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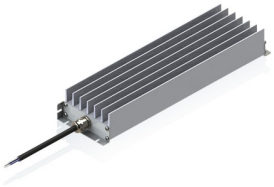
# REOhm series 156 (UL)

*Max. continous power: 1.500 W*



## Unique Selling Point

- compact construction
- easy installation
- short-circuit proof
- suitable for the use with any frequency drive
- use even in rough conditions
- standing or lying assembly
- highly resistive on overload

### Description

The BW 156 braking is designed for drives with frequency converters of small to medium output. Installation in and outside the control cabinet is possible.
In addition to the high protection class IP66, the profile resistors REOHM 156 are also UL-certified and have a power of 50 W up to 7.500 W (as combination).

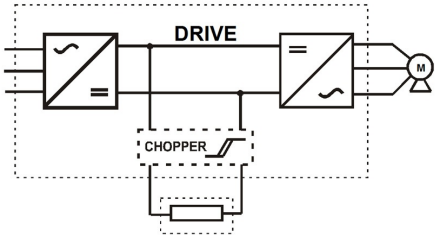
Optional

- With temperature switch
- Cover for protection against high surface temperatures

### Technical Data

- Resistance values : 0,3 - 2000 Ohm
- Continuous power : 400 - 7500 W
- max. operating voltage : 900 V

### Circuit example

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# REOhm series 156 (UL)

*Max. continous power: 1.500 W*

## Technical data

| Type | Resistance values R [Ohm] | Continous power at 25° C P [W] | Max. operating voltage U [V DC] / [V AC] |
|---|---|---|---|
| BW 156/400 | 0,3 - 2000 | 400 | 900 / 600 |
| BW 156/600 | 0,3 - 2000 | 600 | 900 / 600 |
| BW 156/800 | 1 - 2000 | 800 | 900 / 600 |
| BW 156/1000 | 1 - 2000 | 1000 | 900 / 600 |
| BW 156/1200 | 1 - 2000 | 1200 | 900 / 600 |
| BW 156/1500 | 1 - 2000 | 1500 | 900 / 600 |
| BW 156/2000 | 0,5 - 1000 | 2000 | 900 / 600 |
| BW 156/2400 | 0,5 -1000 | 2400 | 900 / 600 |
| BW 156/3000 | 0,5 - 1000 | 3000 | 900 / 600 |
| BW 156/4500 | 0,3 -1000 | 4500 | 900 / 600 |
| BW 156/6000 | 0,3 - 1000 | 6000 | 900 / 600 |
| BW 156/7500 | 0,3 - 1000 | 7500 | 900 / 600 |

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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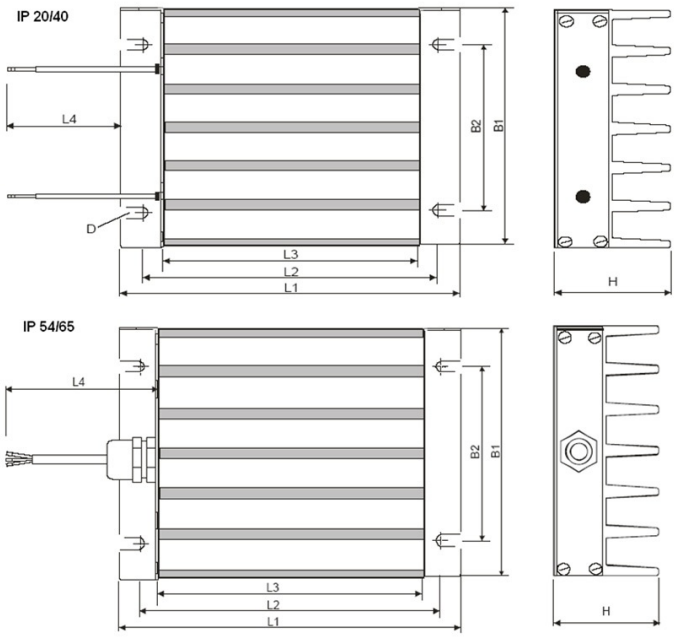
# REOhm series 156 (UL)

