

SPD for Category 6 LAN Networks

RayDat NET 6

D1 • C1 • C2 • C3

LZ-NET 6



IEC/EN Category: D1/C1/C2/C3
 Protection: All 4 Pairs
 Voltages: 48V DC
 Maximum Operating Voltage: 50V
 Frequency Range: 250 MHz, up to Cat 6, PoE Compatible
 Surge Discharge Ratings: I_n : 10 kA, I_{imp} : 1 kA
 Enclosure: UTB In-line Patch, DIN Rail Mount
 Terminals: RJ45, Shielded
 Housing: Compact Design
 Compliance: IEC/EN 61643-21

The RayDat NET 6 is intended to protect Local Area Networks (LAN) from overvoltage surges and electrostatic discharges created by switching transients in buildings. LAN systems are particularly prone to such disturbances because long cable lengths often behave like antennas to such atmospheric disturbances.

It provides protection to all 4 lines in the UTP, STP and is Cat 6 capable.

Ground potential equalization between signal and protective network or PC chassis ground is provided.

Product is designed to fulfill all versions of PoE applications compatible with standards IEEE 802.3af and IEEE 802.3at.

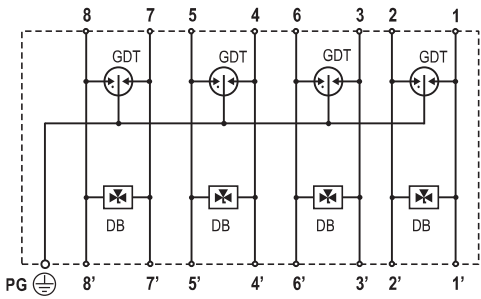
Technical Data

NET 6		48V
Electrical		
Number of Protected Pairs		4 Pairs (8 Conductors)
Nominal Operating Voltage (DC)	U_n	48V
Maximum Continuous Operating Voltage (DC)	(Line-Line) U_c	50V
	(Pair-Pair)	72V
Rated Load Current at 25°C	I_L	1 A
Nominal Discharge Current (8/20μs)	(Line-Line) I_n	150 A
C2 Total Discharge Current (8/20μs)	(Lines-Ground) I_{max}	10 kA
D1 mpulse Current (10/350μs)	I_{imp}	1 kA
Voltage Protection Level at I_n	(Line-Line) U_p	150V
	(Line-Ground)	550V
Response Time Overvoltage Protection	t_A	< 1 ns
Cut-off Frequency	f_G	30 MHz
Mechanical		
Temperature Range		-40 °C to +80 °C
Connection Type		Input/Output: RJ45 Sockets
Degree of Protection IEC/EN 60529		IP 20
Housing Material		Metal
Mounting IEC/EN 60715		35mm DIN Rail
Order Information		
Order Code		48V
NET 6		706 312

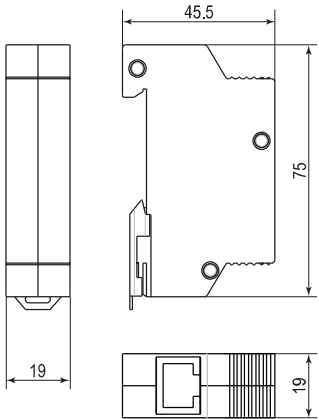
RayDat NET 6

Internal Configuration

- Legend
- DB Diode Block
 - GDT Gas Discharge Tube
 - PG Protective Grounding



Dimensions & Packaging



NET 6	48V
Dimensions	
Weight per Unit	120g
Dimensions DIN 43880	19mm
Packaging Dimensions (Single Unit)	78 × 23 × 108mm
Minimum Package Quantity	12 pieces

SPD for Category 5 LAN Networks
RayDat NET 5 Series
C1 • C2 • C3

LZ-NET 5 Series



IEC/EN Category: C1/C2/C3 (see Technical Data)
Protection: All 4 Pairs
Voltages: 5, 48 V DC
Maximum Operating Voltage: 6, 58 V DC
Frequency Range: 100 MHz, Cat 5, PoE Compatible
Surge Discharge Ratings: I_n : up to 300 A per Line
Enclosure: UTB In-line Patch
Termination: RJ45, Cat 5 Connectors
Housing: Compact Design
Compliance: IEC/EN 61643-21

The RayDat NET 5 Series is intended to protect Local Area Networks (LAN) from overvoltage surges and electrostatic discharges created by switching transients in buildings. LAN systems are particularly prone to such disturbances because long cable lengths often behave like antennas to such atmospheric disturbances.

