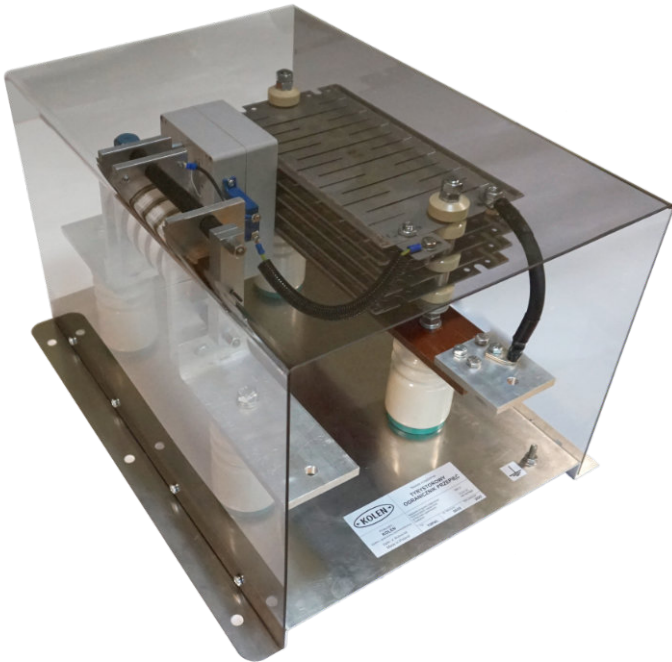


THYRISTOR OVERVOLTAGE LIMITER TOP-4



Thyristor based overvoltage limiting device TOP-4 is installed in parallel to the choke in the traction substation.

Can be installed in both options with choke connected to positive or negative DC supply.

Applicable in parallel operation of more than two rectifiers.

APPLICATION

Thyristor based overvoltage limiting device TOP-4 has two main tasks:

- limit overvoltages in the DC circuit that comes from switching,
- limit the arc energy in the circuit breaker chamber by at least 50% (depending on the inductance of the choke). Lower arc energy significantly extends the service life of the high speed circuit breaker, especially its arc chut.

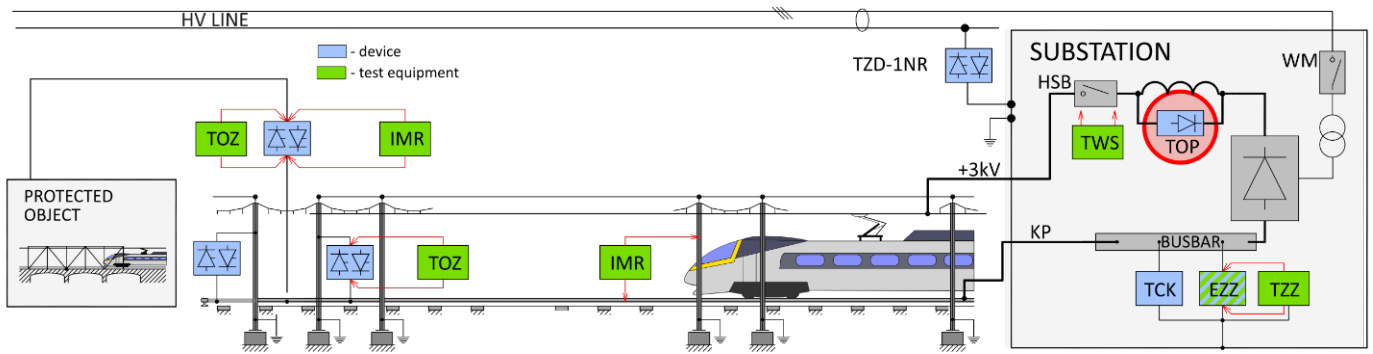
BENEFITS

- Reduced overvoltages in the DC circuit that comes from switching,
- Extended service life of the high speed circuit breaker, especially its arc chut.
- Failure signalling and tripping events counter options without additional power supply on the device

PARAMETERS

- Tripping voltage forward direction 550 V
- Reverse withstand voltage minimum 15 kV
- Dimensions 600 x 480 x 370 mm
- Voltage free, insulated device state signalisation: failure, counter (as an option)





Overvoltage limiting device TOP-4 consists of a thyristor block, a diode stack and dissipation resistor. The tripping voltage in forward direction is about 550V and reverse withstand voltage is not less than 15 kV.

When the current flowing through the choke (either short-circuit or load) is switched off by the high-speed circuit breaker, an overvoltage appears, that leads the thyristor to conduction. This allows the high energy of the choke inductance to be dissipated by the dissipation resistor. The current flowing in the high speed circuit breaker arc decreases rapidly, significantly reducing the arc energy emitted in the circuit breaker, which extends the life of the arc chamber.

Typically, TOP-4 is dedicated to the the choke inductance of up to 6 mH and 6 MW power of 6 or 12 pulse rectifiers.

TOP-4 is offered with additional signalling option, that allows remote recognition of the device state including failure and tripping counter. No power supply at TOP-4 is required for this feature.

