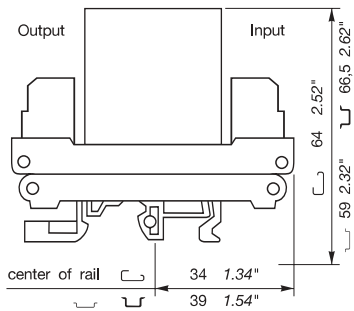
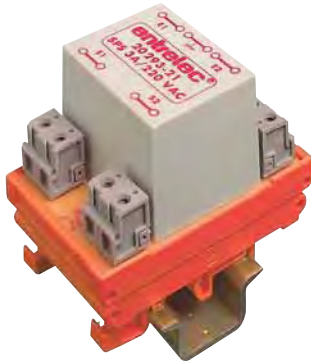


### Protection modules

Surge protection units  
**Series 20 000**

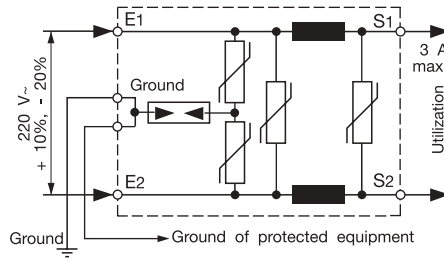
DIN 1 - 3



### Surge protection unit SPS 3/220

3 A - 220 V AC/DC

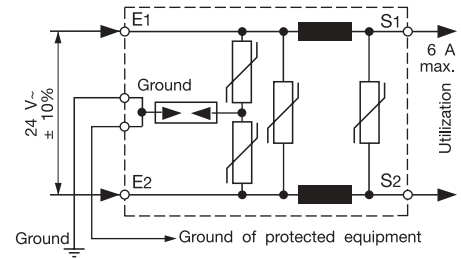
Spacing 48.5 mm 1.91"



### Surge protection unit SPS 6/24

6 A - 24 V AC/DC

Spacing 48.5 mm 1.91"



Designed for use on low voltage networks in an industrial environment, Entrelec SPS products are compatible with isolated or impedance grounded neutral networks.  
 Doubled terminals, wire size of each terminal 2,5 mm<sup>2</sup> 14 AWG.

Part number	Type	P/N	Type	P/N
	SPS 3/220	0020 293.21	SPS 6/24	0020 369.14

Approvals (Contact Entrelec) CE

### Characteristics

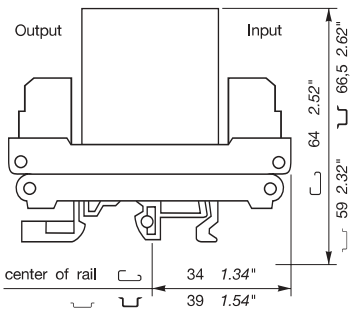
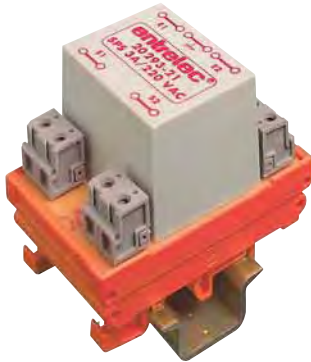
Wave flow current	Peak voltage on output in differential mode in volts			
	surge in common mode	surge in differential mode	surge in common mode	surge in differential mode
Test carried out with hybrid generator 6 kV / 3 kA impedance 2 Ω High wire size connection (1.2 / 50 μs - 8 / 20 μs wave)				
5 surges of 3 kA				
10 surges of 2.5 kA	1060 V	1080 V	318 V	376 V
20 surges of 2 kA	700 V	750 V	202 V	252 V
100 surges of 1 kA	500 V	650 V	112 V	142 V
10 <sup>3</sup> surges of 600 A	450 V	600 V	57 V	94 V
10 <sup>4</sup> surges of 250 A	430 V	530 V	21 V	68 V

Accessories, marking, wire size : see Accessories section.

