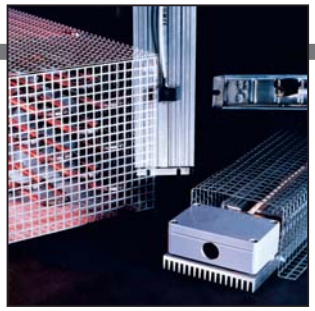
POWER RESISTORS

功率电阻器

4.0

TÜRK+HILLINGER
THERMAL TECHNOLOGY

功率电阻
POWER RESISTOR

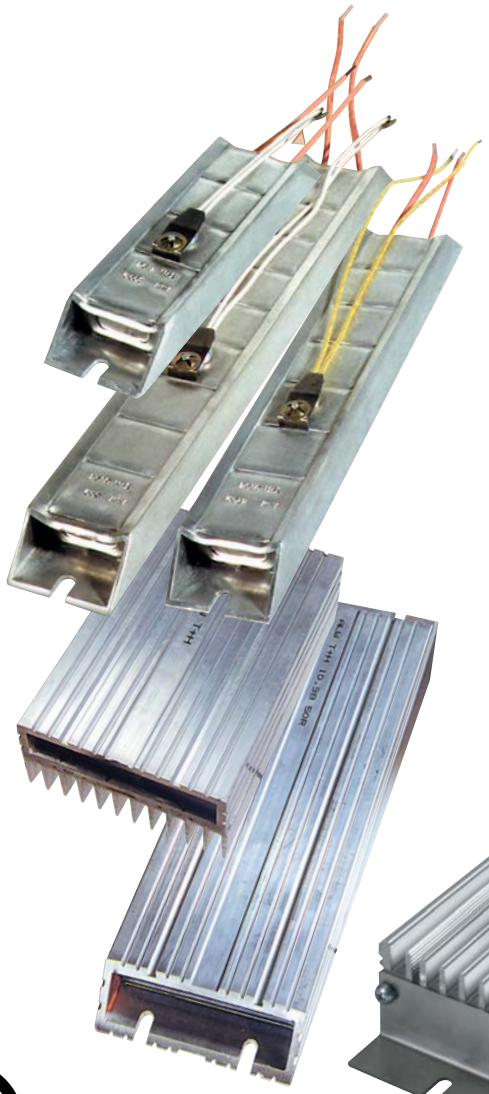


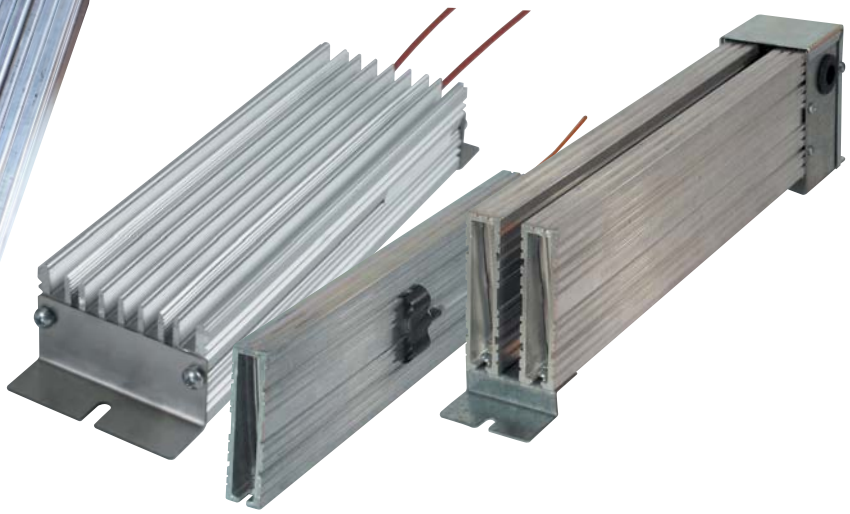
说明
功率/刹车电阻被设计在电子电路平滑功率的峰值。由于高度压缩的结构，电阻具有良好的导热性。在电阻内产生的热量容易传导到外护套，可在受限空间的情况下达到能量最大卸载。
Türk+Hillinger 提供四种结构的刹车电阻
- HLP 型高压加热棒(见 HLP 资料, 但最大绝缘强度达4100 V DC)
- ALW 40, ALW 70, ALW 80, ALW 90 型铝制刹车电阻
- FBW 带钢外壳扁平型刹车电阻
- RHK 型刹车电阻

应用
频率变换器、电气行业、机械行业、仪器行业、电梯和 输送技术

Description
Power resistors are designed to smooth peaks within electronic circuits. Due to the highly compacted construction the resistors have a good thermal conductivity. The heat generated within the resistor is easily conducted to the outer sheath and also in case of restricted space a maximum discharge of energy is reached.
Türk+Hillinger supplies power resistors in 4 types of construction:
- High density cartridge heaters type HLP (see leaflet HLP, but with a dielectric strength up to 4100 V DC)
- Aluminium power resistors type ALW 40, ALW 70, ALW 80, ALW 90
- Flat brake resistors with steel housing type FBW
- Power resistors type RHK

Application
Frequency transformers, electrical industry, mechanical engineering, apparatus engineering, elevator and conveyor technique





通用技术参数
GENERAL TECHNICAL DATA

技术特点

高紧凑的结构:

- 高热容量
- 高耐用性
- 100% 抗振性
- 通过护套电阻丝对环境产生最佳散热
- 与未压缩电阻器相比，更高的功率容量

通用性方面:

- 电气安全
- 易于安装
- 如果需要，可以通过功率电阻器的串联或并联任意增加功率输入。
- 不同的结构类型可使得以为个案提供低成本的解决方 案。

通用技术参数

- 绝缘电阻:	≥ 10 MΩ
- 脉冲电压:	大 970 V DC
- 绝缘强度:	1800 V AC / 2600 V DC 2800 V AC / 4000 V DC
- 质量控制:	按照 VDE 0700
- 认证:	根据需要可提供CE, UL认证
- 允许运行的 环: 境温度:	-10°C...+55°C, 超过 45°C，连续运行 功率 Pn 按 2,5%/°C 速率下降
- 允许运行的海拔:	海拔 0 ... 4000 m , 超过1000 m 连续运行功率Pn按 5%/1000 m速率下降

optional EIGENSICHER erhältlich

内在安全

根据要求，功率电阻器ALW可以与配一个独特具有专利的内部热熔断器。如果电阻器经受极高的温度，热熔断器将启动。对于AlW70、AlW90和FBW电阻器，最大电压为970伏直流。
如果安装了内部热熔断器，则最大表面温度可能需要根据具体的应用而减 少。

Technical Advantages

Through the highly compacted construction:

- High thermal capacity
- High durability
- 100% vibration resistance
- Optimum heat dissipation from the resistance wire over the sheath surface to the environment
- Higher power capacity compared to uncompacted resistors

General Items:

- Electrical safety
- Easy mounting
- If required the power input can be increased arbitrarily through serial or parallel connection of the power resistors
- The different construction types allow a low-priced solution for the individual problem

General Technical Data:

- Insulation resistance:	≥ 10 MΩ
- Pulse voltage:	max. 970 V DC
- Dielectric strength:	1800 V AC / 2600 V DC 2800 V AC / 4000 V DC
- Quality control:	conform to VDE 0700
- Conformity:	CE, UL-approval on request
- Permissible ambient operating temperature:	-10°C...+55°C, (above 45°C the continuous power P_n is to be reduced by 2.5%/°C)
- Permissible site altitude:	0...4000 m above sea level (above 1000 m the continuous power P_n is to be reduced by 5%/1000 m)

