

ACKSYS

COMMUNICATIONS & SYSTEMS

RDPRT4D

LIGHTNING PROTECTION DEVICE FOR
RS232 OR RS485 NETWORK

DIN RAIL MOUNTING

TECHNICAL DOCUMENTATION
(DTUS051)

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I INTRODUCTION

The RDPRT4D is a safety device against surges such as the lightning, industrial surges and commutation, as well as the electrostatic discharges or the defects of wiring (permanent surges).

All this, thanks to the combination of primary (Gas spark arrestor) and fine (peaks) safety devices associated to current limitation devices (polyswitches).

For an effective protection, it is essential to connect the device to "Earth" with low impedance.

In addition to ensuring the protection of RS422 or RS485 data line, the module allows easily the chaining (wiring facilities).

A line of maintenance commutates, at the time of its connection (via the bridging of 27 and 28 terminals), the equipment to be tested by isolated it from the remainder of the network.

A continuous or alternative voltage is necessary to supply the commutation mechanism (terminals n° 8 and n° 9).

A 120 Ω line terminating resistor is available (Equipment in end of line). The Connection is done by bridging of the 10 and 11 terminals.

Various connections are carried out thanks to robust terminal blocks to screw, accepting flexible conductors up to 2,5 mm² (AWG14) or rigid up to 4 mm² (AWG12).

Electronics is protected from fortuitous contacts and dust.

The whole is integrated in a case built in fireproofed thermoplastic materials, tolerating permanent temperatures until 100°C.

According to DIN40050, the protection degree of the case is IP40, the terminal blocks is IP20.

The assembly is carried out on symmetrical section according to EN50022.

II TECHNICAL CHARACTERISTICS

Maximum service voltage U_{MAX} 6 V

Rated Current I_{NE} à 20°C 145 mA
(Equipment) à 65°C 85 mA

Rated Current I_{NR} à 20°C 6 A
(IN/OUT Network)

Leakage Current I_L sym/asym $U_{MAX} = 5,5 V : 85\mu A$
 $U_{MAX} = 5 V : 25\mu A$

Serial Resistor 4,5 Ω
(Network / Equipment)

Rate (NRZ) with 32 protections
and Equipment in BUS + 2
120 Ω Resistor for each extremity > 120 Kbd/s

Rate (NRZ) with 32 protections
and Equipment in BUS + 2
120 Ω Resistor for each extremity. > 500 Kbd/s

ESD PROTECTION ACCORDING TO IEC 801-2.

The upper limit of the standard is greatly exceeded (Level 4, voltage 15 Kv max.).
In addition, the standard only stipulates singles discharges applied to the outer envelope of the product to be tested and not directly on the signals.

DISCHARGE IN THE AIR

DISCHARGE BY CONTACT

Network side (terminal 1 to 6)

Network side (terminal 1 to 6)

