



# SUHNER® DATA LINE PROTECTOR DATA SHEET

## TYPE 3414.99.0003

Article number: 23041821 Rev: a

### Description

Data Line protector

### Hybrid Protector

Shield and Ground separated

Patch cable included

Cat 5e specified



### Product Configuration

Connectors RJ45 jack (female)  
Mounting and grounding MH154, screw M4, grounding cable

### Technical Data

Impedance:	100 $\Omega$
Frequency range	DC to 100 MHz
Insertion loss	$\leq 0.5$ dB
Voltage rating:	per Pair $\pm 6$ V max.
Current rating	per Pair 1.5 A max.
Current handling capability	IEC 61000-4-5: Shield – Ground 6 kA Line – Ground 2.5 kA Line – Line 100 A
Related protection levels	IEC 61000-4-5: Shield – Ground 700 V Line – Ground 700 V Line – Line 20 V
Clamping voltage	Shield – Ground 90 V Line – Ground 90 V Line – Line 15 V
Response time	2 ns
Operating temperature	-40°C to + 85°C
Waterproof degree	IP20 (according to IEC 60529, data refer to the coupled state)

#### WAIVER!

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**HUBER+SUHNER**

HUBER+SUHNER AG  
Protection+Federline Components  
CH-9100 Herisau  
Phone +41 (0)71 353 41 11  
Fax +41 (0)71 353 47 51  
www.hubersuhner.com

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## Piece Parts

Housing

## Material

Aluminum alloy AlMgSi 0.5

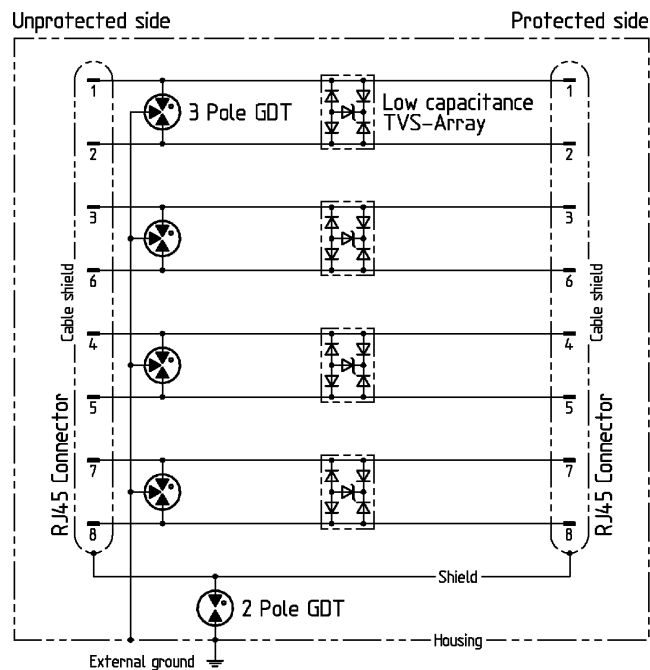
## Surface Plating

chromatized

## Remarks:

- Each pair protected with gas capsules and TVS diodes (all 8 Pins of the RJ45 connector protected)
- Grounding screws included
- Application with shielded or unshielded twisted pair cables possible (RJ45 shields are connected)
- For proper function the Protector has to be connected to ground via housing or shield

## Circuit diagram



## Attachment

### Related Documents

Outline drawing

23041823

Mounting/ Grounding instruction

23040774

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HUBER+SUHNER AG

Protection+Federline Components

CH-9100 Herisau

Phone +41 (0)71 353 41 11

Fax +41 (0)71 353 47 51

www.hubersuhner.com

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## 1. Product description

This HUBER+SUHNER Data Line Protector is a general-purpose symmetric pair surge arrester. It is used to protect sensitive system components with RJ45 ports

against transients caused by natural or manmade energy surges. It is suitable for screened (STP) and unscreened (UTP) twisted pair cables.