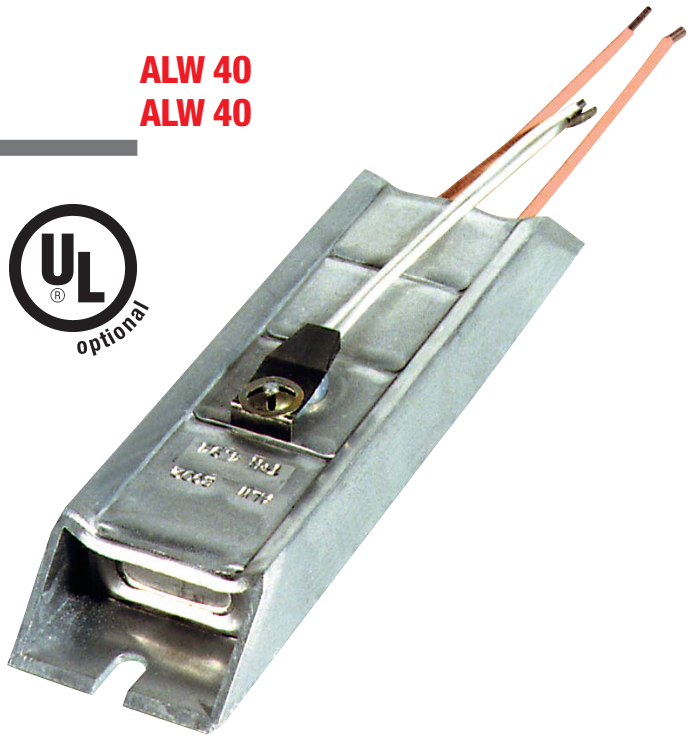
optional INTRINSICALLY SAFE available

Intrinsic Safety

On request the power resistors ALW can be fittet with an unique patented internal thermal fuse. The thermal fuse will activate if the resistor experiences critically high temperatures. The maximum voltage is 970 V DC for ALW70, ALW90 and FBW resistors. If an internal thermal fuse is fitted then the maximum surface temperature may need to be reduced depending on the individual application.

ALW 40
ALW 40

optional



性能指标

电阻值 R20	**1-1000 Ω, 公差 +/- 10%**
绝缘强度	**4000 V DC**
脉冲电压 U	最高 **970 V DC**
绝缘电阻	**⩾ 10 MΩ**
最大面温度	**250°C**

结构

电阻丝	**NiCr** 或类似的材料
壳体	铝-截面 **40 x 20**
接出	**PTFE**绝缘导线
防护等级	**IP23**
选项	双保护器保护热过载 （刹车能力**0,5 A/230 V)**
安装	直接用 **M5**螺丝

技术参数

瞬间 功率峰值 W	额定永久 功率 W	长度	宽 x 高 mm	热容量 kJ/K
2600	35	160	40 x 20	0,21
4000	60	240	40 x 20	0,34
5000	80	300	40 x 20	0,43

库存型号

长度 (L) mm	电阻 (R) (Ohm)	零件号 带恒温控制的
160	200	077006
240	100	077005
240	370	077004
240	470	077003
300	82	077008
300	240	077007

额定功率

在最大150秒周期中所需的额定永久功率可按下列式计算

$$\text{额定永久功率 (W)} = \frac{\text{最大脉冲时间 (sec) x 脉冲功率 (W)}}{\text{循环时间 (sec)}}$$

您如需使用较长的周期时间，请告诉我们您的具体要求，我们会根据您的具体要求定制ALW电阻器。

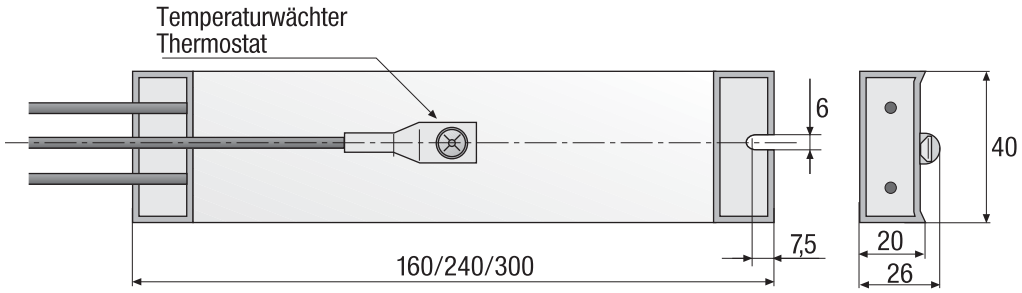
安装方式

见第 15 页.

重要提示

注意！不要将电阻器连接到电源电路中。
注：仅适用于双金属保护器，不适用于电阻器。

ALW 40
ALW 40



Performance Figures

Resistance R20	1-1000 Ω tolerance +/- 10%
Dielectric strength	4000 V DC
Pulse voltage U	max 970 V DC
Insulation resistance	≥ 10 MΩ
Max. surface temperature	250°C

Construction

Resistance wire	NiCr or similar composition
Housing	Aluminium Profile 40 x 20
Connections	PTFE insulated lead
Degree of protection	IP23
Option	Bimetal protector as protection against thermal overload (Breaking capacity e.g. 0,5 A/230 V)
Fixing	directly with screws M5

Rating

At cycle times of max. 150 seconds the required nominal permanent power can be calculated as per the following formula:

$$\text{nomin. perm. power (W)} = \frac{\text{maximum pulse time (sec) x pulse power (W)}}{\text{cycle time (sec)}}$$

At use with longer cycle time please send us your request, then the ALW resistor has to be construed for this individual application.

TECHNICAL DATA

Short-term peak power W	Nominal perm. power W	Length	Width x Height mm	Thermal capacity kJ/K
2600	35	160	40 x 20	0,21
4000	60	240	40 x 20	0,34
5000	80	300	40 x 20	0,43

STOCK TYPE RESISTORS

Length (L) mm	Resistance (R) (Ohm)	Article No. with thermostat
160	200	077006
240	100	077005
240	370	077004
240	470	077003
300	82	077008
300	240	077007

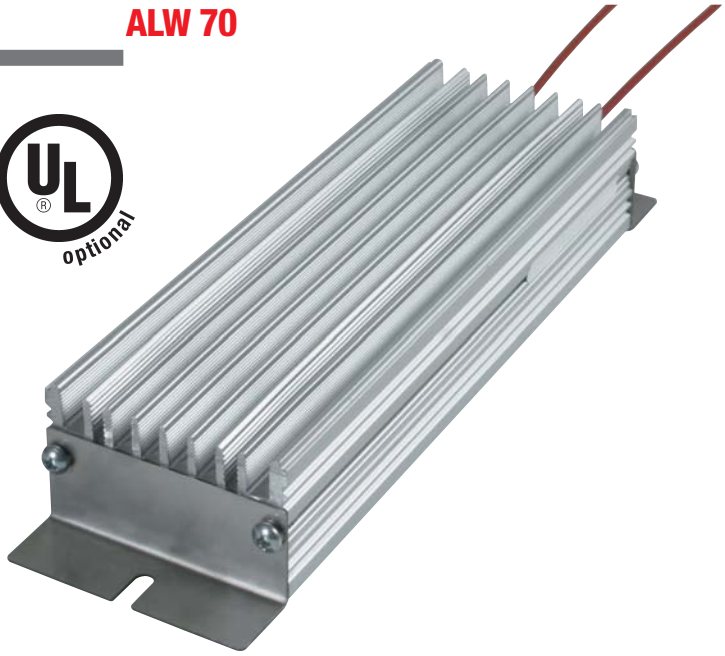
Mounting Versions

see Page 15.

