

Surge Protection

Workstation Port Protection

RS-232

DB-25



DB-9



These asynchronous surge protectors guard RS-232 data and control signals against harmful transients. Ideal for situations where you have equipment such as multiplexers, repeaters, concentrators, and short-range modems connected to long lengths of cable, they protect against signal noise and surges.

- ✓ Protect your expensive communications equipment from line-to-line and line-to-ground transients.
- ✓ Highly sensitive avalanche-diode circuitry
- ✓ Install quickly and easily
- ✓ Available with DB-9 and DB-25 connections

Model 501
Page 232

Model 509
Page 232

RS-232 & RS-422

RJ-11, RJ-12, & RJ-45



These ultra-miniature protectors fit almost anywhere and handle transient surges up to 600 watts per wire.

- ✓ Surge handling capacity of up to 4,800 watts
- ✓ Install quickly and easily
- ✓ 6-in. (15.2 cm) extension cable included

Model 510
Page 233

TERMINAL BLOCKS

Universal



Design your own "custom" surge protectors to fit just about any 2, 4, 6, 8, or 10-wire application.

- ✓ Surge handling capacity of 1,500 watts
- ✓ Highly sensitive avalanche-diode circuitry
- ✓ 7.5 V and 18 V clamping voltage options

Model 52X
Page 239

PARALLEL

Centronics or DB-25



When you're protecting your computer's data lines from transient surges, don't forget the parallel ports. The relatively low voltages of parallel signals make them surge-sensitive!

- ✓ Protects all parallel interface pins
- ✓ Surge handling capacity of 1,500 watts
- ✓ Centronics or DB-25 options

Model 503P
Page 233

X.21

DB-15



Protects any X.21, RS-232, RS-422/485, or T1 interface port that uses a DB-15 connector.

- ✓ Data rates up to 20 Mbps
- ✓ Clamping voltage options for RS-232/485, X.21, and T1
- ✓ Highly sensitive avalanche-diode circuitry

Model 515
Page 232

10/100 BASE-TX

CAT-5 Certified



These 10/100Base-TX surge protectors are EIA/TIA TSB-40A Category-5 certified, and can protect your RS-422/423, Token Ring, and ATM equipment too!

- ✓ Install at equipment locations (570) or wiring closets (580)
- ✓ Complies with transient immunity standards IEC 801-2, 801-4, & 801-5
- ✓ PoE 802.3af

Model 570/580
Page 234

WAN Port Protection

DIAL-UP

Protects Phones, Faxes, Modems



2- or 4-Wire dial-up protectors

Model 552-D
Page 238

LEASED LINE

Protects Analog Devices



4-Wire leased-line protector

Model 552-L4
Page 238

ISDN

Protects TAs & NTUs 'U' & 'ST'



8-Wire ISDN protector ST Type

Model 552-ST
Page 238

DDS

Protects 56/64k CSUs



4-Wire DDS protector

Model 552-DDS
Page 238

T1/E1

Protects 1.544 & 2.048 Mbps CSUs



4-Wire T1, E1, & ISDN PRI protector

Model 552-T1
Page 238

V.35

Protects Modems, CSU/DSUs, etc.



Plugs directly into V.35 ports, so you won't need cables

Model 546
Page 237

Surge Protectors for Every Application

In This Section

10BASE-2

BNC, ThinNet



Guard legacy Ethernet data lines—especially the long cable runs used for routers and bridges—from transient surges that can be caused by nearby lightning, AC motors, appliances or even the normal operation of UPS devices. Let our coax Ethernet protectors shield your LAN from costly downtime due to surges.

- ✓ Available for ThinNet ("thin" coax) and ThickNet ("thick" coax) Ethernet
- ✓ Highly sensitive avalanche-diode circuitry
- ✓ Low signal loss
- ✓ Install quickly and easily
- ✓ Miniature size

Model 531
Page 235

10BASE-5

N-Type, ThickNet



Model 530
Page 235

AUI

IEEE 802.3 Compliant



Let our AUI Ethernet protectors shield your LAN from costly downtime due to surges.

- ✓ Complies with the IEEE 802.3 Specification
- ✓ Highly sensitive avalanche-diode circuitry
- ✓ Install quickly and easily

Model 534
Page 236

TOKEN RING

IEEE 802.5 Compliant



These surge protectors guard 802.5 networks against data loss & hardware damage caused by data line transients. Protects repeaters, MAUs, & other Token Ring devices

- ✓ Protection for 4 Mbps or 16 Mbps Token Ring Networks
- ✓ Surge handling capacity of 1,500 watts
- ✓ Available with RJ-45, DB-9, & IBM data connectors

