

# Series ULX<sup>®</sup>-600 (very low component height)

600 W resistor, US Patent-No. 5,355,281

A Miba Group Company

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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

<b>Resistance value</b>	≥0.03 Ω ≤ 1.5 MΩ (higher values on request)
<b>Resistance tolerance</b>	±5 % to ±10 % ±1 % to ±2 % on special request for limited ohmic values with the reduction of the max. power / pulse rating (ask for details)
<b>Temperature coefficient</b>	±500 ppm/°C (0.1 Ω ≤ 0.2 Ω) standard ±150 ppm/°C (> 0.2 Ω ≤ 1.5 MΩ) standard lower TCR on special request for limited ohmic values
<b>Power rating</b>	up to 600 W at 85°C bottom case temperature (see configurations)
<b>Short time overload</b>	1,000 W at 70°C for 10sec., ΔR = 0.4 % max. (for configuration 2 and 3)
<b>Maximum working voltage</b>	5,000 V DC ≈ 3,500 V AC RMS (50 Hz) higher voltage on request, not exceeding max. power
<b>Maximum continuous current</b>	depends on the cable (ask for details)
<b>Electric strength voltage</b>	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
<b>Partial discharge</b>	4 kVrms < 10 pC (up to 7 kVrms < 10 pC on request) acc. to IEC 60270
<b>Peak current</b>	up to 1,500 A depending on pulse length and frequency (ask for details)
<b>Insulation resistance</b>	> 10 G at 1,000 V
<b>Single shot voltage</b>	up to 12 kV norm wave (1.5/50 μsec)
<b>Inductance</b>	≤ 80 nH (typical), measuring frequency 10 kHz
<b>Capacity/mass</b>	≤ 110 pF (typical), measuring frequency 10 kHz
<b>Capacity/parallel</b>	≤ 40 pF (typical), measuring frequency 10 kHz
<b>Operating temperature</b>	res. body: -55°C to +155°C std. cables: -40°C to +120°C (other cables upon request)
<b>Mounting - torque</b>	1.6 Nm to 1.8 Nm M4 screws
<b>Standard cable length</b>	250 mm (other cable lengths on special request)
<b>Standard cable type</b>	H&S Radox 9 GKW AX 1,5 mm <sup>2</sup> (other cable types on special request)
<b>General Pulse Load information</b>	contact our local EBG representative or contact us directly
<b>Weight</b>	~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

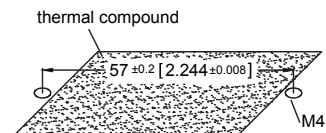
Special design for low inductance and capacitance values. The element employs our special METOXFILM, which demonstrates stability while covering high wattage and pulse loading

### Housing

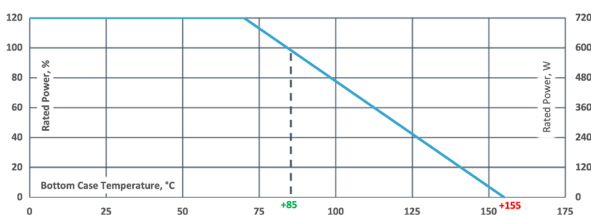
Housings are made without color additives. The color definition is natural and can vary in different pigmentation

## 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<sup>®</sup>-600: 8.33 W/K (0.12K/W)

Power rating: 600 W at 85°C bottom case temperature\*

Please ask for detailed mounting procedure!

\* This value is only applicable when using a thermal conduction to the heat sink Rth-cs<0.025 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 μm.

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

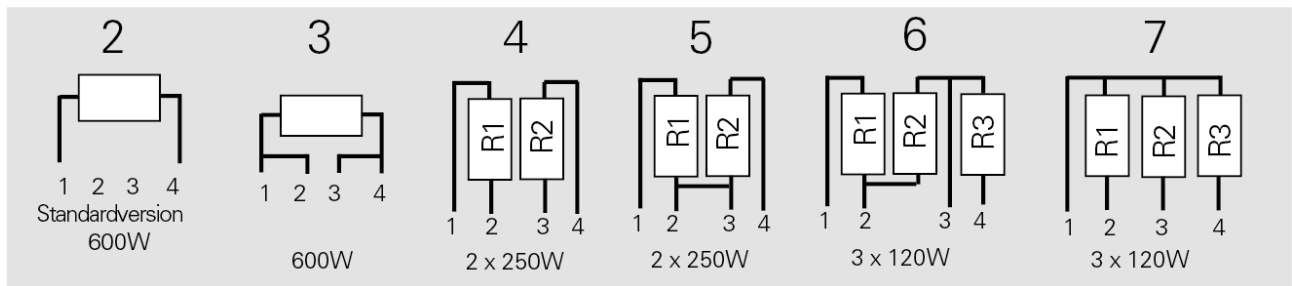
## Test Specifications\*

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



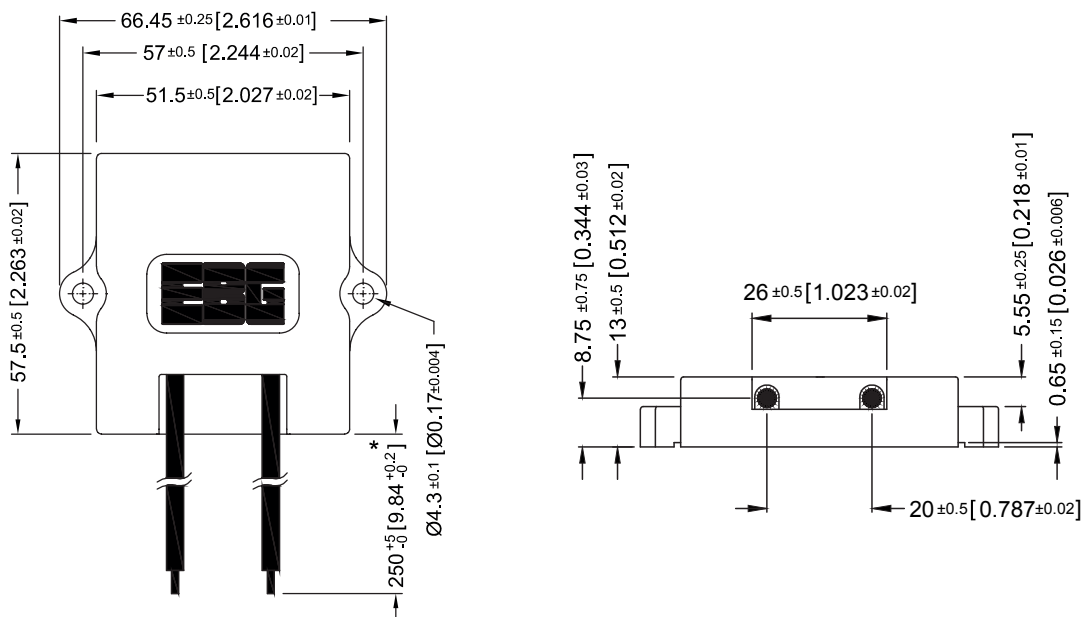
## How to make a request

ULX-600-Configuration\_Ohmic Value\_Tolerance

For example:

ULX-600-2 620R 10% or ULX-600-4 2x15K 5%

## Dimensions in mm [inches]



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