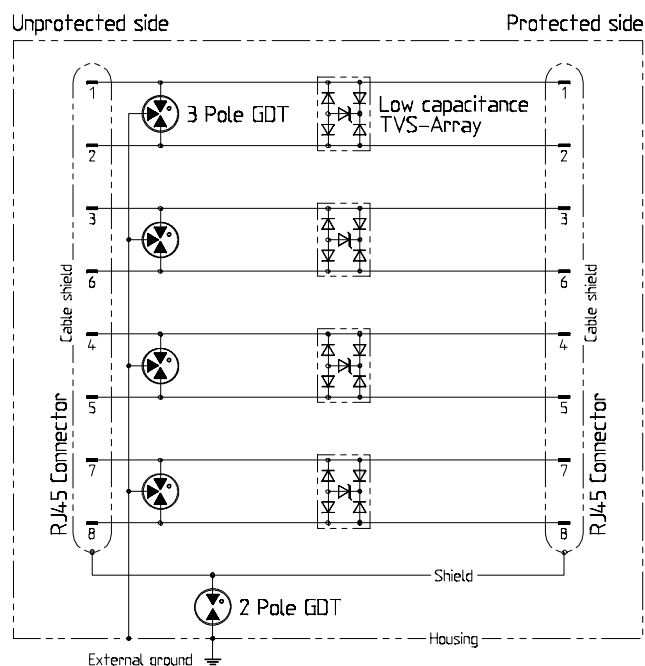
## 2. Technical Data

### Type

### Data Line Protector series 3414.99.0003

Rated voltage $U_c$	$\pm 6$ V	Line-Line (Pair)
Bypass voltage	N/A	
Current rating	1.5 A max	
Nominal discharge current (8/20 $\mu$ s)	6 kA (IEC 61000-4-5)	Screen-GND
	2.5 kA (IEC 61000-4-5)	Line-GND
	100 A (IEC 61000-4-5)	Line-Line (Pair)
Clamping voltage	15 V	Line-Line (Pair)
	90 V	Line-GND
	90 V	Screen-GND
Response time	2 ns	
Cable category	Cat 5e (ISO 11801, EN50173, TIA/EIA 568)	
Frequency range	DC - 100 MHz	
Impedance	100 $\Omega$	
Connectors	RJ45 jack	
Earthing via	earth cable AWG 16, housing (protector body)	
IP rating	IP20	
Operating temperature range	-40°C ... 85°C	

## Circuit Diagram



The Data Line Protector is designed to meet the above technical specification when correctly installed. Any additional or different requirements arising from specific customer applications, or environmental conditions not covered by the above are subject to request.

### 3. Safety Instruction

The Data Line Protector must be installed by a qualified installer in accordance with the relevant national installation and safety rules. Its usage is only permitted under the conditions stated and shown in this instruction.

The Data Line Protector and the equipment connected to it can be destroyed by EM surges exceeding the given specification, e.g. due to a direct lightning strike.

The operation voltage of the system / equipment to be protected must not exceed the maximum permissible operating voltage (rated voltage  $U_c$ ) of the Data Line Protector.

**Warning:**  
**Never open the Data Line Protector!**

Opening the Data Line Protector will void the warranty and may result in the accidental destruction of electronic components. Disconnect or switch off in-

line equipment when installing or removing Data Line Protectors.

### 4. Earthing

To ensure that the specified protection performance is met, it is important that the Data Line Protector is properly grounded. This can be achieved by connecting the unit directly or via the attached grounding cable to a grounding bar (a & b) or by mounting it directly into a grounded front panel (c).

Important: The shields of STP cables are indirectly connected to the protector body. Therefore grounding must be carried out via the housing of the protector and not over the cable shield.

### 5. Maintenance

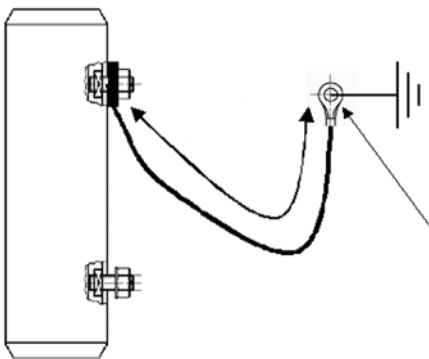
The Data Line Protector is maintenance-free provided that it is properly installed, grounded and operated in compliance with its specifications.

### 6. General Information

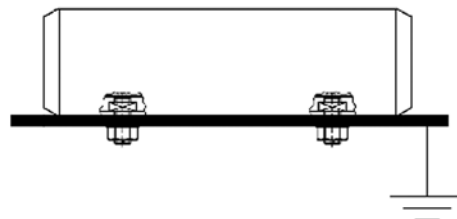
The effective surge protection of a system can only be achieved if all relevant system elements are properly bonded to ground. (Active lines via surge arresters)

### 7. Earthing / Grounding

a) Grounding via a grounding cable



b) Grounding to a grounding bar



c) Mounting directly into a grounded front panel. Remove plastic cover and fit the housing with two sheet-metal screw ST 2.9 to the panel.