It provides protection to all 4 lines in the UTP and is Cat 5 capable. Ground potential equalization between signal and protective network or PC chassis ground is provided. PoE version RayDat NET 5 PoE is designed to fulfill all versions of PoE applications compatible with standards IEEE 802.3af and IEEE 802.3at.

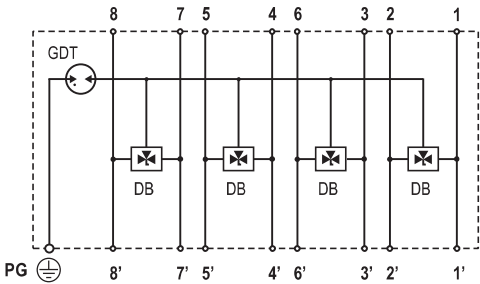
Technical Data

NET 5		NET 5	NET 5 PoE	NET 5 STP
Electrical				
Type per IEC/EN 61643-21		C1/C2/C3	C1/C3	C1/C2/C3
Number of Protected Pairs		4 Pairs (8 Conductors)		
Nominal Operating Voltage (DC)	U _n	5V	48V	5V
Maximum Continuous Operating Voltage (DC)	U _c	6V	58V	6V
C1 Nominal Discharge Current (8/20 μs) (Line-Line)	I _n	300A	60 A	300 A
C2 Total Discharge Current (8/20 μs) (Lines-Ground)	I _{max}	1kA	250 A	1 kA
Voltage Protection Level at I _n	(Line-Line)	U _p	35V	35V
	(Lines-Ground)		350V	350V
Response Time Overvoltage Protection		t _A	< 1 ns	
Cut-off Frequency		f _G	100 MHz	
Mechanical				
Temperature Range		-40 °C to +80 °C		
Connection Type		Input/Output: RJ45 Sockets		
Degree of Protection IEC/EN 60529		IP 20		
Housing Material		Thermoplastic; Grey, Extinguishing Degree V-0		
Order Information				
Order Code		NET 5	NET 5 PoE	NET 5 STP
NET 5 Series		7060.22	7060.23	7060.24

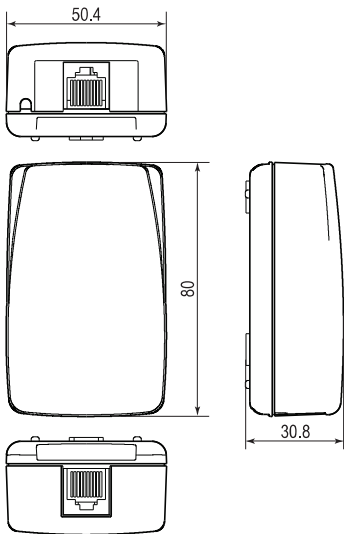
RayDat NET 5 Series

Internal Configuration

Legend
DB Diode Block
GDT Gas Discharge Tube
PG Protective Grounding



Dimensions & Packaging



NET 5	NET 5	NET 5 PoE	NET 5 STP
Dimensions			
Weight per Unit		56g	
Packaging Dimensions (Single Unit)		55 x 50 x 106mm	
Minimum Package Quantity		12 pieces	

SPD for Multi-Port Category 5 LAN Networks

RayDat NET 5 19 Series

C1 • C2 • C3

LZ-xx NET 19



IEC/EN Category: C1/C2/C3 (see Technical Data)

Protection: All 4 Pairs

Voltages: 5, 48 V DC

Maximum Operating

Voltage: 6, 58 V DC

Frequency Range: 100 MHz, Cat 5, PoE Compatible

Surge Discharge Ratings: I_n : up to 300 A per Line

Enclosure: 19" Rack, Shielded, In-line Patch

Termination: RJ45, Cat 5 Connectors

Housing: Modular Design

Options: 8, 16, 24 Port

Replaceable 8 Port Module

Compliance: IEC/EN 61643-21

The RayDat NET 5 19 Series is intended to protect Local Area Networks (LAN) from overvoltage surges and electrostatic discharges created by switching transients in buildings. LAN systems are particularly prone to such disturbances because long cable lengths often behave like antennas to such atmospheric disturbances.

It is designed to fit a 19" rack mount and can provide 8, 16 or 24 ports patching to UTP lines.

PoE version RayDat NET 5 19 PoE is designed to fulfill all versions of PoE applications compatible with standards IEEE 802.3af and IEEE 802.3at.

