



# Surge Protection

Made  
n  
Safety

# Type 1 + 2 SPD

## DGI 440

### Designation

### Part number

### Electrical characteristics

Technology

Number of pole

Network nominal voltage

Neutral configuration

Max. AC operating system

$U_C$

Temporary Over Voltage (TOV)

$U_T$

Temporary Over Voltage (TOV)

$U_T$

Leakage current

$I_{pe}$

Follow current

$I_f$

Impulse current by pole

$I_{imp}$

Max. withstand 10/350 $\mu$ s

Nominal discharge current

$I_n$

15 x 8/20 $\mu$ s impulses

Max. discharge current

$I_{max}$

Max. withstand @ 8/20 $\mu$ s

Protection level (@ $I_n$ )

$U_p$

Admissible short-circuit current

$I_{scc}$

### DGI 440

### P8308H

MOV

One pole (1)

230/400 V

IT - TN C1 mode

TT - TNS C2 mode with DI module for N/PE

440 Vac

580 Vac/5 s withstand

770 Vac/120mn disconnection

< 3 mA

None

50 kA

50 kA

200 kA

2,2 kV

50 000 A



### Associated disconnectors

Thermal disconnector

internal

Fuses

Fuses type gG – 500 A max.

Installation ground fault breaker

Type "S" or delayed

### Mechanical characteristics

Connection

by screw : 6-35 mm<sup>2</sup> / 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

### Conformité aux normes

IEC 61 643-11 (Internationale) Low voltage SPD – test class I and II

NF EN 61 643-11 (France) Parafoudres basse tension – essais classe I et II

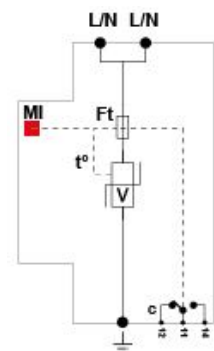
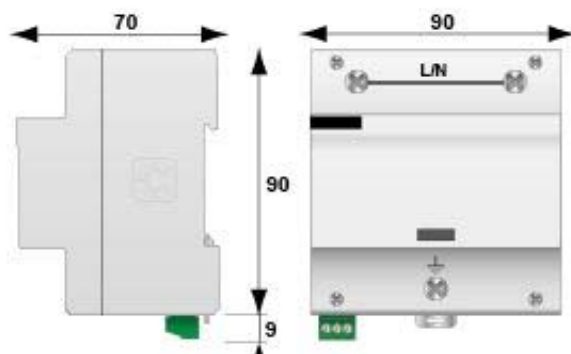
V : High energy MOV

MI : Disconnection indicator

Ft : Thermal fuse

t° : Thermal disconnection mechanism

C : Contact for remote signaling



# 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)

Temporary Over Voltage (TOV)

Leakage current

Follow current

Impulse current by pole

Max. withstand 10/350 $\mu$ s

Nominal discharge current

15 x 8/20 $\mu$ s impulses

Max. discharge current

Max. withstand @ 8/20 $\mu$ s

Protection level (@In)

Admissible short-circuit current

$U_C$

$U_T$

$U_T$

$I_{pe}$

$I_f$

$I_{imp}$

$I_n$

$I_n$

$I_{max}$

$I_{max}$

$U_p$

$I_{sccr}$

### DGU 440

#### P8321H

MOV

One pole (1)

230/400 V

IT – TN C1 mode

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

440 Vac

580 Vac/5 s withstand

770 Vac/120mn disconnection

< 2 mA

None

25 kA

25 kA

25 kA

140 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 mm<sup>2</sup> / by bus

mechanical indicator

output on changeover contact

DIN rail 35mm

-40°C / +85°C

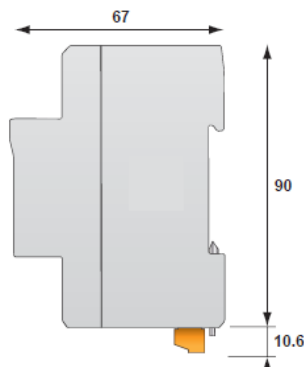
IP20

### Standards compliance

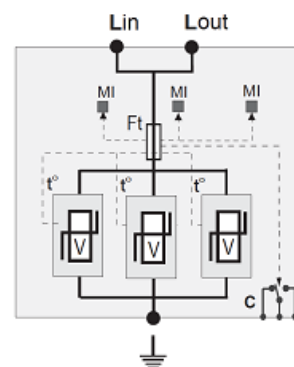
IEC 61 643-1 (international) Low voltage SPD – test class I and II

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)

Temporary Over Voltage (TOV)

Leakage current

Follow current

Impulse current by pole

Max. withstand 10/350 $\mu$ s

Nominal discharge current

15 x 8/20 $\mu$ s impulses

Max. discharge current

Max. withstand @ 8/20 $\mu$ s

Protection level (@In)

Admissible short-circuit current

$U_C$

UT

UT

$I_{pe}$

$I_f$

$I_{imp}$

$I_n$

$I_{max}$

$U_p$

$I_{sccr}$

### DGR 440

#### P8315H

MOV

One pole (1)

230/400 V

IT – TN C1 mode

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

440 Vac

580 Vac/5 s withstand

770 Vac/120mn disconnection

< 1 mA

None

15 kA

15 kA

140 kA

1.3 kV

100 000 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 : 6-35mm<sup>2</sup> / 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

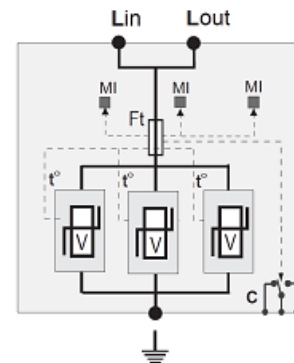
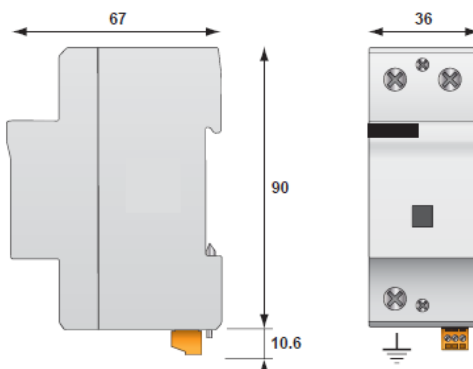
V : High energy MOV

MI : Disconnection indicator

Ft : Thermal fuse

t°: Thermal disconnection mechanism

C : Contact for remote signaling



# Type 1 + 2 SPD

## DSU 440

### Designation

#### Part number

#### Electrical characteristics

Technology

Number of pole

Network nominal voltage

Neutral configuration

Max. AC operating system

Temporary Over Voltage (TOV)

Temporary Over Voltage (TOV)

Leakage current

Follow current

Impulse current by pole

Max. withstand 10/350 $\mu$ s

Nominal discharge current

15 x 8/20 $\mu$ s impulses

Max. discharge current

Max. withstand @ 8/20 $\mu$ s

Protection level (@In)

Admissible short-circuit current

$U_C$

UT

UT

$I_{pe}$

$I_f$

$I_{imp}$

$I_n$

$I_{max}$

$U_p$

$I_{sccr}$

### DSU 440

#### P8331H

MOV

One pole 1

230/400 V

IT - TN C1 mode

TT - TNS C2 mode with DE or DI module for N/PE

440 Vac

580 Vac/5 s withstand

770 Vac/120mn disconnection

< 1 mA

None

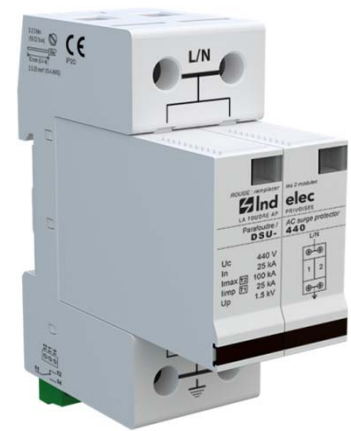
25 kA

25 kA

100 kA

1.5 kV

25 000 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 :4-25mm<sup>2</sup> / 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

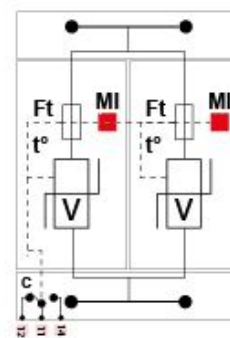
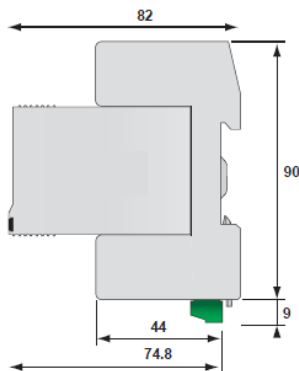
V : High energy MOV