Models 535/6/7
Page 236

Surge Protection

230

Async DB-25 Surge Protectors	232
Async DB-25 Low Capacitance Surge Protector ..	232
Sync DB-25 Surge Protector	232
Sync DB-9 Surge Protector	232
Sync DB-15 Surge Protector	232
Serial DB-25 Surge Protector (All 25 Leads)	232
RJ-11 Surge Protector	233
RJ-12 Surge Protector	233
RJ-45 Surge Protectors	233
Parallel Surge Protectors	233
10/100Base-T (Cat-5) Secondary Surge Protector	234
10/100Base-T (Cat-5) Secondary Multiport Protectors	234
Multiport RS-232 & RS-422 Surge Protectors ..	235
Coax Ethernet Surge Protectors	235
Ethernet AUI Surge Protector (DB-15)	236
802.5 Token Ring Surge Protectors	236
Twinax Surge Protectors for IBM AS/400	236
Video Surge Protectors	236
Async RS-232-to-RS-232 Optical Isolators	237
Async RS-422/485 Optical Isolators	237
V.35 (M/34) Surge Protector	237
Telco Surge Protectors	238
Terminal Strip Surge Protector	239

Multiport Protection

10/100BASE-TX

Up to 100 Mbps
(PoE 802.3af available)



Contains up to 8 10/100Base-TX protectors per enclosure

Models 57X & 58X
Page 234

10/100BASE-TX (CATEGORY-5)

Up to 100 Mbps
(PoE 802.3af available)



Protects 8 or 16-port Category-5 interfaces (including RS-422, RS-423, 10/100Base-TX, Token Ring, Fast Ethernet, and ATM) twisted-pair hubs against transients

Models 570R & 580R
Page 234

Async DB-25 Surge Protectors

Models 500 & 501

**FEATURES & BENEFITS**

- ✓ Model 500 protects pins 2, 3, 7 and 20 (pin 1 and shell connected to ground)
- ✓ Model 501 protects pins 2, 3, 4, 5, 6, 7, 8 and 20 (pin 1 and shell connected to ground)

ORDERING INFORMATION

500: Async DB-25 Surge Protector

501: Async DB-25 Surge Protector

Async DB-25 Low Capacitance Surge Protector

Model 501LC

**FEATURES & BENEFITS**

- ✓ Get maximum distance from long runs
- ✓ Protects pins 2–8, 11, 20, 22, 24 & 25
- ✓ Adds an insignificant 45 pF of capacitance to each signal

ORDERING INFORMATION

501LC: Async DB-25 Surge Protector, Low Capacitance

Sync DB-25 Surge Protector

Model 502

**FEATURES & BENEFITS**

- ✓ Protects pins 2–8, 15, 17, 22 & 24
- ✓ Diverts surge energy to pin 1 and D-shell at both ends

ORDERING INFORMATION

502: Sync DB-25 Surge Protector

Sync DB-9 Surge Protector

Model 509

**FEATURES & BENEFITS**

- ✓ Two clamping voltages: 7.5 V (RS-422) or 18V (EIA-574/RS-232)
- ✓ Combined surge-handling of 5,400 watts
- ✓ Protects all 9 pins

ORDERING INFORMATION

509/6: DB-9 Surge Protector (for RS-422/485)

509/25: DB-9 Surge Protector (for RS-232)

Sync DB-15 Surge Protector

Model 515

**FEATURES & BENEFITS**

- ✓ Support for data rates up to 20 Mbps
- ✓ Clamping voltages for RS-232 (18V), RS-422, 485, X.21, T1 (7.5V)
- ✓ 515/6 & 515/25 protect all 15 wires
- ✓ 515/T1 protects pins 1, 3, 9, and 11

ORDERING INFORMATION

515/6: DB-15 Surge Protector (for RS-422/485)

515/25: DB-15 Surge Protector (for RS-232)

515/T1: DB-15 Surge Protector

Serial DB-25 Surge Protector (All 25 Leads)

Model 503S



This universal surge protector guards any RS-232 system (synchronous or asynchronous) against data loss and hardware damage caused by data line tran-

sients. There are many sources of such transients—lighting strikes, fluorescent lights, elevator motors, even UPSs. AC protection alone is not enough! The Model 503S diverts harmful data line surges to chassis ground (through either D-shell) before they reach your hardware.

FEATURES & BENEFITS

- ✓ Protects all 25 serial pins on the DB-25 connector
- ✓ Combined surge handling capacity of 36,000 watts
- ✓ Diverts surges safely to chassis ground through D-shell connectors

ORDERING INFORMATION

503S: RS-232 Serial DB-25 Surge Protector

503S/6: RS-422/485 Serial DB-25 Surge Protector

RJ-11, RJ-12, & RJ-45 Surge Protectors

Models 510, 511 & 512

The Models 510, 511 and 512 surge protectors let you choose 4, 6 or 8 wire protection for either an RS-232 or RS-422 modular interface. These ultraminiature protectors fit almost anywhere and handle transient surge up to 600 watts per wire. Harmful surge energy is diverted safely to chassis ground using a built-in braided metal strap. Should these protectors encounter a severe surge above their rated capacity, they will divert all voltages to ground.



