm

-40°C /+85°C

Thermoplastique UL94-V0



SPD Ethernet network

Specifications

Designation	RJ45 Ethernet Cat 5E	RJ45 Ethernet Cat 6	RJ45 Ethernet POE
Part number	P8615	P8616	C3470
Network	Ethernet	Ethernet Cat 6	Power over Ethernet
Data rate max.	1000Mbps	1000Mbps	10Mbit/s
Voltage max. signal	8Vdc	6Vdc	60Vdc - 650mA
Configuration	4 pairs + shielded + earth	4 pairs + earth	8 wires + shielded
Nominal discharge current $I_n : 8/20\mu s$			
Phase / Phase	<500A	<100A	<500A
Phase / Earth	2000A	100A	2000A

Mechanical characteristics

Connection	RJ45 armored
Disconnection indicator	2 mechanical indicators
Earth connexion	Bornier vis, Rail DIN or mounting flange(CAT 5E et POE) / Ground wire(Cat6)
Box Material	Metal (Cat5E et POE), plastic (Cat6)

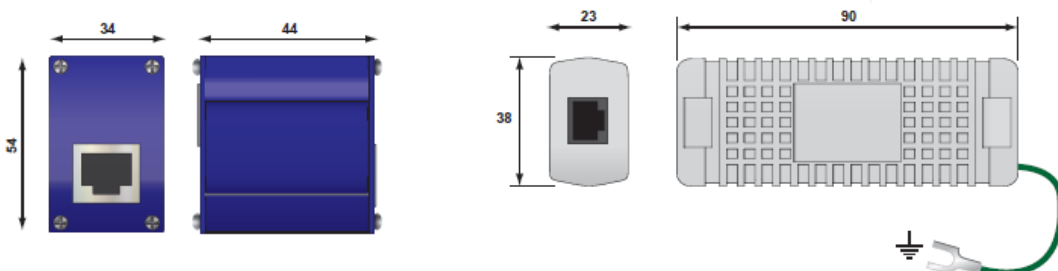


Standards compliance

CEI 61 643-1 international Low Voltage SPD - Test class II
EN 61 643-11 Europe Low Voltage SPD - Test class II

NOTE

SPD RJ 11 and RJ 45 are also available on request specifically for telecommunications applications RTC or ADSL, ISDN



Coaxial SPD

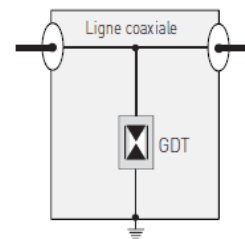
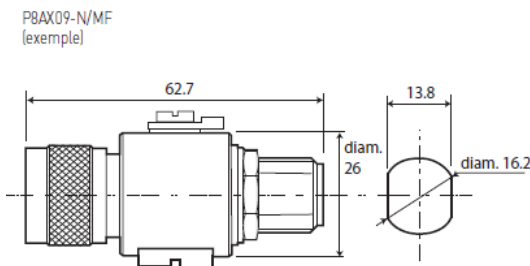
HF – 4GHz



- SPDcoaxial 4 GHz
- Low insertion loss
- Waterproof IP65
- Specific gas discharge tube removable
- DC-pass
- Bidirectionnel

Specifications

Designation	Coaxial – 25W	Coaxial – 190W	Coaxial – 780W
Part #	P8613	P8612C	P8614
Fréquency	DC – 4 GHz	DC – 4 GHz	DC – 4 GHz
Insertion loss	< 0.2 dB	< 0.2 dB	< 0.2 dB
Return Loss	> 20 dB	> 20 dB	> 20 dB
Stationary wave rate	< 1.2 : 1	< 1.2 : 1	< 1.2 : 1
Discharge current (8/20 μ s)	20kA	20kA	20kA
Protection level Up	< 600V	< 600V	< 1000V
Power max.	25W	190W	780W
Current max.	10A	10A	10A
Impedance	50 ohms	50 ohms	50 ohms
Connection	Séries (bi-directionnelle)		
mechanical characteristics			
connectivity	N, BNC, F, TNC, SMA		
Ground connection	vis M6, traversée de paroi, bride		
Ingress Protection	IP65		
Operating Temperature	-40°C à +85°C		



GDT: Parasurtension bipolaire

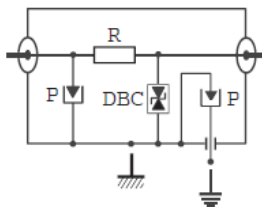
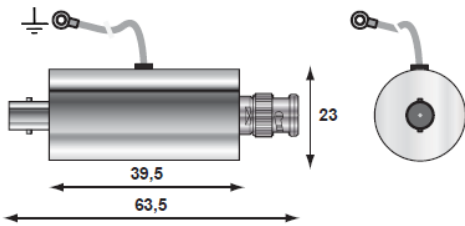
CCTV SPD



- Coaxial SPD 70 MHz
- Low insertion loss
- easy mounting

Specifications

Designation	CCTV SPD
Part number	P8603
Frequency	DC – 70 MHz
Insertion loss	< 0.6 dB
Return Loss	> 20 dB
Stationary wave rate	< 1.2 : 1
Discharge current(8/20 μ s) max. Imax in wave 8/20 μ s	10kA
Powermax.	100W
Current max.	6A
Impedance	50 ohms
Mechanical characteristics	
connectivity	BNC, F
Ground connection	par fil
Ingress Protection	IP65
Operating Temperature	-40°C à +85°C



P : Eclateur à gaz bipolaire
DBC : Diode basse capacité
R : Résistance

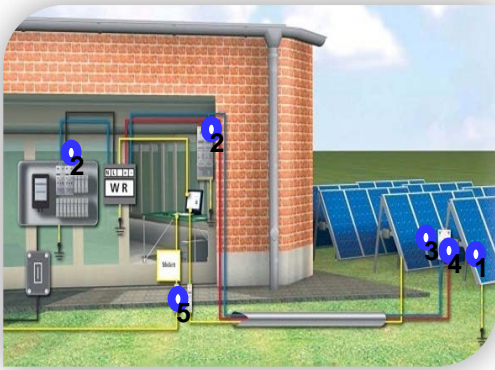
SPD on request

Telecoms



A range of surge protectors Telecom by:

- the kind of line
- site configuration (number of lines to protect)
- the type of installation (wall casing, DIN rail, distribution ...) and the kind of connection (wrapped, CAD, screw ...)



Surge protection device Type 1 and 2 installed between the photovoltaic panels and the inverter - DC up to 1250Vdc.



SPD plug box

Several versions:
Telecom / TV
Indicators of operating voltage
General switch
Compliant with IEC 61643-1
Option "Master / Slave"

- I_{max} from 80 to 200 kA (8/20 μs)
- Protection mode Common and Differential
- 200 kA current Admissible shortcut
- Multi-redundant circuit for each phase?
- Signaling and fault Remote signaling
- Filtering function EMI / RFI
- Convenience with Casing NEMA standards 4/12 and UL 1449 3ed. and IEC 61643-1