*Max. continous power: 1.500 W*

## Dimension drawings - Single resistor up to 1500 W




## Dimensions

| Type | L1 [mm] | L2 [mm] | L3 [mm] | L4 [mm] | B1 [mm] | B2 [mm] | H [mm] | D [mm] | Connection cable |
|---|---|---|---|---|---|---|---|---|---|
| BW 156/400 | 170 | 155 | 140 | 500 | 103 | 70 | 53 | 4,5 | IP20/40 PTFE AWG14 |
| BW 156/600 | 230 | 215 | 200 | 500 | 103 | 70 | 53 | 4,5 | |
| BW 156/800 | 300 | 285 | 270 | 500 | 103 | 70 | 53 | 4,5 | |
| BW 156/1000 | 370 | 355 | 340 | 500 | 103 | 70 | 53 | 4,5 | |
| BW 156/1200 | 450 | 435 | 420 | 500 | 103 | 70 | 53 | 4,5 | |
| BW 156/1500 | 600 | 585 | 570 | 500 | 103 | 70 | 53 | 4,5 | |

| Type | L1 [mm] | L2 [mm] | L3 [mm] | L4 [mm] | B1 [mm] | B2 [mm] | H [mm] | D [mm] | Connection line |
|---|---|---|---|---|---|---|---|---|---|
| BW 156/400 | 174 | 159 | 140 | 500 | 103 | 70 | 53 | 4,5 | IP54/65 shielded connection cable 3x1,5 mm² |
| BW 156/600 | 234 | 219 | 200 | 500 | 103 | 70 | 53 | 4,5 | |
| BW 156/800 | 304 | 289 | 270 | 500 | 103 | 70 | 53 | 4,5 | |
| BW 156/1000 | 374 | 359 | 340 | 500 | 103 | 70 | 53 | 4,5 | |
| BW 156/1200 | 454 | 439 | 420 | 500 | 103 | 70 | 53 | 4,5 | |
| BW 156/1500 | 604 | 589 | 570 | 500 | 103 | 70 | 53 | 4,5 | |

Other fixing dimensions possible

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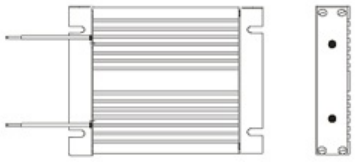
# REOhm series 156 (UL)

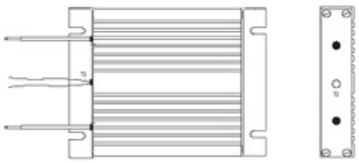
*Max. continous power: 1.500 W*

## Design with different protection ratings

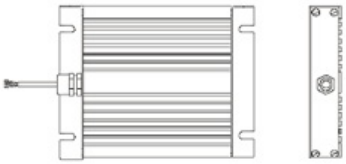
IP20 / IP40



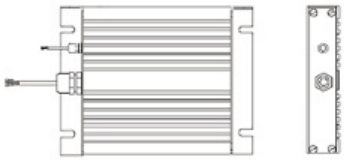
IP20 / IP40 with temperature switch



IP54 / IP65



IP54 / IP65 or higher with temperature switch



## Protection ratings

Depending on the design and execution various types of protection ratings can be realized up to IP66. At protection ratings less than / equal IP40 the temperature increase must be at the surface resistance max. 300K. For a higher degree of protection (> IP40) a maximum temperature increase of 200K is allowed.

Attention! Duration overtemperature values of> 200 K could result to an impairment of protection rating.

## Overvoltage protection

It is possible to control the temperature of the resistance by using a temperature switch. In case of exceeding a rated temperature the temperature switch opens and can, for example, trigger an existing signaling contact. The temperature switch is mounted externally in protection class IP20 / IP40 and provided with two connection strands.

At IP54 / IP65 or higher, the temperature switch is integrated in the resistance and provided the connection with a temperature resistant cable.

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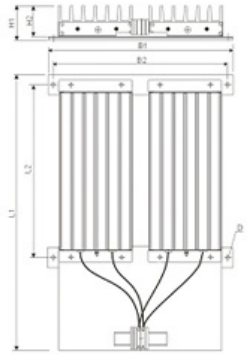
# REOhm series 156 (UL)