MI : Disconnection indicator

Ft : Thermal fuse

t°: Thermal disconnection mechanism

C : Contact for remote signaling



# Type 1 + 2 SPD

## DSR 440

### Designation

#### Part number

#### Electrical characteristics

Technology

Number of pole

Network nominal voltage

Neutral configuration

Max. AC operating system

Temporary Over Voltage (TOV)

Temporary Over Voltage (TOV)

Leakage current

Follow current

Impulse current by pole

Max. withstand 10/350 $\mu$ s

Nominal discharge current

15 x 8/20 $\mu$ s impulses

Max. discharge current

Max. withstand @ 8/20 $\mu$ s

Protection level (@In)

Admissible short-circuit current

$U_C$

UT

UT

$I_{pe}$

$I_f$

$I_{imp}$

$I_n$

$I_{max}$

$I_{max}$

$U_p$

$I_{sccr}$

### DSR 440

#### P8332H

MOV

One pole 1

230/400 V

IT - TN C1 mode

TT - TNS C2 mode with DE or DI module for N/PE

440 Vac

580 Vac/5 s withstand

770 Vac/120mn disconnection

< 1 mA

None

12.5 kA

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 :4-25mm<sup>2</sup> / 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

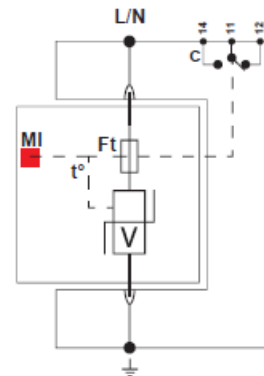
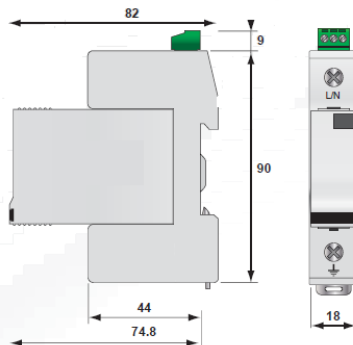
V : High energy MOV

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 – TNS                    |
| Max. AC operating system         | $U_C$           | 440 Vac                     |
| Temporary Over Voltage (TOV)     | UT              | 580 Vac/5 s withstand       |
| Temporary Over Voltage (TOV)     | UT              | 770 Vac/120mn disconnection |
| Leakage current                  | $I_{pe}$        | < 1 mA                      |
| Follow current                   | $I_f$           | None                        |
| Impulse current by pole          | $I_{imp}$       | 12.5 kA                     |
| Max. withstand 10/350 $\mu$ s    |                 |                             |
| Nominal discharge current        | $I_n$           | 12.5 kA                     |
| 15 x 8/20 $\mu$ s impulses       |                 |                             |
| Max. discharge current           | $I_{max}$ total | 100kA                       |
| Max. withstand @ 8/20 $\mu$ s    |                 |                             |
| Max. discharge current           | $I_{max}$       | 50 kA                       |
| Max. withstand @ 8/20 $\mu$ s    |                 |                             |
| Protection level (@In)           | $U_p$           | 1.3kV                       |
| Admissible short-circuit current | $I_{sccr}$      | 25 000 A                    |

### Associated disconnectors

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

### Mechanical characteristics

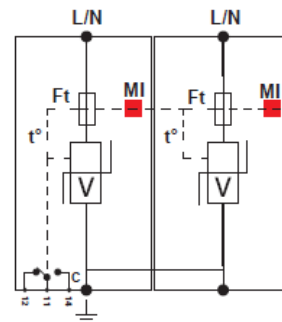
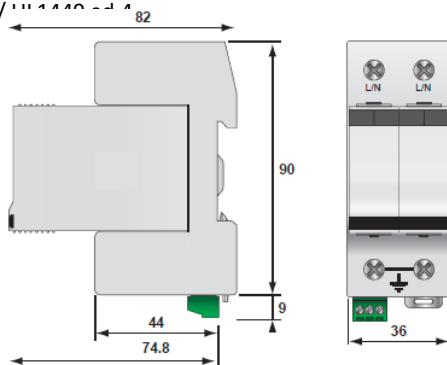
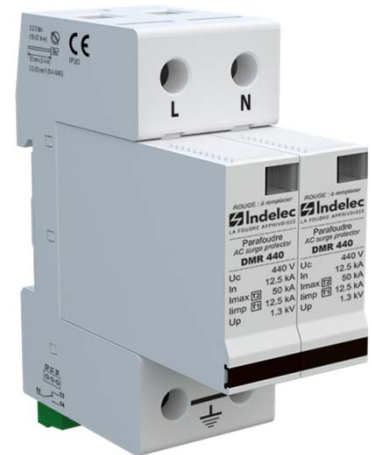
|                                   |                                        |
|-----------------------------------|----------------------------------------|
| Connection                        | by screw :4-25mm <sup>2</sup> / by bus |
| Disconnection indicator           | mechanical indicator                   |
| 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 / IEC 61 643-11

### DMR 440

#### P8329H



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)

Temporary Over Voltage (TOV)

Leakage current

Follow current

Impulse current by pole

Max. withstand 10/350 $\mu$ s

Nominal discharge current

15 x 8/20 $\mu$ s impulses

Max. discharge current

Max. withstand @ 8/20 $\mu$ s

Max. discharge current

Max. withstand @ 8/20 $\mu$ s

Protection level (@In)

Admissible short-circuit current

$U_C$

UT

UT

$I_{pe}$

$I_f$

$I_{imp}$

$I_n$

$I_{max}$  total

$I_{max}$

$U_p$

$I_{sccr}$

### DTR 440

#### P8330H

MOV

4 poles – 3 Ph+N

230v

C1

IT – TNS

440 Vac

580 Vac/5 s withstand

770 Vac/120mn disconnection

< 1 mA

None

12.5 kA

12.5 kA

200kA

50 kA

1.3kV

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 :4-25mm<sup>2</sup> / 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

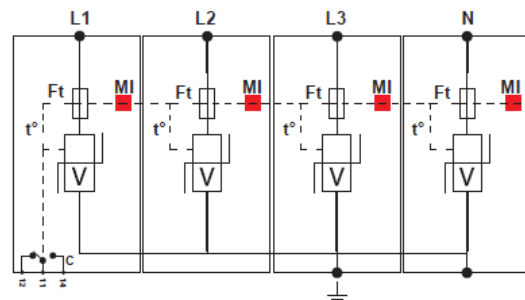
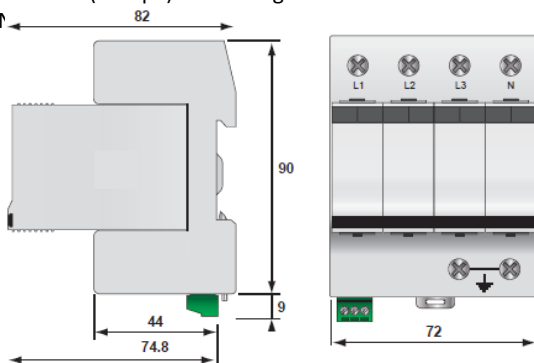
C : Contact for remote signaling