### Protection modules

Surge protection units  
**Series 20 000**

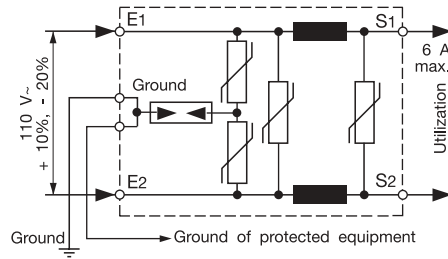
DIN 1 - 3



### Surge protection unit SPS 6/110

6 A - 110 V AC/DC

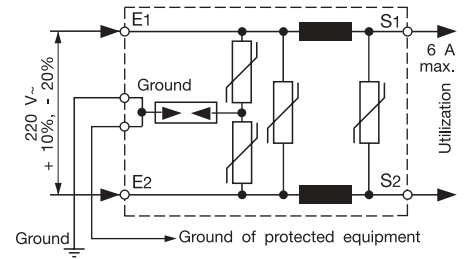
Spacing 48.5 mm 1.91"



### Surge protection unit SPS 6/220

6 A - 220 V AC/DC

Spacing 48.5 mm 1.91"



Designed for use on low voltage networks in an industrial environment, Entrelec SPS products are compatible with isolated or impedance grounded neutral networks.  
 Doubled terminals, wire size of each terminal 2,5 mm<sup>2</sup> 14 AWG.

Part number	Type	P/N	Type	P/N
	SPS 6/110	0020 292.20	SPS 6/220	0020 291.27

Approvals (Contact Entrelec)	CE	CE
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Characteristics	Peak voltage on output in differential mode in volts			
	surge in common mode	surge in differential mode	surge in common mode	surge in differential mode
Wave flow current				
Test carried out with hybrid generator				
6 kV / 3 kA impedance 2 Ω				
High wire size connection				
(1.2 / 50 μs - 8 / 20 μs wave)				
5 surges of 3 kA				
10 surges of 2.5 kA	1340 V	1080 V	1350 V	980 V
20 surges of 2 kA	800 V	700 V	1060 V	780 V
100 surges of 1 kA	600 V	500 V	900 V	650 V
10 <sup>3</sup> surges of 600 A	550 V	450 V	850 V	600 V
10 <sup>4</sup> surges of 250 A	520 V	420 V	800 V	550 V

Accessories, marking, wire size : see Accessories section.



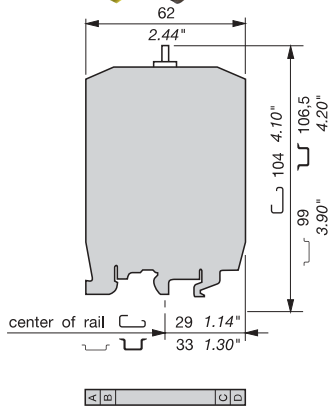
# APPLICATION OF "DATA" PRODUCTS

	<i>Networks or Applications</i>	<i>Entrelec products</i>	<i>Page</i>
<b>S E R I A L  L I N K S</b>	RS232C (V24)	DATA PU3-200 12V	0008 030.01 627
		DATA PU1-200 12V	0008 032.27 626
	RS422-485 (V11)	DATA PU5-200 5V	0008 041.00 628
	Current loop	DATA PU3-200 24V	0008 037.24 627
		DATA PU1-200 24V	0008 033.20 626
<b>N E T W O R K S</b>	Profibus (500 kBits/S)	DATA PU3-200 5V	0008 029.04 627
	Interbus-S	DATA PU5-200 5V	0008 041.00 628
<b>T E L E P H O N E</b>		DATA PU4-200 240V	0008 040.13 627
<b>A N A L O G</b>	Loop 0/4-20 mA	DATA SP BE/C	
	0-10 V	DATA PU1-200 12V	0008 032.27 626
		DATA PU3-200 12V	0008 030.01 627



**Protection modules**  
Surge protection units  
**Series 8 000**

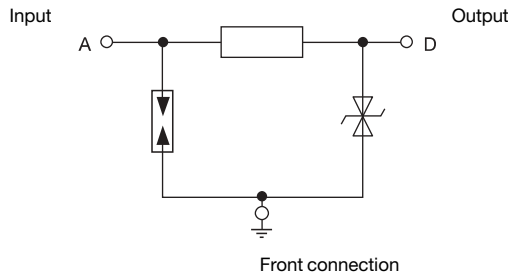
DIN 1 - 3



**Surge protection unit**  
**DATA PU1 - 200**

5 to 48 V DC

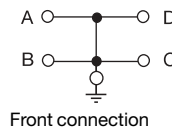
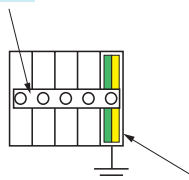
Spacing 9 mm .354"



- Protection of an active wire in relation to ground between "ZONE 1" and "ZONE 2"
- DC voltage.
- Cascade protection in common mode by discharger, power resistor, zener.
- Ground connection on front using a simple jumper bar.