FEATURES & BENEFITS

- ✓ **Models 510** protects four wires on the RJ-11 connector (combined surge handling of 2400 W)
- ✓ **Models 511** protects six wires on the RJ-12 connector (combined surge handling of 3600 W)
- ✓ **Models 512** protects eight wires on the RJ-45 connector (combined surge handling of 4800 W)
- ✓ Heavy braided ground strap diverts surge energy to frame ground
- ✓ Clamping at 18 volts for RS-232 and 7.5 volts for RS-422
- ✓ "Fail-safe" design guards hardware in case of severe surge

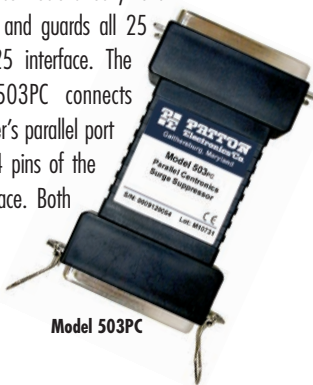
Model 512 application diagram



Parallel Surge Protectors

Models 503P & 503PC

When protecting your computer's data lines from transient surge, don't forget the parallel ports: The relatively low voltages of parallel signals make them surge-sensitive! The Patton Model 503P connects directly to a PC's parallel port and guards all 25 pins of the DB-25 interface. The Patton Model 503PC connects directly to a printer's parallel port and guards all 34 pins of the Centronics® interface. Both models handle repeated surges up to 1500 kW.



Model 503PC

FEATURES & BENEFITS

- ✓ **Model 503P** protects all 25 pins on the DB-25 parallel interface
- ✓ **Model 503PC** protects 34 pins on the Centronics® parallel interface
- ✓ Surge energy diverted to chassis ground through connector shells
- ✓ 1.5 kw (503PC) surge handling capacity
- ✓ 503PC clamps at +8V -3V; 503P clamps at 6.8 V
- ✓ Quick response time of 500 nsec



Model 503P

Model 503P & 503PC application diagram



ORDERING INFORMATION

Model 510

510/6: 4 line modular surge protector (RS-422, 6V clamping)

510/25: 4 line modular surge protector (RS-232, 25V clamping)

Model 511

511/6: 6 line modular surge protector (RS-422, 6V clamping)

511/25: 6 line modular surge protector (RS-232, 25V clamping)

Model 512

512/6: 8 line modular surge protector (RS-422, 6V clamping)

512/25: 8 line modular surge protector (RS-232, 25V clamping)

IMPORTANT

When ordering a Model 510, 511 or 512, please provide us with the following information:

- Whether your application is 4-wire (RJ-11), 6-wire (RJ-12) or 8-wire (RJ-45)
- Whether your application is RS-232 (clamps at 18V) or RS-422 (clamps at 7.5V)

Model 503 & 503PC

503PC: Centronics® 36-Pin Parallel Surge Protector

503P: DB-25 Parallel Surge Protector

I'm Bob, one of Patton's Support Engineers. If you do not find what you need at www.patton.com or in this catalog, or if you have technical questions or comments, please call me at +1 301.975.1007. You can also send e-mail to puckett@patton.com.

10/100Base-TX (Cat-5) Secondary Surge Protector

Models 570, 580, & 570-POE, 580-POE

Our Cat-5 protector works at speeds up to 100 Mbps

These 10/100Base-TX surge protectors are EIA/TIA TSB-40A Category-5 certified, and can protect your RS-422/423, Token Ring, and ATM equipment too! With a NEXT spec of -43dB (worst pair), you can rest assured that these units will protect your 10/100Base-TX, RS-422 or 100VG-AnyLan data lines without hindering critical network performance. The Model

570 is designed for use at the sensitive equipment port, while the Model 580 protects barriers (such as wiring closets).



SPECIFICATIONS

Environment: Category-5 Interfaces that use the RJ-45 connector, including RS-422/423, 10Base-T, Token Ring, 100Base-TX & ATM

Connectors: RJ-45 Female

Response Time: Clamped to 13 V after 0.1 μ s

Surge Clamp Voltage: Model 570—13 V max with 1 kV Input; Model 580—15 V max with 2 kV Input

NEXT Loss: Model 570—worst pair Better than -46 dB at 100 MHz; Model

580—worst pair Better than -43 dB at 100 MHz

Characteristic Impedance: 100 ohm

Surge Rating: IEC 801.5 Standard Level

DC Clamp Voltage: Common Mode to Gnd, each line 7.5 V @ 50 mA; Differential mode, per pair 8.1 V @ 50 mA

Insertion Loss: Less than 0.4 dB at 100 MHz (including connector)

Return Loss: Better than 14 dB

Group Delay: None, 1–100 MHz
Series Resistance: Less than 400 milli-ohms

Grounding: External ground strap provides separate unit-ground to chassis-ground

Dimensions: 2.25 x 1.89 x 0.75 in (5.72 x 4.29 x 1.91 cm)

570 & 580

Common mode (to ground) (each line): 7.7 V @ 10mA (pulse)

Differential mode (per pair): 8.6 V @ 10 mA (pulse)

570-POE & 580-POE

Pairs (1, 2) & (3, 6)

Common mode (to ground) (each line): 7.7 V @ 10mA (pulse)
Differential mode (per pair): 8.6 V @ 10 mA (pulse)

Pairs (4, 5) & (7, 8)

Common mode clamping voltage is 69 V @ 1 mA (pulse transient) and Differential mode clamping voltage is 70 V @ 1mA (pulse transient).

