

New Products 2010

Yellow Protects

04/2010



 **LEUTRON®**

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Power Engineering

Combined arrester type 1 + type 2

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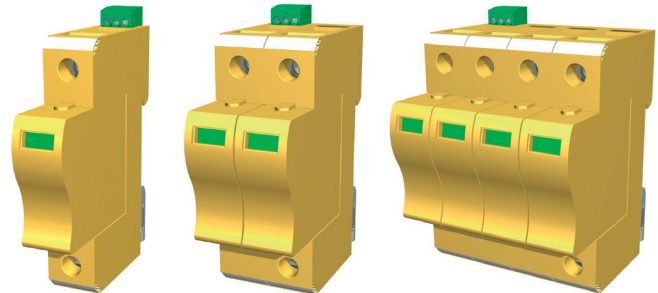
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Class I+II (T1+T2) Combined Arresters

IsoPro pluggable: IPS BC 12.5-series

Leutron introduces a new series of pluggable combined lightning and surge protectors type 1 and 2.

They have a discharge capacity of 12.5 kA (10/350µs) and 25 kA (8/20µs) per pole and are fitted to applications with lightning protection level (LPL) III and IV.



The protection modules of the new IPS BC 12,5 series are all designed as pluggable, therefore the protection module can be removed from the base part without altering the cabling.

This eases for example the measuring of the insulation level in the application or the exchange in case of failure.

All common types are available:

- Single pole
- Double pole, both for TN as 2-0 and as 1+1 circuit for TT supply systems
- Tripple pole as 3-0 circuit for TNC supply systems
- Four pole, both as 4-0 and 3+1 circuit for TNS and TT supply systems

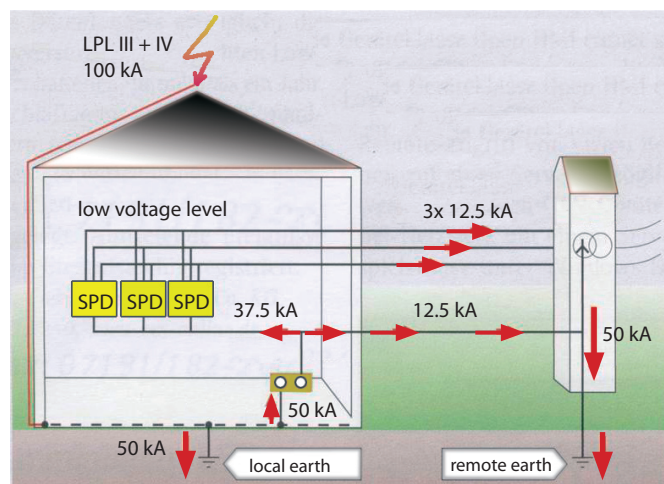
Additionally a single pole N-PE spark gap with a discharge current of 50 kA (10/350 µs) is also available.

All variants are optionally available with a remote contact.

Distribution of the lightning current in 4 wire systems and with Lightning Protection Level (LPL) III + IV

At the Lightning Protection Level (LPL) III + IV the assumed maximum lightning impulse current is 100 kA. According to IEC 62305-3 the current distribution is 50% into the local earth and 50% into the cable-connected conductive system. Therefore it is assumed that a maximum of 50% of the lightning impulse current, which means a maximum of 50 kA, flows via the potential equalization panel into the power supply system of the accordant building.

The current in a 4 wire power system splits (again) symmetrically and therefore only 12.5 kA each flow over the PEN wire and via the three phases L1, L2 and L3 back to the transformer to the remote earth.



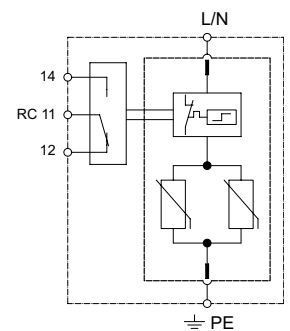
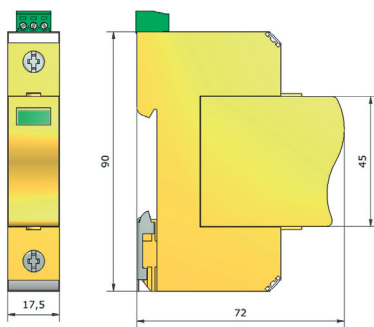
Class I+II (T1+T2) Combined Arresters

IsoPro BC pluggable

IPS BC 12.5

Single pole pluggable combined lightning and surge arrester, for example for L/N-PE and L-PEN

- High lightning impulse discharge current of 12.5 kA (10/350)
- Optionally with remote contact (FM)



Technical Data	IPS BC 12.5/275	IPS BC 12,5/320
Nominal voltage AC (UN)	230 V~	230 V~
Max. continuous operating voltage AC (Uc)	275 V~	320 V~
Max. continuous operating voltage DC (Uc)	350 V =	420 V =
Nominal discharge current (8/20) (In)	25 kA	25 kA
max. discharge current (8/20) (Imax)	50 kA	50 kA
Impulse current (10/350µs) (Iimp)	12.5 kA	12.5 kA
Protection level at In (8/20µs) (Up)	< 1.3.kV	< 1.4 kV
Protection level at 5kA (8/20µs) (Uas)	< 0.9 kV	< 1.0 kV
Response time (tA)	< 25 ns	< 25 ns
back up fuse (if mains >250 A)	160 A gL	160 A gL
Short-circuit withstand current (Ik)	25 kA	25 kA
Operating temperature range (TU)	-40 - +80 °C	-40 - +80 °C
Max. conductor cross section	35 stranded/25 fine-stranded [mm ²]	35 stranded/25 fine-stranded [mm ²]
Max. connection torque for terminals	3.5 Nm	3.5 Nm
Degree of protection (IEC EN 60529)	IP 20	IP 20
Enclosure material / colour	Thermoplastic UL94-V0/yellow	Thermoplastic UL94-V0/yellow
Mounting on	DIN rail 35 mm (DIN EN 50 022)	DIN rail 35 mm (DIN EN 50 022)
Dimensions (DIN 43880)	1 TE	1 TE
Net weight / pc	160 g	170 g

Order Data

Product	IPS BC 12,5/275	IPS BC 12,5/320
Ordering part no.	38 16 40	38 16 60

Technical Data and Order Data	IPS BC 12,5/275/FM	IPS BC 12,5/320/FM
FM contact / contact type	Changeover contact	Changeover contact
Switching capacity	AC: 250V/0,5A 125V/3A	AC: 250V/0,5A 125V/3A
Product	IPS BC 12,5/275/FM	IPS BC 12,5/320/FM
Ordering part no.	38 16 41	38 16 61

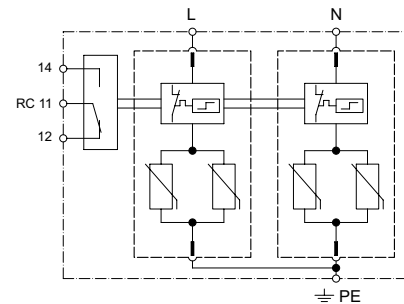
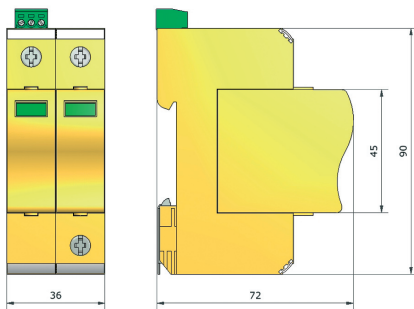
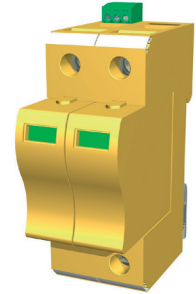
Class I+II (T1+T2) Combined Arresters

IsoPro BC pluggable

IPS BC TN 12.5

Single pole pluggable combined lightning and surge arrester, for example for 1-phase TN systems.

