

## Railway Solutions

# RVL Product Series

### Voltage Limiting Device

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The RVL is a reliable Voltage Limiting Device designed for mainline and urban railway networks. It ensures the effective protection of personnel and passengers against impermissible touch voltages as well as the protection of equipment against lightning and transient overvoltage.

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The RVL is compliant with the railway standard for voltage limiting devices EN 50526-2. It is recoverable and depending on the product version and application, it may fulfil VLD-F, VLD-O or both types of requirements as described in EN 50122-1.

The device is typically connected between the current return path (running rail) and the structure or traction earth. It can be installed (with or without mounting brackets) on catenary poles, in special cabinets to protect multiple signalling or telecommunication equipment, in passenger stations, workshops and other critical locations.

In case of overvoltage, the RVL limits the dangerous voltage to very low safe values. Furthermore in case of faults (e.g. accidental short-circuits with the contact lines), it generates a durable conductive path between the overloaded area and the substation. This results to increased current loads that are sensed at the substation, allowing an efficient tripping of the safety circuit breaker.

Its function is based on the coordinated operation of both a Strikesorb® metal oxide varistor surge suppression bloc and a controlled thyristor bloc.

#### Benefits

- Fast response time
- Efficient elimination of dangerous overvoltage to very low safe voltage values
- Low residual voltage ensured by patented Strikesorb surge protection technology
- Temperature independent triggering voltage in a wide range
- Guaranteed recoverability for long term currents and high short-circuit currents
- Combined protection for personnel, passengers and equipment
- Unidirectional or bidirectional operation depending on product version

Electrical	RVL 60	RVL 60-60	RVL 120	RVL 120-120	RVL 300	RVL 300-300
VLD class per EN 50526-2	2.1	2.2	2.1	2.2	2.1	2.2
Nominal triggering voltage [ $U_{Tn}$ ]*	60V	60V	120V	120V	300V	300V
Instantaneous triggering voltage [ $U_{Ti}$ ]*	100V	100V	150V	150V	300V	300V
Non-triggering voltage [ $U_w$ ]*	55V	55V	115V	115V	290V	290V
Reverse withstand voltage	500V	N/A	500V	N/A	500V	N/A
Rated current [ $I_r$ ]	150A	150A	150A	150A	150A	150A
Short time withstand current [ $I_{wt}$ ]**	10kA / 50ms	10kA / 50ms	10kA / 50ms	10kA / 50ms	10kA / 50ms	10kA / 50ms
Nominal lightning current [ $I_{imp-n}$ ]	25kA (8/20 $\mu$ s)	25kA (8/20 $\mu$ s)	25kA (8/20 $\mu$ s)	25kA (8/20 $\mu$ s)	25kA (8/20 $\mu$ s)	25kA (8/20 $\mu$ s)
High current impulse [ $I_{imp-high}$ ]	100kA (8/20 $\mu$ s)	100kA (8/20 $\mu$ s)	100kA (8/20 $\mu$ s)	100kA (8/20 $\mu$ s)	100kA (8/20 $\mu$ s)	100kA (8/20 $\mu$ s)
High charge impulse [ $I_{imp-hc}$ ]	25kA (10/350 $\mu$ s)	25kA (10/350 $\mu$ s)	25kA (10/350 $\mu$ s)	25kA (10/350 $\mu$ s)	25kA (10/350 $\mu$ s)	25kA (10/350 $\mu$ s)

### Mechanical

Temperature Range, Operation	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C	-40°C to +85°C
Weight	12kg +/- 1.5kg	12kg +/- 1.5kg	12kg +/- 1.5kg	12kg +/- 1.5kg	12kg +/- 1.5kg	12kg +/- 1.5kg
For indoor and outdoor use	IP67, UV resistant	IP67, UV resistant	IP67, UV resistant	IP67, UV resistant	IP67, UV resistant	IP67, UV resistant

### Standards Compliance

EN50526-2

\* Other values and products available on request

\*\* With guaranteed recoverability

### Product Diagram

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