PVL-1000-045-R01

VLD - for DC traction / VLD class 4 (PVL)

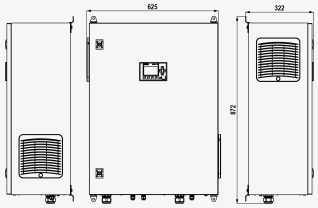
The PVL-1000 monitors the voltage between the return circuit (rails) and ground and prevents the touch voltage from exceeding permissible values by temporarily shorting both potentials with the possibility of programmable interruption of the flowing current to minimize stray currents.

Voltage limiting device class 4 type O+F

- limits impermissible touch voltage at conductive parts of railways infrastructure (DC)
- creates temporary short-circuit between return current path (rail) and earthed metallic parts of infrastructure to limit touch voltage
- very high repeatable current load allows application at any part of the railway(substations, passenger stations, workshops, …)
- protects passengers that might enter into contact with the parts affected
- eliminates high pulse overvoltage induced into the traction system by a lightning strike
- programmable current disconnection for stray current reduction
- possible integration into SCADA or IoT systems



Product dimensions



Parameter name		Parameter value
Class VLD according to EN 50526-2		4.2
Type VLD according to EN 50122-1		VLD-O+F
Highest voltage of railway traction	U_n	3 000.00 V DC
Overvoltage detection		both polarities DC
Rated current of main contactor	I_r	1 000 A @ 60 min
Nominal triggering voltage	U_{Tn}	45.00 V
Non-triggering voltage	U_w	36.00 V

Maximal short time DC withstand current (@ 30 ms)	I_w	16.00 kA
Maximal long time DC withstand current (@ 30 s)	I_w	3.00 kA
Highest short-term pulse load (VLD-F)		120 MA2s
Leakage current at Uw	I_L	< 250,00 µA
Response time of A2 SPDs	T_R	25.00 ns
Response time of thyristors	T_R	< 1,50 ms
Response time of the contactor	T_R	≥ 200 ms (programmable)
Remote monitoring (SCADA)		MODBUS using TCP/IP
Rated power supply voltage AC 50 Hz / 60 Hz		110-230 V
Rated power supply voltage DC		130-250 V
Maximal active power consumption in idle/switched on mode		12 W / 28 W
Voltage measurement tolerance		±5 V, suppressed zero in the 0 to 5 V range
Current measurement tolerance		+5 A/–10 A up to 50 A, ±10 % from 50 A to 1000 A, +10/–0 % from 1000 A to 2500 A, suppressed zero in the 0 to 5 A range
Temperature measurement tolerance		±5 °C
Location of SPD		indoor
Altitude		up to 2000 m above sea level
Degree of protection		IP 54
Range of ambient temperatures (min/max)		-20 / 55 °C
Rated insulation voltage, main power circuit – control circuit		3,0 KV AC / 4,2 KV DC
Cable entry		from the bottom
Humidity		20 - 95 %
Weight		~ 50 kg
According to standard		EN 61010-1, EN 50526-2, EN 50124-1, EN 50122-1, EN 50121-4
Customs tariff number		85354000
EAN		8595090571346
Order number		A07134