FEATURES & BENEFITS

- ✓ EIA/TIA TSB-40A Category-5 certified
- ✓ Models for use at the equipment (570) or barriers/wiring closets (580)
- ✓ Near-end cross-talk (NEXT) better than -43 db for transparent protection
- ✓ Complies with transient immunity standards IEC 801-2, 801-4, & 801-5
- ✓ Response time of 0.1 μ s
- ✓ 802.3af compliant models available

ORDERING INFORMATION

570: 10/100Base-T (CAT-5) Protector Point of Use (8-Wire)

570-POE: 10/100Base-T PoE Protector Point of Use

580: 10/100Base-T (CAT-5) Protector Barrier (8-Wire)

580-POE: 10/100Base-T PoE Protector Barrier

10/100Base-TX (Cat-5) Secondary Multiport Protectors, Hub and Panel (Rack Mount) Formats

Models 57X & 58X

Our Cat-5 protector works at speeds up to 100 Mbps.



The Model 57X and 58X Series Category-5 hub protectors are available in 4, 6 or 8-port standalone versions, as well as 8 or 16-port rack mount panels. All Model 57X and 58X units are EIA/TIA TSB-40A Category-5 certified, and divert harmful data line transients to chassis ground through a single braided metal strap. This approach reduces the number of ground connections required. Specifications like near-end cross-talk



(NEXT) of better than -43 dB at 100MHz, as well as insertion loss of less than 0.4 dB, insure transparent operation.

FEATURES & BENEFITS

- ✓ Provides 4, 6, 8 or 16 ports of protection against transients
- ✓ Guards twisted-pair interfaces at speeds up to 100 Mbps
- ✓ EIA/TIA TSB-40A Category-5 Certified
- ✓ Models for Point-of-Use (57X) or Barriers/Wiring Closets (58X)

SPECIFICATIONS

Connectors: RJ-45 Female

Response Time: Less than 5 ns

Characteristic Impedance: 100 ohm

NEXT Loss: Better than -43 dB at 100 MHz

Surge Clamp Voltage: Model 57X—13 V max with 1 kV Input; Model 58X—15 V max with 2 kV Input

Surge Rating: IEC 801.5 Standard Level

DC Clamp Voltage: Common Mode to Gnd, each line 7.5 V @ 50 mA;

Differential mode, per pair 8.1 V @ 50 mA

Return Loss: Better than 14 dB

Insertion Loss: Less than 0.4 dB (including connector) at all frequencies

Series Resistance: Less than 400 milli-ohms

Grounding: External ground strap through mounting screws

ORDERING INFORMATION

574: 4-Port, 10/100Base-TX (CAT-5) Hub Protector Point for Use

576: 6-Port, 10/100Base-TX (CAT-5) Hub Protector Point for Use

578: 8-Port, 10/100Base-TX (CAT-5) Hub Protector Point for Use

570R8: 8-Port 10/100Base-TX (CAT-5) Panel Protector Point for Use

Call for 802.3af PoE versions.

570R16: 16-Port 10/100Base-TX (CAT-5) Panel Protector Point for Use

584: 4-Port 10/100Base-TX (CAT-5) Hub Protector for Wiring Closets

586: 6-Port 10/100Base-TX (CAT-5) Hub Protector for Wiring Closets

588: 8-Port 10/100Base-TX (CAT-5) Hub Protector for Wiring Closets

580R8: 8-Port 10/100Base-TX (CAT-5) Panel Protector for Wiring Closets

580R16: 16-Port 10/100Base-TX (CAT-5) Panel Protector for Wiring Closets

Multiport RS-232 & RS-422 Surge Protectors

Model 51X Series

The Model 51X Series is a convenient way to provide data line surge protection for hosts, terminal servers, or other multiport devices. Guarding either RS-232 or RS-422/485 equipment, the Model 51X Series houses 4, 6, 8 or 12 surge protectors in a high density array. A choice of two different clamping voltages—11 volts for RS-422/485 devices or 27 volts for RS-232 devices—assures you of an unimpeded data flow. Matching RJ-45 input/output ports on the front and rear panels allow the Model 51X Series to connect conveniently in-line with each port on your device. All versions of the Model 51X Series support data rates up to 230 kbps. Harmful data line transients are intercepted before



they reach equipment ports and are diverted safely to chassis ground. Employing a solid state hybrid circuit, the Model 51X Series is able to handle repeated surges up to 1.5 kWatts. One 6-inch (15.2 cm) patch cable is included for each port on the unit.