### 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 E1





# Type 1 + 2 SPD

## DMR 255 C2 – Single Phase

### Designation

### Part number

### Electrical characteristics

#### Technology

#### Number of pole

#### Network nominal voltage

#### Neutral configuration

#### Max. AC operating system

#### Temporary Over Voltage (TOV)

#### 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

$U_c$

$U_T$

$U_T$

$I_{pe}$

$I_f$

$I_{imp}$

$I_n$

$I_{max}$  total

$I_{max}$

$U_p$

$I_{scc}$

### DMR 255 C2

### P84406H

#### MOV + Spark Gap (N/PE)

#### 02 poles 1Ph + N

#### 230 V

#### C2 mode

#### TT – TNS

#### 225 Vac

#### 335 Vac/5 s withstand

#### 440 Vac/120mn disconnection

#### < 1 mA

#### None

#### 12.5 kA

#### 12.5 kA

#### 50kA

#### 50 kA

#### L/N: 1.3 kV, N/PE 1.5kV

#### 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 :2.5-25mm<sup>2</sup> / by bus

#### mechanical indicator

#### output on changeover contact

#### DIN rail 35mm

#### -40°C /+85°C

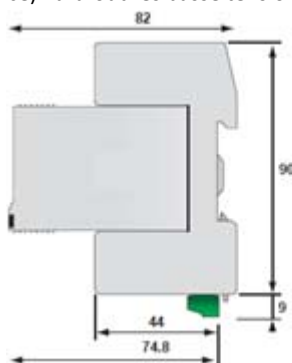
#### IP20

### Conformité aux normes

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

#### EN 61 643-11 (Europe) Parafoudres basse tension – essais classe I et II

#### NF EN 61 643-11 (France) Parafoudres basse tension – essais classe I et II



#### GSG: Spark Gap

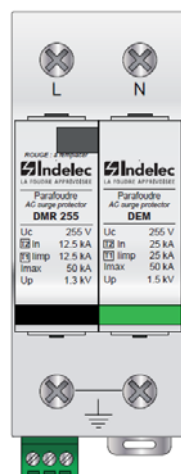
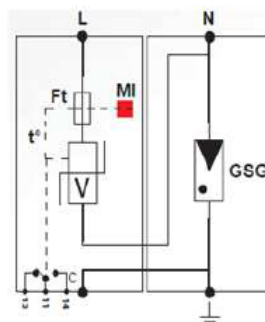
#### V : High energy MOV

#### MI : Disconnection indicator

#### Ft : Thermal fuse

#### t°: Thermal disconnection mechanism

#### C : Contact for remote signaling



# Type 1 + 2 SPD

## DTR 255 C2 – 3Ph + N

### Designation

### Part number

### Electrical characteristics

#### Technology

#### Number of pole

#### Network nominal voltage

#### Neutral configuration

#### Max. AC operating system

#### Temporary Over Voltage (TOV)

#### 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 255 C2

### P84405H

#### MOV

#### 04 poles 3Ph + N

#### 230 V

#### C2 mode

#### TT – TNS

#### 225 Vac

#### 355 Vac/5 s withstand

#### 440 Vac/120mn disconnection

#### < 1 mA

#### None

#### 12.5 kA

#### 12.5 kA

#### 100kA

#### 50 kA

#### L/N: 1.3 kV, N/PE 1.5kV

#### 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

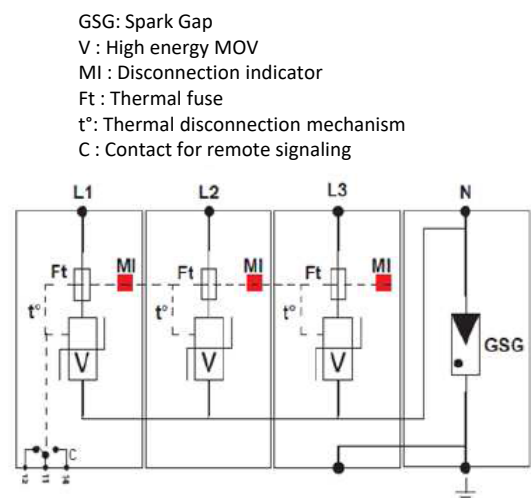
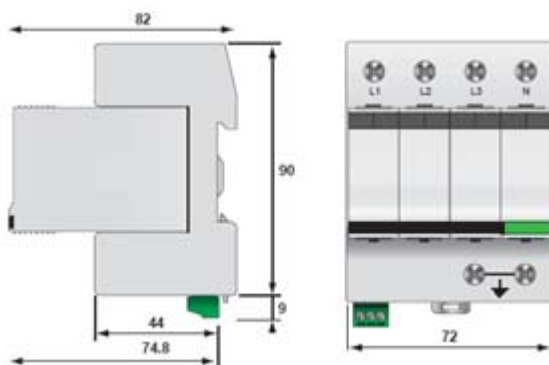
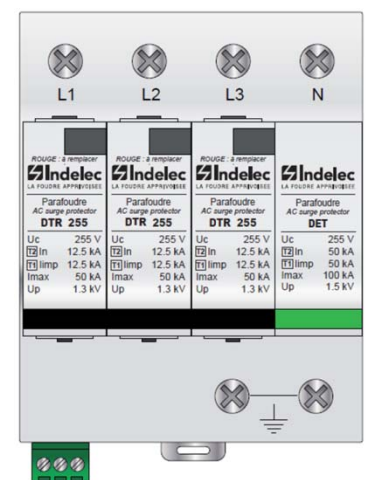
#### Ingress Protection

### Conformité aux normes

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

#### EN 61 643-11 (Europe) Parafoudres basse tension – essais classe I et II

#### NF EN 61 643-11 (France) Parafoudres basse tension – essais classe I et II



GSG: Spark Gap

V : High energy MOV

MI : Disconnection indicator

Ft : Thermal fuse

t°: Thermal disconnection mechanism

C : Contact for remote signaling

# 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)

Temporary Over Voltage (TOV)

Leakage current

Follow current

Impulse current by pole

Max. withstand 10/350 $\mu$ s

Nominal discharge current

15 x 8/20 $\mu$ s impulses

Max. discharge current

Max. withstand @ 8/20 $\mu$ s

Max. discharge current

Max. withstand @ 8/20 $\mu$ s

Protection level (@In)

Admissible short-circuit current

$U_C$

UT

UT

$I_{pe}$

$I_f$

$I_{imp}$

$I_n$

$I_{max}$

$I_{max}$

$I_{max}$

$I_{max}$

$I_{max}$

$I_{max}$

$I_{max}$

$I_{max}$

$I_{max}$

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$I_{max}$

$I_{max}$

### DGV 440

#### P8312H

Specific gas discharge tube + MOV

One pole (1)

230v/400v

IT – TN C1 mode

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

440 Vac

580 Vac/5 s withstand

770 Vac/120mn withstand

None

None

25 kA

25 kA

25 kA

25 kA

25 kA

25 kA

25 kA

25 kA

25 kA

25 kA

25 kA

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25 kA

25 kA

25 kA

25 kA

25 kA



### 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 mm<sup>2</sup> / by bus

mechanical indicator

output on changeover contact

DIN rail 35mm

-40°C / +85°C

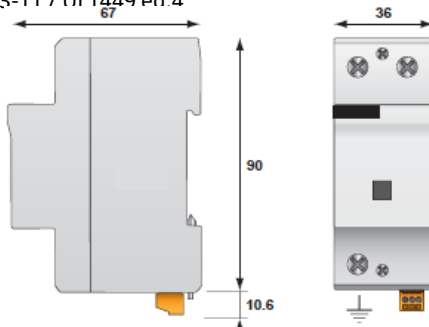
IP20

### Standards compliance

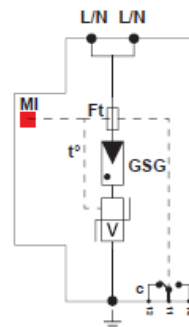
IEC 61 643-1 (international) Low voltage SPD – test class I, II and III

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

NF EN 61 643-11 / I / III 1449 ed.4



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



# Type 1 + 2 + 3 SPD

## DGV 440-15

### Designation

### Part number

### Electrical characteristics

Technology

Number of pole

Network nominal voltage

Neutral configuration

Max. AC operating system

Temporary Over Voltage (TOV)

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

$U_c$

$U_T$

$U_T$

$I_{pe}$

$I_f$

$I_{imp}$

$I_n$

$I_{max}$  total

$I_{max}$

$U_p$

$I_{sccr}$

### DGV 440 - 15

### P8334H

Specific gas discharge tube + MOV

One pole (1)

230V/400V

IT – TN C1 mode

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

440 Vac

580 Vac/5 s withstand

770 Vac/120mn withstand

None

None

15 kA

15 kA

40kA

20 kV

1.5kV

50 000 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 : 6 – 35 mm<sup>2</sup> / by bus

mechanical indicator

output on changeover contact

DIN rail 35mm

-40°C / +85°C

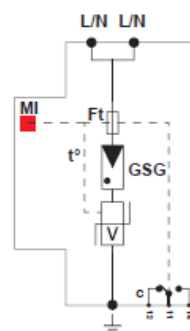
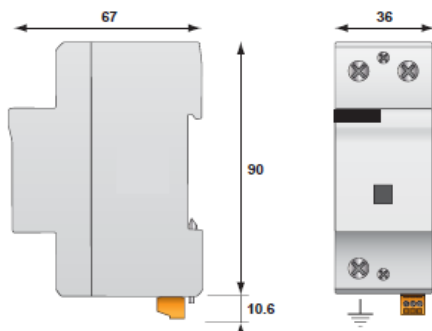
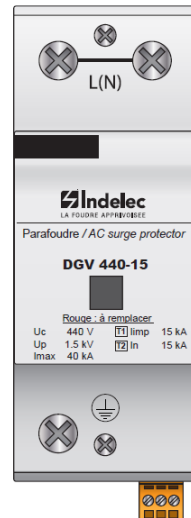
IP20