- High lightning impulse discharge current of 12.5 kA (10/350) per pole
- Optionally with remote contact (FM)



Technical Data	IPS BC TN 12,5/275	IPS BC TN 12,5/320
Nominal voltage AC (UN)	230 V~	230 V~
Max. continuous operating voltage AC (Uc)	275 V~	320 V~
Max. continuous operating voltage DC (Uc)	350 V =	420 V =
Nominal discharge current (8/20) (In)	25 kA per pole	25 kA per pole
max. discharge current (8/20) (Imax)	50 kA per pole	50 kA per pole
Impulse current (10/350µs) (Iimp)	12.5 kA per pole	12.5 kA per pole
Impulse current (10/350µs) (L+N-PE) (Iimp)	25 kA	25 kA
Protection level at In (8/20µs) (Up)	< 1.3 kV	< 1.4 kV
Protection level at 5kA (8/20µs) (Uas)	< 0.9 kV	< 1.0 kV
Response time (tA)	< 25 ns	< 25 ns
back up fuse (if mains > 250 A)	160 A gL	160 A gL
Short-circuit withstand current (Ik)	25 kA	25 kA
Operating temperature range (TU)	-40 - +80 °C	-40 - +80 °C
Max. conductor cross section	35 stranded/25 fine-stranded [mm ²]	35 stranded/25 fine-stranded [mm ²]
Max. connection torque for terminals	3.5 Nm	3.5 Nm
Degree of protection (IEC EN 60529)	IP 20	IP 20
Enclosure material / colour	Thermoplastic UL94-V0/yellow	Thermoplastic UL94-V0/yellow
Mounting on	DIN rail 35 mm (DIN EN 50 022)	DIN rail 35 mm (DIN EN 50 022)
Dimensions (DIN 43880)	2 TE	2 TE
Net weight / pc	320 g	350 g

Order Data	IPS BC TN 12,5/275	IPS BC TN 12,5/320
Product	IPS BC TN 12,5/275	IPS BC TN 12,5/320
Ordering part no.	38 16 42	38 16 62

Technical Data und Order Data	IPS BC TN 12,5/275/FM	IPS BC TN 12,5/320/FM
FM contact / contact type	Changeover contact	Changeover contact
Switching capacity	AC: 250V/0,5A 125V/3A	AC: 250V/0,5A 125V/3A
Product	IPS BC TN 12,5/275/FM	IPS BC TN 12,5/320/FM
Ordering part no.	38 16 43	38 16 63

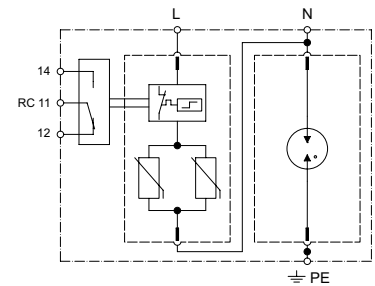
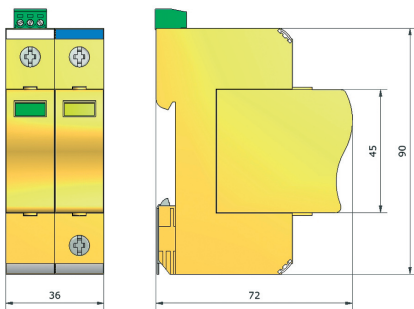
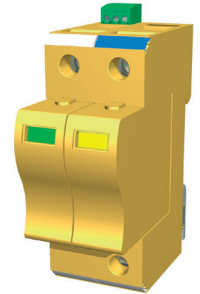
Class I+II (T1+T2) Combined Arresters

IsoPro BC pluggable

IPS BC TT1+1 12.5

Two pole pluggable combined lightning and surge arrester, for example for 1-phase TT- und TN-S-systems

- High lightning impulse discharge current of 12.5 kA (10/350 μs) per pole
- Optionally with remote contact (FM)



Technical Data	IPS BC TT1+1 12,5/275	IPS BC TT1+1 12,5/320
Nominal voltage AC (UN)	230 V~	230 V~
Max. continuous operating voltage AC (Uc)	275 V~	320 V~
Max. continuous operating voltage DC (Uc)	350 V=	420 V=
Nominal discharge current (8/20) (In)	25 kA (MOV) / 30 kA (GDT)	25 kA (MOV) / 30 kA (GDT)
max. discharge current (8/20) (Imax)	50 kA (MOV + GDT)	50 kA (MOV + GDT)
Impulse current (10/350μs) (Iimp)	12.5 kA (MOV) / 50 kA (GDT)	12.5 kA (MOV) / 50 kA (GDT)
Impulse current (10/350μs) (L+N-PE) (Iimp)	25 kA	25 kA
Protection level at In (8/20μs) (Up)	< 1.3 kV (MOV) / < 1.5 kV (GDT)	< 1.4 kV (MOV) / < 1.5 kV (GDT)
Protection level at 5kA (8/20μs) (Uas)	< 0.9 kV (MOV)	< 1.0 kV (MOV)
Response time (tA)	< 25 ns	< 25 ns
back up fuse (if mains >250 A)	160 A gL (MOV) / - (GDT)	160 A gL (MOV) / - (GDT)
Short-circuit withstand current (Ik)	25 kA (MOV) / - (GDT)	25 kA (MOV) / - (GDT)
Operating temperature range (TU)	-40 - +80 °C	-40 - +80 °C
Max. conductor cross section	35 stranded/25 fine-stranded [mm ²]	35 stranded/25 fine-stranded [mm ²]
Max. connection torque for terminals	3.5 Nm	3.5 Nm
Degree of protection (IEC EN 60529)	IP 20	IP 20
Enclosure material / colour	Thermoplastic UL94-V0/yellow	Thermoplastic UL94-V0/yellow
Mounting on	DIN rail 35 mm (DIN EN 50 022)	DIN rail 35 mm (DIN EN 50 022)
Dimensions (DIN 43880)	2 TE	2 TE
Net weight / pc	320 g	350 g

Order Data

Product	IPS BC TT1+1 12,5/275	IPS BC TT1+1 12,5/320
Ordering part no.	38 16 44	38 16 64

Technical Data und Order Data	IPS BC TT1+1 12,5/275/FM	IPS BC TT1+1 12,5/320/FM
FM contact / contact type	Changeover contact	Changeover contact
Switching capacity	AC: 250V/0,5A 125V/3A	AC: 250V/0,5A 125V/3A
Product	IPS BC TT1+1 12,5/275/FM	IPS BC TT1+1 12,5/320/FM
Ordering part no.	38 16 45	38 16 65

