

TPM1-2x/L

TPM1-2x/L (Telecommunication Protection Module) is a 5-pole module for serial connection on telecommunication lines (e.g. telephone pairs). It is mounted on disconnection modules of different distribution frames (x - means e.g. **RM3** for **Reichle-De Massari** model **VS83** or **KLP** for **Krone** model **LSA Plus** or **Profile**).

Two poles are connected on network (cable) side, the other two on equipment (jumper) side and the fifth pole is grounded by galvanised earthing rail mounted on disconnection module, providing contact with the frame. These protection modules are used to protect sensitive telecommunication equipment against overvoltage and overcurrent, generated by atmospheric discharges, electromagnetic induction of nearby power installation and cross-contact between telecommunication and power cable. This module provides two-stage overvoltage protection (coarse protection using three-pole **Gas Discharge Tubes (GDT)** with fail-safe clip, and fine protection with metal-oxide varistors). Overcurrent protection is realised by inductive element (low inductance HF heat coil). Following the appearance of surge fine overvoltage protection reacts first, (response time less than 25 ns) limiting overvoltage. At the same time inductive element is limiting overcurrent by increasing its resistance, especially in case of cross-contact between telecommunication and power distribution cable. Besides fail-safe clip on GDT, this protection module has another thermal protection. It provides physical disconnection between network and equipment (exchange), realised by thermal fuses with up to few seconds of activation time delay, depending on short-circuit current intensity. This delay can be customised on demand.

This configuration is recommended for protection of new generation equipment (such as digital telephone exchanges, high-speed data transfer lines etc.).

TPM1-2x/L TECHNICAL SPECIFICATIONS

Protection type		Overvoltage and overcurrent
DC spark-over voltage		230 V
Impulse discharge current (8/20 µs)	nominal	10 kA
	maximal	20 kA
Surge response voltage (10/700 µs, $U_p=4$ kV)		300÷350 V peak
Hold-on current		145 mA
Insulation resistance		$> 10^{10} \Omega$
Contact resistance (with module)		$< 15 \text{ m}\Omega$
Response time		$< 25 \text{ ns}$
Signal attenuation		$< 0,1 \text{ dB}$
Number of protected telecommunication lines		1
Housing		polycarbonate reinforced black UL94 -V0
Recommendations		ITU-T K.11, K.20, K.21
ZJPTT Certificate No. 021-5116		

TPM12xLe.doc