

# SUBSCRIBER PROTECTION BOX PK1-OVP1

**PK1-OVP1** is a protection box designed for connection of telecommunication line with subscriber installation. It provides protection of all subscriber devices connected from overvoltage generated by atmospheric discharges, electromagnetic induction of nearby power installation and cross-contact between telecommunication and power cable. This protection is realised with 3-pole **Gas Discharge Tube (GDT)** with fail-safe clip. Advantage of 3-pole GDT is protection of the both wire a and b with the same tube. That way different tolerances of the two tubes when using 2-pole GDT-s are avoided, as well as the possibility to have few thousand volts overvoltage between a and b wire, if the tubes do not spark over at the same time. Fail-safe clip is mounted on 3-pole GDT, providing additional thermal protection. In the case of cross-contact between telecommunication and power cable, when GDT absorbs a lot of energy and its temperature increases, its heat activates fail-safe clip and connects a and b line direct to the grounded pole. This way, all destructive energy is drained in the ground, preventing damage of protected equipment.

**PK1-OVP1** main characteristics are:

1. Response time up to 500 ns.
2. Maximum impulse spark-over voltage 450-600 V.

This configuration is recommended for protection of all subscriber equipment (such as telephone, fax machine, wireless phone, modem etc).



## PK1-OVP1 TECHNICAL SPECIFICATIONS

Protection type	Group overvoltage	
DC spark-over voltage	230 V	
Impulse discharge current (8/20 $\mu$ s)	Nominal	10 kA
	Maximal	20 kA
Surge response voltage (10/700 $\mu$ s, $U_p=4$ kV)	450÷600 V peak	
Insulation resistance	$> 10^{10} \Omega$	
Contact resistance	$< 15 \text{ m}\Omega$	
Response time	$< 500 \text{ ns}$	
Signal attenuation in speech frequency range (0,3-3,4 kHz)	$< 0,01 \text{ dB}$	
Number of protected lines	1	
International recommendations	ITU-T (K.11, K.20, K.21)	

PK1-OVP1.doc