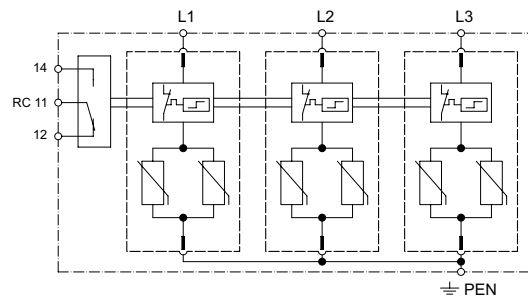
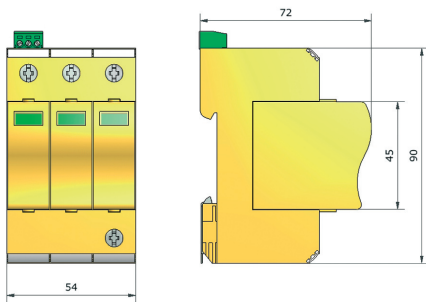
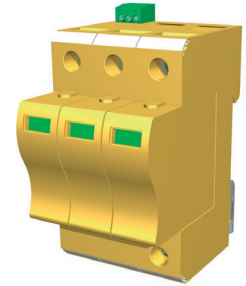
Class I+II (T1+T2) Combined Arresters

IsoPro BC pluggable

IPS BC TNC 12.5

Three pole, pluggable ercombined lightning and surge arrester, for example for 3-phase TN-C systems

- High lightning impulse discharge current of 12.5 kA (10/350 µs) per pole
- Optionally with remote contact (FM)



Technical Data	IPS BC TNC 12,5/275	IPS BC TNC 12,5/320
Nominal voltage AC (UN)	230 V~	230 V~
Max. continuous operating voltage AC (Uc)	275 V~	320 V~
Max. continuous operating voltage DC (Uc)	350 V =	420 V =
Nominal discharge current (8/20) (In)	25 kA per pole	25 kA per pole
max. discharge current (8/20) (Imax)	50 kA per pole	50 kA per pole
Impulse current (10/350µs) (Iimp)	12.5 kA per pole	12.5 kA per pole
Impulse current (L1+L2+L3-PEN) (Iimp)	37.5 kA	37.5 kA
Protection level at In (8/20µs) (Up)	< 1.4 kV	< 1.5 kV
Protection level at 5kA (8/20µs) (Uas)	< 1.0 kV	< 1.1 kV
Response time (tA)	< 25 ns	< 25 ns
back up fuse (if mains > 250 A)	160 A gL	160 A gL
Short-circuit withstand current (Ik)	25 kA	25 kA
Operating temperature range (TU)	-40 - +80 °C	-40 - +80 °C
Max. conductor cross section	35 stranded/25 fine-stranded [mm ²]	35 stranded/25 fine-stranded [mm ²]
Max. connection torque for terminals	3.5 Nm	3.5 Nm
Degree of protection (IEC EN 60529)	IP 20	IP 20
Enclosure material / colour	Thermoplastic UL94-V0/yellow	Thermoplastic UL94-V0/yellow
Mounting on	DIN rail 35 mm (DIN EN 50 022)	DIN rail 35 mm (DIN EN 50 022)
Dimensions (DIN 43880)	3 TE	3 TE
Net weight / pc	470 g	520 g

Order Data

Product	IPS BC TNC 12,5/275	IPS BC TNC 12,5/320
Ordering part no.	38 16 46	38 16 66

Technical Data und Order Data

	IPS BC TNC 12,5/275/FM	IPS BC TNC 12,5/320/FM
FM contact / contact type	Changeover contact	Changeover contact
Switching capacity	AC: 250V/0,5A 125V/3A	AC: 250V/0,5A 125V/3A
Product	IPS BC TNC 12,5/275/FM	IPS BC TNC 12,5/320/FM
Ordering part no.	38 16 47	38 16 67

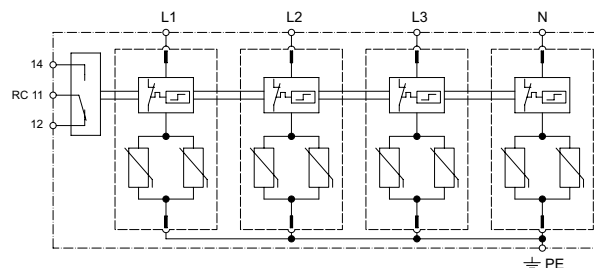
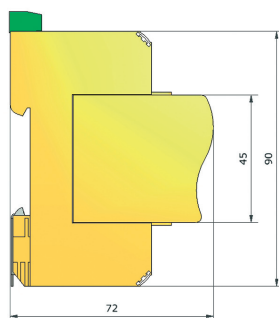
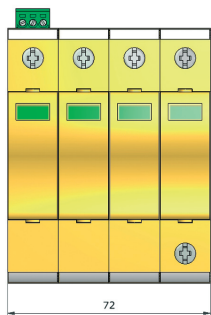
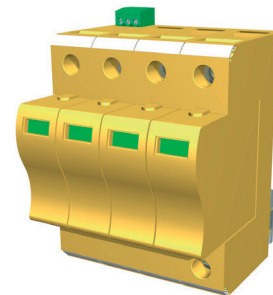
Class I+II (T1+T2) Combined Arresters

IsoPro BC pluggable

IPS BC TNS 12.5

Four pole pluggable combined lightning and surge arrester, for example for 3-phase TN-S-systems

- High lightning impulse discharge current of 12.5 kA (10/350 μs) per pole



Technical Data	IPS BC TNS12,5/275	IPS BC TNS 12,5/320
Nominal voltage AC (UN)	230 V~	230 V~
Max. continuous operating voltage AC (Uc)	275 V~	320 V~
Max. continuous operating voltage DC (Uc)	350 V =	420 V =
Nominal discharge current (8/20) (In)	25 kA per pole	25 kA per pole
max. discharge current (8/20) (Imax)	50 kA per pole	50 kA per pole
Impulse current (10/350μs) (Iimp)	12.5 kA per pole	12.5 kA per pole
Impulse current (L1+L2+L3+N-PE) (Iimp)	50 kA	50 kA
Protection level at In (8/20μs) (Up)	< 1.4 kV	< 1.5 kV
Protection level at 5kA (8/20μs) (Uas)	< 1.0 kV	< 1.1 kV
Response time (tA)	< 25 ns	< 25 ns
back up fuse (if mains >250 A)	160 A gL	160 A gL
Short-circuit withstand current (Ik)	25 kA	25 kA
Operating temperature range (TU)	-40 - +80 °C	-40 - +80 °C
Max. conductor cross section	35 stranded/25 fine-stranded [mm ²]	35 stranded/25 fine-stranded [mm ²]
Max. connection torque for terminals	3.5 Nm	3.5 Nm
Degree of protection (IEC EN 60529)	IP 20	IP 20
Enclosure material / colour	Thermoplastic UL94-V0/yellow	Thermoplastic UL94-V0/yellow
Mounting on	DIN rail 35 mm (DIN EN 50 022)	DIN rail 35 mm (DIN EN 50 022)
Dimensions (DIN 43880)	4 TE	4 TE
Net weight / pc	600 g	660 g