### Conformité aux normes

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

EN 61 643-11 (Europe) Parafoudres basse tension – essais classe I, II et III

NF EN 61 643-11 (France) Parafoudres basse tension – essais classe I, II et III



GSG: Spark Gap  
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

Temporary Over Voltage (TOV)

Temporary Over Voltage (TOV)

Temporary Over Voltage (TOV HT)

Leakage current

Follow current

Max surge Impulse current by pole

Max. withstand 10/350 $\mu$ s

Nominal discharge current

15 x 8/20 $\mu$ s impulses

Max. discharge current

Max. withstand @ 8/20 $\mu$ s

Protection level (@In)

Admissible short-circuit current

$U_C$

UT

UT

UT

$I_{pe}$

$I_f$

$I_{imp}$

$I_n$

$I_{max}$

$U_p$

$I_{sccr}$

## DE

### P8318H

Specific gas discharge tube

One pole (1)

230v/400v

N-PE C2 mode

TT – TNS

255 Vac

335 Vac/5 s withstand

440 Vac/120mn withstand

1200V / 300 A / 200 ms withstand

None

Yes

50 kA

50 kA

150 kV

<1.5kV

100 000 A



## Associated disconnectors

Thermal disconnector

Installation ground fault breaker

External

Type "S" or delayed

## Mechanical characteristics

Connection

Mounting

Operating temperature

Ingress Protection

by screw : 6 – 35 mm<sup>2</sup> / by bus

DIN rail 35mm

-40°C / +85°C

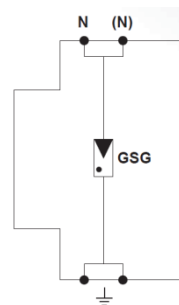
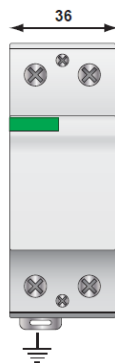
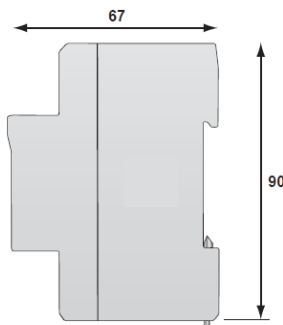
IP20

## 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



GSG : Spark Gap

# Type 1 + 2 SPD N/PE DI

## Designation

### Part number

### Electrical characteristics

#### Technology

#### Number of pole

#### Network nominal voltage

#### Connection mode

#### Neutral configuration

#### Max. AC operating system

#### Temporary Over Voltage (TOV)

#### Temporary Over Voltage (TOV)

#### Temporary Over Voltage (TOV HT)

#### Leakage current

#### Follow current

#### Max surge Impulse current by pole

#### Max. withstand 10/350 $\mu$ s

#### Nominal discharge current

#### 15 x 8/20 $\mu$ s impulses

#### Max. discharge current

#### Max. withstand @ 8/20 $\mu$ s

#### Protection level (@In)

#### Admissible short-circuit current

$U_c$

UT

UT

UT

$I_{pe}$

$I_f$

$I_{imp}$

$I_n$

$I_{max}$

$U_p$

$I_{sccr}$

## DI

### P8307H

Specific gas discharge tube

One pole (1)

230v/400v

N-PE C2 mode

TT – TNS

255 Vac

335 Vac/5 s withstand

440 Vac/120mn withstand

1200V / 300 A / 200 ms withstand

None

Yes

100 kA

100 kA

150 kA

1.5kV

25 000 A



### Associated disconnectors

#### Thermal disconnector

#### Installation ground fault breaker

External

Type "S" or delayed

### Mechanical characteristics

#### Connection

#### Mounting

#### Operating temperature

#### Ingress Protection

by screw : 6 – 35 mm<sup>2</sup> / by bus

DIN rail 35mm

-40°C / +85°C

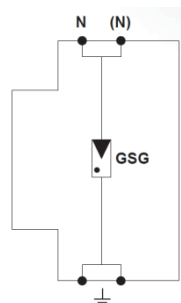
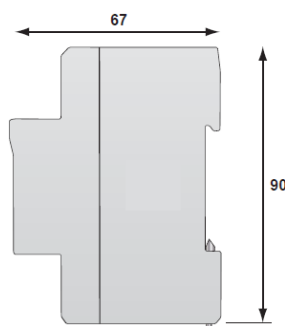
IP20

### Conformité aux normes

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

EN 61 643-11 (Europe) Parafoudres basse tension – essais classe I et II

NF EN 61 643-11 (France) Parafoudres basse tension – essais classe I et II



GSG : Spark Gap

# 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) 5 sec

Temporary Over Voltage (TOV) 120 mn

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

MOV

2 poles (Ph+N)

230v

C1

IT - TN

440Vac

580 Vac / withstand

770 Vac / disconnection

<1 ma

20kA

80kA

40KA

1.8kV

10 000 A

## DTT 440

### P8323H

MOV

4 poles-(3Ph + N)

230/400v

C1

IT - TN

440 Vac

580 Vac / withstand

770 Vac / disconnection

<1 ma

20KA

160kA

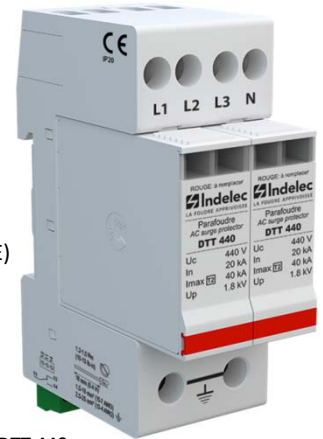
40KA

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 :1.5-10mm<sup>2</sup> (L /N), 2.5-25 mm<sup>2</sup> (PE)

mechanical indicator

output on changeover contact

DIN rail 35mm

-40°C /+85°C

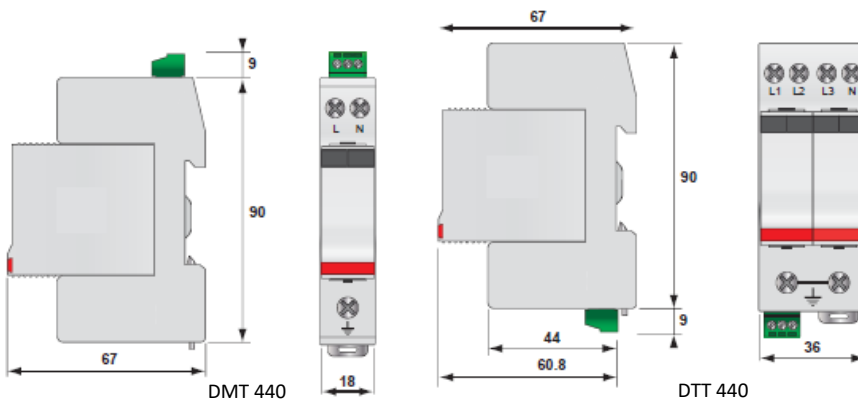
IP20

## 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



DMT 440

DTT 440

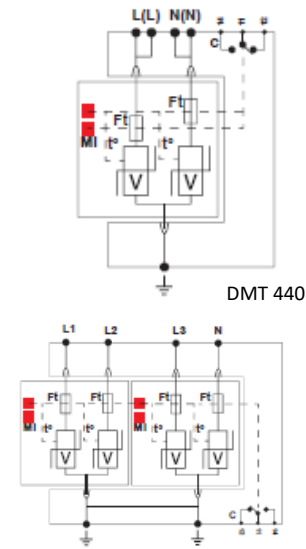
V : High energy MOV

MI : Disconnection indicator

Ft : Thermal fuse

t°: Thermal disconnection mechanism

C : Contact for remote signaling



DMT 440

DTT 440



# Type 2 SPD DMX , DTX 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) 5 sec

Temporary Over Voltage (TOV) 120 mn

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

$U_C$

$U_T$

$U_T$

$I_{pe}$

$I_n$

$I_{max}$  total

$I_{max}$

$U_p$

$I_{sccr}$

## DMX 440

### P8324H

MOV

2 poles (Ph+N)