Important Note

Attention! Do not connect the resistor into the power circuit.
Note: Is valid only for bimetal protector an not for the resistor.

ALW 70
ALW 70



optional

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性能指标

电阻 R20	1-1000 Ω, 公差 +/- 10%
绝缘强度	4000 V DC
额定永久功率	最大100 W/100 mm轮廓长度250°C 表面温度 和 最高 45°C的环境温度
热容量	0,36 kJ/K 每100 mm 轮廓长度
瞬间功率峰值	最高 300 kW取决于脉冲时间和电阻器尺寸
脉冲电压 U	最大 970 V DC
绝缘电	≥ 10 MΩ
最高表面温度	250°C

结构

电阻丝	NiCr 或相似合金
壳体	铝-外形尺寸70 x 42
接出	PTFE绝缘导线
防护等级	IP23

C

选项	双金属保护器，用于防止热过载（分断能力，例如0,5A/230 V）
安装	安装支架

通用参数

符合	CE
允许运行	-10°C...+55°C, 超过 45°C，连续运行功率 P_n
的环境温度.	按 2,5%/°C 速率下降
允许运行的海拔	海拔 0 ... 4000 m , 超过1000 m 连续运行功率Pn 按 5%/1000m速率下降
抗振性	最高抗 1g 的加速度
运行条件	- 再生功率的平均值 < 功率电阻器的额定永久功率. - 刹车时的再生功率 < 功率电阻器的热容量

额定功率

在最大150秒周期中所需的额定永久功率可按下列式计算：

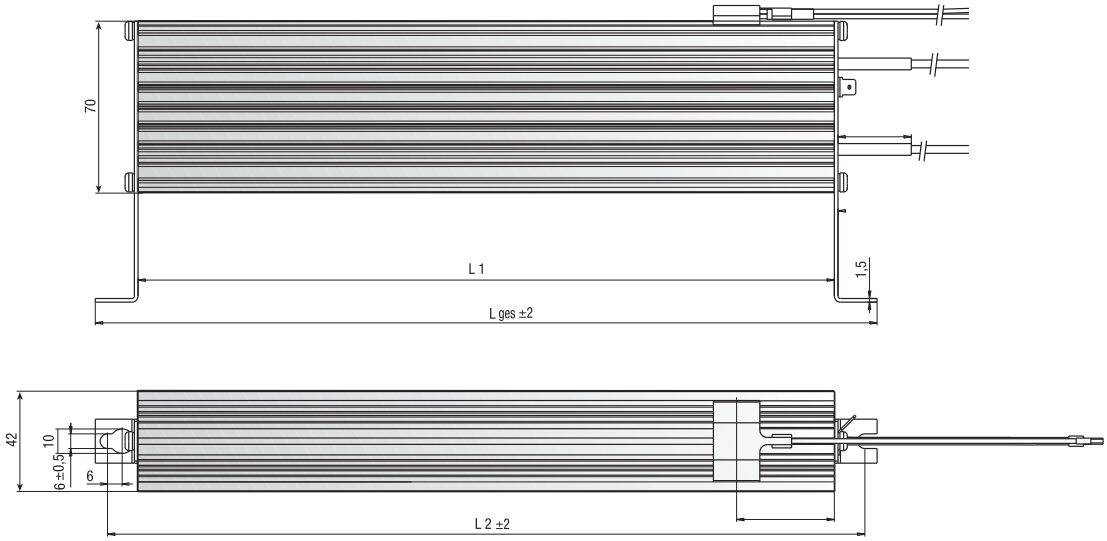
$$\text{额定永久功率(W)} = \frac{\text{最大脉冲时间(sec)} \times \text{脉冲功率(W)}}{\text{循环时间 (sec)}}$$

您如需使用较长的周期时间，请告诉我们您的具体要求，我们会根据您的具体要求定制ALW电阻器。

重要提示

- 确保空气无阻碍地在电阻器上循环
- 双金属保护布线必须集成到电气控制系统中，以确保电压被去除。
- 注意！不要将电阻器连接到电源电路中 。
  注：适用于双金属保护器，不适用于电阻器。

ALW 70
ALW 70



optional INTRINSICALLY SAFE available

Performance Figures

Resistance R20	1-1000 Ω tolerance +/- 10%
Dielectric strength	4000 V DC
Nominal permanent power	max. 100 W/100 mm profile length at max. 250°C profile temperature and environment temperature max. 45°C
Thermal capacity	0,36 kJ/K pro 100 mm profile length
Short term peak power	up to 300 kW depending on pulse time and resistor dimensions
Pulse voltage U	max. 970 V DC
Insulation resistance	≥ 10 MΩ
Max. surface temperature	250°C

Construction

Resistance wire	NiCr or similar composition
Housing	Aluminium profile 70 x 42
Connections	PTFE insulated lead
Degree of protection	IP23

Option	Bimetal protector as protection against thermal overload (Breaking capacity e.g. 0,5 A/230 V)
Fixing	fixing bracket

General Items

Conformity	CE
Permissible ambient Operating temperature	-10°C...+55°C (above 45°C the continuous power P_n is to be reduced by 2,5%/°C)
Permissible site altitude	0...4000 m above NN, (above 1000 m the continuous power P_n is to be reduced by 5%/1000 m)
Vibration resistance	Acceleration resistant up to 1g
Operating conditions	- Mean value of regenerative power < permanent power of power resistor - Regenerative power during braking time < thermal capacity of brake resistor

Rating

At cycle times of max. 150 seconds the required nominal permanent power can be calculated as per the following formula:

$$\text{nomin. perm. power (W)} = \frac{\text{maximum pulse time (sec) x pulse power (W)}}{\text{cycle time (sec)}}$$

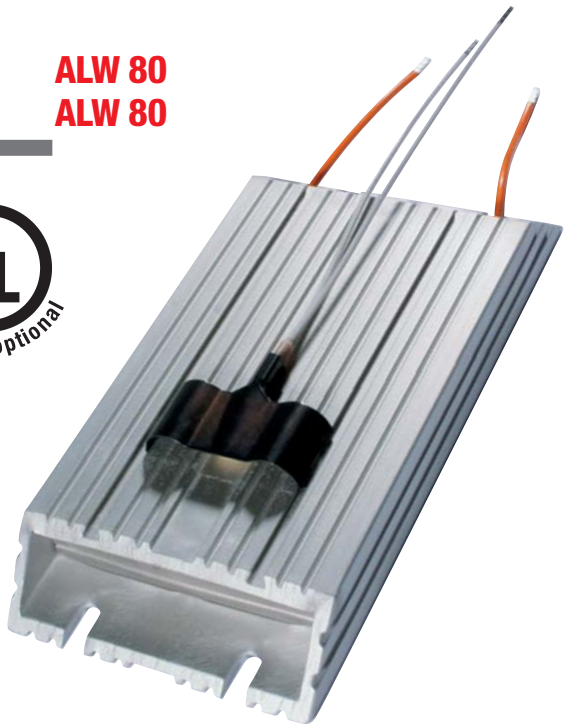
At use with longer cycle time please send us your request, then the ALW resistor has to be construed for this individual application.

