

OnLine® Series 10/100Base-T Ethernet, and RS232C Communications Interface

Protectors: Some face persistent communications and network system performance problems when operating without in-building data line protection or when using conventional technology. Others face performance expectations that demand zero tolerance for network downtime. ONEAC data line protectors are specifically engineered to satisfy these rigorous applications.

Ultimate assurance of system reliability

Leading telecommunication and networking companies employ ONEAC OnLine protectors in their installations for good reason; because they provide greater assurance of network and PBX uptime with a lower service cost than conventional protectors. Events such as system lockups, transmission errors, "no-trouble-found" service calls, shortened component life — all are problems that can result from surge voltages on networking equipment.

Local area networks

10/100Base-T Ethernet local area networks (LANs) are interconnected with long runs of unshielded, twisted-pair copper wire. The signaling technique used to transfer information packets operates by sending a balanced data signal at low voltages and high speed (e.g. 5 V @10 Mbps). Equipment connections to the LAN are generally made through balanced drivers via unshielded twisted-pair UTP cable and 8 position RJ-type connectors. Equipment connections from microprocessor-based equipment to peripherals are often made with lengthy cables and unprotected RS232C (unbalanced 25 V) interfaces.

To provide equipment protection against all high frequency transient pulses and other damaging surges, protection should be employed near the communications interface of the protected equipment. ONEAC achieves maximum protection without inhibiting Ethernet performance. Our technology provides a combination of fast reaction, very low and accurate breakdown voltage (at frequencies up to 25 Mhz), and low insertion loss. To provide protection to the RS232C interfaces, additional interface surge suppression tailored to higher voltages is utilized.

The ONEAC difference

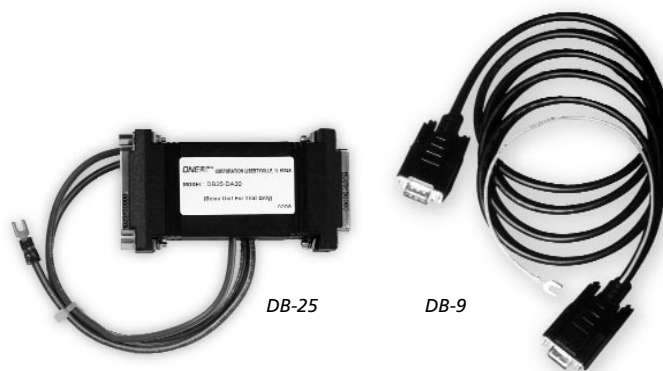
ONEAC 10/100Base-T Ethernet protection devices employ StarBalanced™ overvoltage protection using clamp-type voltage suppression to overcome many of the limitations of a conventionally balanced protector. The Ethernet protective device is provided in a small package with 8 position RJ-type jacks, a patch cable, and a grounding wire for easy installation.

ONEAC's RS232C protector is optimized for unbalanced, low speed signals of up to 25 V. All nine signal lines of the DB9 style connectors are protected. These devices use fast reacting solid-state crowbar-type protection. The circuitry is built inside the housing of a 6-foot cable with a convenient grounding wire.

ONEAC's RS232/RS422/RS485 protector is also optimized for unbalanced, low speed signals of up to 25 V. Unlike the DB9, the DB25 provides protection for all 25 signals.



10/100Base-T Ethernet Protector



RS232C Circuit Protector Cables

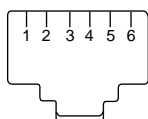
- **Simple installation:** convenient ground connection and wall mounting make installation a snap
- **Robust/solid state overvoltage protection:** lasts longer in the field
- **High amperage surge impulse design:** provides longer lasting protection
- **UL and cUL listed:** 497, 497A, and 497B
- **5-year warranty:** the best assurance of product quality and performance in the industry

10/100Base-T Ethernet & RS232C Communications Interface Protectors: Specifications

Proven to reduce service costs

By removing electrical transients, ONEAC improves system reliability for microprocessor-based products. Look at the evidence — installers of large customer-premise communications systems using both ONEAC transmission line protectors and ONEAC AC power conditioning report a reduction of 83% in total trouble calls due to hardware problems and 43% fewer calls in which no trouble was found.

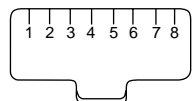
Jack openings for 10Base-T ethernet protector



6 position RJ-type

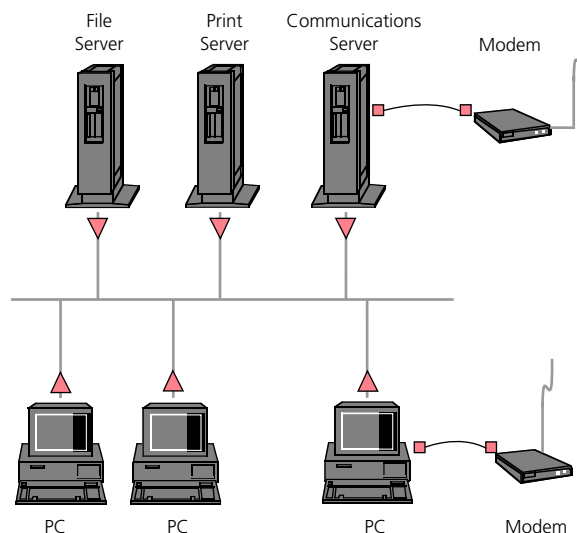
(Input/output pairs protected: 1,2; 3,6)

Jack openings for 100Base-T ethernet protector



8 position RJ-type

(Input/output pairs protected: 1,2; 3,6; 4,5 and 7,8)



▲ = 10/100Base-T Ethernet Protector

■ = RS232C Circuit Protector Cable

Model

Impulse Voltage Performance with 10/1000 μ S, 1500 V, 50 A :

Let-through voltage-line to line, (typical/max.)

25 V/35 V

25V/35 V

NA

NA

Let-through voltage-line to earth, (typical/max.)

25 V/35 V

460 V/540 V

NA

NA

Impulse Voltage Performance with 10/1000 μ S, 1500 V, 75 A:

Let-through voltage, (typical/max.)

NA

NA

32 V/40 V

32 V/40 V

Impulse Voltage Performance with 10/1000 μ S, 1500 V, 100 A

Let-through voltage, (typical/max.)

NA

NA

NA

40 V/65 V

DC Breakdown Voltage @ 100 V/sec:

Let-through voltage-line to line, (typical/range)

10.5 V/9-13 V

10.5 V/9-13 V

NA

NA

Let-through voltage-line to earth, (typical/range)

10.5 V/9-13 V

460 V/400-540 V

32 V/25-40 V

32 V/25-40 V

Insulation Resistance

>750 K Ω

>750 K Ω

>100 M Ω

>100 M Ω

Response Time

<1 nS

<5 nS

<1 nS

<1 nS

Capacitance @ 0 VDC, 1 VAC, 1Khz (typical/max.)

75 pF/150 pF

100 pF

200 pf max.*

50 pF max

Insertion Loss 100 Hz - 25 Mhz, -10 dBm signal, 100 Ω system

<.5 dB

NA

NA

NA

Non-Resetting Overcurrent Protection (time delay fuse - fails open)

1 A

NA

NA

NA

UL Listings

UL Primary/Secondary
Data Communications

497, 497A
497B

NA
497B

NA
497B

NA
497B

cUL Secondary

497A (equivalent to
CSA certifications)

NA

NA

NA

* Does not include capacitance of attached cable.

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ONEAC is a UL/BSI
registered corporation —
Certification No. A2900



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