Single strike test:
> +/- 16,5 KV

Single strike test :
> +/- 9 KV

Pulse test 25 Hz :
duration 1s : > +/- 16,5 KV
duration 5s : > +/- 16,5 KV

Pulse test 10 Hz :
duration 1s : > +/- 9 KV
duration 5s : > +/- 9 KV

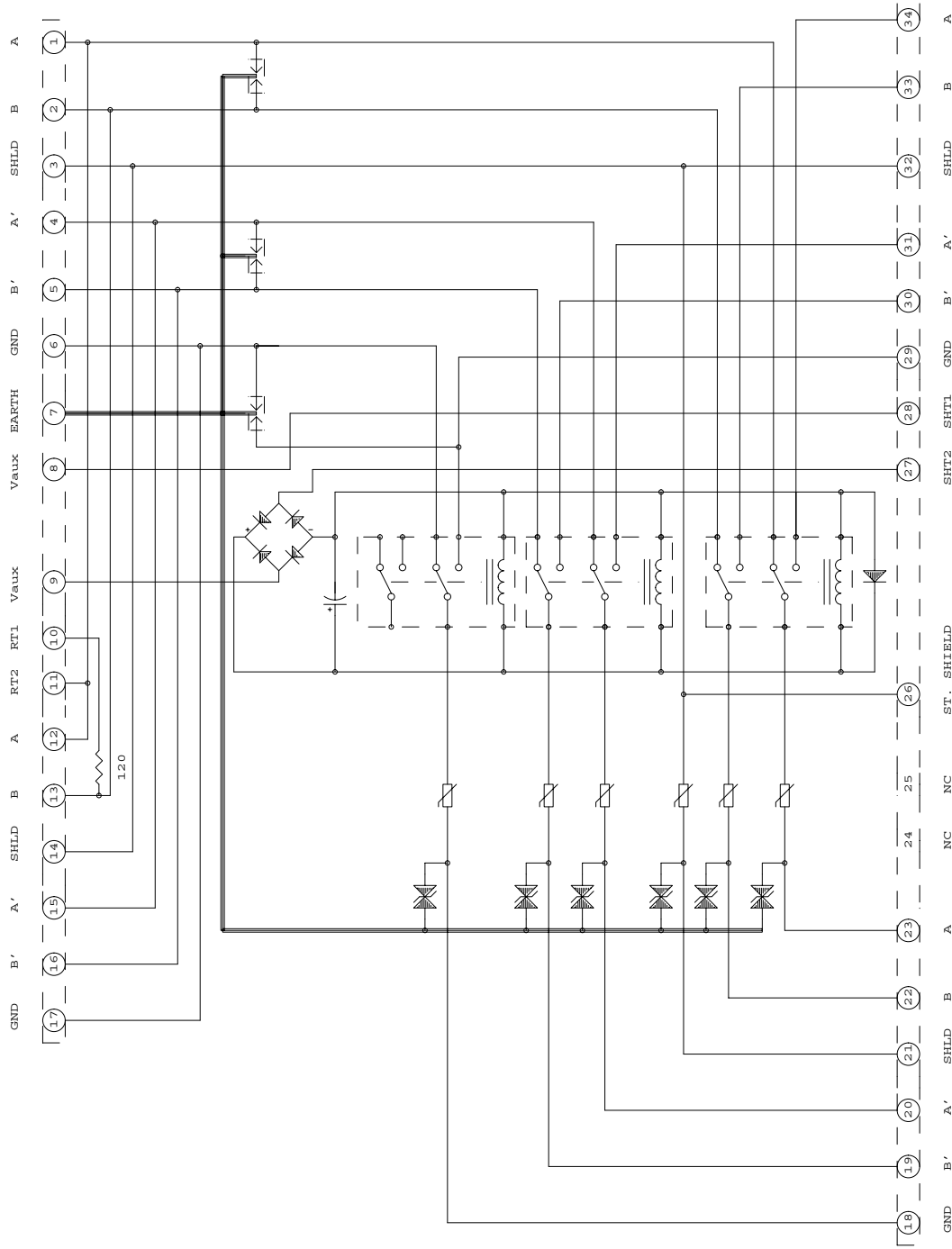
PROTECTION AGAINST PERMANENT OVERVOLTAGE

