

### Market

Industrial automation,  
Energy

### Applications

Dynamic braking,  
Charge/discharge capacitors

### Mechanical characteristics

IP55, Wire wound on mica plate coated with cement filled with quartzite sand and sealed with aluminum plug

### Special version

Ohmic values out of range, Special tolerance on resistance (2%, 1%), Special cables, Different cable length

### Options

Thermal switch, Heat-sink,  
Fixing metal plate

# RFK

## 250 500



### 250 W ÷ 500 W



## ELECTRICAL CHARACTERISTICS

refers to room temperature 25°C

ID	Max Power	Rated Power	Rated Power with heat-sink	Min Resistance	Max Resistance	Limit Voltage	Thermal time constant
Unit	W	W	W	Ω	Ω	V	s
RFK 250	250	90	250	0.43	6k2	1500	250
RFK 350	350	175	350	1.3	18k	1500	300
RFK 500	500	280	500	2.4	33k	1500	300

Insulation resistance (1000 VDC)  $\geq 1000 \text{ M}\Omega$

Dielectric strength (50Hz; 60") 4000 V

Active materials: calculation for min ohmic value are made considering wire material CuNi44, whereas max ohmic value refers to wire material FeCrAl. Resistors can be made also with NiCr alloys. Temp. Coefficient Resistance depends on the used alloy, typically it is between 20 and 240  $10^{-6}/^{\circ}\text{C}$ .

The standard version cable is single core with flexible conductor silicone rubber insulated with fiberglass braid.

For cross section AWG14 and AWG16 the cable is classified 200°C – 600 V and made according to UL Style 3071.

For cross section 1 mm<sup>2</sup>, 4 mm<sup>2</sup> and 6 mm<sup>2</sup> the cable is classified 180°C – 500 V and made according to IEC EN 60228 cl. 5 /CEI EN 50363-5.

The tolerance on cable length is  $\pm 5 \text{ mm}$ . The choice of cross section to be used depends on the current that flows in the resistor.

Internal thermal switch 160 $\pm 5^{\circ}\text{C}$  (rated voltage: 250 V; rated current: 2,5 A; leads single core conductor silicone rubber insulated cross section 0,25 mm<sup>2</sup> length 300 mm), it is an option and must be specified in the order.

Housing is aluminum extrude, it is oxidized to prevent corrosion.

Standard tolerance on ohmic value is  $\pm 5\%$ .

Max power can be supplied to the resistor for not more than 60 minutes.

Overload conditions and energy graphs of RFK 250-350-500 are the same of RFD 150-200-300, they are shown in DS.0314.FD.

RFK 250-350-500 and RFD 150-200-300 are built in the same way but for the sealing: RFK has a reinforced aluminum seals, RFD has a resin silicon plug.

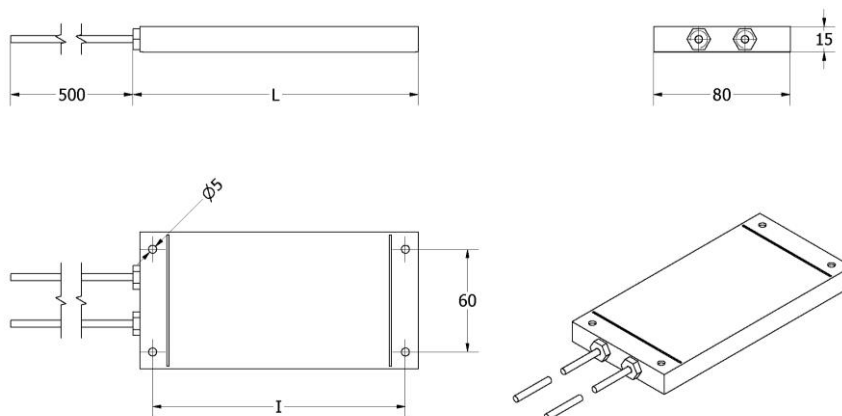
Picture above refers to RFK 500.

### MECHANICAL DATA

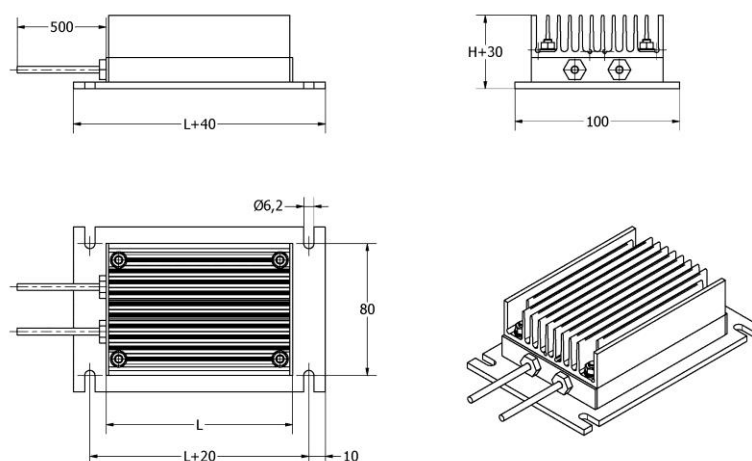
Dimensions [mm]	I	L	Weight [g]
RFK 250	98	113	320
RFK 350	148	163	500
RFK 500	204	219	630

Unless otherwise specified, applicable standard of general tolerances for linear and angular dimensions is ISO 2768-1 class c; applicable standard for aluminum profile is EN 755-9:2008.

