

## KP - LSA-Plus® Protection



### KRONE™ LSA-Plus® Signal Protection

Use the Novaris KP series of products for telephone and signal line protection for signals utilising the KRONE™ LSA-PLUS 10-way connection blocks.

#### Two Stages of Protection

Standard KRONE™ surge arresters only provide a single stage of protection which cannot prevent equipment from being exposed to excessive voltages during a surge event. The KP series of products utilise a two stage protection approach that keeps the voltage let through to an absolute minimum.

#### Telephone and Signal protection

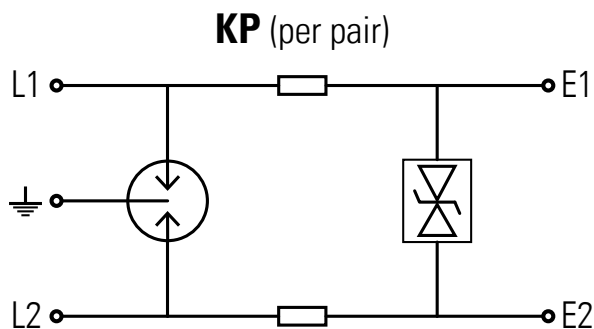
The KP<sub>x</sub>-T devices are designed for protecting PSTN and digital PABX signals with a maximum line voltage of up to 200V.

The KP<sub>x</sub>-xxDC product range has been engineered to protect all common signalling systems. A single KP10-xxDC can be used to efficiently protect up to 10 signal pairs.

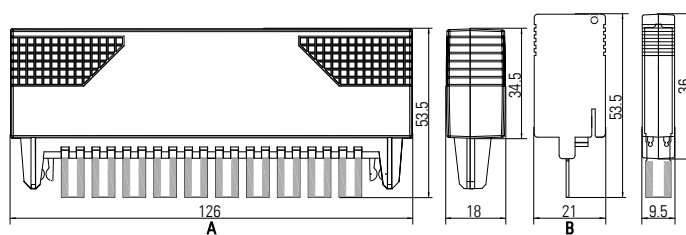
#### 1 Pair and 10 Pair Configurations

Choose your protection width based on the number of lines you need to protect.

### Diagram / Installation



### Dimensions



### Ordering Information

Model	Signal Type				Ordering Code	
					1 pair	10 pairs
KP <sub>x</sub> -T	PSTN	PABX	–	–	KP1-T	KP10-T
KP <sub>x</sub> -06DC	0 - 6 V analog	5 V digital	RS 485	RS 422	KP1-06DC	KP10-06DC
KP <sub>x</sub> -12DC	0 - 12 V analog	12 V digital	–	–	KP1-12DC	KP10-12DC
KP <sub>x</sub> -24DC	0 - 24 V analog	24 V digital	RS 232	Data Highway	KP1-24DC	KP10-24DC
KP <sub>x</sub> -48DC	–	48 V digital	–	–	KP1-48DC	KP10-48DC

**Note:** KRONE LSA-PLUS® is a trademark of KRONE GmbH, Germany

## Product Specifications

Model		KPx-T	KPx-06DC	KPx-12DC	KPx-24DC	KPx-48DC
<b>Electrical Specifications</b>						
Connection Type		Series	Series	Series	Series	Series
Number of lines				x = 1 → 1 pair x = 10 → 10 pairs		
Modes of protection				Transverse and Common Mode		
Maximum continuous voltage (DC)	$U_c$	200 V	8 V	15 V	30 V	56 V
Maximum continuous voltage (AC)	$U_c$	140 V	6 V	11 V	22 V	40 V
Maximum discharge current (8/20 $\mu$ s)	$I_{max}$			5 kA per line (10 kA common mode)		
Maximum discharge current (10/350 $\mu$ s)	$I_{imp}$	–	–	–	–	–
Impulse durability				C2 10 x 5 kA 8/20 $\mu$ s		
Maximum load current	$I_L$	250 mA	250 mA	250 mA	250 mA	250 mA
L-L Voltage protection level @ 1 kV/ $\mu$ s	$U_p$	220 V	10 V	17 V	36 V	60 V
L-L Voltage protection level @ 3 kA 8/20 $\mu$ s	$U_p$	–	–	–	–	–
L-L Voltage protection level @ 100 V/ s		235 V	25 V	35 V	48 V	76 V
L-PE Voltage protection level @ 1 kV/ $\mu$ s	$U_p$	350 V	350 V	350 V	350 V	350 V
L-PE Voltage protection level @ 3 kA 8/20 $\mu$ s	$U_p$	600 V	600 V	600 V	600 V	600 V
L-PE Voltage protection level @ 100 V/ s		230 V	230 V	230 V	230 V	230 V
AC durability				5 x 1 s, 1 A rms		
Overstressed fault mode				Mode 3 (open circuit)		
Response time	$t_A$	< 5 ns	< 5 ns	< 5 ns	< 5 ns	< 5 ns
Line resistance		2.7 $\Omega$	2.7 $\Omega$	2.7 $\Omega$	2.7 $\Omega$	2.7 $\Omega$
Line inductance		–	–	–	–	–
L-L capacitance		18 pF	18 pF	18 pF	18 pF	18 pF
L-PE capacitance		4.5 pF	4.5 pF	4.5 pF	4.5 pF	4.5 pF
Insertion loss @ 150 $\Omega$				< 0.5 dB (< 1 MHz)		
3 dB Frequency @ 150 $\Omega$	$f_c$	70 MHz	70 MHz	70 MHz	70 MHz	70 MHz
<b>Mechanical Specifications</b>						
Operating temperature				-40 to +85 °C		
Humidity Range				5 to 95% non-condensing		
Connection type / capacity				KRONE LSA-PLUS®		
Terminal screw torque				–		
Environmental				IP 20 / indoor		
Dimensional Drawing				x = 1 → B x = 10 → A		
Mounting				KRONE LSA-PLUS®		
Earthing				KRONE LSA-PLUS®, additional earth bar for KP1		
Enclosure / Colour				ABS / black		
<b>Standards</b>						
IEC 61643-21:2012				SPD connected to telecommunications and signalling networks - Cat C2, D1		
AS/NZS 1768:2007				Signalling/Telecommunications surge protection		
UL 1449 3 <sup>rd</sup> edition & UL 497B				Protectors for data communications and fire-alarm circuits		
ITU-T K.44: 2012				Resistibility tests for telecommunication equipment exposed to overvoltages and overcurrents		
AS/CA S008:2010				Requirements for Customer Cabling Products		
AS/NZS 4117:1999				Surge Protective Devices for Telecommunications Applications		
<b>Shipping</b>						
Weight				x = 1 → 6.5 g x = 10 → 150 g		
Customs Tariff		85363000	85363000	85363000	85363000	85363000

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