230v

C1

IT - TN

440Vac

335 Vac

440 Vac

<1 ma

5 KA

30 KA

15 KA

1.3kV

10 000 A

## DTX 440

### P8325H

MOV

4 poles-(3Ph + N)

230/400v

C1

IT - TN

440 Vac

580 Vac / withstand

770 Vac / disconnection

<1 ma

5 KA

60 KA

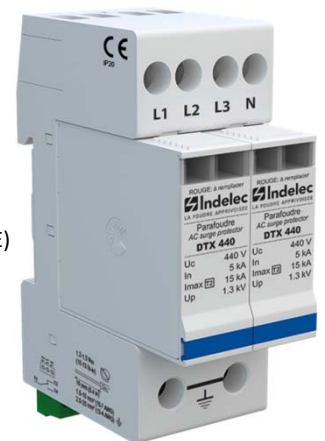
15 KA

1.3 kv

10 000 A



DMX 440



DTX 440

## 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 : 1.5-10mm<sup>2</sup> (L / N), 2.5-25 mm<sup>2</sup> (PE)

mechanical indicator

output on changeover contact

DIN rail 35mm

-40°C / +85°C

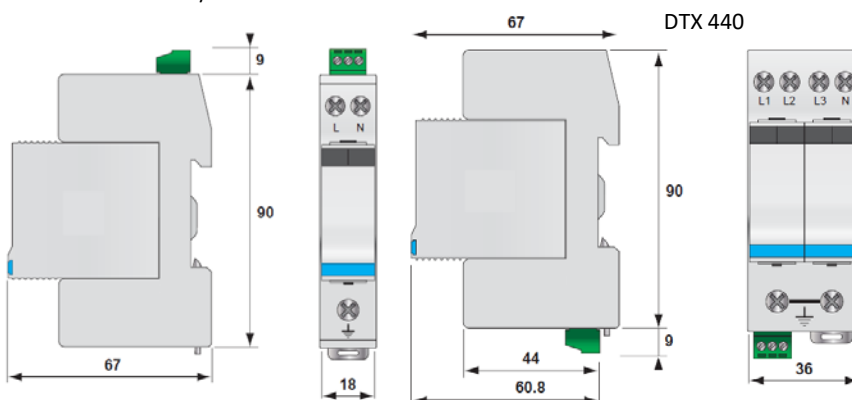
IP20

## 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



DMX 440

DTX 440

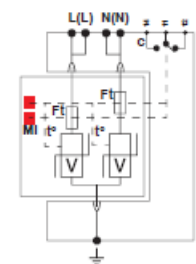
V : High energy MOV

MI : Disconnection indicator

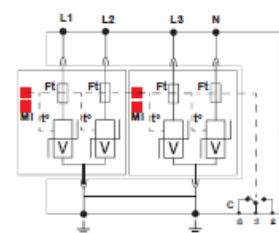
Ft : Thermal fuse

t° : Thermal disconnection mechanism

C : Contact for remote signaling



DMX 440



DTX 440



# Parafoudre Type 2

## DGT 255 C2, 1Ph + N , 3Ph + N

### 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) 5 sec. $U_T$

#### Temporary Over Voltage (TOV) 120 mn $U_T$

#### Temporary Over Voltage N/PE $U_T$

#### Leakage current $I_c$

#### Nominal discharge current $I_n$

#### 15 x 8/20 $\mu$ s impulses

#### Max. discharge current $I_{max}$ total

#### Max. withstand @ 8/20 $\mu$ s

#### Max. discharge current $I_{max}$

#### Max. withstand @ 8/20 $\mu$ s

#### Protection level (@In) $U_p$

#### Admissible short-circuit current $I_{scc}$

### DGT255C2

#### 1Ph + N

#### P84402H

### DGX255C2

#### 3Ph + N

#### P84401H

MOV (L/N)+ Gas discharge tube (N/PE)

2 poles (Ph+N)

230v

C2

TT-TNS

255 Vac

335 Vac / withstand

440 Vac / disconnection

1200V/300A/200ms

<1 mA

10 KA

80 KA

40 KA

40 KA

L/N : 1.25kV, N/PE : 1.5kV

25 000 A

25 000 A

DGT 255 C2 MONO



DGT 255 C2 TETRA



### 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

2.5-25 mm<sup>2</sup>

mechanical indicator

output on changeover contact

DIN rail 35mm

-40°C/+85°C

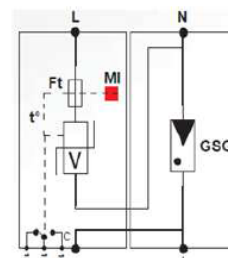
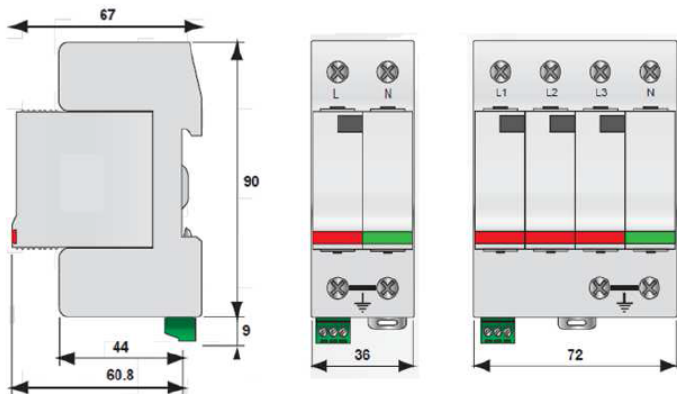
IP20

### Conformité aux normes

IEC 61 643-1 (Internationale) Low voltage SPD – test class II

EN 61 643-11 (Europe) Parafoudres basse tension – essais classe II

NF EN 61 643-11 (France) Parafoudres basse tension – essais classe II



GSG : Specific gas tube

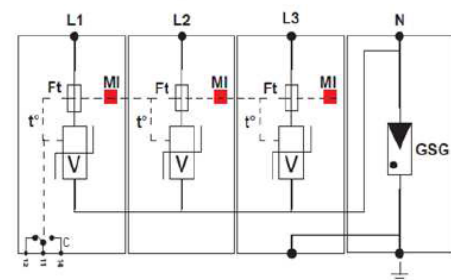
V : High energy MOV

MI : Disconnection indicator

Ft : Thermal fuse

t\* : Thermal disconnection mechanism

C : Contact for remote signaling



# Type 2 (or 3) SPD DGX 255 C2 , 1Ph + N, 3Ph + 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) 5 sec.

## Temporary Over Voltage (TOV) 120 mn

## Temporary Over Voltage N/PE

## 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

## DGX255C2

## MONO

## P84404H

## DGX255C2

## TETRA

## P84403H

MOV (L/N)+ Gas discharge tube (N/PE)

2 poles (Ph+N)

230v

C2

TT-TNS

255 Vac

335 Vac / withstand

440 Vac / disconnection

1200V/300A/200ms

<1 ma

5 KA

30 KA

15 KA

25 000 A

15 KA

25 000 A

L/N : 1.25kV, N/PE : 1.5kV

25 000 A

4 poles-(3Ph + N)

230/400v

C2

TT-TNS

255 Vac

335 Vac / withstand

440 Vac / disconnection

1200V/300A/200ms

<1 ma

5 KA

60 KA

15 KA

15 KA

25 000 A

25 000 A

L/N : 1.25kV, N/PE : 1.5kV

25 000 A

DGX 255 C2 MONO



DGX 255 C2 TETRA



## 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

2.5-25 mm<sup>2</sup>

mechanical indicator

output on changeover contact

DIN rail 35mm

-40°C /+85°C

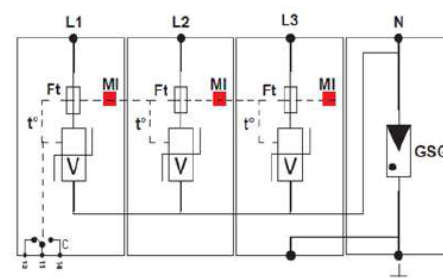
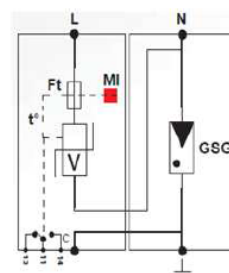
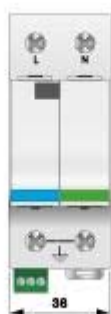
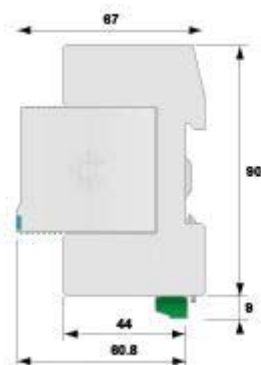
IP20

