

DT-LAN-CAT6 Surge Protector

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CAT5/6/7 Data Line Lightning Surge Protector

- Protection for data interfaces
- Reliable transmission speeds up to 10 Gbps
- Protective adapter for eight signal paths via RJ45 connector (including PoE+)
- Suitable for category 6 high-speed data networks
- Can be installed in a control cabinet by removing the ground connection adapter



The DT-LAN-CAT6 is a protective adapter to be inserted into the data line for the protection of LAN interfaces and the RJ45 cable.

Surge protection for information technology

Reliable data is indispensable in today's industry. The sensitive systems used in LANs work with high frequencies at low signal levels and are networked over a wide area. Surge voltages can quickly lead to largescale failures and, in the worst-case scenario, data loss. Data Line Surge protectors are specifically designed to **protect your investment in expensive wired, wireless and PoE equipment.**

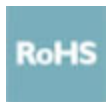
High-speed data protection

If you need effective **Lightning, RFI, ESD and transient surge protection** for highspeed data transmission, the DT-LAN-CAT.6+ offers universal protection without affecting the signal at network speeds of up to 10 Gbps.

Suitable for the following environments

- 100/1000/10G-Base-T
- Power over Ethernet (PoE+) "Mode A" and "Mode B"
- TOKEN Ring
- FDDI/CDDI
- ISDN
- DS1
- VG-AnyLAN
- PROFINET

Surge protection in accordance with Class EA (CAT6A). RJ45 attachment plug with separate grounding cable and ground connection snap-on foot for NS 35 DIN rails.



DT-LAN-CAT.6+ Technical Specifications

Ambient Conditions

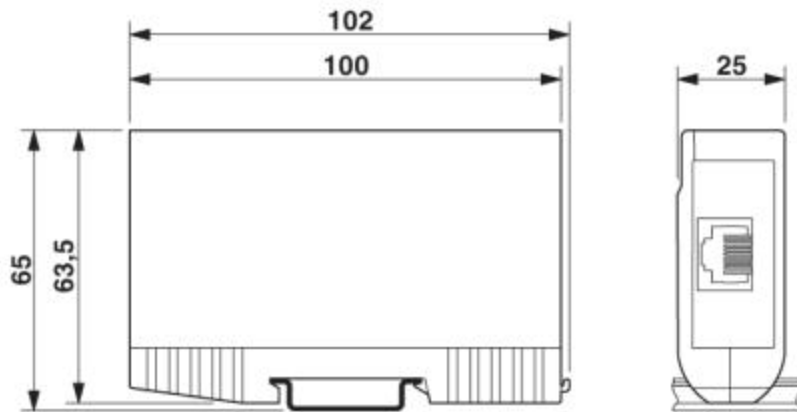
Ambient temperature (operation)	-40 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Degree of protection	IP20

Protective circuit

IEC test classification	B2
	C1
	C2
	C3
	D1
Maximum continuous voltage UC	$\leq 3.3 \text{ V DC } (\pm 60 \text{ V DC/PoE+})$
Rated current	$\leq 1.5 \text{ A } (25 \text{ }^\circ\text{C})$
Operating effective current IC at UC	$\leq 1 \text{ } \mu\text{A}$
Residual current IPE	$\leq 400 \text{ } \mu\text{A}$
Nominal discharge current In (8/20) μs (Core-Core)	100 A
Nominal discharge current In (8/20) μs (core-earth)	2 kA (per signal pair)
Total discharge current Itotal (8/20) μs	10 kA
Nominal pulse current Ian (10/700) μs (Core-Core)	$\leq 40 \text{ A}$
Nominal pulse current Ian (10/700) μs (Core-Earth)	$\leq 160 \text{ A}$