FEATURES & BENEFITS

- ✓ Four Port Densities Available: 4, 6, 8 or 12 Modular Ports per Enclosure
- ✓ Two Clamping Voltages: 11 Volts (RS-422/485) or 27 Volts (RS-232)
- ✓ Data Rates up to 230 kbps
- ✓ 1.5 kW of Surge Handling Capability
- ✓ Surge Energy Diverted to Ground through Braided Metal Strap

Typical application



ORDERING INFORMATION

RS-232 Surge Protector

514/25: 4-Port Modular

516/25: 6-Port Modular

518/25: 8-Port Modular

513/25: 12-Port Modular

RS-422/485 Surge Protector

514/6: 4-Port Modular

516/6: 6-Port Modular

518/6: 8-Port Modular

513/6: 12-Port Modular

Coax Ethernet Surge Protectors

Models 530 & 531

Transient surges can be caused by nearby lightning, AC motors, appliances or even the normal operation of UPS devices. Let our coax Ethernet protectors guard your LAN from costly downtime due to surges.



Thick Ethernet
530 MF



Thin Ethernet
531 MF-F

FEATURES & BENEFITS

- ✓ Novell approved for NetWare versions 2.2 and 3.11 (Model 530)
- ✓ Meets the IEEE 802.3 specification
- ✓ Combined surge handling of 3 kW
- ✓ Direct connection to network interface cards and other LAN hardware
- ✓ "T" model replaces existing T-splitter
- ✓ Diverts surges safely to chassis ground via braided metal strap

ORDERING INFORMATION

Model 530

530 MF: Thick Ethernet Surge Protector, (N-Type, Male to Female)

Model 531

531 MF: Thin Ethernet Surge Protector, (BNC, Male to Female)

531 MFF: Thin Ethernet Surge Protector, (BNC, T-Splitter, Male, Female, Female)

SPECIFICATIONS

Connectors: N-type coaxial
Response Time: Less than 5 ns
Input Capacitance: 18 pF
Clamp Voltage: 25 V at 100 A (8/20 μ s waveform)
Surge Current: 400 A (8/20 μ s waveform)
Energy Handling: 1,500 watts per wire

Transfer Loss: -0.65 dB at 100 MHz
Group Relay: None, 1 MHz to 100 MHz
Dimensions: 2 in. L x 1 in. dia.
Op. Temp.: -67 to 212°F (-55 to 100°C)

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PATTON
Electronics Co.

Ethernet AUI Surge Protector (DB-15)

Model 534

Gives workstations and hubs the upper hand against transients

The Model 534 connects directly to DB-15 AUI ports on interface cards, hubs and repeaters. Protecting DB-15 pins 1 thru 6, 8, 9, 11, 12, 13 and 14 (pins 1, 4, 8, 11 and 14 are electrically connected on both ends), the Model 534 intercepts transient voltages and sends them safely to ground through both DB-15 connector shells.



FEATURES & BENEFITS

- ✓ Meets the IEEE 802.3 specification
- ✓ Combined surge handling capacity of 7,200 watts

ORDERING INFORMATION

Ethernet AUI Surge Protector
534 MF: DB-15 (Male to Female)

802.5 Token Ring Surge Protectors

Models 535, 536, & 537

Whatever your Token Ring topology, we have the right data line protector for you!

Token Ring surge protectors guard 802.5 networks against data loss and hardware damage caused by data line transients. Sophisticated solid data circuits allow our Token Ring protectors to protect transparently—while shielding your devices from surge hit after surge hit.



FEATURES & BENEFITS

- ✓ IEEE 802.5 compliant
- ✓ Protection for 4 Mbps or 16 Mbps Token Ring networks

ORDERING INFORMATION

Type 1 Token Ring Surge Protector
535 MF: DB-9 (Male to Female)

Type 3 Token Ring Surge Protector
536 FF: UTP, RJ-45 (Female to Female)

536S FF: STP, RJ-45 (Female to Female)

Type B Token Ring Surge Protector
537: IBM Data Connector

Twinax Surge Protector for IBM AS/400

Model 545

Reliable data line protection for midrange systems

The Model 545 greatly reduces the threat that transient surges pose to twinax networks. Installing directly between incoming twinax data cables and twinax data ports, the Model 545 safely diverts surge energy to chassis ground before hardware damage occurs. Our T-splitter version replaces the twinax T-splitter on your existing connection.



FEATURES & BENEFITS

- ✓ 3,000 watts energy handling
- ✓ In-line (MF, FF) or T-splitter (MFF) configurations available

ORDERING INFORMATION

AS/400 Surge Protector
545MF: Twinax, male to female

545FF: Twinax, female to female

545MFF: Twinax "T" male, female, female

Video Surge Protectors

Models 542 & 543

The Model 542 and 543 video surge protectors connect in-line between the coax video cable and the connection port on your camera, console, or other video equipment. Transient surges are intercepted and diverted to ground through a braided metal strap. The video protectors can handle repeated surges up to 1,500 watts per wire. Their "fail safe" design protects your video equipment even in the event of a severe surge.



FEATURES & BENEFITS

- ✓ 3,000 watts energy handling
- ✓ In-line (MF, FF) or T-splitter (MFF) configurations available

ORDERING INFORMATION

542: CCTV (BNC)

543: SATV, VSAT, DirecTV (F-Type)

Asynchronous RS-232 Optical Isolators

Model 590 Series

Don't let ground loops disrupt your RS-232 communications!