Important Note

- Ensure unhindered air circulation over the resistor.
- The bimetal protection wiring must be integrated into the electrical control system to ensure the voltage is removed.
- Attention! Do not connect the resistor into the power circuit. Note: Is valid only for bimetal protector an not for the resistor.

ALW 80
ALW 80

optional



性能指标

电阻 R20	1-1000 Ω, 公差 +/- 10%
绝缘强度	4000 V DC
瞬间功率峰值	最高 300 kW取决脉冲时间和电阻器尺寸
脉冲电压 U	最大 970 V DC
绝缘电阻	≥ 10 MΩ
最高表面温度	250°C

结构

电阻丝	NiCr 或类似合金
壳体	铝-外形尺寸80 x 20
连接	PTFE-绝缘导线
防护等级	IP23
选项	双金属保护器，用于防止热过载（分断能力，例如0，5A / 230
安装	直接用 M5螺丝

技术参数

瞬间率峰值 W	额定永久功率 W	长度	宽 x 高 mm	热容量 kJ/K
5000	125	160	80 x 20	0,42
7000	140	240	80 x 20	0,68
9000	200	300	80 x 20	0,86
12000	270	400	80 x 20	1,22

额定功率

在最大150秒周期中所需的额定永久功率可按下列式计算：

$$\text{额定永久功率 (W)} = \frac{\text{最大脉冲时间 (sec) x脉冲功率 (W)}}{\text{循环时间(sec)}}$$

您如需使用较长的周期时间，请告诉我们您的具体要求，我们会根据您的具体要求定制ALW电阻器。

安装方式

见第 15页

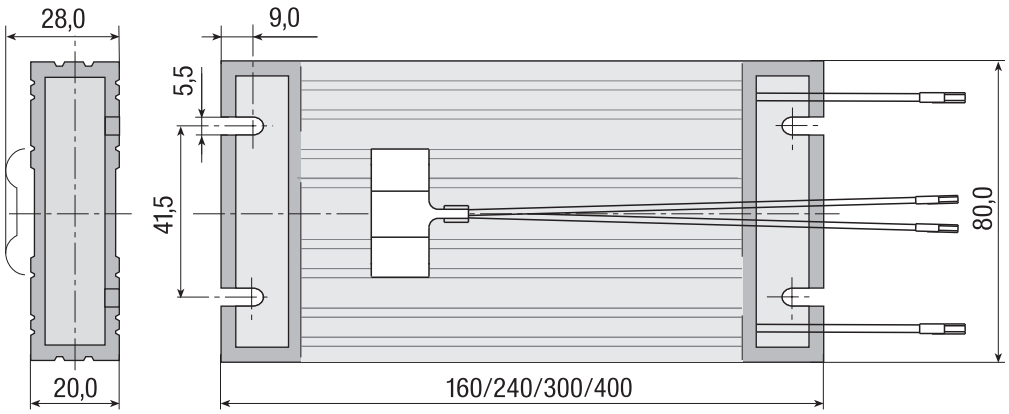
模块化组装

通过分组，可以构建更高功率的模块。请参阅第14/15页。

重要提示

注意！不要将电阻器连接到电源电路中
注:适用于双金属保护器，不适用于电阻器。

ALW 80
ALW 80



Performance Figures

Resistance R20	1-1000 Ω tolerance +/- 10%
Dielectric strength	4000 V DC
Short term peak power	up to 300 kW depending on pulse time and resistor dimensions.
Pulse voltage U	max 970 V DC
Insulation resistance	≥ 10 MΩ
Max. surface temperature	250°C

Construction

Resistance wire	NiCr or similar composition
Housing	Aluminium Profile 80 x 20
Connections	PTFE insulated lead
Protection	IP23
Option	Bimetal protector as protection against thermal overload (Breaking capacity e.g. 0,5 A/230 V)
Fixing	directly with screws M5

TECHNICAL DATA

Short-term peak power W	Nominal perm. power W	Length	Width x Height mm	Thermal capacity kJ/K
5000	125	160	80 x 20	0,42
7000	140	240	80 x 20	0,68
9000	200	300	80 x 20	0,86
12000	270	400	80 x 20	1,22

Rating

At cycle times of max. 150 seconds the required nominal permanent power can be calculated as per the following formula:

$$\text{nomin. perm. power (W)} = \frac{\text{maximum pulse time (sec) x pulse power (W)}}{\text{cycle time (sec)}}$$

At use with longer cycle time please send us your request, then the ALW resistor has to be construed for this individual application.

Mounting Versions

See page 15.

Rack Assembly

Through grouping it is possible to construct rack assemblies for higher powers. See page 14/15.

Important Note

Attention! Do not connect the resistor into the power circuit.
Note: Is valid only for bimetal protector an not for the resistor.

ALW 90
ALW 90

optional

optional EIGENSICHER erhältlich

性能指标

电阻 R20	1-1000 Ω Toleranz +/- 10%
绝缘**强度**	4000 V DC
额**定永久功率**	最高 130 W / 100 mm 轮廓长度. 250°C 表面温度 和 最高 45°C的环 境温度
热容量	0,43 kJ/K 每100mm 轮廓长度
瞬间功率峰值	最高1.000 kW 取决脉冲时间和电阻器外形尺寸
脉冲电压 U	最高 970 V DC
绝缘**电阻**	≥ 10 MΩ
最高表面温度	250°C

结构

电阻丝	NiCr或类似合金
壳体	铝-外形尺寸 90 x 50
接出	带高强度电缆接头的接线盒
防护等级	IP65

选项	集成双金属保护器，用于防止热过载（分断能力，例如0,5A / 230 V）
安装	安装支架
特殊类型	- 不带双金属保护 - 不带接线盒, 接线直接外接

通用参数

符合	CE
允许运行的 环**境温度**	-10°C...+55°C 超过 45°C，连续运行功率 P_n按 **2,5%/°C** 速率下降
允许运行的海拔	海拔 **0 ... 4000 m ,** 超过**1000 m** 连续运行功 **Pn** 按 **5%/1000 m** 下降
抗振性	最高抗 1g
安装位置	的加速度 客户要求
运行条件	- 再生功率的平均值 < 功率电阻器的额定永久功率。 - 刹车时的再生功率 < 功率电阻器热容量

额定功率

在最大150秒周期中所需的额定永久功率可按下列式计算：

$$\text{额定永久功率 (W)} = \frac{\text{最大脉冲时间 (sec)} \times \text{脉冲功率 (W)}}{\text{脉冲时间 (sec)}}$$