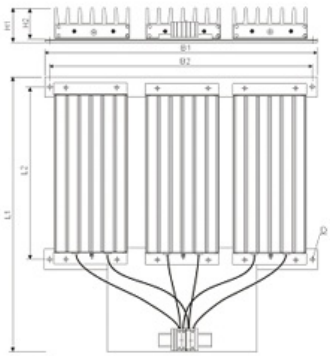
*Max. continous power: 1.500 W*

## Dimension drawings - Resistor combination up to 7500 W

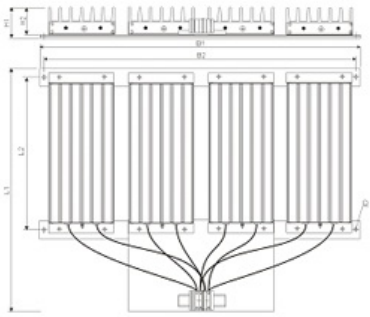
B1



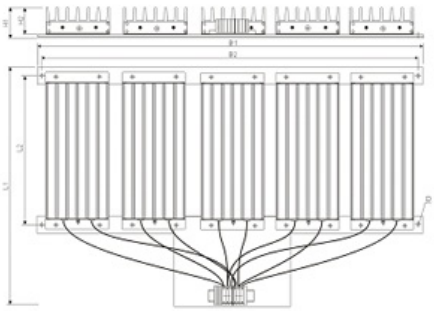
B2



B3



B4



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# REOhm series 156 (UL)

*Max. continous power: 1.500 W*

Dimensions - Resistor combination up to 7500 W

| Type | L1 [mm] | L2 [mm] | B1 [mm] | B2 [mm] | H1 [mm] | H2 [mm] | D [mm] | design [mm] | Connection cable |
|---|---|---|---|---|---|---|---|---|---|
| BW 156/2000 | 600 | 360 | 300 | 270 | 73 | 53 | 8,5 | BF 1 | IP20/40 PTFE AWG14 |
| BW 156/2400 | 680 | 440 | 300 | 270 | 73 | 53 | 8,5 | BF 1 | |
| BW 156/3000 | 830 | 590 | 300 | 270 | 73 | 53 | 8,5 | BF 1 | |
| BW 156/4500 | 830 | 590 | 430 | 400 | 73 | 53 | 8,5 | BF 2 | |
| BW 156/6000 | 830 | 590 | 560 | 530 | 73 | 53 | 8,5 | BF 3 | |
| BW 156/7500 | 830 | 590 | 690 | 660 | 73 | 53 | 8,5 | BF 4 | |

| Type | L1 [mm] | L2 [mm] | B1 [mm] | B2 [mm] | H1 [mm] | H2 [mm] | D [mm] | design [mm] | Connection cable |
|---|---|---|---|---|---|---|---|---|---|
| BW 156/2000 | 600 | 364 | 300 | 270 | 73 | 53 | 8,5 | BF 1 | IP54 shielded connection cable 3x1,5 mm² |
| BW 156/2400 | 680 | 444 | 300 | 270 | 73 | 53 | 8,5 | BF 1 | |
| BW 156/3000 | 830 | 594 | 300 | 270 | 73 | 53 | 8,5 | BF 1 | |
| BW 156/4500 | 830 | 594 | 430 | 400 | 73 | 53 | 8,5 | BF 2 | |
| BW 156/ 6000 | 830 | 594 | 560 | 530 | 73 | 53 | 8,5 | BF 3 | |
| BW 156/7500 | 830 | 594 | 690 | 660 | 73 | 53 | 8,5 | BF 4 | |

Other fixing dimensions possible.

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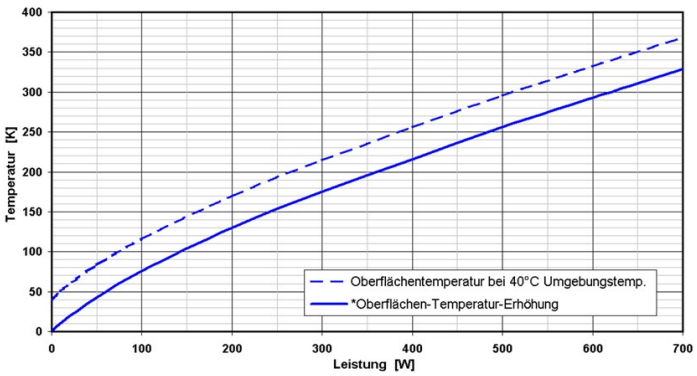
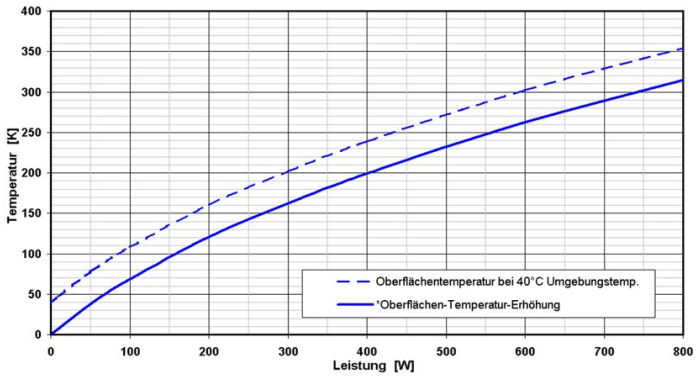
*Max. continous power: 1.500 W*