Order Data

Product	IPS BC TNS 12,5/275	IPS BC TNS 12,5/320
Ordering part no.	38 16 48	38 16 68

Technical Data und Order Data

	IPS BC TNS 12,5/275/FM	IPS BC TNS 12,5/320/FM
FM contact / contact type	Changeover contact	Changeover contact
Switching capacity	AC: 250V/0,5A 125V/3A	AC: 250V/0,5A 125V/3A
Product	IPS BC TNS 12,5/275/FM	IPS BC TNS 12,5/320/FM
Ordering part no.	38 16 49	38 16 69

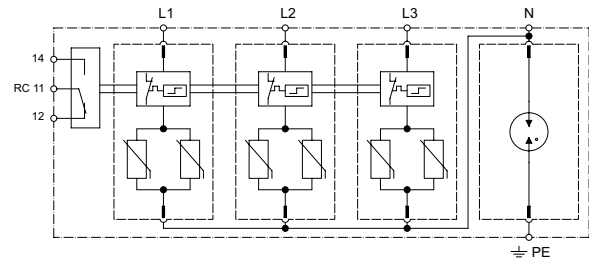
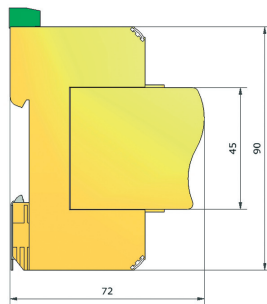
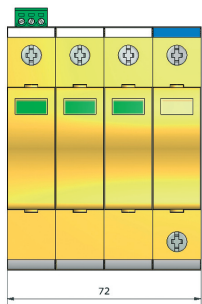
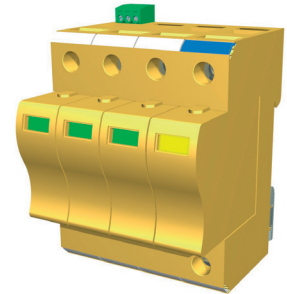
Class I+II (T1+T2) Combined Arresters

IsoPro BC pluggable

IPS BC TT 12.5

Four pole pluggable combined lightning and surge arrester, for example for 3-phase TT- and TN-S-systems

- High lightning impulse discharge current of 12.5 kA (10/350 μ s) per pole
- Optionally with remote contact (FM)



Technical Data

	IPS BC TT 12,5/275	IPS BC TT 12,5/320
Nominal voltage AC (UN)	230 V~	230 V~
Max. continuous operating voltage AC (Uc)	275 V~	320 V~
Max. continuous operating voltage DC (Uc)	350 V =	420 V =
Nominal discharge current (8/20) (In)	25 kA per pole (MOV) / 30 kA (GDT)	25 kA per pole (MOV) / 30 kA (GDT)
max. discharge current (8/20) (Imax)	50 kA per pole (MOV + GDT)	50 kA per pole (MOV + GDT)
Impulse current (10/350 μ s) (Iimp)	12.5 kA per pole (MOV) / 50kA (GDT)	12.5 kA per pole (MOV) / 50kA (GDT)
Impulse current (L1+L2+L3+N-PE) (Iimp)	50 kA	50 kA
Protection level at In (8/20 μ s) (Up)	< 1.4 kV (MOV) / < 1.5 kV (GDT)	< 1.5 kV (MOV) / < 1.5 kV (GDT)
Protection level at 5kA (8/20 μ s) (Uas)	< 1.0 kV (MOV)	< 1.1 kV (MOV)
Response time (tA)	< 25 ns (MOV) / 100 ns (GDT)	< 25 ns (MOV) / 100 ns (GDT)
back up fuse (if mains >250 A)	160 A gL (MOV) / - (GDT)	160 A gL (MOV) / - (GDT)
Short-circuit withstand current (Ik)	25 kA (MOV) / - (GDT)	25 kA (MOV) / - (GDT)
Operating temperature range (TU)	-40 - +80 °C	-40 - +80 °C
Max. conductor cross section	35 stranded/25 fine-stranded [mm ²]	35 stranded/25 fine-stranded [mm ²]
Max. connection torque for terminals	3.5 Nm	3.5 Nm
Degree of protection (IEC EN 60529)	IP 20	IP 20
Enclosure material / colour	Thermoplastic UL94-V0/yellow	Thermoplastic UL94-V0/yellow
Mounting on	DIN rail 35 mm (DIN EN 50 022)	DIN rail 35 mm (DIN EN 50 022)
Dimensions (DIN 43880)	4 TE	4 TE
Net weight / pc	580	640 g

Order Data

	IPS BC TT 12,5/275	IPS BC TT 12,5/320
Product	IPS BC TT 12,5/275	IPS BC TT 12,5/320
Ordering part no.	38 16 50	38 16 70

Technical Data und Order Data

	IPS BC TT 12,5/275/FM	IPS BC TT 12,5/320/FM
FM contact / contact type	Changeover contact	Changeover contact
Switching capacity	AC: 250V/0,5A 125V/3A	AC: 250V/0,5A 125V/3A
Product	IPS BC TT 12,5/275/FM	IPS BC TT 12,5/320/FM
Ordering part no.	38 16 51	38 16 71

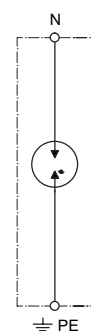
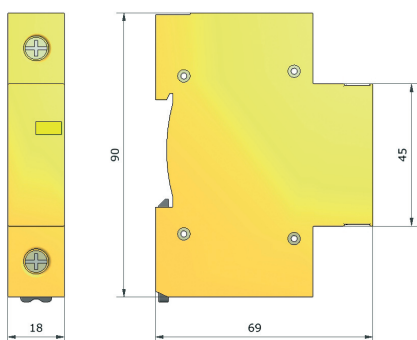
Class I+II (T1+T2) Combined Arresters

IsoPro NPE lightning current arrester

IPS N-PE 50kA (10/350)

NPE lightning current arrester, based on isolating spark gap technology
type 1 and type 2.