## 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



GSG : Specific gas tube

V : High energy MOV

MI : Disconnection indicator

Ft : Thermal fuse

t° : Thermal disconnection mechanism

C : Contact for remote signaling

# Type 2 SPD

## DGT 440

### Designation

#### Part number

#### Electrical characteristics

Technology

Number of pole

Network nominal voltage

Protection mode

Max. AC operating system

Temporary Over Voltage (TOV)

Temporary Over Voltage (TOV)

Leakage current

Follow current

Nominal discharge current

15 x 8/20µs impulses

Max. discharge current

Max. withstand @ 8/20µs

Protection level (@In)

Admissible short-circuit current

$U_C$

UT

UT

$I_{pe}$

$I_f$

$I_n$

$I_{max}$

$U_p$

$I_{sccr}$

### DGT 440

#### P8433H

MOV

1 pole

230/400v

IT – TN C1 mode

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

440Vac

580 Vac/5 s withstand

770 Vac/120mn disconnection

<1 ma

None

10kA

40KA

1.5kV

25 000 A

### 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 :4-25mm<sup>2</sup>, by bus

mechanical indicator

output on changeover contact

DIN rail 35mm

-40°C /+85°C

IP20

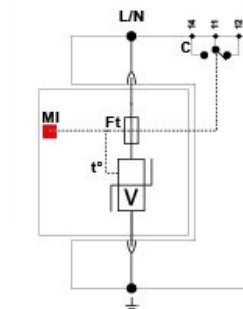
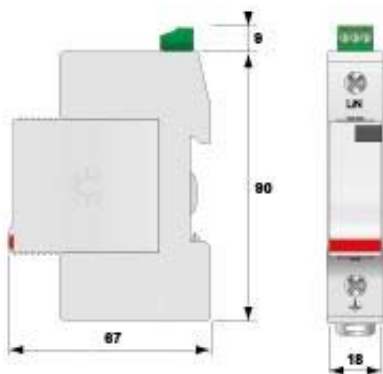


### Standards compliance

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 2 (or 3) SPD DGX 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)

#### Temporary Over Voltage (TOV)

#### Leakage current

#### Follow current

#### Nominal discharge current

#### 15 x 8/20µs impulses

#### Max. discharge current

#### Max. withstand @ 8/20µs

#### Protection level (@In)

#### Admissible short-circuit current

$U_c$

UT

UT

$I_{pe}$

$I_f$

$I_n$

$I_{max}$

$U_p$

$I_{sccr}$

## DGX 440

### P8436H

#### MOV

#### 1 pole

#### 230/400v

#### TT-TN-IT C1 mode

#### TT –TNS C2 mode

#### 440Vac

#### 580 Vac/5 s withstand

#### 770 Vac/120mn disconnection

#### <1 ma

#### None

#### 5kA

#### 10KA

#### 1.3kV

#### 25 000 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 :4-25mm<sup>2</sup>, by bus

### mechanical indicator

### output on changeover contact

### DIN rail 35mm

### -40°C /+85°C

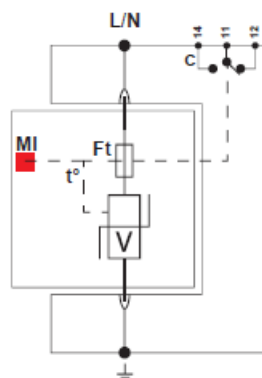
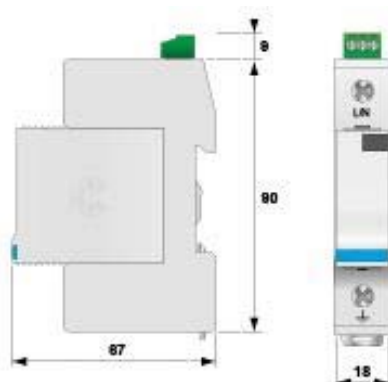
### IP20

## Conformité aux normes

### IEC 61 643-1 (Internationale) Low voltage SPD – test class II

### EN 61 643-11 (Europe) Parafoudres basse tension – essais classe II

### NF EN 61 643-11 (France) Parafoudres basse tension – essais classe II



V : Réseau de varistances haute énergie  
Ft : Fusible thermique  
C : Contact de signalisation  
t° : Système de déconnexion thermique  
Mi : Indicateur de connexion

# 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         | $U_C$      |
| Temporary Over Voltage (TOV)     | UT         |
| Temporary Over Voltage (TOV)     | UT         |
| Leakage current                  | $I_{pe}$   |
| Max. line current                | $I_L$      |
| Follow current                   | $I_f$      |
| Nominal Impulse current          | $I_n$      |
| Max. withstand 10/350 $\mu$ s    |            |
| Nominal discharge current        | $I_n$      |
| 15 x 8/20 $\mu$ s impulses       |            |
| Max. discharge current           | $I_{max}$  |
| Max. withstand @ 8/20 $\mu$ s    |            |
| Protection level (@ $I_n$ )      | $U_p$      |
| Admissible short-circuit current | $I_{sccr}$ |

#### Associated disconnectors

Thermal disconnecter  
Fuses  
Installation ground fault breaker

#### Mechanical characteristics

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

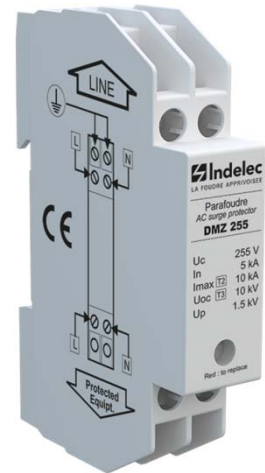
#### Standards compliance

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

### DMZ 255

#### P8326H

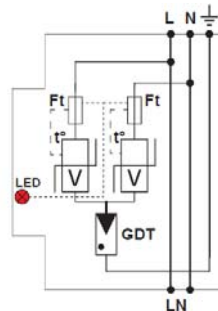
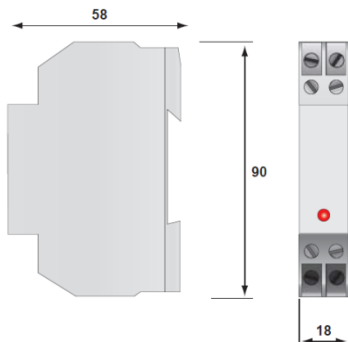
Specific gas discharge tube  
2 – Ph+N  
230v  
C2  
TN  
255 Vac  
335 Vac/5 s withstand  
440 Vac/120mn disconnection  
<1mA  
16 A  
Without  
5 kA  
  
20 kA  
10 KA  
  
1.5kV (L/PE or N/PE) 1 kV (L/N)  
10 000 A



internal  
Fuses type gG – 20 A max.  
Type "S" or delayed

by screw : 2.5mm<sup>2</sup> max  
LED 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 N/PE DGE

## Designation

Part number

## Electrical characteristics

Technology

Number of pole

Network nominal voltage

Connection mode

Neutral configuration

Max. AC operating system

Temporary Over Voltage (TOV)

Leakage current

Follow current

Nominal discharge current

15 x 8/20µs impulses

Max. discharge current

Max. withstand @ 8/20µs

Protection level (@In)

Admissible short-circuit current

$U_c$

$U_T$

$I_{pe}$

$I_f$

$I_n$

$I_{max}$

$U_p$

$I_{sccr}$

DGE

P8319H

Specific gas discharge tube

One pole (1)