Output voltage limitation at 1 kV/ μ s (core-core) spike	≤ 85 V (PoE)
Output voltage limitation at 1 kV/ μ s (core-earth) spike	≤ 700 V
Output voltage limitation at 1 kV/ μ s (core-core) static	≤ 9 V
Output voltage limitation at 1 kV/ μ s (core-earth) static	≤ 700 V
Residual voltage at In (conductor-conductor)	≤ 15 V
	≤ 100 V (PoE)
Voltage protection level Up (core-core)	≤ 9 V (B2 - 1 kV/25 A)
	≤ 100 V (B2 - 1 kV/25 A - PoE)
	≤ 15 V (500 V / 100 A)
Voltage protection level Up (core-ground)	≤ 900 V (B2 - 4 kV/100 A)
	≤ 700 V (C2 - 4 kV/2 kA)
Response time t_A (core-core)	≤ 1 ns
Response time t_A (core-earth)	≤ 100 ns
Input attenuation a_E , sym.	≤ 1 dB (up to 100 MHz/direct measuring)
	≤ 1 dB (up to 250 MHz/direct measuring)
	≤ 3 dB (up to 500 MHz/direct measuring)
Near-end crosstalk attenuation	≥ 35 dB (250 MHz/100 Ω /link)
	≥ 45 dB (100 MHz / 100 Ω / Link)
	≥ 27 dB (500 MHz / 100 Ω / Link)
	≥ 39 dB (250 MHz/100 Ω /direct measuring)
Cut-off frequency f_g (3 dB), sym. in 100 Ohm system	> 500 MHz
Capacity (core-core)	typ. 12 pF ($f= 1$ MHz / $V_R= 0$ V)
Capacity (core-earth)	typ. 2 pF ($f= 1$ MHz / $V_R= 0$ V)
Surge protection fault message	None

Impulse durability (conductor-conductor)	B2 - 1 kV / 25 A
Impulse durability (conductor-ground)	B2 - 4 kV/100 A
	C2 - 4 kV/2 kA
	D1 - 1 kA
General	
Housing material	Zinc die-cast
Color	silver/black
Mounting type	Connection-specific attachment plug and DIN rail, 35 mm
Design	Attachment plug for DIN rail mounting
Number of positions	8
Direction of action	Line-Line & Line-Ground/Shield
Connection, equipotential bonding	
Connection method	Cable connection
Connection data	
Connection method	RJ45
Connection method IN	RJ45 socket
Connection method OUT	RJ45 socket
Dimensions	
Height	102 mm
Width	25 mm
Depth	63.5 mm



Standards and Regulations

Standards / specifications	IEC 61643-21 2002
	EN 50173-1 2002
	ISO/IEC 11801-Am.1 2006

Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
Reach and RoHS Compliant	<u>Reach and RoHS Compliant</u>