您如需使用较长的周期时间，请告诉我们您的具体要求，我们会根据您的具体要求定制ALW电阻器。

模块化组装

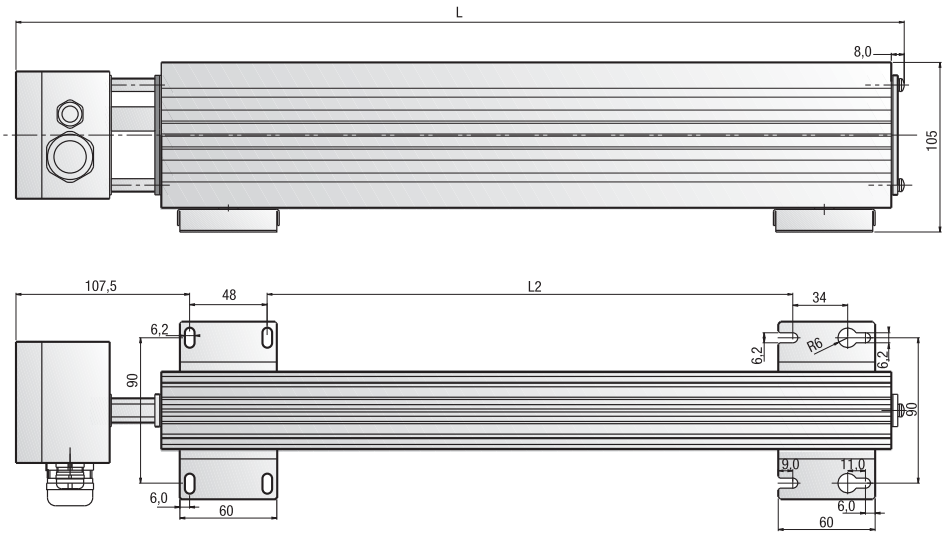
通过分组，可以构建更高功率的模块。请参阅第14/15页。

重要提示

- 确保空气不受阻碍在电阻器 上循环.
- 双金属保护布线必须集成到电气控制系统中 ，以确保电压被去除。
- 注意！ 不要将电阻器连接到电源电路中 。

注:适用于双金属保护器，不适用于电阻器。

ALW 90
ALW 90



optional INTRINSICALLY SAFE available

Performance Figures

Resistance R20	1-1000 Ω tolerance +/- 10%
Dielectric strength	4000 V DC
Nominal permanent power	max. 130 W/100 mm profile length at max. 250°C profile temperature and environment temperature max. 45°C
Thermal capacity	0,43 kJ/K pro 100 mm profile length
Short term peak power	up to 1.000 kW depending on pulse time and resistor dimensions
Pulse voltage U	max. 970 V DC
Insulation resistance	≥ 10 MΩ
Max. surface temperature	250°C

Construction

Resistance wire	NiCr or similar composition
Housing	Aluminium profile 90 x 50
Connections	Connection box with high-strength cable gland
Degree of protection	IP65
Option	Bimetal protector as protection against thermal overload (Breaking capacity e.g. 0,5 A/230 V)
Fixing	fixing bracket
Special executions	- without bimetal protector - without connection box, leads led out directly

General Items

Conformity	CE
Permissible ambient	-10°C...+55°C
Operating temperature	(above 45°C the continuous power P_n is to be reduced by 2,5%/°C)
Permissible site altitude	0...4000 m above NN, (above 1000 m the continuous power P_n is to be reduced by 5%/1000 m)
Vibration resistance	Acceleration resistant up to 1g
Mounting position	Customer specific
Operating conditions	- Mean value of regenerative power < permanent power of power resistor - Regenerative power during braking time < thermal capacity of brake resistor

Rating

At cycle times of max. 150 seconds the required nominal permanent power can be calculated as per the following formula:

$$\text{nomin. perm. power (W)} = \frac{\text{maximum pulse time (sec) x pulse power (W)}}{\text{cycle time (sec)}}$$

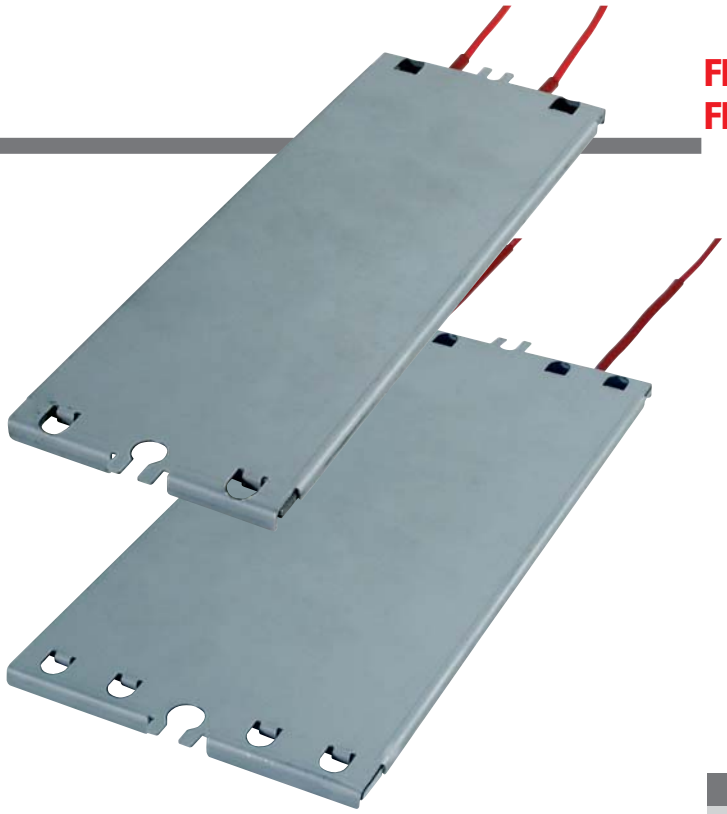
At use with longer cycle time please send us your request, then the ALW resistor has to be construed for this individual application.

Rack Assembly

Through grouping it is possible to construct rack assemblies for higher powers. See page 14/15

Important Note

- Ensure unhindered air circulation over the resistor.
- The bimetal protection wiring must be integrated into the electrical control system to ensure the voltage is removed.
- Attention! Do not connect the resistor into the power circuit. Note: Is valid only for bimetal protector an not for the resistor.



FBW 型扁平刹车电阻器
FLAT BRAKE RESISTOR FBW

optional EIGENSICHER erhältlich

性能指标

电阻 R20	1-1000 Ω, 公差+/- 10%
绝缘强度	4000 V DC
脉冲电压 U	max 970 V DC
绝缘电阻	≥ 10 MΩ
最高表面温度	350°C

类型

C

	A	B	C
额定永久功率	35 W	50 W	100 W
瞬间功率峰值	10 kW	15 kW	30 kW
自由对流下电阻器的最高温度和最高环境温度 max. 45°C	250°C	250°C	250°C