- High lightning impulse discharge current of 50 kA (10/350 μ s)



Technical Data	IPS N-PE 50kA (10/350)
Nominal voltage AC (UN)	230 V~
Max. continuous operating voltage AC (Uc)	255 V~
Nominal discharge current (8/20) (In)	50 kA
max. discharge current (8/20) (Imax)	100 kA
Impulse current (10/350 μ s) (Iimp)	50 kA
Protection level at In (8/20 μ s) (Up)	< 1.5 kV
Protection level at 5kA (8/20 μ s) (Uas)	< 1.2 kV
Response time (tA)	< 100 ns
Operating temperature range (TU)	-40 - +80 °C
Max. conductor cross section	35 stranded/25 fine-stranded [mm ²]
Max. connection torque for terminals	3.5 Nm
Degree of protection (IEC EN 60529)	IP 20
Enclosure material / colour	Thermoplastic UL94-V0/yellow
Mounting on	DIN rail 35 mm (DIN EN 50 022)
Dimensions (DIN 43880)	1 TE
Net weight / pc	110 g

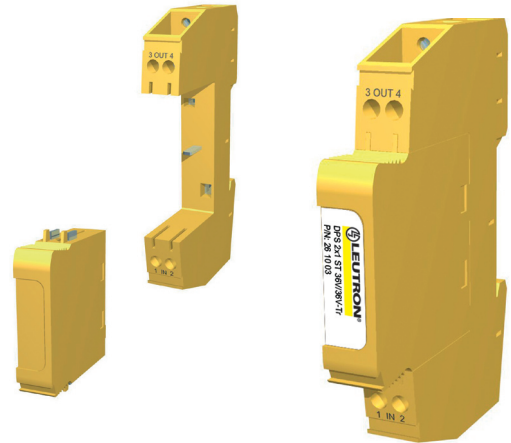
Order Data	
Product	IPS N-PE 50kA (10/350)
Ordering part no.	38 16 52

Pluggable lightning and current arrester for process measuring and control technology

DataPro pluggable: DPS 2x1 ST-series

DPS 2x1 ST series: pluggable lightning and surge protector for process measuring and control technology applications.

- **High discharge capacity for 2 pole interfaces and data lines with a minimum space consumption**
- **2 pole protection module with the possibility of a direct shield earthing**
- **Universal base part and multiple protection module versions**
- **HF version for applications with high data speed rates available**



Leutron introduces a new series of pluggable combined lightning and surge arresters for measuring and control technology applications. These separable multi-pole lightning and surge arresters are suitable universally for ring and control technology application, bus interfaces and communication lines.

These protection modules consist a two stage, energetically coordinated protection circuit. The first stage is built with gas filled spark gaps and is for coarse protection. The second stage is built with supressor diodes and is used for fine protection.

Because no varistors are used, there is no leakage current.

For many applications, especially for bus interfaces, a direct and large scale earthing of the cable shield is required to enhance the EMC characteristic. This can be done easily and comfortable with optional EMC terminals.

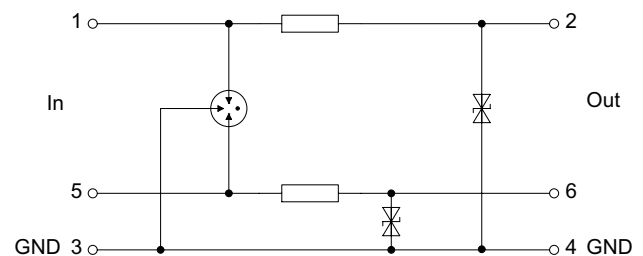
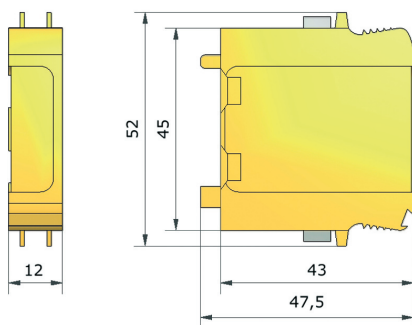
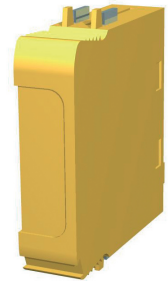
Pluggable lightning and current arrester for process measuring and control technology

SPD of the Test Category D1,C2+C1

DPS 2x1 ST...-Tr

Pluggable lightning and current arrester for data signal lines

- 12 V, 24 V and 36 V DC-supply voltage
- Impulse current 5 kA (10/350 μ s)
- nominal discharge current 20 kA (8/20 μ s)
- Max. Nominal rated current 1 A



Technical Data	DPS 2x1 ST 12V/12V-Tr	DPS 2x1 ST 24V/24V-Tr	DPS 2x1 ST 36V/36V-Tr
Rated voltage (UN)	12 V =	24 V =	36 V =
Max. DC operating voltage (UC)	14,5 V =	26,8 V =	29,4 V =
Max. AC operating voltage (UC)	10,2 V ~	18,9 V ~	27,4 V ~
Nominal rated current (IN)	1 A	1 A	1 A
D1 Impulse current (10/350 μ s) total (Iimp)	5 kA	5 kA	5 kA
D1 Impulse current (10/350 μ s) per line (Iimp)	2,5 kA	2,5 kA	2,5 kA
C2 Nom. imp. disch. current (8/20 μ s) total (In)	20 kA	20 kA	20 kA
Protection level line-PG at In	≤ 30 V	≤ 45 V	≤ 60 V
Bandwidth (< 3 dB) (fg)	> 3 MHz	> 3 MHz	> 3 MHz
Operating temperature range (TU)	-40°C ... +80°C	-40°C ... +80°C	-40°C ... +80°C
Dimensions	12 mm	12 mm	12 mm
Connectors	screw terminals	screw terminals	screw terminals
Max. connection wire cross-sectional area	2,5 rigid or 1,5 stranded with sleeve [mm ²]	2,5 rigid or 1,5 stranded with sleeve [mm ²]	2,5 rigid or 1,5 stranded with sleeve [mm ²]
Degree of protection (IEC EN 60529)	IP 20	IP 20	IP 20
Enclosure material / colour	Polycarbonat UL94V0 / yellow	Polycarbonat UL94V0 / yellow	Polycarbonat UL94V0 / yellow
Mounting on	DIN rail 35mm (DIN EN 50022)	DIN rail 35mm (DIN EN 50022)	DIN rail 35mm (DIN EN 50022)
Net weight / pc	20 g	20 g	20 g

Order Data

Product	DPS 2x1 ST 12V/12V-Tr	DPS 2x1 ST 24V/24V-Tr	DPS 2x1 ST 36V/36V-Tr
Ordering part no.	26 10 01	26 10 02	26 10 03

DPS 2x1 BASE

Base part for pluggable lightning and current arrester DPS 2x1 ST...series

Order Data Base part	DPS BASE
Product	DPS BASE
Ordering part no.	26 10 00



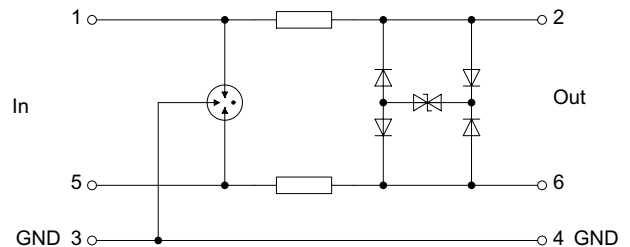
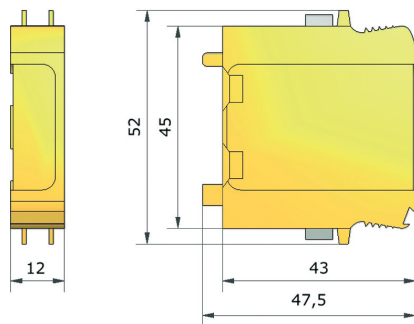
Pluggable lightning and current arrester for process measuring and control technology for HF application

SPD of the Test Category D1,C2+C1

DPS 2x1 ST....-Tr HF

Pluggable lightning and current arrester für data signal lines for HF applications