Terminals 10 and 11 no connected 140 Vca during 20 minutes

RDPRT4D

NETWORK OUT

NETWORK IN

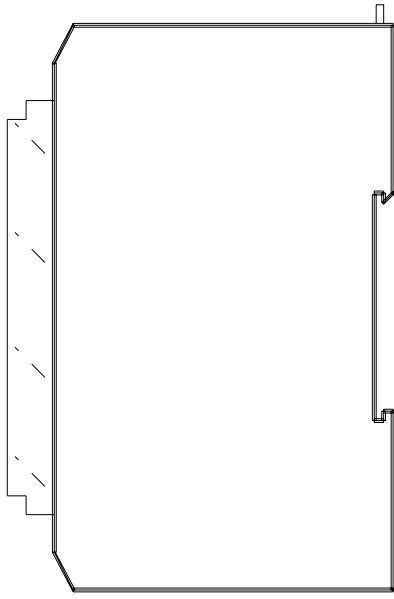


- 1= DATA 1st PAIR NETWORK IN
- 2= DATA 1st PAIR NETWORK IN
- 3= CABLE SHIELDING NETWORK IN
- 4= DATA 2nd PAIR NETWORK IN
- 5= DATA 2nd PAIR NETWORK IN
- 6= GROUND NETWORK IN
- 7= EARTH NETWORK IN
- 8= AUXILIARY POWER SUPPLY
- 9= AUXILIARY POWER SUPPLY
- 10= TERMINATING RESISTOR
- 11= TERMINATING RESISTOR
- 12= DATA 1st PAIR NETWORK OUT
- 13= DATA 1st PAIR NETWORK OUT
- 14= CABLE SHIELDING NETWORK OUT
- 15= DATA 2nd PAIR NETWORK OUT
- 16= DATA 2nd PAIR NETWORK OUT
- 17= GROUND NETWORK OUT
- 18= GROUND EQUIPMENT
- 19= DATA 2nd PAIR EQUIPMENT
- 20= DATA 2nd PAIR EQUIPMENT
- 21= CABLE SHIELDING EQUIPMENT
- 22= DATA 1st PAIR EQUIPMENT
- 23= DATA 1st PAIR EQUIPMENT
- 24= N.C.
- 25= N.C.
- 26= START OF SHIELDING
- 27= COMMUTATION MAINTENANCE
- 28= COMMUTATION MAINTENANCE
- 29= GROUND MAINTENANCE
- 30= DATA 2nd PAIR MAINTENANCE
- 31= DATA 2nd PAIR MAINTENANCE
- 32= CABLE SHIELDING MAINTENANCE
- 33= DATA 1st PAIR MAINTENANCE
- 34= DATA 1st PAIR MAINTENANCE

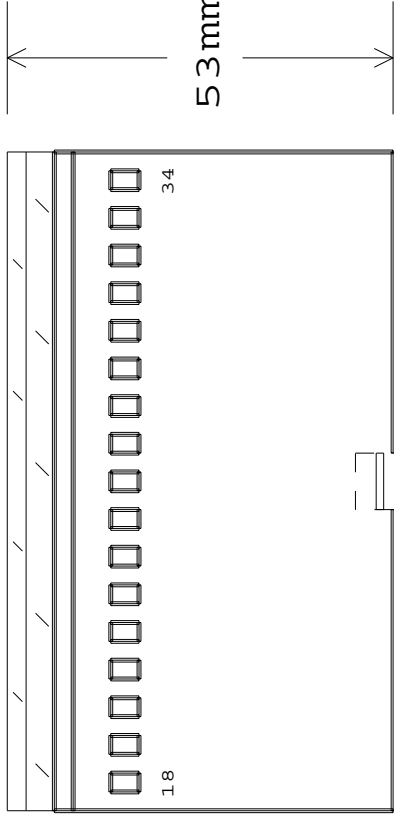
EQUIPMENT

MAINTENANCE

ACKSYS POISSY 33) 1) 39 11 62 81	
LIGHTNING PROTECTION FOR RS NETWORK	
WITH COMMUTATION FOR MAINTENANCE	
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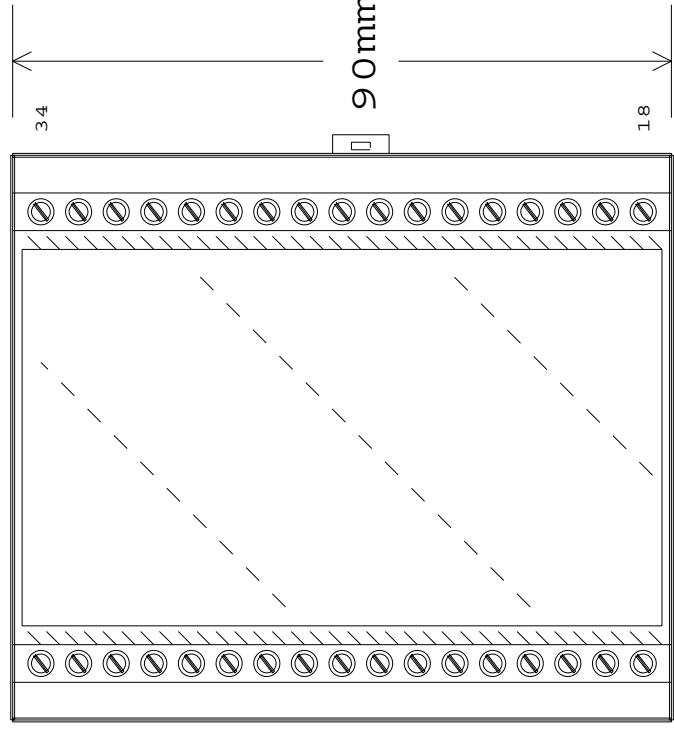


75mm



53mm

RDPRT4D DIMENSIONS



34

90mm

18

1

17

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Title

RDPRT4 & RDPRT4D DIMENSIONS

Size Document Number

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3 et 5 rue du Stade – BP 4580 – 78302 POISSY Cedex
Tél : 33 1 39 11 62 81 – Fax : 33 1 39 11 47 96

Contact : sales@acksys.fr

Web : <http://www.acksys.fr>