



## V-Blox™ RAK™ Series Protection Products

Ideal For 19" Relay Racks Supporting LAN HUBS, Concentrators, and Multi-Port Interfaces.



### RAKs OFFER

- State-of-the-art, avalanche diode technology
- Compact in-line installation
- Easy, "hot swappable", single ports
- High speed, high energy handling capability
- Low shunt capacitance to reduce signal loss
- Convenient Front Input and Output or Standoff

bracket for the full data cabinets

### YOU RECEIVE

- Affordable, superior, equipment protection
- Improved reliability and maximized system up-time
- Adaptability to most industry applications

The RAK series of Rack Mount and Wall Mount Standoff protectors will ensure the reliable operation of networked equipment connected to 10BASE T & 100BASE T Ethernet, ATM155, CDDI, 100VG-AnyLan, RS422, RS232, Token Ring, Lease Line, ISDN, T1, DDS, Dial-Up and most other communication interfaces.

Transient surges can enter electronic equipment through any pathway provided. Facilities with reliable AC power protectors can still experience surge-related, system downtime. Transient surge energies from sources such as inductive load switching, ground loop currents and electrostatic discharge are clamped by AC protectors into the shared communication ground, resulting in damage to expensive communication hardware. The RAK Series includes 16 port, 19" relay rack protectors as well as 16 and 32 port, 5" standoff units for wall mount protection or environments where 19" relay rack space is limited. A wide variety of communication interfaces are supported that include 10BASE T and 100BASE T Ethernet, ATM155, CDDI, 100VG-AnyLan, RS232, RS422 and high speed LAN/WAN applications. For Telco requirements we offer protection for Dial-up, T1, DDS, ISDN and other lease line environments. These devices exhibit an extremely fast response time of less than 5 nanoseconds. All these features make RAK protectors the most cost effective and versatile devices of their kind available today. Whether you need to protect a single network concentrator, or an entire relay rack full of voltage sensitive equipment, V-Blox RAK series protectors are an easy, cost effective solution to over voltage problems.

### ALL V-BLOX PRODUCTS ARE MADE IN THE USA

V-Blox Corporation is the leader & innovator in the design and manufacture of surge protection products, with twelve series of products and over 4,000 production variations. Through our Custom Products Division (CPD), V-Blox can design surge protection solutions for just about any application or network environment. V-Blox's Three Dimensional Balanced Array Protector earned the industry's highest recognition as the "gold standard" in communication line surge protection. Continued innovations include the use of avalanche diode technology, compact in-line installations for stand-alone applications along with products that address the structured cabling environment, coupled with high-speed, high-energy handling capability. V-Blox's products provide protection for products such as hubs, routers, switches, modems, ISDN, CATV, CCTV, SATV, USB, PCMCIA cards, and POS terminals. Please visit our website at [www.vblox.net](http://www.vblox.net) for more information on our broad range of products.

V-Blox Corporation 13291 Vantage Way Ste 108 Jacksonville, FL 32218 USA 1-904-425-4908 Fax 1-904-741-0405

	<b>ELECTRICAL SPECIFICATIONS</b> (All specifications are subject to change with notice)				
	10BASE T	100BASE T		LEASE LINE	DIAL-UP
	RS422, RS485, RS423	ETHERNET ATM155	TOKEN RING RS232	ISDN, T1, DDS, (fused)	MODEM/FAX (fused)
STD. Clamp Voltage	7.5 Volts	7.5 Volts	18 Volts	60 Volts	240 Volts
PEAK PULSE CURRENT					
10/1000 $\mu$ s s.c. wave form @ Vcl	132 Amps	132 Amps	60 Amps	50 Amps	75 Amps
RESPONSE TIME	LESS THAN 5 NANOSECONDS				
MAXIMUM SHUNT CAPACITANCE	<40pF	<40pF	<40pF	<75pF	<95pF