The Model 590 Series of RS-232 optical isolators guard your asynchronous equipment from the hazards of ground looping. Plugging directly into your DTE hardware, the Model 590 Series provides 2500V RMS peak DCE/DTE isolation. Both the Model 590A (19.2 kbps max) and Model 591A (115.2 kbps max) isolate 4 lines on the RS-232 interface—two of

which are selectable by internal jumpers. The Model 592 (19.2 kbps max) and Model 594 (115.2 kbps max) isolate 7 pre-wired lines on the RS-232 interface.



SPECIFICATIONS

Transmission Format:

Asynchronous, full or half duplex

Interface Standard: EIA RS-232E

Connectors: DB-25 female on DCE side (direct connection to DTE equipment); DB-25 male on DTE side (connects by cable to DCE equipment)

Data Rates: Model 590A/592—0 to 19.2 kbps; Model 591A/594—0 to 115.2 kbps

Lines Isolated: Model 590A/591A—TD (2), RD (3), DTR (20) or RTS (4); CD (8), DSR (6) or CTS (5). Model 592/594—TD (2), RD (3), RTS (4), CTS (5), DSR (6), CD (8) and DTR (20).

Power Supply: Model

590A/591A—RS-232 Interface powered, or user-supplied 12V DC input on pin 9 of the DCE interface (45mA); Model 592/594—External AC transformer

Isolation: 2500V RMS peak isolation

Dimensions: 3.8 x 2.1 x 0.79 in. (9.7 x 5.3 x 2.0 cm)

Op. Temp.: 32–122°F (0–50°C)

Altitude: 0–10,000 feet (0–3,078 m)

Humidity: Up to 95% non-condensing

FEATURES & BENEFITS

- ✓ 2500V RMS peak isolation
- ✓ Models 590A and 592 support async data rates to 19.2 kbps
- ✓ Models 591A and 594 support async data rates to 115.2 kbps

ORDERING INFORMATION

RS-232 Optical Isolator (DB-25M to DB-25F)
590AF: 19.2 kbps, 4 Lines Isolated

591AF: 115.2 kbps, 4 Lines Isolated

592/25F: 19.2 kbps, 7 Lines Isolated 120 V

594/25F: 115.2 kbps, 7 Lines Isolated, 120 V

230 VAC version also available, call for details.

RS-422/485 Optical Isolators

Model 593 Series

Prevent the early failure of your RS-422/485 devices!

The Model 593 series of RS-422/485 optical isolators protects your RS-422/485 equipment from the hazards of ground looping. Connect the Model 593 directly to your equipment via a DB-25 or RJ-45 connector, or a terminal block. The Model 593 supports data rates up to 115.2 kbps.



SPECIFICATIONS

Transmission Format:

Asynchronous, full- or half-duplex

Interface standard: RS-422/485, or terminal block

Data rates: Up to 115.2 kbps

Power Supply: AC external power supply

Isolation: 2500 Vrms peak isolation

Op. Temp.: 32–140°F (0–60°C)

Altitude: 0–10,000 ft (3,048 m)

Dimensions:

593/45 & 593/TB:
3.8L x 2.1W x 0.79H in.
(9.7L x 5.3W x 2.0H cm)

593/25:

4.1L x 2.1W x 0.79H in.
(10.4L x 5.3W x 2.0H cm)

Humidity: 5–95% non-condensing

FEATURES & BENEFITS

- ✓ 2500 Vrms peak isolation
- ✓ Supports asynchronous data rates up to 115.2 kbps

ORDERING INFORMATION

RS-422/485 Optical Isolator

593/45: RJ-45F to RJ-45F, 115.2 kbps 4 lines isolated

593/25F: DB-25F to DB-25F, 115.2 kbps 4 lines isolated

593/TB: Terminal block to terminal block, 115.2 kbps, 4 lines isolated

V.35 (M/34) Surge Protector

Model 546

Compact unit that plugs directly into your M/34 interface—no expensive adapter cables!

The Model 546 surge protector guards V.35 data ports against damage and data loss due to transient surges. It intercepts harmful surges and diverts them to chassis ground through a braided metal strap. All standard data, clocking and control signals on the CCITT V.35 interface are protected (although the Model 546 is also available with all 34 pins protected).



FEATURES & BENEFITS

- ✓ Surge handling capacity of 1,500 watts
- ✓ Supports data rates up to 20 Mbps
- ✓ Able to handle repeated surges without degrading in performance

ORDERING INFORMATION

546MF: V.35 Surge Protector (Standard Lines) M/34 (Male to Female)

546/34MF: V.35 Surge Protector (All 34 Lines) M/34 (Male to Female)

Telco Line Surge Protectors

Model 552 Series

Guard All Your Telco Lines: T1, ISDN, DDS, Leased & Dial-up!