- 5 V and 24 V DC supply voltage
- Bandwidth 100 MHz
- Impulse current 5 kA (10/350 µs)
- nominal discharge current 20 kA (8/20 µs)
- Max. Nominal rated current 1 A



Technical Data	DPS 2x1 ST 5V/5V-Tr HF	DPS 2x1 ST 24V/24V-Tr HF
Rated voltage (UN)	5 V =	24 V =
Max. DC operating voltage (UC)	6 V =	26,8 V =
Max. AC operating voltage (UC)	4,2 V ~	18,9 V ~
Nominal rated current (IN)	1 A	1 A
D1 Impulse current (10/350 µs) total (Iimp)	5 kA	5 kA
D1 Impulse current (10/350 µs) per line (Iimp)	2,5 kA	2,5 kA
C2 Nominal impulse discharge current (8/20 µs) total (In)	20 kA	20 kA
Protection level line Erde bei In	≤ 40 V	≤ 100 V
Bandwidth (< 3 dB) (fg)	100 MHz	100 MHz
Operating temperature range (TU)	-40°C ... +80°C	-40°C ... +80°C
Dimensions	12 mm	12 mm
Connectors	screw terminals	screw terminals
Max. connection wire cross-sectional area	2,5 rigid or 1,5 stranded with sleeve [mm ²]	2,5 rigid or 1,5 stranded with sleeve [mm ²]
Degree of protection (IEC EN 60529)	IP 20	IP 20
Enclosure material / colour	Polycarbonat UL94V0 / yellow	Polycarbonat UL94V0 / yellow
Mounting on	DIN rail 35mm (DIN EN 50022)	DIN rail 35mm (DIN EN 50022)
Net weight / pc	20 g	20 g

Order Data

Product	DPS 2x1 ST 5V/5V-Tr HF	DPS 2x1 ST 24V/24V-Tr HF
Ordering part no.	26 10 04	26 10 05

DPS 2x1 BASE

Base part for pluggable lightning and current arrester DPS 2x1 ST...series

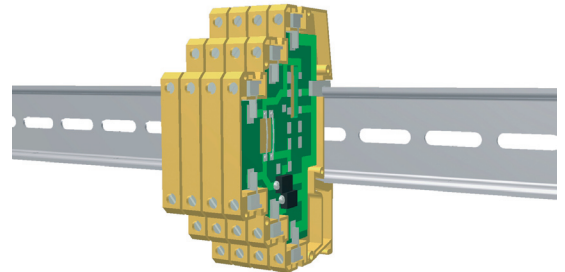
Order Data Base part	DPS BASE
Product	DPS BASE
Ordering part no.	26 10 00



Series terminals with integrated lightning and surge protection

DataPro RK series

- **Minimum required space of only 6mm**
- **2 pole version with the possibility of direct shield earthing**
- **Versions with fine or combined coarse/fine protection available**
- **Earthing via DIN rail or terminals**



Leutron introduces a new series of series terminals with integrated lightning and overcurrent protection. Available are both versions with fine and combined coarse/fine protection.

With these series terminals with a width of only 6mm, effective overvoltage protection can be realized at minimum space requirements.

To reduce the width of the modules to a minimum the housing is closed only on one side. To reach an adequate electric shock protection it is possible to close the housing with a terminal plate. If several modules are strung together it is enough to use only one terminal plate for the last module.

These protection modules consist of a two-stage, energetically coordinated protection circuit. The first stage is built with gas-filled spark gaps and is for coarse protection. The second stage is built with suppressor diodes and is used for fine protection.

Because no varistors are used, there is no leakage current.

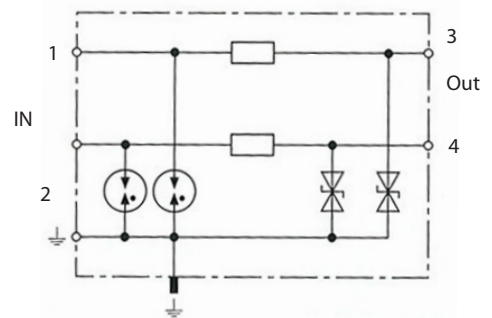
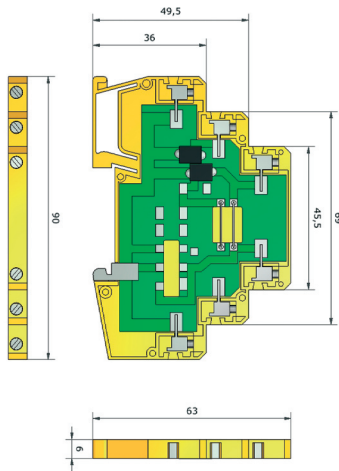
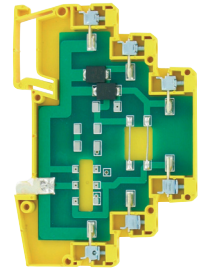
Series terminals with integrated lightning and surge protection

Surge protection device of test class C2 + C1

DP RK2x1

Applicable at the transition point LPZ 0_B- 2 and higher.

- Protection of two single wires with common ground
- High nominal rated current
- Coarse and fine protection with dimensions of series terminals



principle scheme

Technical Data	DP RK2x1-12V	DP RK2x1-24V	DP RK2x1-36V
Rated voltage (UN)	12V=	24V=	36V=
Max. DC operating voltage (UC)	14V=	33V=	44V=
Max. AC operating voltage (UC)	9,5V~	23V~	31,5V~
Nominal rated current (IN)	0,5 A	0,5 A	0,5 A
Nominal impulse discharge current (8/20 μs) total In	10 kA	10 kA	10 kA
Nominal impulse discharge current (8/20 μs) per line In	5 kA	5 kA	5 kA
Protection level at In (line-PG) (Up)	≤ 40V	≤ 64V	≤ 90V
Protection level at In (line-line) (Up)	≤ 55V	≤ 110V	≤ 140V
Bandwidth (line-PG) (fg)	2,5 MHz	6 MHz	8 MHz
Capacity line-line (C)	≤ 1,2 nF	≤ 0,5 nF	≤ 0,4 nF
Capacity line-PG (C)	≤ 2,4 nF	≤ 1,0 nF	≤ 0,8 nF
Operating temperature range (TU)	-40 - +85 °C	-40 - +85 °C	-40 - +85 °C
Max. conductor cross section	0,08-2,5 fine-stranded [mm ²]		
Enclosure material / colour	Polycarbonat (halogen free) UL94-V0/yellow		
Degree of protection (IEC EN 60529)	IP 00 (with cover IP 20)	IP 00 (with cover IP 20)	IP 00 (with cover IP 20)
Mounting on	DIN rail 35 mm (DIN EN 50 022)		
Net weight/pc.	30 g	30 g	30 g

Order Data	DP RK2x1-12V	DP RK2x1-24V	DP RK2x1-36V
Product	DP RK2x1-12V	DP RK2x1-24V	DP RK2x1-36V
Ordering part no.	14 12 12	14 24 24	14 36 36