230V/400V

N-PE C2 mode

TT – TNS

255 Vac

335 Vac

< 1mA

None

20 kA

40 kA

1.5kV

25 000 A



## Associated disconnectors

Thermal disconnector

Installation ground fault breaker

External

Type "S" or delayed

## Mechanical characteristics

Connection

Mounting

Operating temperature

Ingress Protection

by screw : 6 – 35 mm<sup>2</sup> / by bus

DIN rail 35mm

-40°C /+85°C

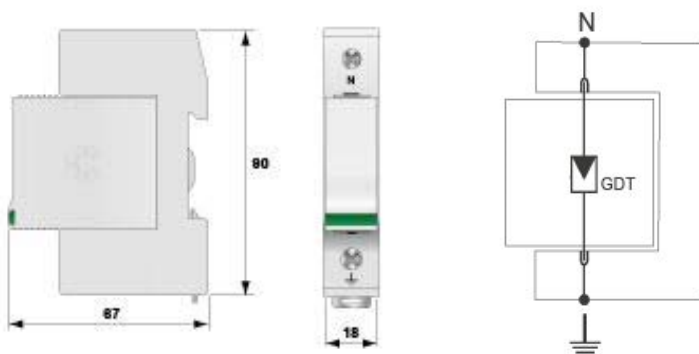
IP20

## Conformité aux normes

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

EN 61 643-11 (Europe) Parafoudres basse tension – essais classe I et II

NF EN 61 643-11 (France) Parafoudres basse tension – essais classe I et II

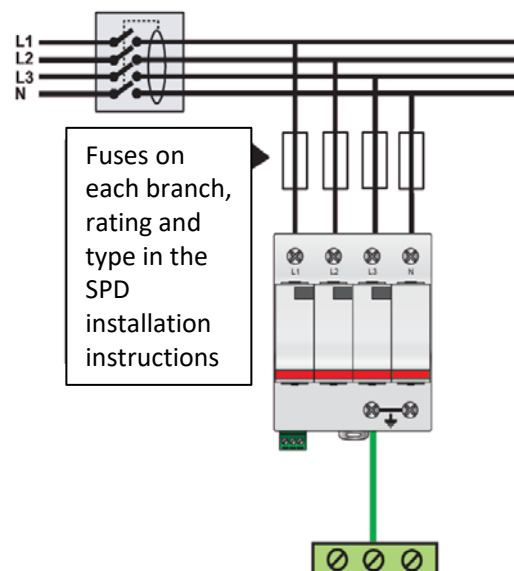


GDT : Gas Discharge Tube

# 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<br>DSU 440<br>DGV 440 | 315 A gG                 |
| DSR 440<br>DMR 440<br>DTR 440 | 125 A gG                 |
| DMT 440<br>DTT 440            | 50 A gG                  |
| DMX 440<br>DTX 440            | 20 A gG                  |



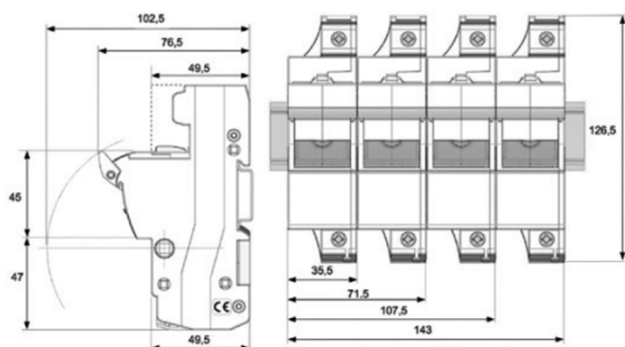


# Gg cylindrical Fuses & Fuse holder

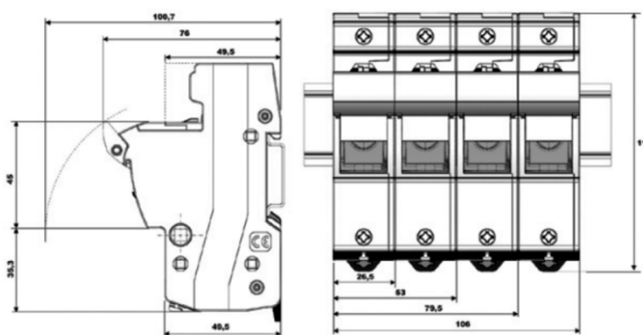
- Modular fuse holder
- DIN Rail Mounting
- Microswitch for fusion signaling
- Equipped with gG cylindrical fuses with striker



| 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       |

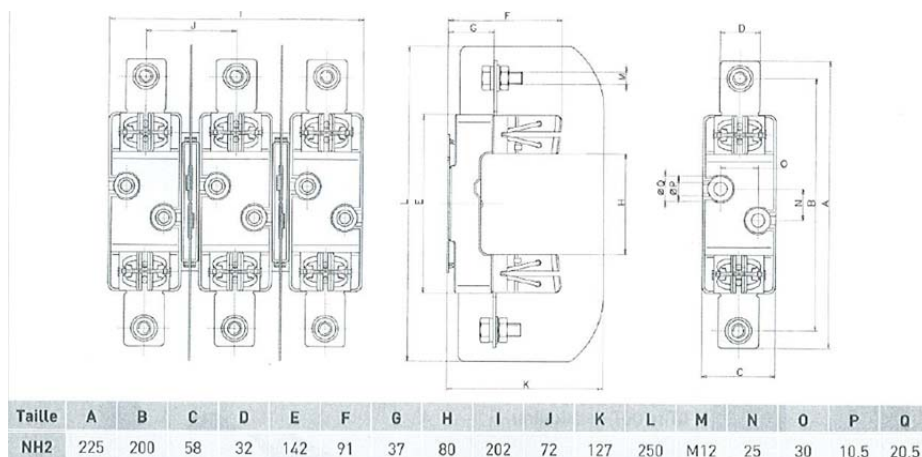


P8941

P8940



\* Delivered without T2 fuse



# 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               |      | P82012      | P82024      | P82048      | P82075        | P82110        |
| 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

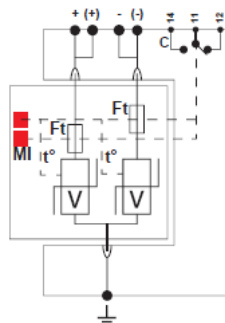
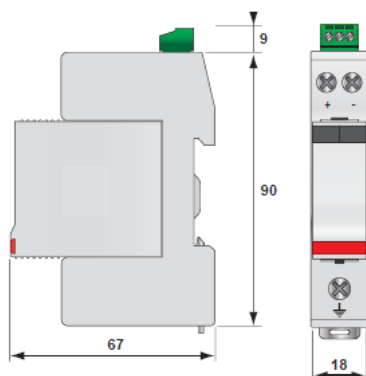
Thermal disconnector internal  
 Protection Fuses (if required) Fuses type gG – 20 A (12 V cc à 48 V cc)  
 Fuses type gG - 50A (75Vdc à 110Vdc).

#### Mechanical characteristics

Connection by screw 1.5 à 10 mm<sup>2</sup> 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

# SPD

## Telecom/Data

### 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<br>P82970      | P82961<br>P82971     | P82962<br>P82972 | P82963<br>P82973 | P82964<br>P82974 |
| Network                                                                 | RTC-ADSL<br>SDL-SHDSL | RNIS-T0<br>Ligne 48V | LS<br>4-20mA     | RS232<br>RS485   | RS422            |
| Nominal voltage (Un)                                                    | 150 V                 | 48V                  | 24V              | 12V              | 6V               |
| Voltage max (Uc)                                                        | 170V                  | 53V                  | 28V              | 15V              | 8V               |
| Current max. (Il)                                                       | 300 mA                | 300 mA               | 300 mA           | 300 mA           | 300 mA           |
| Impulse current (Iimp)<br>on wave 10/350 $\mu$ s -                      | 5kA                   | 5kA                  | 5kA              | 5kA              | 5kA              |
| Nominal impulse current (In)<br>On wave 8/20 $\mu$ s -                  | 5kA                   | 5kA                  | 5kA              | 5kA              | 5kA              |
| Max. discharge current I <sub>max</sub><br>On wave 8/20 $\mu$ 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