- The use of a PRT and BJS jumper bar will provide an easy jumping method for ground connections. The PRT provides 4 screw terminal connections for ground connections.

**BJS9** 8 poles **0177 583.12**  
**BJS9** 16 poles **0177 584.13**

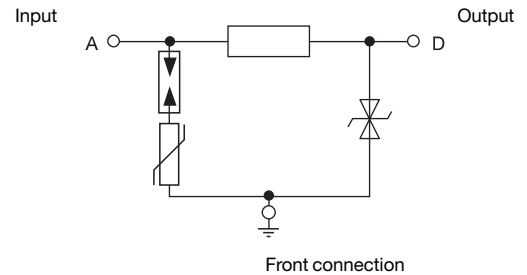


**0008 001.01**

**Surge protection unit**  
**DATA PU2 - 200**

110 to 240 V AC

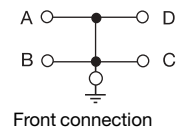
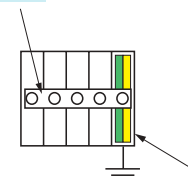
Spacing 9 mm .354"



- Protection of an active wire in relation to ground between "ZONE 1" and "ZONE 2"
- AC voltage.
- Cascade protection in common mode by discharger in series with varistor, power resistor, zener.
- Ground connection on front using a simple jumper bar.

- The use of a PRT and BJS jumper bar will provide an easy jumping method for ground connections. The PRT provides 4 screw terminal connections for ground connections.

**BJS9** 8 poles **0177 583.12**  
**BJS9** 16 poles **0177 584.13**



**0008 001.01**

**Part numbers**

Type	P/N	Type	P/N
<b>DATA PU1-200</b> 5 V DC	<b>0008 031.26</b>	<b>DATA PU2-200</b> 110 to 130 V AC	<b>0008 035.22</b>
<b>DATA PU1-200</b> 12 V DC	<b>0008 032.27</b>	<b>DATA PU2-200</b> 220 to 240 V AC	<b>0008 036.23</b>
<b>DATA PU1-200</b> 24 V DC	<b>0008 033.20</b>		
<b>DATA PU1-200</b> 48 V DC	<b>0008 034.21</b>		

Approvals (Contact Entelec)



**Characteristics**

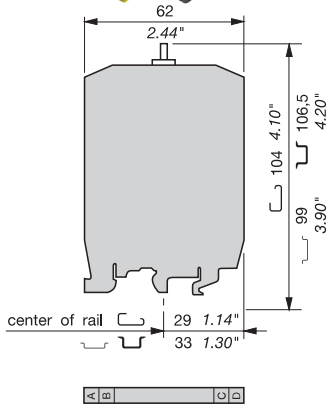
Rated voltage	$V_n$	5 V DC	12 V DC	24 V DC	48 V DC	110 to 130 V AC	220 to 240 V AC
Max. voltage	$V_c$	7 V DC	15 V DC	28 V DC	55 V DC	150 V AC	265 V AC
Max. current	$I_n$	0.2 A				0.2 A	
Max. upstream fuse		0.2 A				0.2 A	
Wave flow current		5 x 10 kA surges				5 x 5 kA surges	
(test conducted with a		10 x 2.5 kA surges				10 x 2.5 kA surges	
20 kV / 10 kA hybrid generator)		20 x 2 kA surges				20 x 2 kA surges	
(1.2 / 50 $\mu$ s - 8 / 20 $\mu$ s wave)		100 x 1 kA surges				100 x 1 kA surges	
		$10^3$ x 600 A surges				$10^3$ x 600 A surges	
		$10^4$ x 250 A surges				$10^4$ x 250 A surges	
Response frequency - 1 dB		1 MHz / 150 $\Omega$				1 MHz / 150 $\Omega$	
Serial / Line resistance		10 $\Omega$				10 $\Omega$	
Peak voltage on output = protection level $V_p$		< 25 V	< 60 V	< 100 V	< 200 V	< 400 V	< 800 V
6 kV / 3 kA		< 10 V	< 20 V	< 40 V	< 80 V	< 280 V	< 500 V
1 kV / $\mu$ s							
Tightening torque on front connection (Nm)		0.4 min. / 0.6 max.				0.4 min. / 0.6 max.	
Degree of protection		IP20				IP20	
<b>TEMPERATURE</b>							
Ambient temperature							
Storage		- 40°C to + 80°C				- 40°C to + 80°C	
Operating		- 20°C to + 50°C				- 20°C to + 50°C	

Accessories, marking, wire size : see Accessories section.