可选尺寸

Typ A	90x7x220 mm
Typ B	90x7x250 mm
Typ C	130x7x290 mm

结构

电阻丝	NiCr 或类似合金
电阻器核心/绝缘	云母片
外壳	镀锌版
接出	PTFE绝缘导线
防护等级	IP20

说明

FBW电阻器的极其平坦的轮廓使其能够在密闭空间中安装。大表面积使电阻器即使在频繁制动使用场合也不会产生过热。

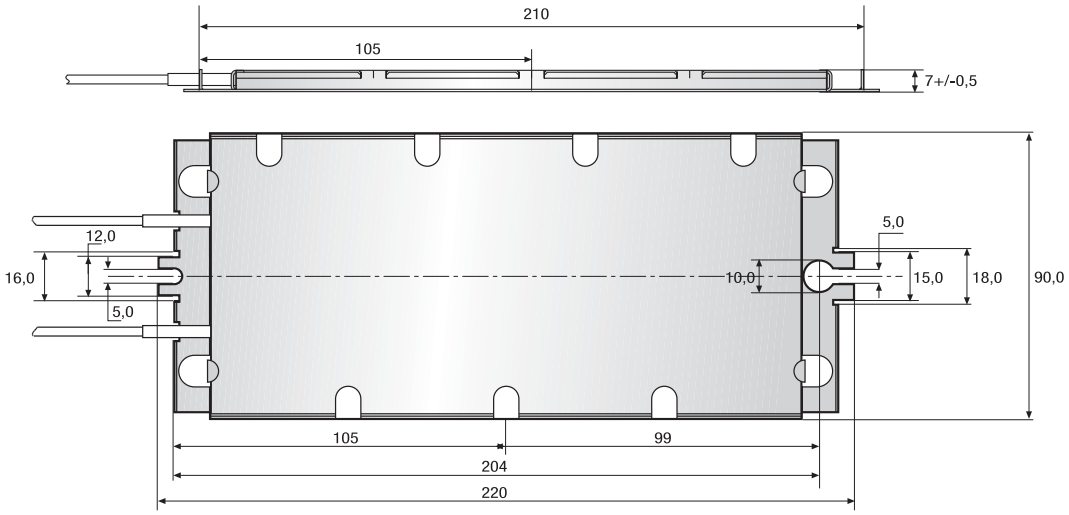
额定功率

在最大150秒周期中所需的额定永久功率可按下列式计算：

$$\text{额定永久功率(W)} = \frac{\text{最大脉冲时间 (sec) x脉冲功率 (W)}}{\text{循环时间 (sec)}}$$

您如需在使用较长的周期时间，请告诉我们您的具体要

FBW 型扁平刹车电阻器
FLAT BRAKE RESISTOR FBW



optional INTRINSICALLY SAFE available

Performance Figures

Resistance R20	1-1000 Ω tolerance +/- 10%
Dielectric strength	4000 V DC
Pulse voltage U	max 970 V DC
Insulation resistance	≥ 10 MΩ
Max. surface temperature	350°C

Type	**A**	**B**	**C**
Nominal permanent power	35 W	50 W	100 W
Max. short-term peak power	10 kW	15 kW	30 kW
Max. temperature at resistor in case of free convection and ambient temperature max. 45°C	250°C	250°C	250°C

Available Dimensions

Type A	90x7x220 mm
Type B	90x7x250 mm
Type C	130x7x290 mm

Construction

Resistance wire	NiCr or similar composition
Resistor core/insulation	Micanite
Housing	Zinc-plated steel
Connections	PTFE insulated lead
Degree of protection	IP20

Description

The extremely flat profile of the FBW resistor enables installation in confined spaces. The large surface area enables the resistor even when used on frequent braking sequences to perform without overheating.

Rating

At cycle times of max. 150 seconds the required nominal permanent power can be calculated as per the following formula:

$$\text{nomin. perm. power (W)} = \frac{\text{maximum pulse time (sec) x pulse power (W)}}{\text{cycle time (sec)}}$$

At use with longer cycle time please send us your request, then the ALW resistor has to be construed for this individual application.

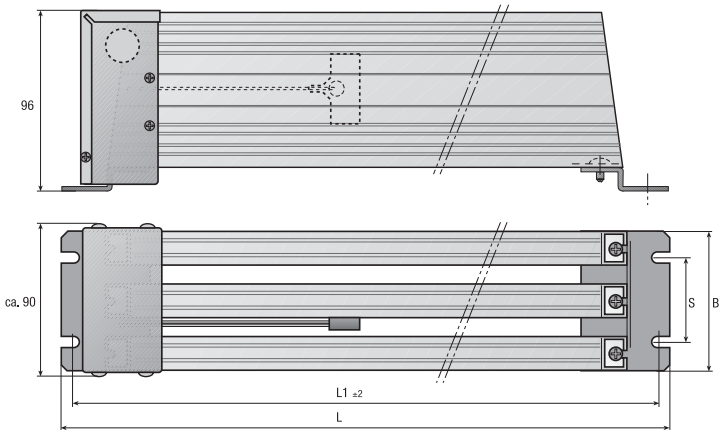
ALW 80/90 支架安装
ALW 80/90 RACK ASSEMBLY

通过分组，可构造更高功率的支架安装组件。这种模块化提供了一个更广泛的功率覆盖范围，并可根据客户的具体需求提供定制。

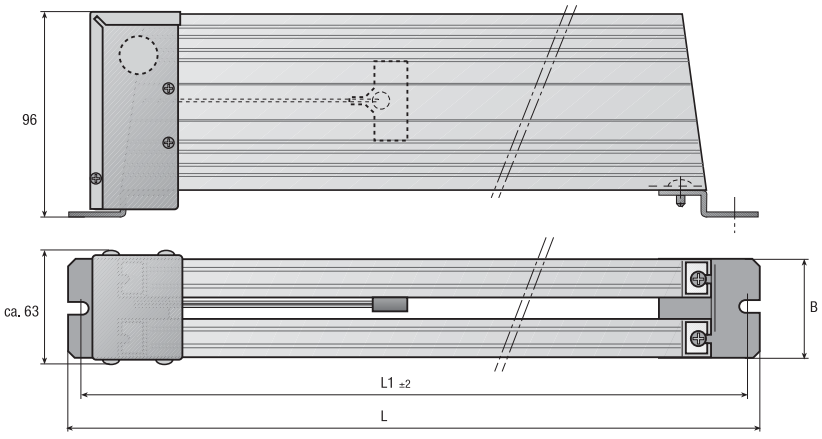
Through grouping it is also possible to construct rack assemblies for higher powers. This modularity provides for the coverage of a wide performance area and on request it is available customer specific.

ALW 80

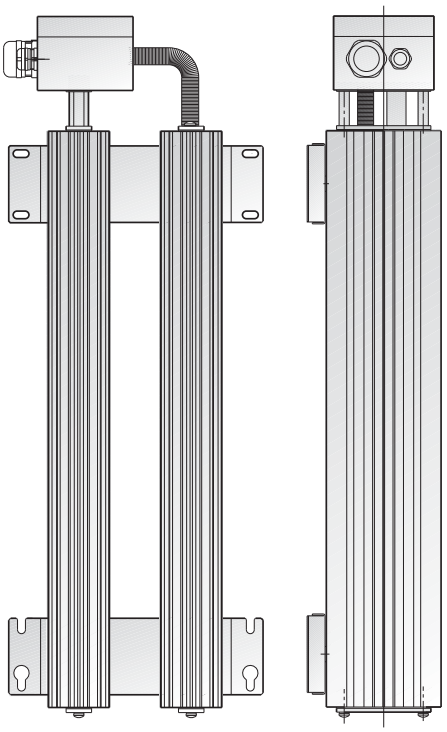
对于从400瓦到800瓦的永久功率，有2或3个ALW80电阻器，其总长度为300毫米或400毫米，安装在金属板托架上，并在连接盒内平 行布线。
允许的永久或峰值功率比单个电阻器的允许瓦数高2至3倍，也包括其他技术数据。
接线盒的防护等级 IP 23.
连接引线可以通过安装孔进入到外壳中。



For permanent wattages from 400 W to 800 W there are 2 or 3 ALW 80 resistors with an overall length of 300 mm or 400 mm mounted on sheet metal brackets and wired in parallel within a connection box.
The permissible permanent or peak wattages are 2 to 3 times higher than the permissible wattages of the single resistors, as well as the other technical data.
The connection box is of protection degree IP 23.
The connection lead can be passed into the housing through a grommet.