## Surface temperature as a function of load

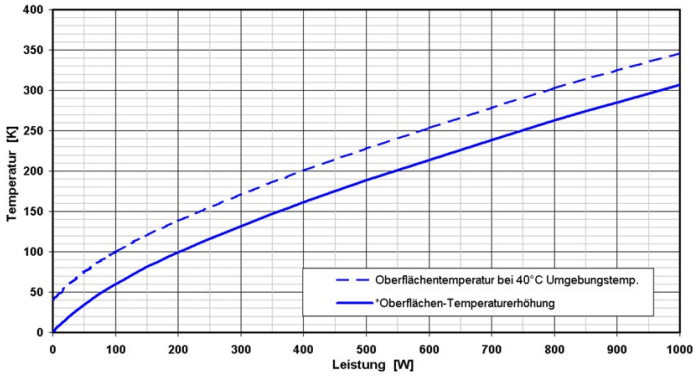
Surface temperature BW 156 / 400



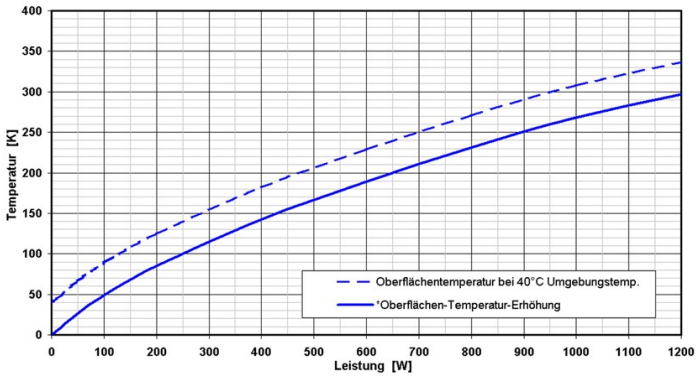

Surface temperature BW 156 / 600



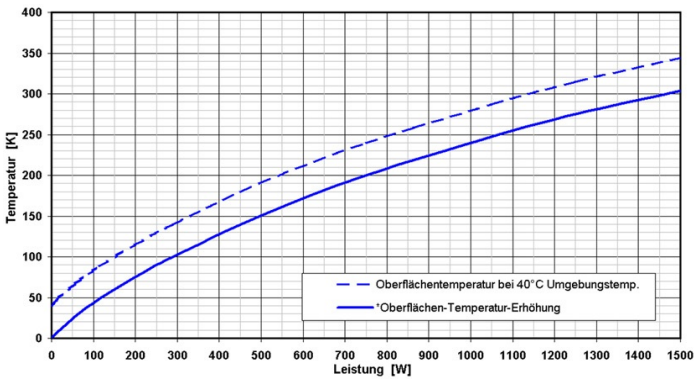

Surface temperature BW 156 / 800



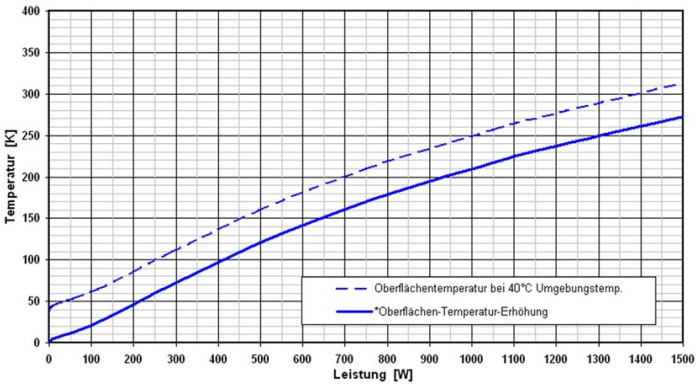

Surface temperature BW 156 / 100




Surface temperature BW 156 / 1200




Surface temperature BW 156 / 1500




Surface temperature increase, even over temperature, describes the increase in surface temperature when loaded.

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Load diagram

These performances are valid for continuous operation. The power values may be increased in the short-term operation as a function of the duty cycle multiplied by the appropriate factor in the following diagram, or by the following formula.

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

**$P_{max}$ =** **Maximale Impulsleistung / Maximum pulse power**

**P =** **Dauerleistung bei ED=100% / Continuous power for continuous 100%**

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

**ED =** **Einschaltdauer Duty cycle**

**SD =** **Zykluszeit max 120 Sek. Cycle time max 120 sec.**

