



- Technical Data Sheet: LPI VHS-K10-230
 - Very High Speed Data line protection for 10 pair Krone LSA-Plus
 - High Bandwidth – 12 MHz (- 0.3dB, 120Ω)
 - Effective clamping with lower let-through voltage
 - High reliability surface mount technology



LPI VHS-K10-230 Very High Speed Data Line Protector

Product Description

The VHS-K10-230 is a multistage protection module designed for the protection of digital telephone and data circuits against transient over-voltages caused by lightning, induced impulses and other voltage surges. Traditional shunt-connected gas filled arresters by themselves can no longer provide adequate or required protection for sensitive line cards or newer generation digital switching systems.

The VHS-K10-230 contains ten line protection circuits on a single PCB. Each circuit consists of a primary three terminal gas filled arrester followed by a secondary transient clamping circuit.

The gas arrester provides common mode protection by bypassing transient currents to ground. The arrester chosen by LPI has a fast impulse response compatible with the requirements of advanced high-speed data networks.

The secondary transient clamping circuit comprises a series resistor in each leg plus shunt connected silicon transient protection devices.

The effect of this series impedance is to provide decoupling between the primary and secondary protection elements during fast rise time impulses associated with lightning type transient events. The effect is that fast rise time events, with high dV/dt, are diverted to the primary gas filled arrester rather than passed through to the equipment.

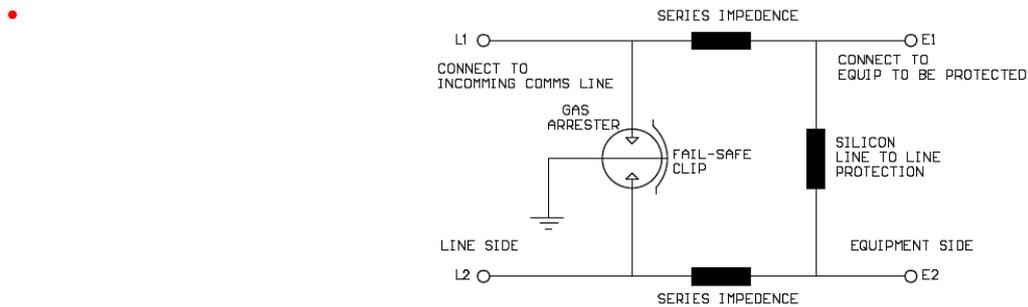
Following the series impedance, silicon transient protection devices provide transverse mode fine protection.

The VHS-K10-230 is earthed through two spring clips which connect to the KRONE LSA* frame. These robust tabs provide excellent electrical contact with the frame.

Application

The LPI VHS-K10-230 is designed for installation into the Krone LSA-Plus Series 2* termination system. The LPI VHS-K10-230 must be installed into disconnect blocks to allow the series impedance elements to be inserted in circuit.

Applications include the protection of telephone, data networks used for process control and automation. The LPI VHS-K10-230 can be used to protect at the MDF, Public Exchange (PSTN), PBX, Key Telephone Systems (KTS), Pay phone, as well as data distribution systems, remote instrumentation, radio transmitters etc. Suitable for primary and basic rate ISDN, Broad band ADSL, E1/T1 and PCM applications.



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• **Technical Data**

Configuration:	10 pair plug in module
Protection Stages:	Gas arrester / series impedance / Silicon Protection
Max. bit rate & Bandwidth:	8 Mbits/s & 12 MHz
DC Breakdown:	190-276V line to earth 190 – 262V line to line
Max working voltage:	190V line to earth 190V line to line
Surge rating:	a+b-e 20kA for 8/20μs pulse a-b or a-e 10kA for 8/20μs pulse
Typical Let-through Voltage:	240V @ 5kV 10/700 μs
Max Line Current:	150mA @ 25°
AC discharge current:	a+b-e 10A @ 50Hz for 1second
Return loss:	>44dB @ 3.4kHz 600Ω >32dB @ 1MHz 120Ω >32dB @ 3MHz 120Ω >25dB @ 12MHz 120Ω
Capacitance	a-e, b-e < 5pF a-b < 30pF
Loop resistance:	6.6 Ohms nominal
Insertion loss:	<0.05dB @ 600Ω, 3.4kHz <0.25dB @ 120Ω, 1MHz <0.26dB @ 120Ω, 3Mz <0.3dB @ 120Ω, 12MHz
Insulation Resistance:	> 5MΩ @ 190 Vdc
Dimensions	119mm long x 20mm high 45mm from front of KRONE* Series 2 block when plugged in
Weight	80 g
Connection:	PCB plug in, to Krone LSA* disconnect block
Earthing:	Via spring clips to KRONE* frame
Temperature range	0 - 45°C, 10 – 90% RH
Location	BD, CD or MDF in Krone LSA* disconnect block

Note: Specifications are subject to change without notice.

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• **Warranty**

This product is guaranteed to be free from materials and workmanship defects for a period of 5 years from the date of shipment from the manufacturer. This warranty does not offer any cover for consequential damage, loss of operation or loss of profit.



- **“LPI Endorsed Product”** – The symbol of assurance of quality and performance.
- LPI has a policy of continuing product development. Therefore, the above specifications are subject to change without notice.



Innovative Lightning and Surge Protection Solutions



Direct Strike Protection



Surge & Transient Protection for Power, Data, Communications and RF lines



Grounding Products & Solutions