Technical Data

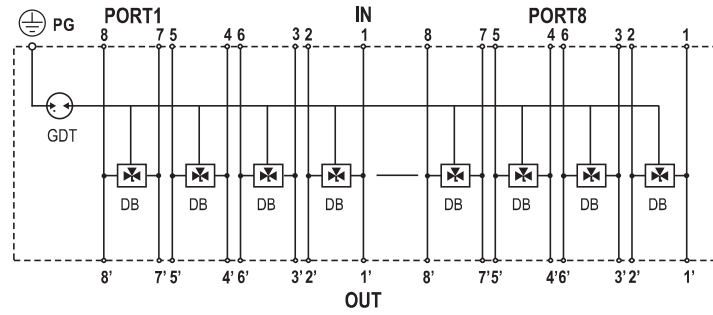
NET 5 19		NET 5 19	NET 5 19 PoE
Electrical			
Type per IEC/EN 61643-21		C1/C2/C3	C1/C3
Number of Protected Ports		8, 16, 24 Ports	
Nominal Operating Voltage (DC)	U_n	5V	48V
Maximum Continuous Operating Voltage (DC)	U_c	6V	58V
C1 Nominal Discharge Current (8/20 μs) (Line-Line)	I_n	300A	60 A
C2 Total Discharge Current (8/20 μs) (Lines-Ground)	I_{max}	1kA	250 A
Voltage Protection Level at I_n	(Line-Line)	U_p	35V
	(Lines-Ground)	350V	350V
Response Time Overvoltage Protection	t_A	< 1 ns	
Cut-off Frequency	f_G	100MHz	
Mechanical			
Temperature Range		-40 °C to +80 °C	
Connection Type		Input/Output: RJ45 Sockets	
Degree of Protection IEC/EN 60529		IP 20	
Housing Material		Al	
Mounting		19" Rack	
Order Information			
Order Code		NET 5 19	NET 5 19 PoE
NET 5 8-19		706 140	706 144
NET 5 16-19		706 141	706 145
NET 5 24-19		706 142	706 146
NET 5 8-19 M (module)		706 143	706 147

RayDat NET 5 19 Series

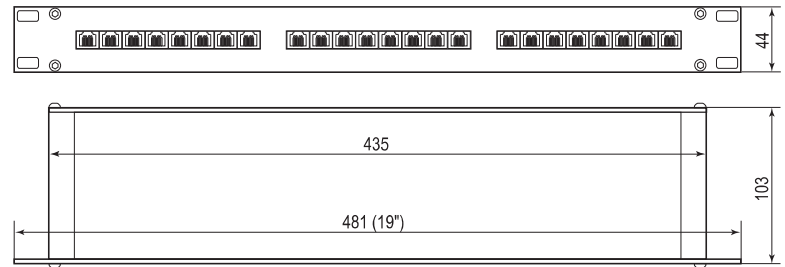
Internal Configuration

Legend

- DB Diode Block
- GDT Gas Discharge Tube
- PG Protective Grounding



Dimensions & Packaging



NET 5 19 Series	8 Port	16 Port	24 Port
Dimensions			
Weight per Unit	1.060 g	1.160 g	1.240 g
Packaging Dimensions (Single Unit)	483 × 108 × 45 mm		
Minimum Package Quantity	1 pieces		

Replacement Surge Module for 8 Ports

NET 5 19 M Series	8 Port	16 Port	24 Port
Dimensions			
Weight per Unit	146 g		
Packaging Dimensions (Single Unit)	258 × 113 × 49 mm		
Minimum Package Quantity	1 pieces		

NET 5 19 PoE Series	8 Port	16 Port	24 Port
Dimensions			
Weight per Unit	1.060 g	1.160 g	1.240 g
Packaging Dimensions (Single Unit)	483 × 108 × 45 mm		
Minimum Package Quantity	1 pieces		

Replacement Surge Module for 8 Ports

NET 5 19 M PoE Series	8 Port	16 Port	24 Port
Dimensions			
Weight per Unit	146 g		
Packaging Dimensions (Single Unit)	258 × 113 × 49 mm		
Minimum Package Quantity	1 pieces		

SPD for Combination Category 5 LAN & Power Networks

RayDat NET 5 PS

Class III • C1 • C2 • C3

ZE 200 NET



IEC/EN/VDE Category: Class III/Type 3/C1/C2/C3

Protection: Power & Data

Voltages: ± 5 VDC (data), 230 VAC (power)

Maximum Operating

Voltage: ± 6 VDC (data), 275 VAC (power)

Frequency Range: 100 MHz, Cat 5 Compatible

Surge Discharge Ratings: I_n : 300 A per Line (data)

I_n : 3 kA L-N/L-PE (power)

Enclosure: UTB In-line Patch, AC Power Outlet

Termination: RJ45, Cat 5 Connectors (data)

DIN 49 440-CE(7) III,

DIN 49 441-CEE(7) IV (power)

Housing: Compact Design

Compliance: IEC/EN 61643-11, 61643-21

The RayDat NET 5 PS Series is intended to protect Local Area Networks (LAN) from overvoltage surges and electrostatic discharges created by switching transients in buildings. LAN systems are particularly prone to such disturbances because long cable lengths often behave like antennas to such atmospheric disturbances.