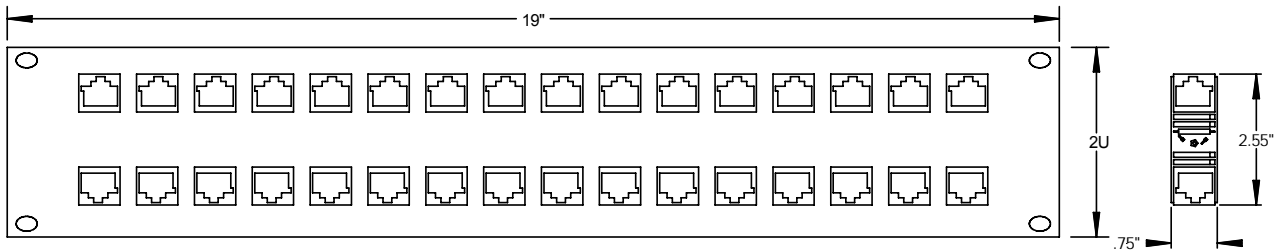


FIG. A

FIG. C

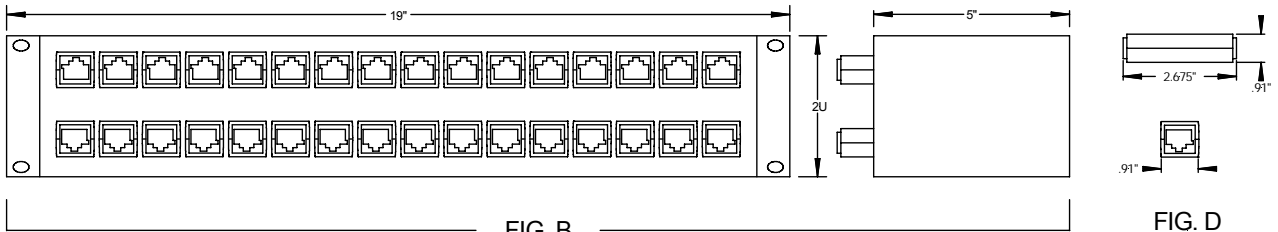


FIG. B

FIG. D

	<b>SYSTEM APPLICATION AND MODEL NUMBER</b>					
		10BASE T	100BASE T		LEASE LINE	DIAL-UP
	PINS	RS422, RS423, RS485	ETHERNET ATM155	TOKEN RING RS232	ISDN, T1, DDS (fused)	MODEM/FAX (fused)
16 PORT FLUSH MOUNT UNIT	X	RAK16-E	RAK16-E-C5	RAK16-T	RAK16-B	X
FIGURE A	CENTER 2 PINS	X	X	X	X	RAK16-G
16 PORT STAND OFF UNIT	ALL PINS	RAK16-E-SO	RAK16-E-SO-C5	RAK16-T-SO	RAK16-B-SO	X
(NOT SHOWN)	CENTER 2 PINS	X	X	X	X	RAK16-G-SO
32 PORT STAND OFF UNIT	ALL PINS	RAK32-E-SO	RAK32-E-SO-C5	RAK32-T-SO	RAK16-B-SO	X
FIGURE B	CENTER 2 PINS	X	X	X	X	RAK32-G-SO
FLUSH MOUNT REPLACEMENT NODE	ALL PINS	RAK-E	RAK-E-C5	RAK-T	RAK-B	X
FIGURE C	CENTER 2 PINS	X	X	X	X	RAK-G
STAND OFF REPLACEMENT NODE	ALL PINS	RAK-E-SO	RAK-E-SO-C5	RAK-T-SO	RAK-B-SO	X
FIGURE D	CENTER 2 PINS	X	X	X	X	RAK-G-SO
(SPECIAL CONFIGURATIONS ARE AVAILABLE, CONTACT YOUR SUPPLIER)						

### ORDERING INFORMATION

To order a RAK, choose the connector type depicted above that accommodates the system application and the number of wires to be protected.

NOTE: Special units can be supplied for any clamp voltage between 7.5 V and 240 V. The following information must be specified when ordering special units:

1. Connector type and pin assignment (ex., RJ45, 8 Wires)
2. System application (ex., Token Ring, Ethernet, ISDN, T1)

### INSTALLATION

To install, insert the protector in series between the incoming communication lines and the I/O port of the equipment to be protected. The protector ground wire must be connected to the metal chassis of the equipment being protected. Units should be installed at both ends of the data cable for the most effective protection.

### CAUTION

Ground wire must be grounded directly to the metal chassis of the equipment being protected. The equipment chassis must be connected to earth through a properly grounded AC power receptacle.

### V-BLOX CONNECTED EQUIPMENT GUARANTEE

V-Blox Corporation offers our \$25,000 Connected Equipment Guarantee, 15 Year Replacement Program and a Limited Lifetime Warranty. This warranty applies only to serialized low voltage products registered with V-Blox Corporation and is subject to certain disclaimers and limitations. For a complete warranty statement, please contact V-Blox Corporation. All specifications and dimensions are subject to change without notice.