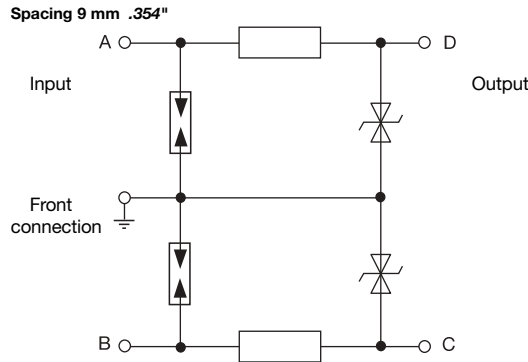
**Protection modules**  
Surge protection units  
**Series 8 000**

DIN 1 - 3



**Surge protection unit**  
**DATA PU3 - 200**

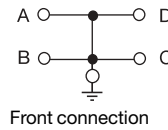
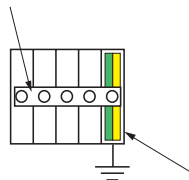
5 to 48 V DC



- Protection of two active wires in relation to ground between "ZONE 1" and "ZONE 2".
- DC voltage.
- Protection in common mode and in differential mode by discharger, power resistor, zener.
- Ground connection on front using a simple jumper bar.

- The use of a PRT and BJS jumper bar will provide an easy jumping method for ground connections. The PRT provides 4 screw terminal connections for ground connections.

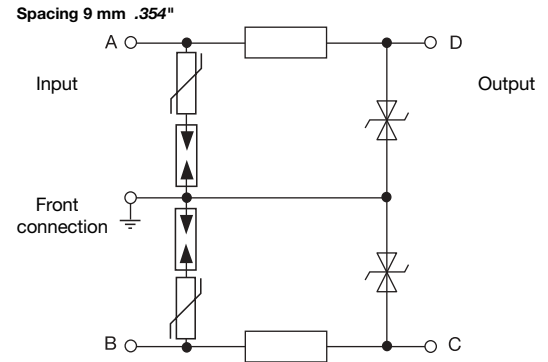
**BJS9** 8 poles **0177 583.12**  
**BJS9** 16 poles **0177 584.13**



**PRT** **0008 001.01**

**Surge protection unit**  
**DATA PU4 - 200**

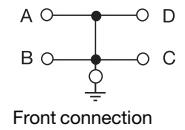
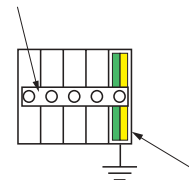
110 to 240 V AC



- Protection of two active wires in relation to ground between "ZONE 1" and "ZONE 2".
- AC voltage.
- Protection in common mode and in differential mode by discharger in series with varistor, power resistor, zener.
- Ground connection on front using a simple jumper bar.

- The use of a PRT and BJS jumper bar will provide an easy jumping method for ground connections. The PRT provides 4 screw terminal connections for ground connections.

**BJS9** 8 poles **0177 583.12**  
**BJS9** 16 poles **0177 584.13**



**PRT** **0008 001.01**

Part number	Type	P/N
<b>DATA PU3-200</b>	5 V DC	<b>0008 029.04</b>
<b>DATA PU3-200</b>	12 V DC	<b>0008 030.01</b>
<b>DATA PU3-200</b>	24 V DC	<b>0008 037.24</b>
<b>DATA PU3-200</b>	48 V DC	<b>0008 038.05</b>
<b>DATA PU4-200</b>	110 to 130 V AC	<b>0008 039.06</b>
<b>DATA PU4-200</b>	220 to 240 V AC	<b>0008 040.13</b>

