

# Series ULX®-2000

(very low component height)  
 2,000 W resistor at 125°C bottom case

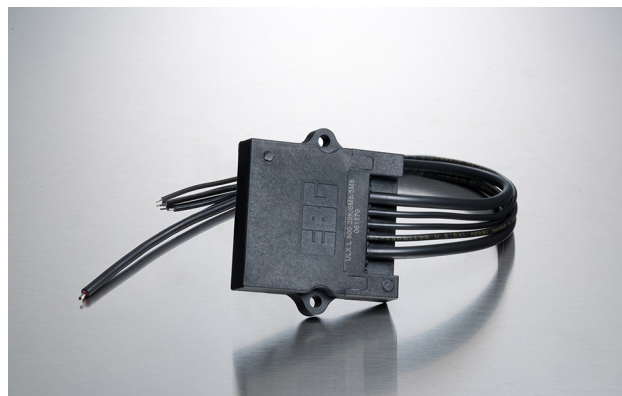
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For variable speed drives, power supplies, control devices, robotics, motor control and other power designs.

## Features

- multiple resistors in 1 package
- Non-Inductive design
- ROHS compliant
- High insulation & partial discharge performance
- Materials in accordance with UL 94 V-0
- Resistor is also available with preapplied PCM (Phase Change Material) (ask for details)



## Technical Specifications

Resistance value	$\geq 0.1 \Omega \leq 6 \text{ K}\Omega$
Resistance tolerance	$\pm 5 \% \text{ to } \pm 10 \%$
Temperature coefficient	$\pm 150 \text{ ppm}/^\circ\text{C}$ standard lower TCR on special request for limited ohmic values
Power rating	up to 2000 W at 125°C bottom case temperature (see configurations)
Short time overload	2,400 W at 70°C for 10sec., $\Delta R = 0.4 \% \text{ max.}$ (see configurations)
Maximum working voltage	5,000 V DC = 3,500 V AC RMS (50 Hz) higher voltage on request, not exceeding max. power
Maximum continuous current	depends on the cable (ask for details)
Electric strength voltage	7 kVrms / 50 Hz / 500 VA, test time 1 min. between terminal und case (up to 12 kVrms on request) voltages above 10 kVrms are tested at DC equivalent to avoid pre damage of component
Partial discharge	4 kVrms < 10 pC (up to 7 kVrms < 10 pC on request) acc. to IEC 60270
Peak current	up to 1,500 A depending on pulse length and frequency (ask for details)
Insulation resistance	> 10 G at 1,000 V
Single shot voltage	up to 12 kV norm wave (1.5/50 $\mu\text{sec}$ )
Inductance	$\leq 80 \text{ nH}$ (typical), measuring frequency 10 kHz
Capacity/mass	$\leq 140 \text{ pF}$ (typical), measuring frequency 10 kHz
Capacity/parallel	$\leq 40 \text{ pF}$ (typical), measuring frequency 10 kHz
Operating temperature	res. body: $-55^\circ\text{C}$ to $+155^\circ\text{C}$ std. cables: $-40^\circ\text{C}$ to $+120^\circ\text{C}$ (other cables upon request)
Mounting - torque	1.6 Nm to 1.8 Nm M4 screws
Standard cable length	250 mm (other cable lengths on special request)
Standard cable type	H&S Radox 9 GKW AX 1,5 mm <sup>2</sup> (other cable types on special request)
General Pulse Load information	contact our local EBG representative or contact us directly
Weight	~92 g depending on cable

## General Specifications

### Electric support

High-purity ceramic metalized with EBG ALTOX film on the bottom for better heat transfer and optimum discharge

### Encapsulation

Resin-filled epoxy casing. High insulation resistance (CTI 600), high dielectric strength and partial discharge capability

### Resistance Element

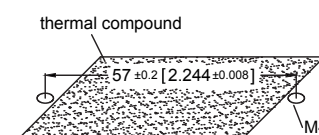
Special design for low inductance and capacitance values. The element employs our special METOXFILM, which demonstrates stability while covering high wattage and pulse loading

### Housing

Housings are made without color additives. The color definition is natural and can vary in different pigmentation

## Borehole Distance

Dimensions in mm [inches]



\* Standard connections with 250mm cable (Radox 9 GKW AX 1,5mm<sup>2</sup>)  
 Other cable type or cable length on special request



Derating (thermal resist.) ULX®-2000: 66.6 W/K (0.015 K/W) for configuration 2 and 3

Power rating: 2,000 W at 125°C bottom case temperature\*

Please ask for detailed mounting procedure!

