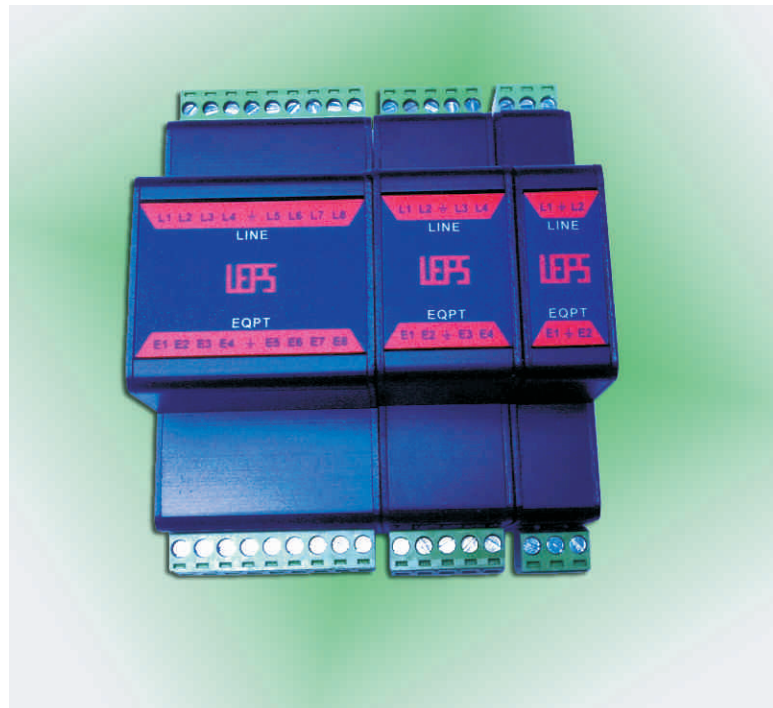


TWISTED PAIR DATA/SIGNAL PROTECTOR



Protects electronic equipment and systems against induced surges and transients on signal/data or even low power DC/AC lines

- ◆ **Design for single-pair or multi-pair applications**
- ◆ **Multi-stage protection offers exceptional safety**
- ◆ **Full range of voltage**
- ◆ **Easy installation & maintenance**
- ◆ **High surge rating & bandwidth**
- ◆ **Protects high current signal lines or even low power DC/AC lines**
- ◆ **Five years warranty**



Designed for single-pair or multi-pair applications - LEPS TPP series of protectors offer a flexible surge protection that meets different applications. Users can choose 1 pair, 2 pairs or 4 pairs protector or any combination of them which means it can be used as a building block in surge protection solution to suit your existing or future requirements.

Multi-stage protection offers exceptional safety - TPP series are multi-stage design which employed sophisticated hybrid circuitry by using a combination of high energy gas discharge tube, ultra fast diodes and SAD which ensures excellent protections without impeding normal operation.

Full range of voltage - Any kind of communication, automation or control lines, TPP series of protectors has the suitable voltage models to fulfill users' expectations. They can be used in fire and security systems, PLC, railway signalling, computer communications like RS232, RS485 protocols, SCADA and any other signal voltage operating at 5V to 200V.

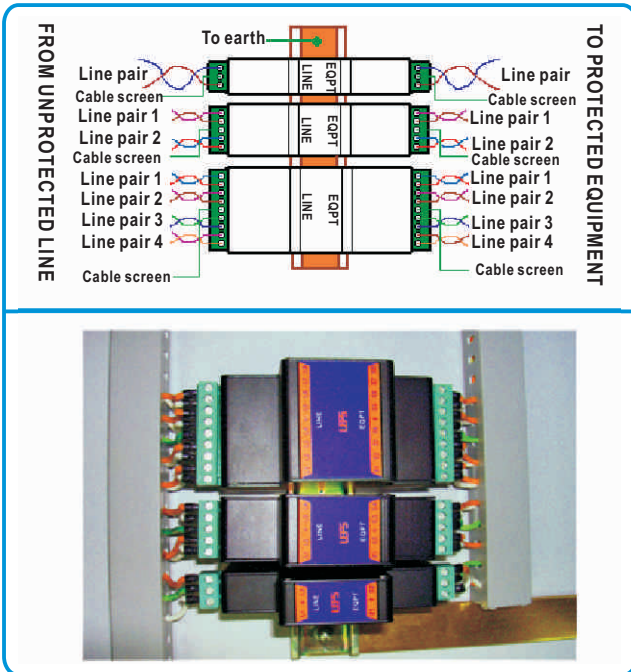
Easy installation & maintenance - The wiring are done by a plugable terminal strip for easy installation and maintenance. The protectors can be easily secured onto a standard 35mm Top Hat DIN rail.