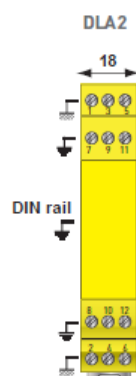
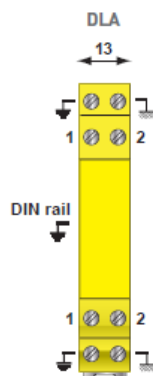
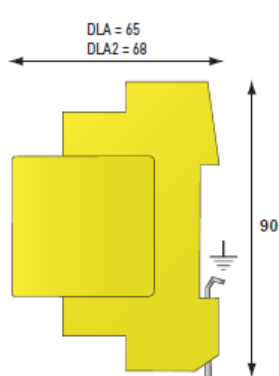
Plastic

by screw 0.4 – 1.5 mm<sup>2</sup> max

DIN rail 35mm

-40°C /+85°C

Thermoplastique UL94-V0



DOC235a.VEN-Rev0



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# SPD

## Telecom/Data

### Specifications

|                                                          |                       |                       |                       |
|----------------------------------------------------------|-----------------------|-----------------------|-----------------------|
| Designation                                              | B180                  | B280                  | B480                  |
| Part Number                                              | P8820                 | P8821                 | P8822                 |
| SPD configuration                                        | 1 pair                | 2 pairs               | 4 pairs               |
| Network                                                  | RTC-ADSL<br>SDL-SHDSL | RTC-ADSL<br>SDL-SHDSL | RTC-ADSL<br>SDL-SHDSL |
| Nominal Line Voltage (Un)                                | 150 V                 | 150 V                 | 150 V                 |
| Max DC operating Voltage (Uc)                            | 170V                  | 170V                  | 170V                  |
| Max Load Current (IL)                                    | 300 mA                | 300 mA                | 300 mA                |
| Impulse Current (Iimp)<br>Test 10/350 $\mu$ s x 2        | 2,5 kA                | 2,5 kA                | 2,5 kA                |
| Nominal discharge current (In)<br>Test 8/20 $\mu$ s x 10 | 5kA                   | 5kA                   | 5kA                   |
| Max Discharge Current Imax<br>Test 8/20 $\mu$ s x 1      | 20kA                  | 20kA                  | 20kA                  |
| Protection Level @In (Up)                                | 220V                  | 220V                  | 220V                  |
| Max Frequency                                            | > 10 MHz              | > 10 MHz              | > 10 MHz              |



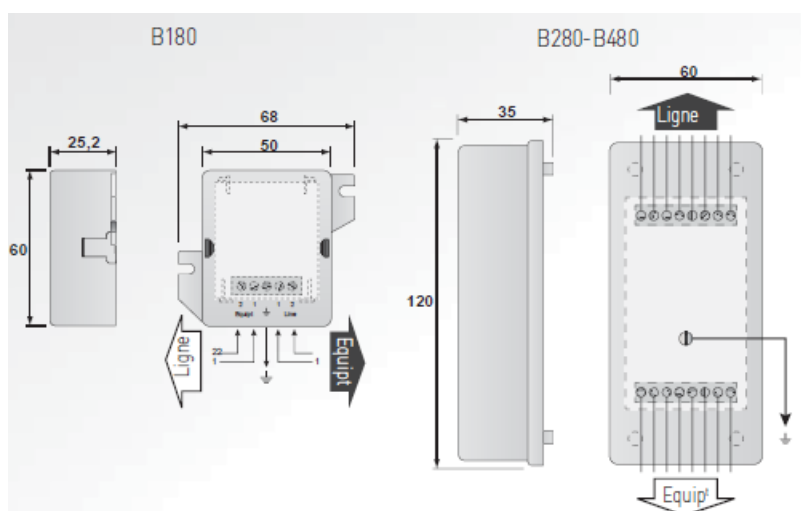
B180



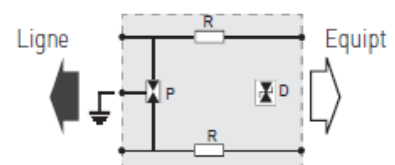
B480

### Mechanical characteristics

|                    |                            |
|--------------------|----------------------------|
| Mounting           | Wall (screws not included) |
| Housing Material   | UL94-V0 Thermoplastic      |
| Ingress Protection | IP20                       |



1 pair version  
Bx80



P : Gas Discharge Tube  
R : Resistor  
D : Clamping Diode

# 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            |
| Nominal Voltage signal Un                              | 5Vdc                       | 5Vdc                | 48Vdc               |
| Voltage max. signal Uc                                 | 8Vdc                       | 8Vdc                | 60Vdc - 1200mA      |
| Configuration                                          | 4 pairs + shielded + earth | 4 pairs + earth     | 8 wires + shielded  |
| Nominal discharge current<br>In : 8/20 $\mu$ s         |                            |                     |                     |
| Phase / Phase                                          | <500A                      | <100A               | <500A               |
| Phase / Earth                                          | 2000A                      | 100A                | 2000A               |
| Max Discharge Current<br>limp - test 10/350 $\mu$ s x2 | 500 A                      | 500 A               | 500 A               |
| Protection Level Up                                    | 20 V                       | 20 V                | 70 V                |

### Mechanical characteristics

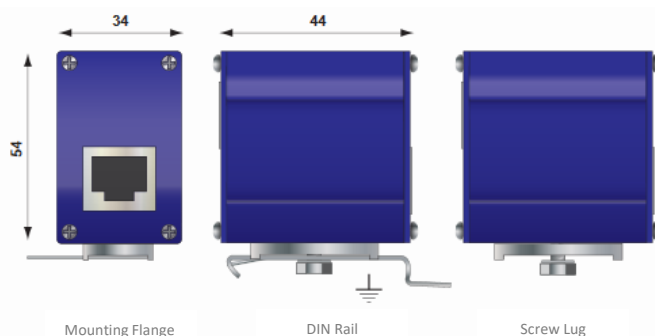
|                         |                                     |
|-------------------------|-------------------------------------|
| Connection              | RJ45 armored                        |
| Disconnection indicator | Transmission interrupt              |
| Earth connection        | mounting flange/ DIN rail/screw lug |
| Housing Material        | Aluminum                            |
| Ingress protection      | IP20                                |

### Standards compliance

CEI 61 643-21  
 EN 61 643-21  
 IEEE 802-3af (transmission)  
 IEC 61000-4-5 (overvoltage withstanding)

### NOTE

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





# Coaxial SPD

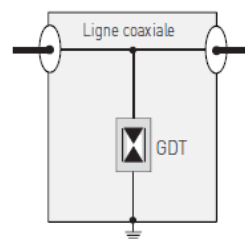
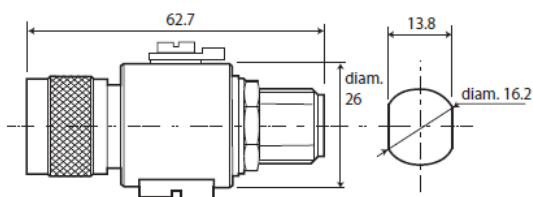
## HF – 4GHz



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

### 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 μs) | 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                  | Serie (two-way)           |                |                |
| Mechanical characteristics  |                           |                |                |
| Connection to network       | N, BNC, F, TNC, SMA, 7/16 |                |                |
| Ground connection           | Feedthrough, M6 screw lug |                |                |
| Ingress Protection          | IP65                      |                |                |
| Operating Temperature       | -40°C à +85°C             |                |                |



GDT: Gas Discharge Tube

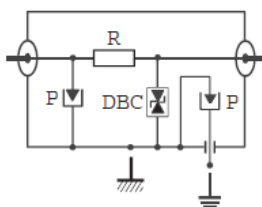
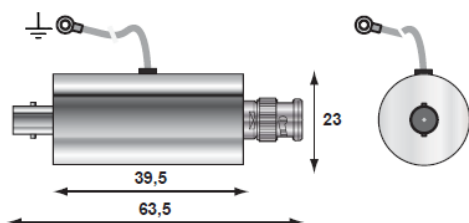
# CCTV SPD



- 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 $\mu$ s) max.  | 10kA          |
| I <sub>max</sub> in wave 8/20 $\mu$ s |               |
| Powermax.                             | 100W          |
| Current max.                          | 6A            |
| Impedance                             | 50 ohms       |
| Mechanical characteristics            |               |
| connectivity                          | BNC, F        |
| Ground connection                     | Wire          |
| Ingress Protection                    | IP65          |
| Operating Temperature                 | -40°C à +85°C |



P: Spark Gap  
DBC: Clamping Diode  
R: Resistor

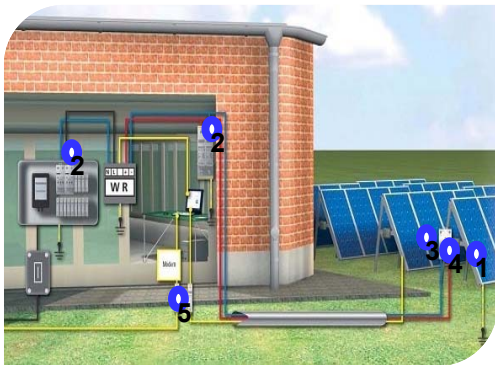
# SPD on request

## Telecoms



A range of surge protectors Telecom by:

- type of line
- site configuration (number of lines to protect)
- type of installation (wall casing, DIN rail, distribution ...) and 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<sub>max</sub> from 80 to 200 kA (8/20  $\mu$ s)
- 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