<b>Approvals</b> (Contact Entelec)	SR/NRTL	CE SR/NRTL	CE
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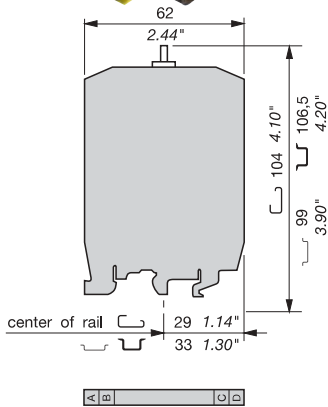
<b>Characteristics</b>							
Rated voltage	$V_n$	5 V DC	12 V DC	24 V DC	48 V DC	110 to 130 V AC	220 to 240 V AC
Max. voltage	$V_c$	7 V DC	15 V DC	28 V DC	55 V DC	150 V AC	265 V AC
Max. current	$I_n$	0.2 A				0.2 A	
Max. upstream fuse		0.2 A				0.2 A	
Wave flow current		5 x 10 kA surges				5 x 5 kA surges	
(test conducted with a		10 x 2.5 kA surges				10 x 2.5 kA surges	
20 kV / 10 kA hybrid generator)		20 x 2 kA surges				20 x 2 kA surges	
(1.2 / 50 $\mu$ s - 8 / 20 $\mu$ s wave)		100 x 1 kA surges				100 x 1 kA surges	
		$10^3$ x 600 A surges				$10^3$ x 600 A surges	
		$10^4$ x 250 A surges				$10^4$ x 250 A surges	
Response frequency - 1 dB		1 MHz / 150 $\Omega$				1 MHz / 150 $\Omega$	
Serial / Line resistance		10 $\Omega$				10 $\Omega$	
Peak voltage on output = protection							
level $V_p$	6 kV / 3 kA	< 25 V	< 60 V	< 100 V	< 200 V	< 400 V	< 800 V
	1 kV / $\mu$ s CM	< 10 V	< 20 V	< 40 V	< 80 V	< 280 V	< 500 V
	1 kV / $\mu$ s DM	< 20 V	< 40 V	< 80 V	< 160 V	< 560 V	< 1000 V
Tightening torque on front connection (Nm)		0.4 min. / 0.6 max.				0.4 min. / 0.6 max.	
Degree of protection		IP20				IP20	
<b>TEMPERATURE</b>							
Ambient temperature							
Storage		- 40°C to + 80°C				- 40°C to + 80°C	
Operating		- 20°C to + 50°C				- 20°C to + 50°C	

Accessories, marking, wire size : see Accessories section.



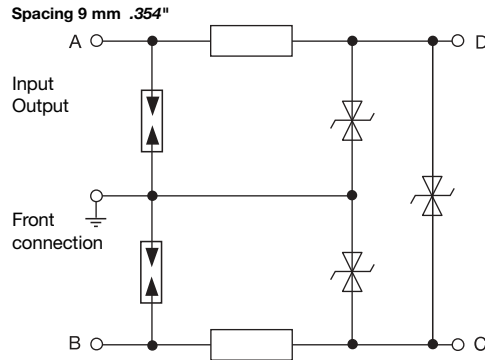
**Protection modules**  
Surge protection units  
**Series 8 000**

DIN 1 - 3



**Surge protection unit**  
**DATA PU5 - 200**

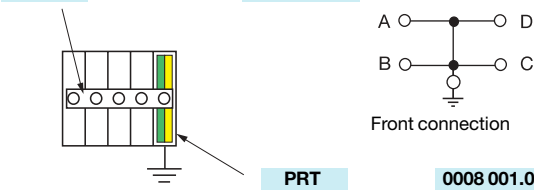
5 V DC



- Protection of two active wires in relation to ground between "ZONE 1" and "ZONE 2" - DC voltage.
- Protection in common mode and in differential mode by discharger, power resistor, zener.
- Ground connection on front using a simple jumper bar.
- Addition of a 6.8 V transorb in differential mode for 5 V application (RS 422/485).

- The use of PRT and BJS jumper bar will provide an easy jumping method for ground connections. The PRT provides 4 screw terminal connections for ground connections.