ALW 80/90 支架安装
ALW 80/90 RACK ASSEMBLY



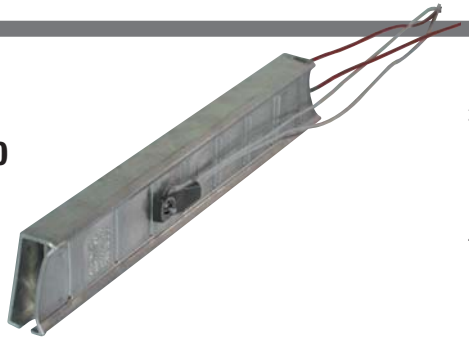
ALW 90

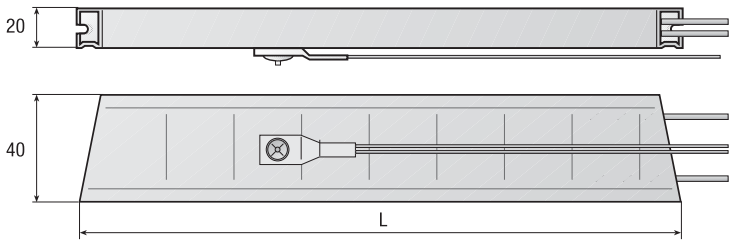
对于更高的功率范围，可以使用几个ALW 90的分组是可能的。按允许的永久或峰值功率计算总轮廓长度。接线盒具有保护等级IP 65，按要求还可以提供较低的保护等级。

For higher power ranges the grouping of several ALW 90 is possible. The permissible permanent or peak wattages are calculated over the total profile length. The connection box is of protection degree IP 65, on request it is also possible to supply a lower protection degree.

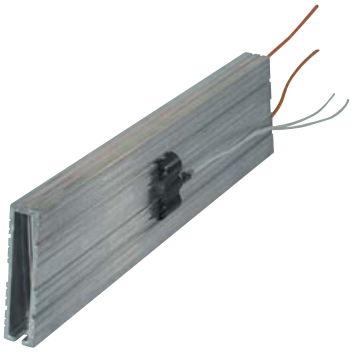
ALW 40/80 边缘安装
ALW 40/80 ON EDGE MOUNTING

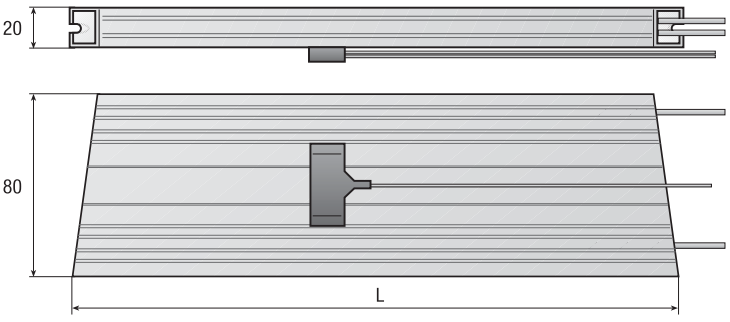
ALW 40



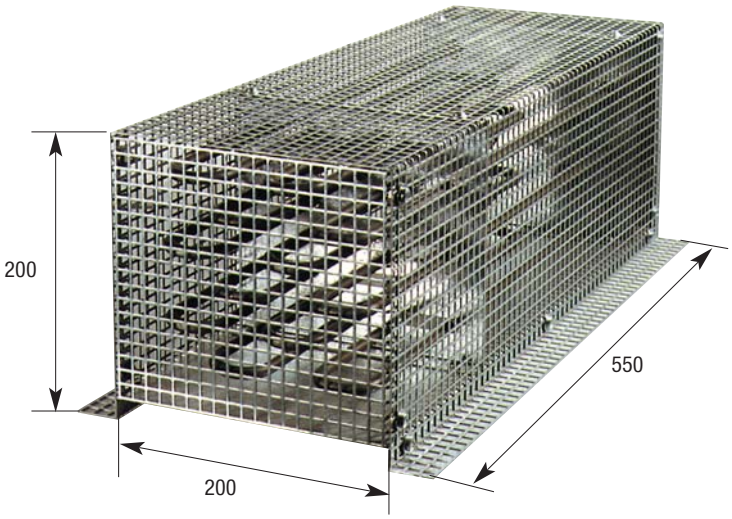


ALW 80





RHK 型功率电阻器
POWER RESISTOR RHK



描述

RHK 型功率电阻器被设计用于在大于800瓦的永久功率下（例如自动扶梯控制器）对电气和电子电路的功率峰值进行平滑。
这些电阻器由一个或几个组装在镀锌穿孔板金属外壳中Ø 8,5毫米不锈钢护套的管状加热器组成。
根据要求，电阻器可以提供一个可选的恒温器来控制电阻器的最大护套温度。

额定功率

在最大150秒周期中所需的额定永久功率可按下列式计算：

$$\text{额定永久功率 (W)} = \frac{\text{最大脉冲时间 (sec) x脉冲功率 (W)}}{\text{环时间(sec)}}$$

您如需使用较长的周期时间，请告诉我们您的具体要求，我们会根据您的具体要求定制 ALW电阻器。

Description

The RHK type power resistors are designed for the smoothing of performance peaks for electric and electronic circuits at permanent performances higher than 800 W (e. g. escalator controls) .
These resistors consist of one or several tubular heaters Ø 8,5 mm with a stainless steel sheath which are assembled into a housing of zinc plated perforated sheet metal.
Upon request the resistors can be supplied with an optional thermostat to control the maximum sheath temperature of the resistors.

Rating

At cycle times of max. 150 seconds the required nominal permanent power can be calculated as per the following formula:

$$\text{nomin. perm. power (W)} = \frac{\text{maximum pulse time (sec) x pulse power (W)}}{\text{cycle time (sec)}}$$

At use with longer cycle time please send us your request, then the ALW resistor has to be construed for this individual application.

通用技术参数
GENERAL TECHNICAL DATA

技术参数

永久功率	高至10800 W (更高功率可以定制).
绝缘强度	1800 V DC, 带绝缘安装的 最高可选 4100 V DC
电阻 R_{20}	0,1 – 1.000 Ω
输入电压	970 V DC
电阻器元件	装备在镀锌穿孔板金属外壳中 Ø 8,5 mm的 w形管状加热器
防护等级	IP 20, IP 54 或 IP 64

RHK加热器 加热器 数量*	小于等于1000W永久功率，1个加热器 小于等于2400W永久功率，2个加热器 小于等于3600W永久功率，3个加热器 小于等于4800W永久功率，4个加热器 小于等于7200W永久功率，6个加热器 小于等于10800 W永久功率，9个加热器
接出	陶瓷接线端子在一个装在金属壳体上的密闭接线盒内，用于连接电缆的组装。
布线	RHK加热器与加热器之间的桥接并联，与端子块连接。

