Your contact:
+49-(0)2 12-88 04-0 • info@reo.de

REOHM series NTT R D 158

Max. continous power: 2600 W



Unique Selling Point

- Higher mechanical protection
- Low-noise
- High functional safety and service life
- Protection class IP00 to IP65
- Wires are spatially separated thanks to a special winding technology, i.e. higher dielectric strength
- The resistor can absorb higher pulse loads and store them temporarily
- Low susceptibility to vibrations and oscillations
- Many years of experience in the railway field with profile filters

Description

The resistor NTT RD 158 is a water-cooled damping resistor, which is used for traction in railway applications. The resistor is used in series with filter capacitors in the 1.5 kV and 3 kV DC network.

For this purpose, the device must be designed for a high single pulse energy and nominal voltage. The inductance of the resistor contributes to limit the inrush current - here are wirewound resistors the right choice.

The advantage of the resistance unit NTT R D158 is that 4 damping resistors are housed in one unit. This means a compact construction and low cost when connecting the resistor.

REO high-voltage resistors are designed, produced and certified specifically for the railway technology. The specially designed winding technology allows a higher withstand voltage due to the spatial separation of the wires. The use of railway-compatible, high quality materials, together with the complete encapsulation in profile design lead to protection classes up to IP 65.

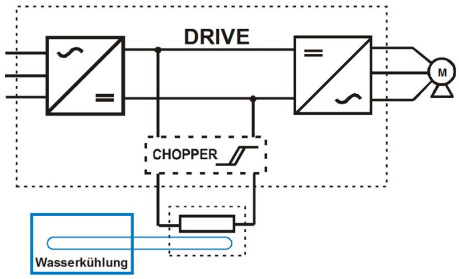
Maximum energy with minimum space

- Continuous output: 2600 W
- Max. operating voltage: 4200V
- Resistance value: 0,1 - 1Ohm
- Average pulse load: 1x per hour 20kWs - within 100ms
- Maximum pulse load: 20x per year 120kWs -within 20ms
- Protection class: IP00-IP65
- Other ratings upon request

Technical Data

- Resistance values : 0,1 - 1 Ohm
- Continuous power : 100 - 1210 W
- max. operating voltage : 4200 V

Circuit example



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Technical data

Type	Resistance value R [Ohm]	Rated current I [A]	Rated power P [W]	max. operating voltage U [V]
NTT R D 158 / 2600	0,1 - 1	2 -110	2600	4200
Values of the single resistors				
NTT R D 158 / R1	1,0	2	100	4200
NTT R D 158 / R2	0,1	70	490	
NTT R D 158 / R3	0,5	40	800	
NTT R D 158 / R3	0,1	110	1210	

Higher power ratings on request

Note

The ratings apply for 100 % duty cycle and free access and exit of cooling air.

In general: Is the ambient temperature higher than 40 °C, the continuous power must be reduced by 5 % per 10 K temperature rise.

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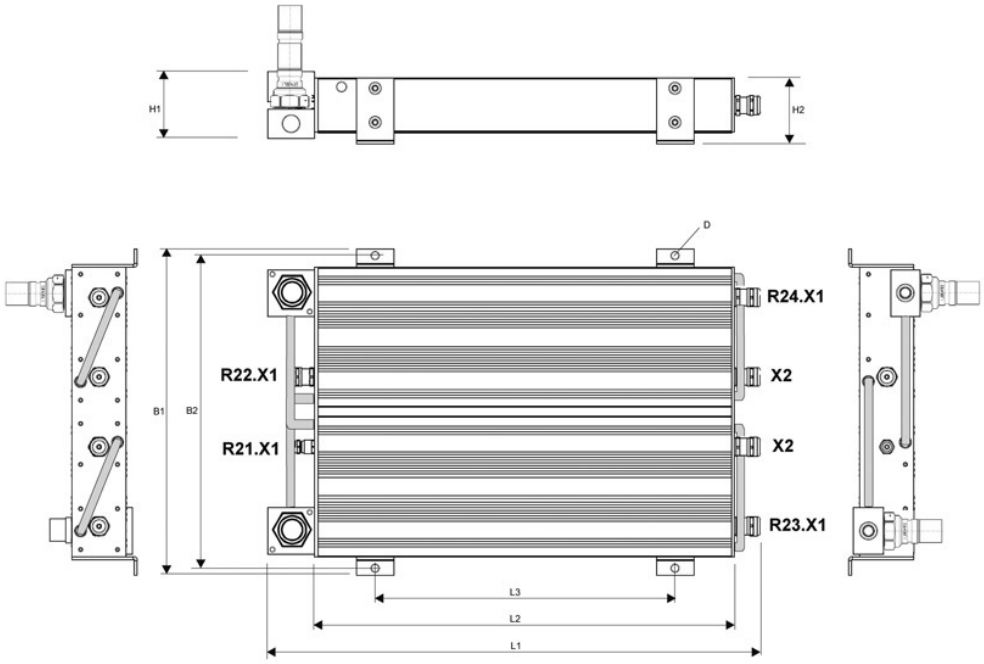
Diemnsion drawings



Dimensions

Type	L1 [mm]	L2 [mm]	L3 [mm]	B1 [mm]	B2 [mm]	B3 [mm]	H1 [mm]	H2 [mm]	H3 [mm]	D [mm]
NTT R D 158	556	453	343	350	335	255	136	97	70	8,5

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Load diagram

The power ratings apply for continuous duty. The power ratings can be increased in short-time operation in function of duty cycle by multiplication with the relevant factor from the diagram below or according to the formula as follows.

$$P_{max} = \frac{P * 100}{ED[\%]}$$

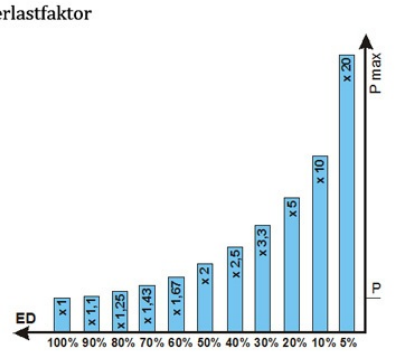
P_{max} = Maximale Impulsleistung

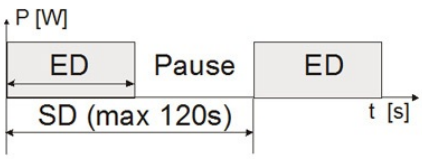
P = Dauerleistung bei ED=100%

$$ED[\%] = \frac{ED[s]}{SD[s]} * 100$$

ED = Einschaltdauer

SD = Zykluszeit max 120 Sek.





Resistance value in function of temperature

The resistance values refer to standard products with a standard tolerance of +/- 10 % with an ambient temperature of 20 °C. The resistance value insignificantly changes in function of the winding temperature. Therefore, resistance changes of approx. +10 % in comparison to the cooled-down conditions may occur.

Cooling liquid/Refroidissement

The aluminium cooling pipes used are suitable for most of the standard cooling liquids and oils. In order to ensure safe operation of the units it is most important to comply with the VBG-cooling water regulations (VBG-R 455 P). Cooling channels: Aluminium (AlMgSi 0,5) Di = 10,5mm; G1/4" inside thread

Cooling medium: for example water with anti-corrosion agent for closed cycle cooling system; oils

The cooling pipes are not suitable for industrial and potable water, aggressive liquids, sea-water or de-ionised water. The maximum inlet temperature is + 25 °C and the maximum drain temperature + 45 °C.

The resistors are designed with a flow rate of 10 l/min. This should preferably not be gone below. A lower flow rate may result in reduction of the power. This is to be checked.

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