**BJS9** 8 poles **0177 583.12**  
**BJS9** 16 poles **0177 584.13**



Part number	Type	P/N	Type	P/N
<b>DATA PU5-200</b>	5 V DC	<b>0008 041.00</b>		

<b>Approvals</b> (Contact Entelec)		
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<b>Characteristics</b>			
Rated voltage	$V_n$	24 V in CM	5 V in DM
Max. voltage	$V_c$	28 V in CM	5.8 V in DM
Max. current	$I_n$	0.2 A	
Max. upstream fuse		0.2 A	
Wave flow current		5 x 10 kA surges	
(test conducted with a 20 kV / 10 kA hybrid generator)		10 x 2.5 kA surges	
(1.2 / 50 $\mu$ s - 8 / 20 $\mu$ s wave)		20 x 2 kA surges	
		100 x 1 kA surges	
		10 <sup>3</sup> x 600 A surges	
		10 <sup>4</sup> x 250 A surges	
Response frequency - 1 dB		1 MHz / 150 $\Omega$	
Serial / Line resistance		10 $\Omega$	
Peak voltage on output = protection level $V_p$	6 kV / 3 kA	< 13.4 V	
	1 kV / $\mu$ s	CM	< 40 V
		DM	< 10 V
Tightening torque on front connection (Nm)		0.4 min. / 0.6 max.	
Degree of protection		IP20	
<b>TEMPERATURE</b>			
Ambient temperature			
Storage		- 40°C to + 80°C	
Operating		- 20°C to + 50°C	

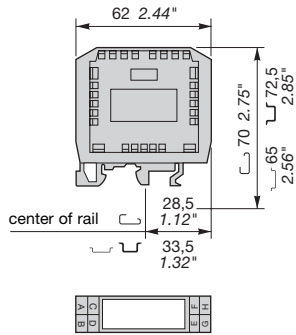
Accessories, marking, wire size : see Accessories section.



**Protection modules**

Surge protection units  
Series 10 000

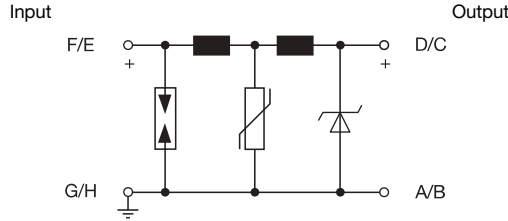
DIN 1 - 3



**Surge protection unit  
PU1**

12 to 60 V DC

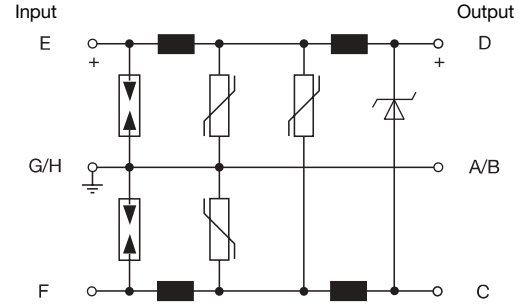
Spacing 23 mm .906"



**Surge protection unit  
PU3**

12 to 60 V DC

Spacing 23 mm .906"



- Double II protection of an active wire in relation to ground.
- Cascade protection in common mode by discharger, mov, varistor, mov, zener.
- High energy protection :
  - . control voltages
  - . PLC outputs.

- Double II protection of two active wires in relation to ground.
- Protection in common mode by discharger, mov, varistor.
- Protection in differential mode by varistor, mov, zener.
- High energy protection :
  - . control voltages
  - . PLC outputs.

Part number	Type		P/N	Type		P/N
	PU1	12 V DC	0010 620.02	PU3	12 V DC	0010 627.25
	PU1	24 V DC	0010 621.27	PU3	24 V DC	0010 628.06
	PU1	48 V DC	0010 622.20	PU3	48 V DC	0010 629.07
	PU1	60 V DC	0010 623.21	PU3	60 V DC	0010 630.04

Approvals (Contact Entelec) CE

**Characteristics**

Rated voltage ± 10%	12 V DC	24 V DC	48 V DC	60 V DC	12 V DC	24 V DC	48 V DC	60 V DC
Rated current	1 A				1 A			
Wave flow current (test conducted with a 6 kV / 3 kA hybrid generator) (1.2 / 50 µs - 8 / 20 µs wave)	10 kA				10 kA			
Max. voltage for a disturbing input voltage of 1 kV/µs :	U A-D	≤ 1.7 V rated			≤ 1.7 V rated			
	U D-ground				≤ 2 V rated			
	U A-ground							
Transmission frequency	20 kHz / 50 Ω				20 kHz / 50 Ω			
Response time for an output voltage on :	A-B/D-C	0.1 ns			0.1 ns			
	D-ground				100 ns			
<b>TEMPERATURE</b>								
Ambient temperature								
Storage	- 40°C to + 80°C				- 40°C to + 80°C			
Operating	- 20°C to + 60°C				- 20°C to + 60°C			

Accessories, marking, wire size : see Accessories section.