Your telco lines are a vital data link with the outside world. But they can also carry some very undesirable transient spikes into your data ports! The Patton Model 552 installs between an incoming telco line and a dial-up/leased line modem, ISDN modem (a.k.a. TA, NTU), T1/E1/PRI or DDS CSU/DSU or other termination hardware to intercept and divert telco line transients.



THE PART NUMBER TELLS YOU THE APPLICATION:

Model 552-D2: For protection of 2-wire dial-line modems, faxes, phones.

Pins Protected: Pins 4 and 5 on the RJ-45 Interface (RJ-11 Pins 3 and 4 via 6 in./15 cm patch cable)

Protection Mode: Common Mode Pins 4, 5 to shielding braid; Differential Mode Pins 4, 5.

Model 552-D4: For protection of 4-wire dial-line modems, faxes, phones.

Pins Protected: Pins 3, 4, 5, 6 on the RJ-45 Interface (RJ-11 Pins 3, 4, 5, 6 via 6 in./15 cm patch cable)

Protection Mode: Common Mode Pins 3, 4, 5, 6 to shielding braid; Differential Mode Pins 3, 4, 5, 6.

Model 552-L4 : For protection of 4-wire leased line modems.

Pins Protected: Pins 3, 4, 5, 6 on the RJ-45 Interface; (RJ-11 Pins 2, 3, 4, 5 via 6 in./15 cm patch cable)

Protection Mode: All pins Common Mode to shielding braid; Differential 3 and 6, 4 and 5.

Model 552-DDS: For protection of 56/64K CSU/DSU products.

Pins Protected: Pins 1, 2, 7, 8;

Protection Mode: Common Mode Pins 1, 2, 7, 8 to shielding braid; Differential Mode Pins 1, 2, 7, 8

Model 552-T1& E1: For protection of T1& E1 CSU/DSUs and Multiplexers.

Pins Protected: Pins 1, 2, 4, 5

Protection Mode: Common Mode Pins 1, 2, 4, 5 to shielding braid; Differential Mode Pins 1, 2, 4, 5.

Model 552-E1CX: For protection of all shields and center pins.

Pins Protected: All shields and center pins

Protection Mode: Common Mode Center Pins and Shield to

shielding braids. Differential Mode Center Pins to Shields

Model 552-U: For protection of ISDN TAs and NTUs.

Pins Protected: Pins 3, 4, 5, 6;

Protection Mode: All pins Common Mode to shielding braid; Differential 3 and 6, 4 and 5.

Model 552-ST: For protection of ISDN TAs and NTUs.

Pins Protected: All 8 pins on the RJ-45 interface;

Protection Mode: All pins Common Mode to shielding braid Differential Mode Pins 1 and 2, 7 and 8; Differential Mode Pins 3 and 6, 4 and 5.

FEATURES & BENEFITS

- ✓ Seven versions custom tailored to specific Telco interfaces!
- ✓ Safety tested and listed under UL 497A specification for secondary surge protectors
- ✓ Surge handling capacity of 1500 W
- ✓ Surge energy diverted to ground through braided metal strap
- ✓ "Fail-safe" design protects equipment in case of overload
- ✓ 6-in. (15.24 cm) modular cable included



I'm John, one of Patton's Micro Products Group Managers. If you do not find what you need at www.patton.com or in this catalog please call me at +1 301.975.1000, x160. You can also send e-mail to igrant@patton.com.



SPECIFICATIONS

Series resistance: 0.340 ohms

In-line fuse rating: 250V, 0.75 amp, 2.95 (A² sec) nominal melting point

Approvals: UL497A Telco Specification (except E1 versions)

Connectors: Two female RJ-45 or 4 BNC jacks (552-E1CX)

Dimensions: 3L x 0.75H x 2.1W in. (7.62L x 1.9H x 5.3W cm)

Weight: 0.1 lbs (0.045 kg)

ORDERING INFORMATION

552-D2: 2-Wire Dial Up Protector (RJ-11 pins 3 & 4)

552-D4: Dual 2-Wire Dial-Up Protector (RJ-11 pins 2, 3, 4 & 5)

552-L4: 4-Wire Leased Line Protector (RJ-45 pins 3, 4, 5 & 6)

552-DDS: 4-Wire DDS Protector (RJ-45 pins 1, 2, 7 & 8)

552-T1: 4-Wire T1 & ISDN PRI Protector (RJ-45 pins 1, 2, 4 & 5)

552-E1: 4-Wire E1 & ISDN PRI Protector (RJ-45 pins 3, 4, 5 & 6)

552-E1CX: Dual Coax E1 Protector

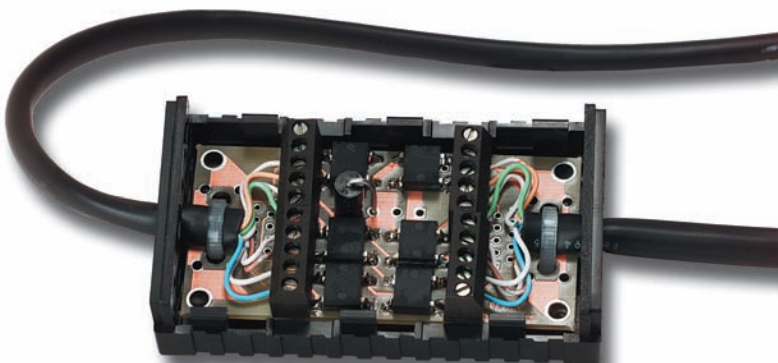
552-U: 4-Wire ISDN Protector—U Type (RJ-45 pins 3, 4, 5 & 6)

