# PVL-1000-045-R01-O

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

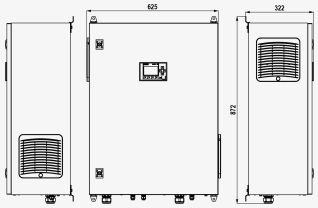
The PVL-1000 monitors the voltage between the return circuit (rails) and ground and prevents the touch voltage from exceeding permissible values by temporarily shorting both potentials with the possibility of programmable interruption of the flowing current to minimize stray currents.

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 |
| Rated current of manual shorting switch | $I_r$ | 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 | | 8595090571315 |
| Order number | | A07131 |