\* This value is only applicable when using a thermal conduction to the heat sink  $R_{th-cs} < 0.025 \text{ K/W}$ . This value can be obtained by using a thermal transfer compound with a heat conductivity of at least 1 W/mK. The flatness of the cooling plate must be better than 0.05 mm overall. Surface roughness should not exceed 6.4  $\mu\text{m}$ .

The above spec. sheet features our standard products. For further options please contact our local EBG representative or contact us directly.

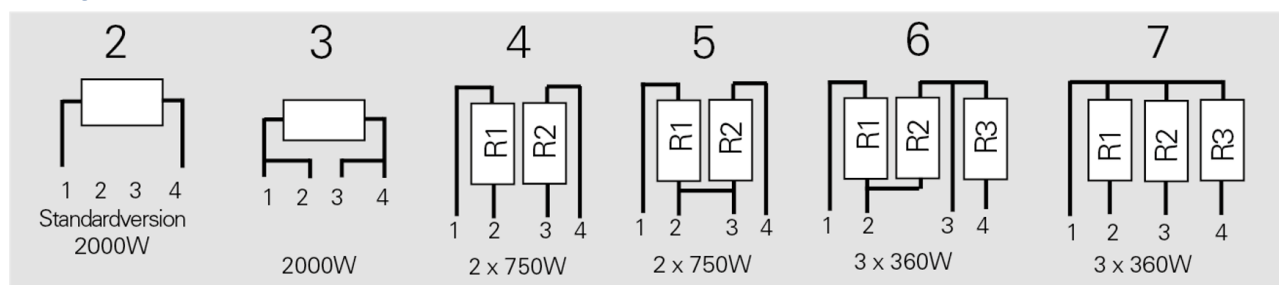
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**Test Specifications\***

Test	Method	Tolerance Drift**
<b>Short time overload</b>	1,000 W/10sec.	0.40%
<b>Humidity steady state</b>	56 days/40°C/95%	0.25%
<b>Temp. Cycling</b>	-55/+125/5cycles	0.20%
<b>Shock</b>	40g/4,000 times	0.25%
<b>Vibrations</b>	2-500Hz/10g	0.25%
<b>Load life 3,000cyl</b>	PN 30 min. on / 30 min off	0.40%

\* The test methods are according to IEC 60068-2

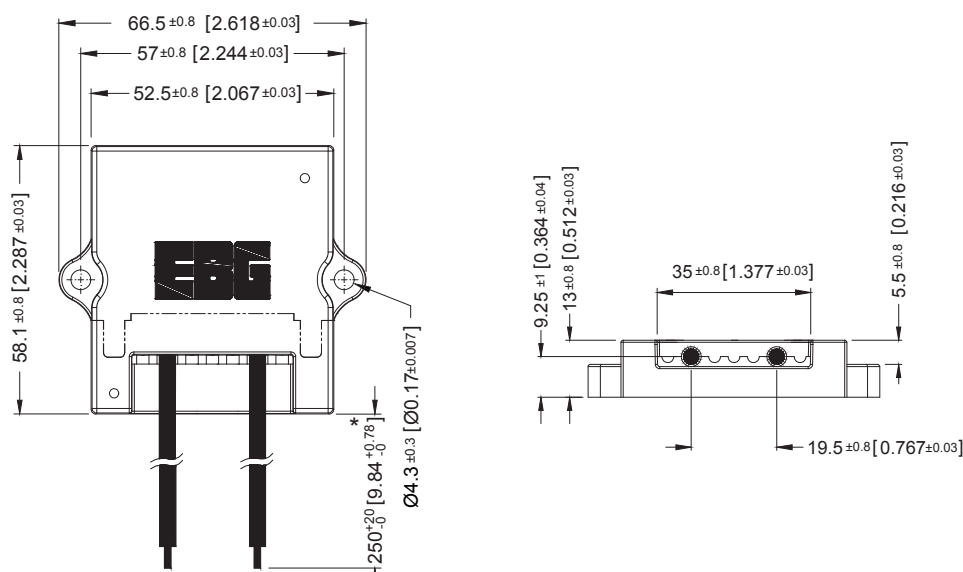
\*\* The tolerance drift is the possible change of the resistance value because of the certain test

**Configurations****How to make a request**

ULX-2000-Configuration\_Ohmic Value\_Tolerance

For example:

ULX-2000-2 3K 5%

**Dimensions in mm [inches]**

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