552-ST: 8-Wire ISDN Protector—ST Type (All 8 pins on the RJ-45)

Terminal Strip Surge Protectors

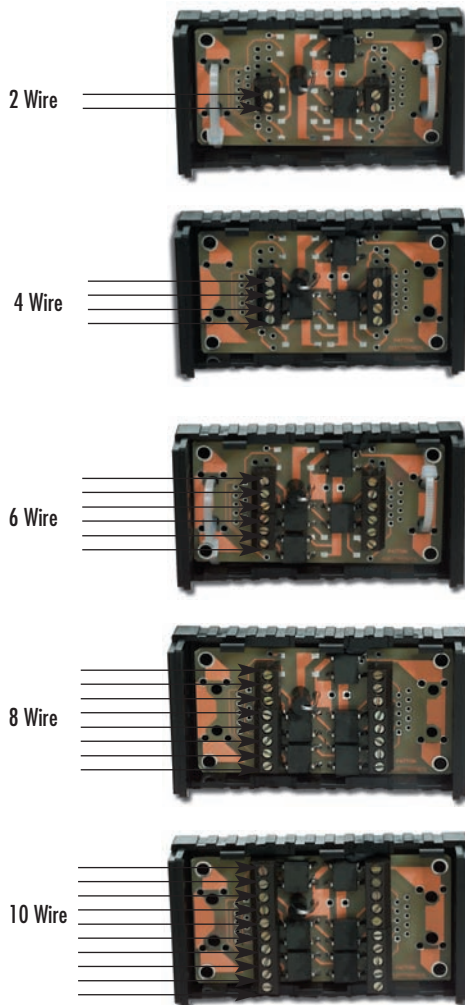
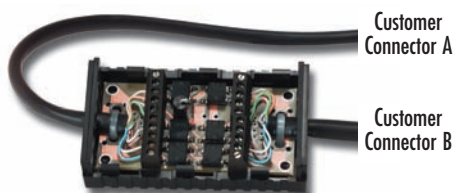
Model 52X Series

Create the surge protector you need for just about any interface.



Design Your Own Protector

The Patton 52X Series lets you design your own "custom" surge protector to fit just about any 2, 4, 6, 8 or 10 wire application. You specify the number of lines you need protected. You specify the clamping voltage that is optimum for your application. Each surge protector comes with input/output terminal strips and strain relief straps to hold the wires.



FEATURES & BENEFITS

- ✓ Clamping voltages for RS-232, RS-422, RS-485, Token Ring or Ethernet (call for custom options)
- ✓ Strain relief straps hold wires firmly in place
- ✓ Surge handling capacity of 1,500 watts
- ✓ Surge energy diverted to ground through braided metal strap
- ✓ You choose the number of lines to protect for your application

SPECIFICATIONS

Interface: RS-232, RS-422/485, Ethernet, Token Ring
Connectors: Terminal Strip
Wires Protected: 2, 4, 6, 8 or 10
Surge Capacity: 400A (8/20 μ S)
Clamp Voltage: Residual surge[†] at 2 kV (1.2/50 μ S), 1 kA (8/20 μ S wave form [105 volts])
Maximum Speed: 20 Mbps
Construction: UL94-5V rated flame-retardant plastic

Dimensions: 3.0 x 1.67 x 0.8 in. (7.62 x 4.24 x 2.03 cm)
Humidity: 5–95%, non-condensing
Op. Temp.: -40 to +185°F (-40 to +85°C)
Dimensions: 3L x 0.75H x 2.1W in. (7.62L x 1.9H x 5.3W cm)
Weight: 0.1 lbs (0.045 kg)

[†]Residual surge is a special term defined by the IEEE and NEMA to replace the term *clamp voltage*.

I'm Danny, one of Patton's Support Engineers. If you're having a problem with a Patton product, I'll find the solution quickly. To buy one of these surge protectors, call +1 301.975.1000 or send e-mail to sales@patton.com.

ORDERING INFORMATION

Terminal Strip	
522/25-TS: 2-Wire, 19.2 V	_____
524/25-TS: 4-Wire, 19.2 V	_____
526/25-TS: 6-Wire, 19.2 V	_____
528/25-TS: 8-Wire, 19.2 V	_____
521/25-TS: 10-Wire, 19.2 V	_____
522/6-TS: 2-Wire, 8.7 V	_____
524/6-TS: 4-Wire, 8.7 V	_____
526/6-TS: 6-Wire, 8.7 V	_____
528/6-TS: 8-Wire, 8.7 V	_____
521/6-TS: 10-Wire, 8.7 V	_____