It provides protection to all 4 lines in the UTP as well as protection to a 230 V AC power outlet. Equipotential equalization is provided between the LAN signal port and the AC power port.

Technical Data

NET 5 PS

Power

Data

Electrical

Type per IEC/EN 61643-11, 61643-21		Class III/Type 3/D	C1/C2/C3
Number of Protected Pairs			4 Pairs
Nominal Operating Voltage (DC)	U_n	230 V AC / 50 Hz	5 VDC
Maximum Continuous Operating Voltage (DC)	U_c	275 V AC / 50 Hz	6 VDC
Nominal Discharge Current (8/20 μ s)	I_n	(L(N)-PE, L-N) 3 kA	300 A (Line-Line)
Total Discharge Current (8/20 μ s)	I_{Total}	(L+N-PE) 10 kA	1 kA (Line-Ground)
Open Circuit Voltage of Combination Wave Generator	U_{oc}	(L(N)-PE, L-N) 6 kV	
		(L+N-PPE) 10 kV	
Voltage Protection Level at I_n	U_p	(L-N) < 1400 V	35 V (Line-Line)
		(L(N)-PE) < 1750 V	350 V (Line-Ground)
Response Time Overvoltage Protection	t_A	(L-N) < 25 ns	< 1 ns
		(L(N)-PE) < 100 ns	
Cut-off Frequency	f_G		100 MHz
Backup Fuse		16 A gL (needed when not present in network)	

Mechanical

Temperature Range	-40 °C to +80 °C		
Connection Type	DIN 49 440-CE(7) III, DIN 49 441-CEE(7) IV, Grounding Contact		Input/Output: RJ45 Sockets
Degree of Protection IEC/EN 60529	IP 20		
Housing Material	Thermoplastic; Grey, Extinguishing Degree V-0		
Status Indicator	Disconnect Operation, Green & Red Light		

Order Information

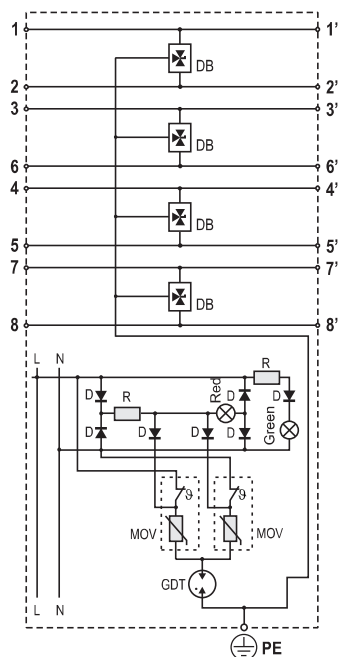
Order Code	
NET 5 PS	121 277

RayDat NET 5 PS

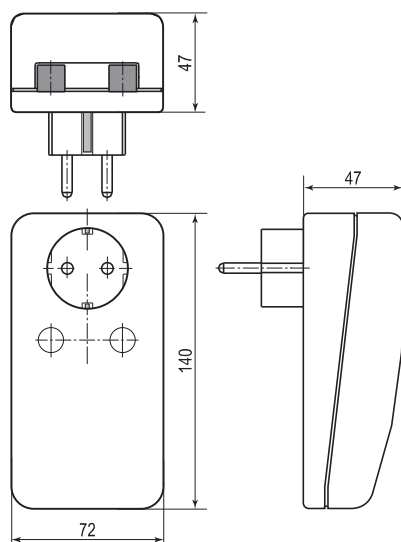
Internal Configuration

Legend

- D* Diode
- DB* Diode Block
- GDT* Gas Discharge Tube
- MOV* Metal Oxide Varistor
- R* Resistor



Dimensions & Packaging



NET 5 PS

Dimensions

Weight per Unit	190g
Packaging Dimensions (Single Unit)	94 × 78 × 151 mm
Minimum Package Quantity	12 pieces