Protects high current signal lines or even low power DC/AC lines - If higher current control lines or DC/AC low power lines need to be protected, the "/H" version, two amperes protector is the ideal choice. It can supply up to 2A to meet the high current signal or power line protection requirements.

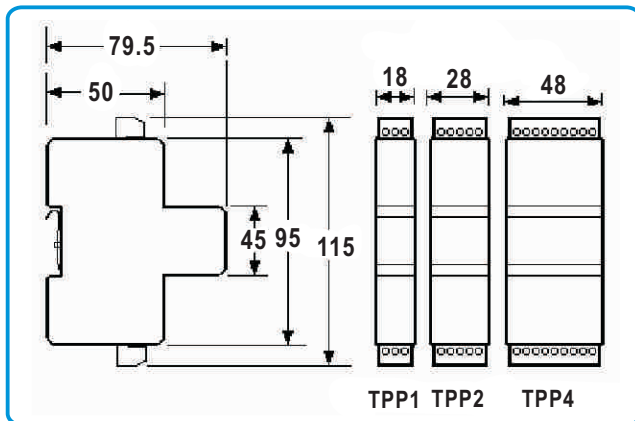
High surge rating & bandwidth - With its 20KA surge handling capability and 20MHz high bandwidth, it can provide the safest protection in lightning intense environment and also ensures a smooth data traffic.

Five years warranty - All LEPS protectors are tested to comply with many international safety standards and with five years warranty.

Installation



Dimensions



Voltage range

MODEL	MAX. WORKING VOLTAGE, (Uc)	VOLTAGE PROTECTION LEVEL, (Up)
TPP1-V5	7V	10V
TPP1-V12	17V	23V
TPP1-V24	34V	43V
TPP1-V48	68V	79V
TPP1-V130	180V	210V
TPP1-V200	280V	320V
TPP2-V5	7V	10V
TPP2-V12	17V	23V
TPP2-V24	34V	43V
TPP2-V48	68V	79V
TPP2-V130	180V	210V
TPP2-V200	280V	320V
TPP4-V5	7V	10V
TPP4-V12	17V	23V
TPP4-V24	34V	43V
TPP4-V48	68V	79V
TPP4-V130	180V	210V
TPP4-V200	280V	320V

Notes: The max. load current for the above models is 300mA, for higher current (2A) control lines or low power DC/AC lines protection, add "/H" at the suffix of the model number, e.g. TPP2-V24/H.

General Specifications

SPD class(EN/IEC):	TYPE 2/Class II
Max. working voltage, Uc:	7-280V (see Voltage range)
Max. operating current, IL:	300mA(2A, /H version)
Protection modes:	common and transverse
Protection stages:	3 stages
Earth leakage current:	<5μA
Response time, tA:	<5ns
Max. discharge current, Imax:	20KA(8/20μs)
Max. data rate:	20Mb/s
Insertion loss:	<1dB at 20MHz
Voltage protection level, Up: (At 5KV 10/700μs)	10 - 320V(see voltage selection)
Capacitance:	50pf
In line resistance:	3.9Ω(<0.1Ω, /H version)
Standards compliance:	BS EN/IEC 61643-21 AS1768-2007 Cat.A.B.C ITU(CCITT)1X K17 CP33-1996 Cat.A.B.C UL497B
EMC compliance:	BS EN 60950: 1992 BS EN 61000-6-2:1999
Connector type:	Pluggable terminal strip
Earth connection:	DIN clip
Case material:	Anodized aluminum
Conductor size:	2.5mm ²
Operating temperature, Tu:	-40-85°C
Humidity:	0-95%(R.H.)
Altitude:	0-3650m
Weight:	
TPP1---All models	114g
TPP2---All models	158g
TPP4---All models	246g