### DRAWING



### DRAWING (RFKHS 250,350,500)



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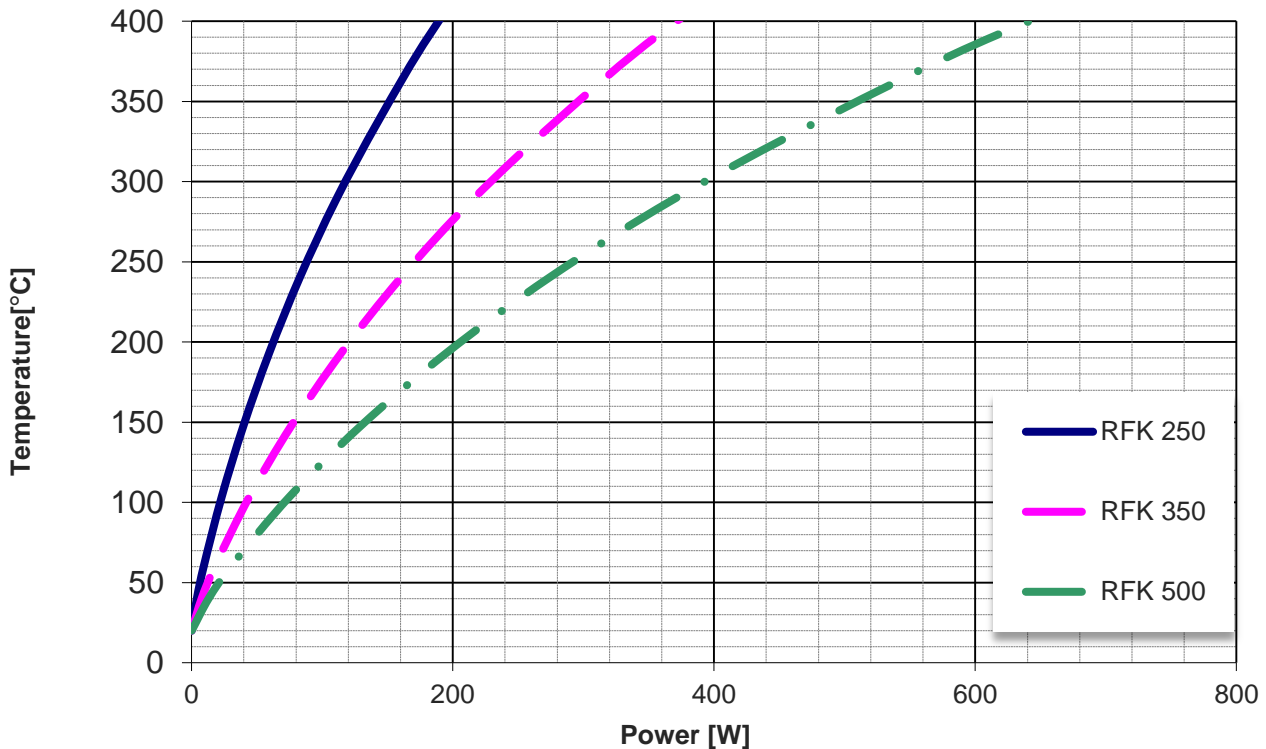
Phone +39 02 48407171 - Fax +39 02 48407157

The rated power stated in this datasheet refers to the resistor mounted in horizontal position (with no possibility to exchange heat in the bottom direction) at the ambient temperature of 25°C and 250°C on the external surface. The power dissipation is influenced by:

- Mounting position and arrangement (wall, heat - sink)
- Number of resistors mounted together (grouping)
- Ambient temperature (in free air or inside an enclosure)

Ask the appropriate test reports for more details. See the following graph to know the external temperature corresponding to a certain continuous power (graph of RFK with heat-sink are available on request).

### SURFACE TEMPERATURE CHARACTERISTIC



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### Marking

The resistor is marked on the housing with indelible ink high temperature

FAIRFIELD – RFK 500 150R 5% WW/YY (week / year)

### Installation

Warning: Units must never be mounted with the terminals uppermost

### Packing

The resistor is packed in a way to preserve incidental damages due to transport. To avoid resistor's break we recommend to never take it from the cables and to handle with care inside the original boxes provided by the factory.

### Disclaimer

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### Ordering information

RFK/Y XXX RRRR 5%

Y T : Internal thermal switch 160±5°C (rated voltage: 250 V; rated current: 2,5 A; leads single core conductor silicone rubber insulated cross section 0,25 mm<sup>2</sup> length 300 mm).

XXX Model 250, 350, 500

RRRR Resistance value (nominal at 20°C)

Example  
RFK 500 150R 5%  
RFK is the name of the product  
500 is the model  
150R means 150 Ω that is the nominal ohmic value at 20°C

5% is the tolerance on the ohmic value, in this case the value of the resistor is accepted when is within 142.5 Ω ÷ 157.5 Ω