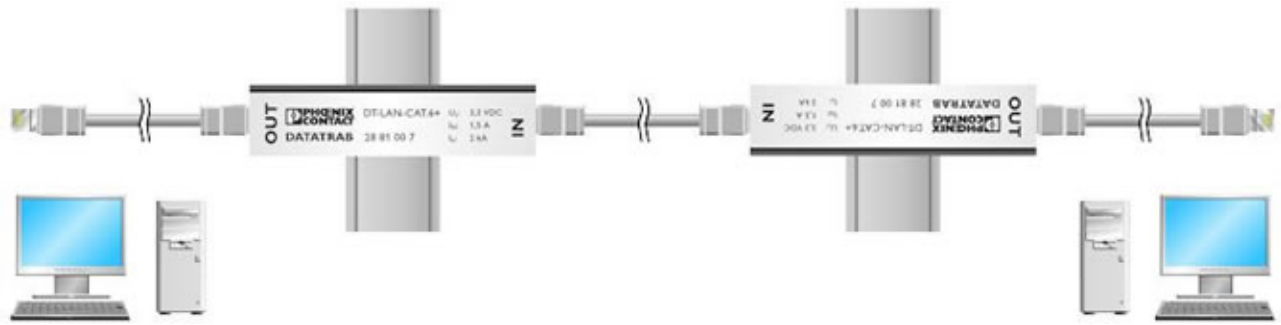
Approvals

UL Listed
EAC

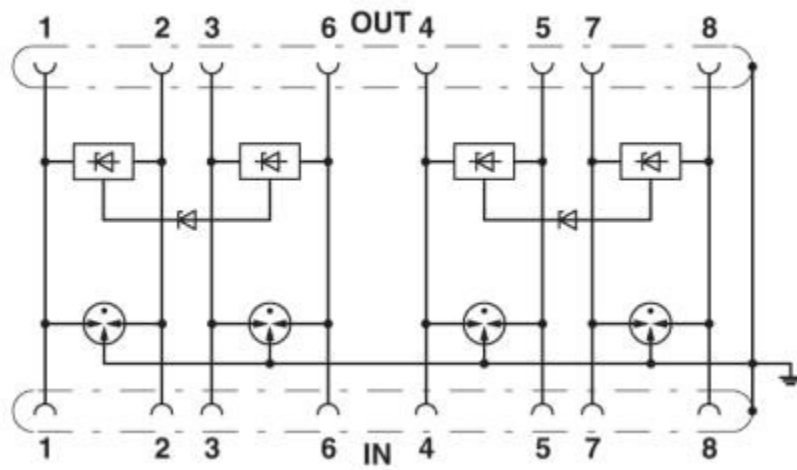
Commercial data

Packing unit	1
Weight per piece	320.0 g
Country of origin	Germany

Data Line Surge Protector Application Diagram

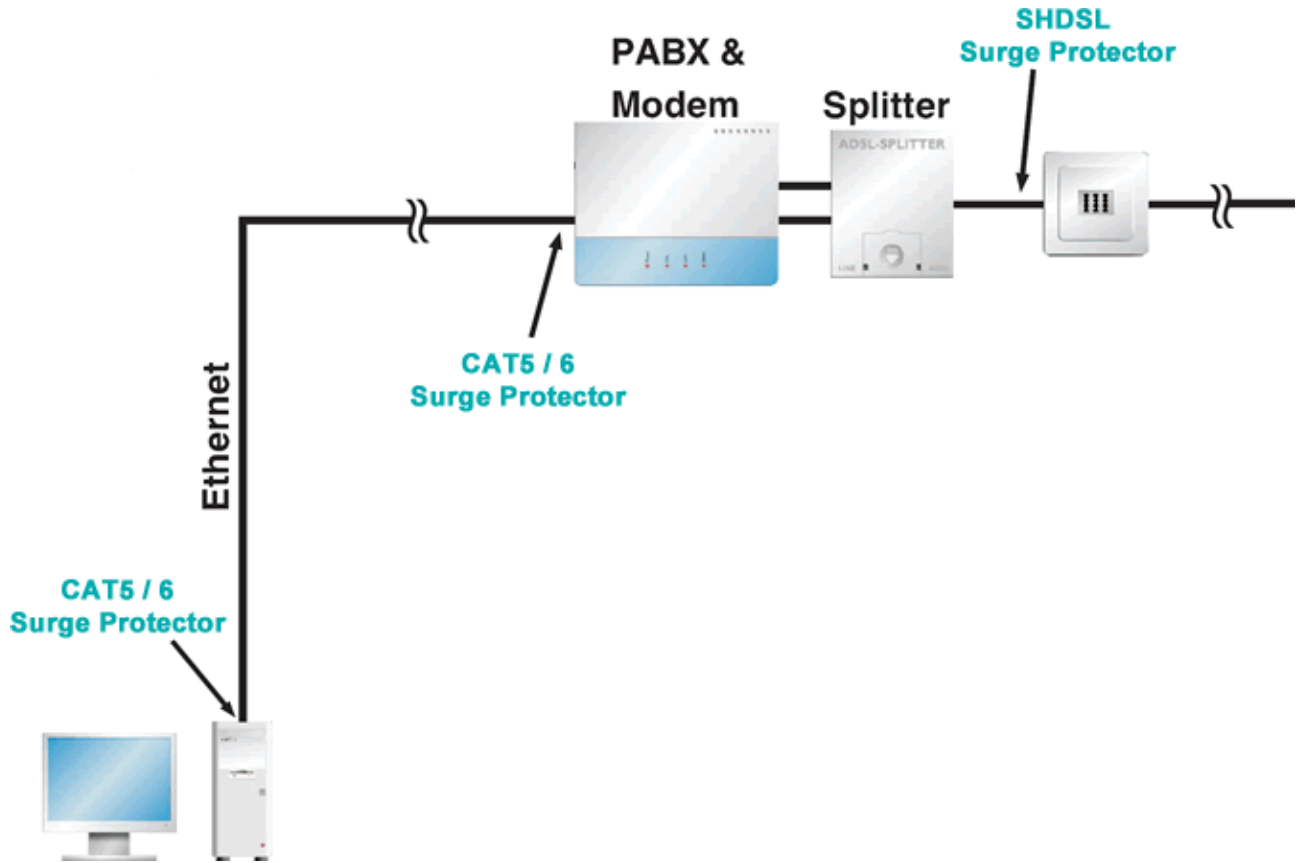


Circuit Diagram



Protection Against Surge Voltage

LAN systems are safely protected against surge voltage by CAT6 Surge Protectors. Due to the high bandwidth of the surge protectors, the transmission signal is not influenced. All signal wires and the ground conductor must be connected to the surge protector according to the connection scheme. Any DIN rail should be grounded.



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