* 这些是指导性数值。RHK的数量可以根据个体的操作条件而改变。

TECHNICAL DATA

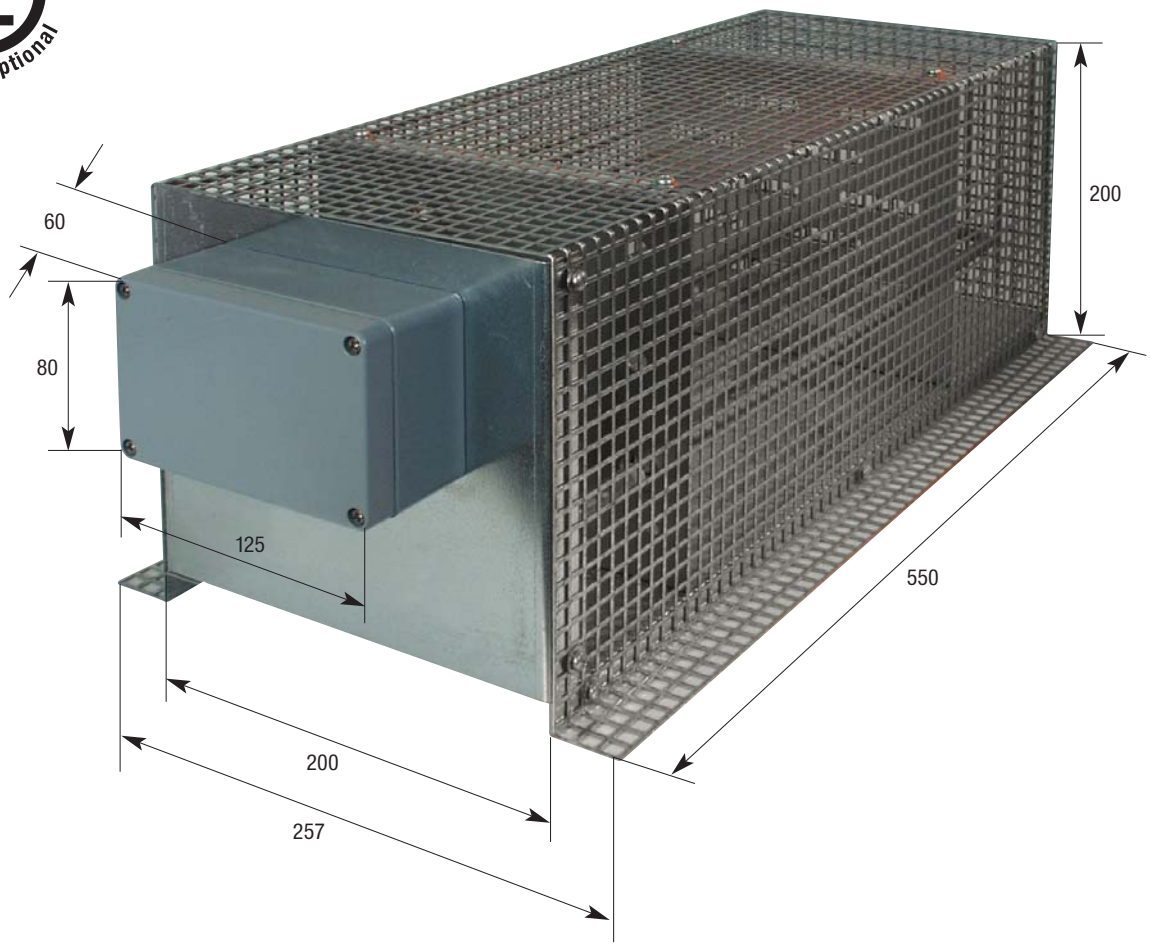
Permanent power	up to 10800 W (higher powers on request).
Dielectric strength	1800 V DC, with insulated mounting up to 4100 V DC available on request
Resistance R_{20}	0,1 – 1.000 Ω
Permissible voltage	970 V DC
Resistor elements	Tubular heaters Ø 8,5 mm w-shape and assembled inside of a perforated sheet metal housing.
Protection Degrees	IP 20, IP 54 or IP 64

Number of RHK heaters*	up to 1000 W permanent power 1 heater up to 2400 W permanent power 2 heaters up to 3600 W permanent power 3 heaters up to 4800 W permanent power 4 heaters up to 7200 W permanent power 6 heaters up to 10800 W permanent power 9 heaters
Connection	Ceramic terminal block inside the connection box cable gland on sheet metal housing for the assembly of a connection cable.
Wiring scheme	The RHK heaters are connected in parallel with bridges between the heaters, connected with the terminal block.

* These are guiding values. The number of RHK can change subject to the individual operating conditions.

RHK IP 54 功率加热器
POWER RESISTOR RHK IP 54

optional



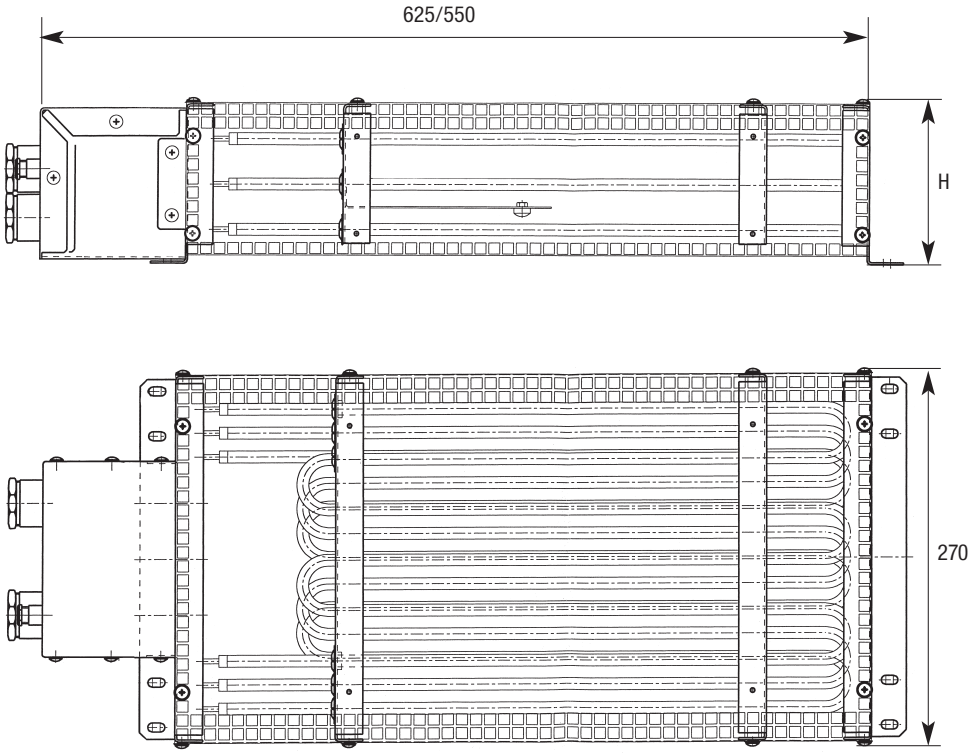
描述

对于特殊情况，RHK型功率电阻可以与保护等级IP 54的防溅外壳一起使用。电阻采用并联布线。

Description

For special cases of operation the power resistors type RHK can be supplied with an incorporated splash proof enclosure with protection degree IP 54. The resistors are wired in parallel.

RHK IP 54 功率加热器
POWER RESISTOR RHK IP 54



根据要求，电阻器可以提供单独的接线盒。

Upon request the resistors can be supplied with a separate connection box.

永久功率 Permanent Performance	H
850 W – 3600 W	119 mm
3600 W – 7200 W	220 mm
7200 W – 10800 W	270 mm

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  Tubular Cartridge Heaters type RP/RPT
- **空气加热器**
  Air heater
- **RHK 型管状加热器**
  Tubular heater type RHK
- **TE 型温度传感器**
  Temperature sensors type TE
- **FLEX 型柔性管状加热器**
  Flexible tubular heater FLEX

公司

中国分公司 太泓电热科技（南京）有限 公司
南京栖霞区金马路3号

Tel. 025 5850 6579
Mobile 17302583397
luxin@turk-hillinger.com
www.turk-hillinger.com

Türk+Hillinger GmbH
Föhrenstr. 20
78532 Tuttlingen
Germany

Tel. +49 74 61-70 14 0
Fax +49 74 61-70 14 110
info@tuerk-hillinger.de
www.tuerk-hillinger.de

TÜRK+HILLINGER
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