ORDERING INFORMATION



MODEL	PRODUCT DESCRIPTION	PHOTO/DRAWING
TPP1-V5	Twisted pair, 7V, 300mA, signal/data line protector, single pair	
TPP1-V12	Twisted pair, 17V, 300mA, signal/data line protector, single pair	
TPP1-V24	Twisted pair, 34V, 300mA, signal/data line protector, single pair	
TPP1-V48	Twisted pair, 68V, 300mA, signal/data line protector, single pair	
TPP1-V130	Twisted pair, 180V, 300mA, signal/data line protector, single pair	
TPP1-V200	Twisted pair, 280V, 300mA, signal/data line protector, single pair	
TPP1-V5/H	Twisted pair, 7V, 2A, signal/data line protector, single pair	
TPP1-V12/H	Twisted pair, 17V, 2A, signal/data line protector, single pair	
TPP1-V24/H	Twisted pair, 34V, 2A, signal/data line protector, single pair	
TPP1-V48/H	Twisted pair, 68V, 2A, signal/data line protector, single pair	
TPP1-V130/H	Twisted pair, 180V, 2A, signal/data line protector, single pair	
TPP1-V200/H	Twisted pair, 280V, 2A, signal/data line protector, single pair	
TPP2-V5	Twisted pairs, 7V, 300mA, signal/data line protector, two pairs	
TPP2-V12	Twisted pairs, 17V, 300mA, signal/data line protector, two pairs	
TPP2-V24	Twisted pairs, 34V, 300mA, signal/data line protector, two pairs	
TPP2-V48	Twisted pairs, 68V, 300mA, signal/data line protector, two pairs	
TPP2-V130	Twisted pairs, 180V, 300mA, signal/data line protector, two pairs	
TPP2-V200	Twisted pairs, 280V, 300mA, signal/data line protector, two pairs	
TPP2-V5/H	Twisted pairs, 7V, 2A, signal/data line protector, two pairs	
TPP2-V12/H	Twisted pairs, 17V, 2A, signal/data line protector, two pairs	
TPP2-V24/H	Twisted pairs, 34V, 2A, signal/data line protector, two pairs	
TPP2-V48/H	Twisted pairs, 68V, 2A, signal/data line protector, two pairs	
TPP2-V130/H	Twisted pairs, 180V, 2A, signal/data line protector, two pairs	
TPP2-V200/H	Twisted pairs, 280V, 2A, signal/data line protector, two pairs	
TPP4-V5	Twisted pairs, 7V, 300mA, signal/data line protector, four pairs	
TPP4-V12	Twisted pairs, 17V, 300mA, signal/data line protector, four pairs	
TPP4-V24	Twisted pairs, 34V, 300mA, signal/data line protector, four pairs	
TPP4-V48	Twisted pairs, 68V, 300mA, signal/data line protector, four pairs	
TPP4-V130	Twisted pairs, 180V, 300mA, signal/data line protector, four pairs	
TPP4-V200	Twisted pairs, 280V, 300mA, signal/data line protector, four pairs	
TPP4-V5/H	Twisted pairs, 7V, 2A, signal/data line protector, four pairs	
TPP4-V12/H	Twisted pairs, 17V, 2A, signal/data line protector, four pairs	
TPP4-V24/H	Twisted pairs, 34V, 2A, signal/data line protector, four pairs	
TPP4-V48/H	Twisted pairs, 68V, 2A, signal/data line protector, four pairs	
TPP4-V130/H	Twisted pairs, 180V, 2A, signal/data line protector, four pairs	
TPP4-V200/H	Twisted pairs, 280V, 2A, signal/data line protector, four pairs	

** Polycarbonate enclosure of different sizes are available for the above protectors*



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