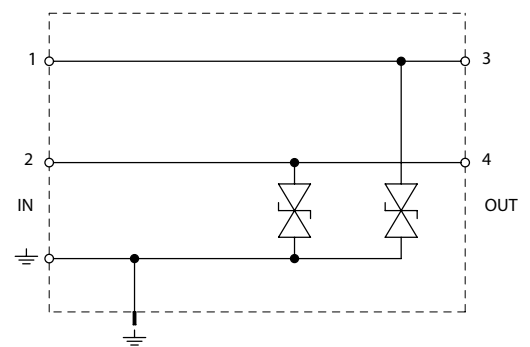
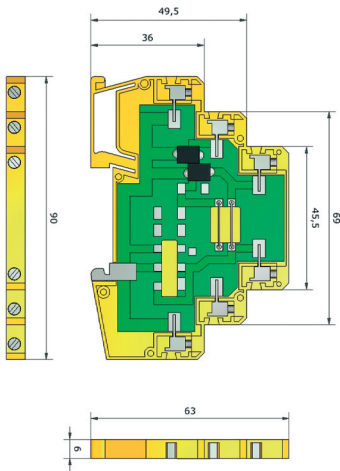
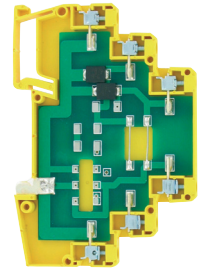
Series terminals with integrated surge protection

Surge protection device of test class C1

DP RK2x1 /D

Applicable at the transition point LPZ 1-2 and higher

- Protection of two single wires with common ground
- High Nominal rated current
- Fine protection with dimensions of series terminals



principle scheme

Technical Data	DP RK2x1-12V/D	DP RK2x1-124V/D
Rated voltage (UN)	12 [V=]	24 [V=]
Max. DC operating voltage (UC)	13 [V=]	28 [V=]
Max. AC operating voltage (UC)	5 [V~]	19,5 [V~]
Nominal rated current (IN)	10 A	10 A
C1 Nominal impulse discharge current (8/20 μs) total In	0,8 kA	0,6 kA
C1 Nominal impulse discharge current (8/20 μs) per line In	0,4 kA	0,3 kA
Protection level at In (line-PG) (Up)	≤ 25 V	≤ 48 V
Protection level at In (line-line) (Up)	≤ 50 V	≤ 96 V
Bandwidth (line-PG) (fg)	2500 [kHz]	5500 [kHz]
Capacity line-line (C)	≤ 1,2 [nF]	≤ 0,6 [nF]
Capacity line-PG (C)	≤ 2,5 [nF]	≤ 1,2 [nF]
Operating temperature range (TU)	-40 - +85°C	-40 - +85°C
Max. conductor cross section	0,08-2,5 fine-stranded [mm ²]	
Enclosure material / colour	Polycarbonat (halogen free) UL94-V0/yellow	
Degree of protection (IEC EN 60529)	IP 00 (with cover IP 20)	IP 00 (with cover IP 20)
Mounting on	DIN rail 35 mm (DIN EN 50 022)	
Net weight/pc.	30 g	30 g

Order Data

Product	DP RK2x1-12V/D	DP RK2x1-24V/D
Ordering part no.	15 12 12	15 24 24

Surge protection device 19" technology

Patch panels for RJ45 connectors with integrated surge protection

- Patch panel with only 1U height
- Completely shielded and EMC compliant 19" housing
- Available with 8, 16, 24, 32, 40 and 48 RJ45 ports
- Multi-functional protection circuit – all 8 data lines are protected



The space in data centers get more and more expensive and therefore the demand for high packaging density rises. Leutron provides a solution for this requirements and presents a new series of 19" patch panels with integrated surge protection. These patch panels are also available with 32, 40 and 48 RJ 45 ports in just 1U housings!

These patch panels with integrated surge protection are Cat. 5 with which it is possible to realize networks up to class D (according to ISO/IEC 11801 and EN 50173).

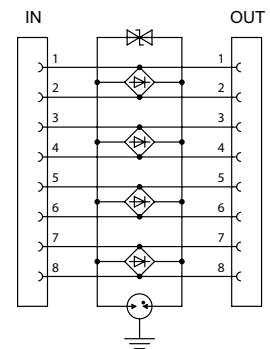
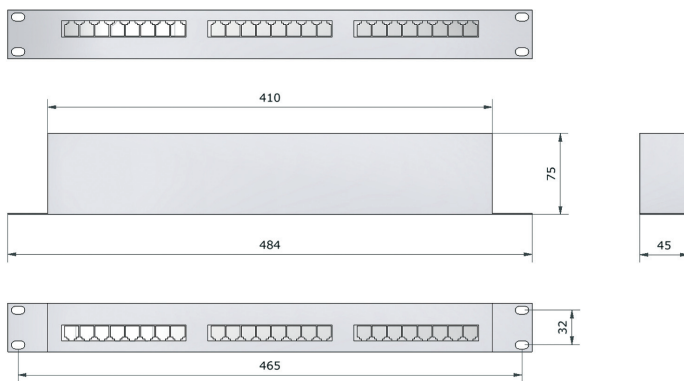
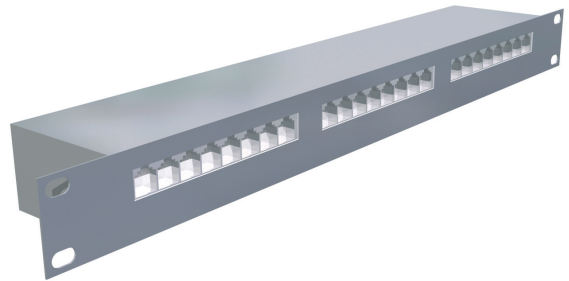
Surge protection device 19" technology

Patch panels for RJ45 connectors with integrated surge protection

DataPro ... x8RJ45-19" (8, 16, 24 Ports)

Housing for up to three protection modules DataPro-8xRJ45 for the mounting in all types of 19" distribution cabinet.

- completely shielded 19" housing
- Patch panel with a height of only 1U!
- Patch panel usable for 8, 16 or 24 port applications



Technical Data	DP 1x8RJ45-19"	DP 2x8RJ45-19"	DP 3x8RJ45-19"
Number of connection ports	8	16	24
Rated voltage (UN)	6 [V=]	6 [V=]	6 [V=]
Max. allowable rated voltage DC (Uc)	8,1 V	8,1 V	8,1 V
Max. allowable rated voltage AC (Uc)	5,7 V	5,7 V	5,7 V
Nominal rated current per line (In)	100 mA	100 mA	100 mA
C1 Nominal impulse discharge current (8/20 μs) per line (In (In))	200 A	200 A	200 A
C2 total discharge impulse current (8/20 μs) line-PG (PE) (Imax)	2,5 kA	2,5 kA	2,5 kA
C1 Protection level line-line bei In (isN) (Up)	≤ 45 V	≤ 45 V	≤ 45 V
C1 Protection level line-PE bei In (isN) (Up)	≤ 350 V	≤ 350 V	≤ 350 V
C3 Protection level line-line bei 1kV/μs (Up)	≤ 40 V	≤ 40 V	≤ 40 V
C3 Protection level line-PE bei 1kV/μs (Up)	≤ 350 V	≤ 350 V	≤ 350 V
Response time line-line/line-PG (tA)	< 1 ns	< 1 ns	< 1 ns
Response time line-PE/PE-PG (tA)	< 100 ns	< 100 ns	< 100 ns
Bandwidth line-line bei 100 Ω (fg)	100 MHz	100 MHz	100 MHz
Insertion loss at 100 MHz (fg)	< 1,2 dB	< 1,2 dB	< 1,2 dB
Operating temperature range (TU)	-40 - +80°C	-40 - +80°C	-40 - +80°C
Material housing	stainless steel	stainless steel	stainless steel
Degree of protection (IEC EN 60529)	IP 20	IP 20	IP 20
Net weight/pc.	1600 g	1700 g	1800 g

