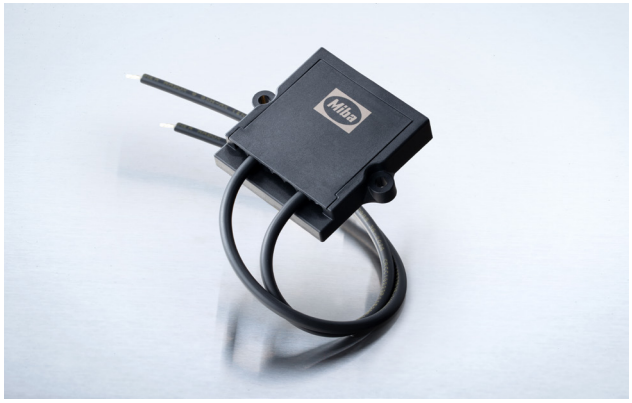
Ultra-High-Power Resistors

Series UNX-800 (very low component height)

800 W resistor, sandwitch construction

upgrade model for our ULX-800 series

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
- Thermal interface management available (ask for details)

Technical Specifications

Resistance value	0.03 Ω to 1 MΩ (higher values on request)
Resistance tolerance	±5 % to ±10 % ±1 % to ±2 % on special request with the reduction of the max. power / pulse rating (ask for details)
Temperature coefficient	±500 ppm/°C (0.1 Ω to 0.2 Ω) standard ±150 ppm/°C (> 0.2 Ω to 1 MΩ) standard lower TCR on special request for limited ohmic values
Power rating	up to 800 W at 85°C bottom case temperature (see configurations)
Short time overload	1000 W at 70°C for 10s., ΔR = 0.4 % max. (for configuration 2 and 3)
Operating working voltage	5000 V DC = 3500 V AC RMS (50 Hz) higher voltage on request, not exceeding max. power
Maximum continuous current	20A for 1.5mm2 for AWG @25°C (not exceeding max. power rating)
Dielectric strength	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 1500 A depending on pulse length and frequency (ask for details)
Insulation resistance	> 10 G at 1000 V
Single shot voltage	up to 12 kV norm wave (1.5/50 µs)
Inductance	≤ 80 nH (typical), measuring frequency 10 kHz
Capacity/mass	≤ 140 pF (typical), measuring frequency 10 kHz
Capacity/parallel	≤ 40 pF (typical), measuring frequency 10 kHz
Operating temperature	res. body: -55°C to +155°C std. cables: -40°C to +120°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 mm2 (other cable types on special request)
General Pulse Load information	contact our local Miba representative or contact us directly
Weight	~100 g depending on cable

General Specifications

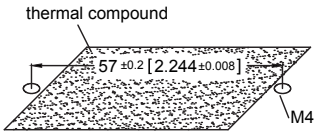
Electric support
High-purity ceramic metalized with Miba Resistors ALTOX film on the bottom for better heat transfer and optimum discharge

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

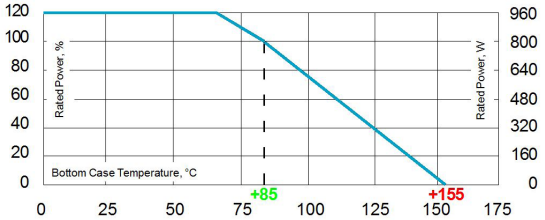
Resistance Element
Special design for low inductance and capacitance values. The element employs our special METOXFILM, which demonstrates stability while covering high wattage and pulse loading

Borehole Distance

Dimensions in mm [inches]



* Standard connections with 250mm cable (Radox 9 GKW AX 1.5mm²)
Other cable type or cable length on special request



Derating (thermal resist.) UNX-800: 11.43 W/K (0.0875K/W) for configuration 2 and 3
Power rating: 800 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 2 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 your local Miba Resistors representative.

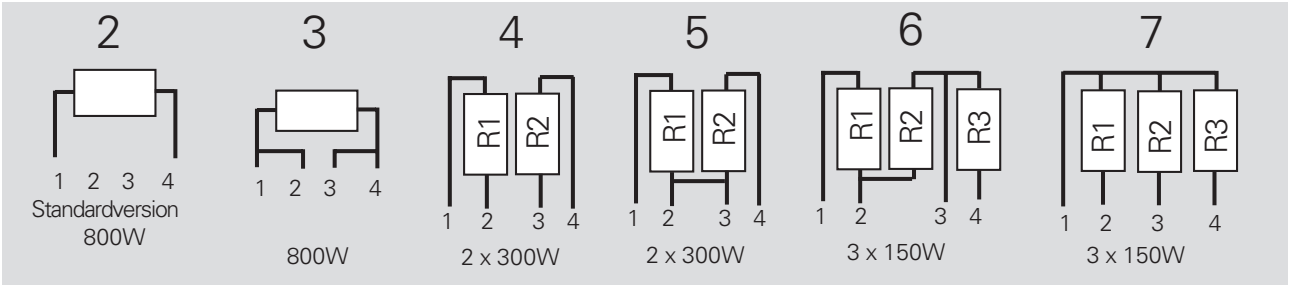
Series UNX-800

Test Specifications*

Test	Method	Tolerance Drift**
Short time overload	1000 W/10s.	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 3000cyl	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

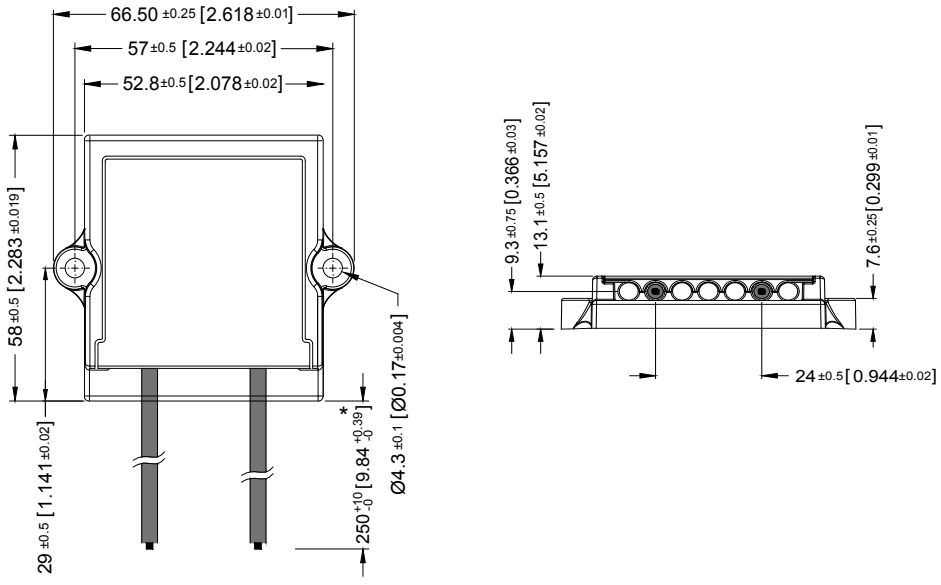


How to make a request

UNX-800-Configuration_Ohmic Value_Tolerance

For example:
UNX-800-2 3K 5% or UNX-800-4 2x15K 5%

Dimensions in mm [inches]



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