Order Data	DP 1x8RJ45-19"	DP 2x8RJ45-19"	DP 3x8RJ45-19"
Product	DP 1x8RJ45-19"	DP 2x8RJ45-19"	DP 3x8RJ45-19"
Ordering part no.	19 40 13	19 40 23	19 40 33

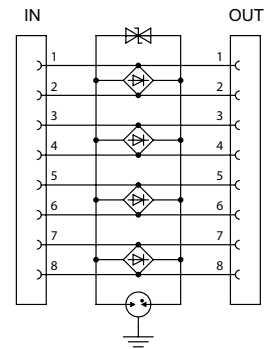
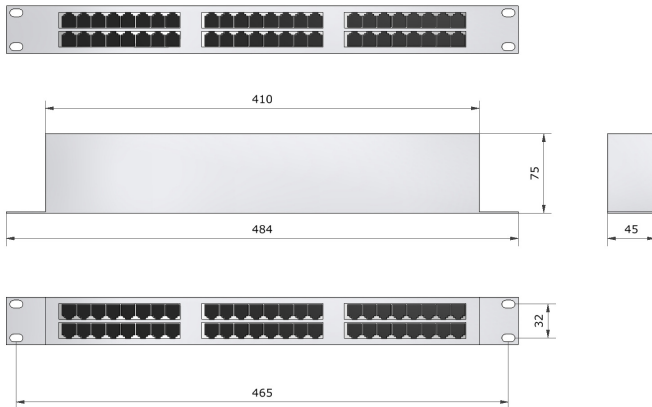
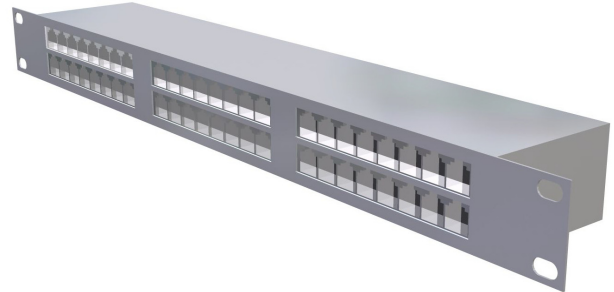
Surge protection device 19" technology

Patch panels for RJ45 connectors with integrated surge protection

DataPro ... x8RJ45-19" (32, 40, 48 Ports)

Housing for up to three protection modules DataPro-8xRJ45 for the mounting in all types of 19" distribution cabinet.

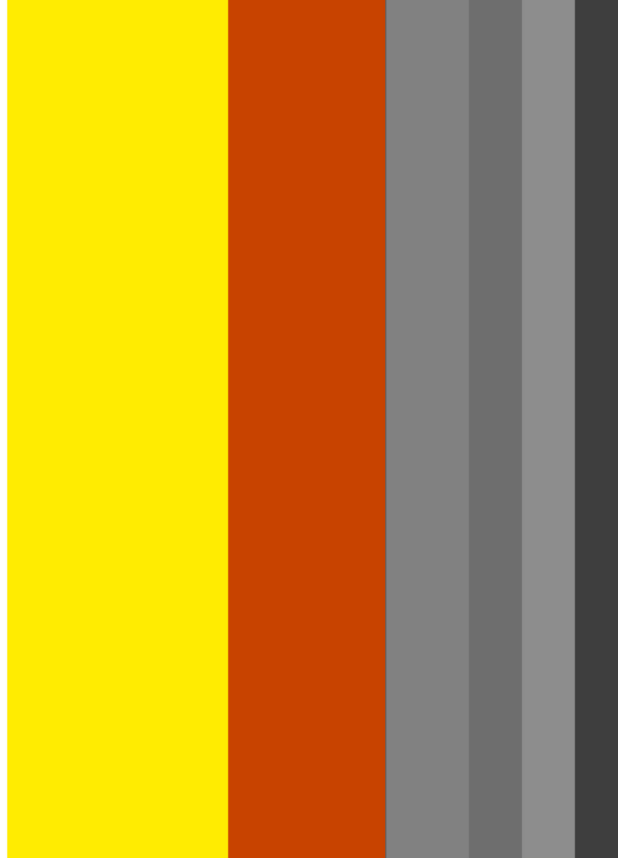
- completely shielded 19" housing
- Patch panel with a height of only 1U!
- Patch panel usable for 8, 16 or 24 port applications



Technical Data	DP 4x8RJ45-19"	DP 5x8RJ45-19"	DP 6x8RJ45-19"
Number of connection ports	32	40	48
Rated voltage (UN)	6 [V=]	6 [V=]	6 [V=]
Max. allowable rated voltage DC (Uc)	8,1V	8,1V	8,1V
Max. allowable rated voltage AC (Uc)	5,7V	5,7V	5,7V
Nominal rated current per line (In)	100 mA	100 mA	100 mA
C1 Nominal impulse discharge current (8/20 μs) per line (In (In))	200 A	200 A	200 A
C2 total discharge impulse current (8/20 μs) line-PG (PE) (Imax)	2,5 kA	2,5 kA	2,5 kA
C1 Protection level line-line bei In (isN) (Up)	≤ 45 V	≤ 45 V	≤ 45 V
C1 Protection level line-PE bei In (isN) (Up)	≤ 350 V	≤ 350 V	≤ 350 V
C3 Protection level line-line bei 1kV/μs (Up)	≤ 40 V	≤ 40 V	≤ 40 V
C3 Protection level line-PE bei 1kV/μs (Up)	≤ 350 V	≤ 350 V	≤ 350 V
Response time line-line/line-PG (tA)	<1 ns	<1 ns	<1 ns
Response time line-PE/PE-PG (tA)	<100 ns	<100 ns	<100 ns
Bandwidth line-line bei 100 Ω (fg)	100 MHz	100 MHz	100 MHz
Insertion loss at 100 MHz (fg)	<1,2 dB	<1,2 dB	< 1,2 dB
Operating temperature range (TU)	-40 - +80°C	-40 - +80°C	-40 - +80°C
Material housing	stainless steel	stainless steel	stainless steel
Degree of protection (IEC EN 60529)	IP 20	IP 20	IP 20
Net weight/pc.	1900 g	2000 g	2100 g

Order Data

Product	DP 4x8RJ45-19"	DP 5x8RJ45-19"	DP 6x8RJ45-19"
Ordering part no.	19 40 43	19 40 53	19 40 63



Leutron GmbH

Lightning and surge protection
Humboldtstraße 30/32
D-Leinfelden-Echterdingen
Germany

Tel.: +49 (0) 711.94771-0
Fax: +49 (0)711.94771-70

www.leutron.de
info@leutron.de