Type series GU.. / GZ..   5 – 300 W, IP 00, connection at wires or soldering lugs

c**UL**us ® ③   **848V DC**   IP 00   **E**


GZ 100x33 L

Wirewound mica flat resistor, degree of protection IP00. Maximum width up to 115 mm, maximum length up to 300 mm. Depending upon version either wired with blank (GZ..) or with insulating-oxidized wire (GU..). We fix the blank wire of the standard version by an additional strip of cementing.

③ optional, type designation would be GZU.. or GUU, e.g. GZU 110x40 - 20

Technologies

- superflat construction form
- practically any length or width possible within maximum dimensions
- extremely adjustable to the given space
- outstandingly appropriate for integration
- high pulse power ratings of versions with insulating oxidized wire

D1   D2

Total length L in mm   7 mm

Winding length C in mm

Width B in mm
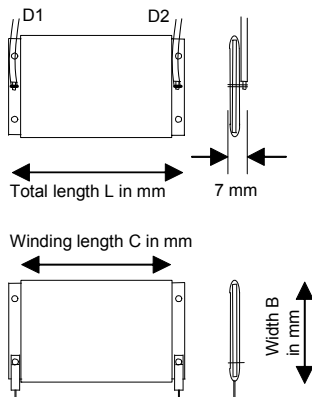
Connection types and versions

Version G...x.. D; (Illustr. s. middle left column, illustr. above)
mica flat resistor with connection at 2 hard soldered wires D1 and D2.

Version G...x.. L; (Illustr. s. middle left column, illustr. below)
mica flat resistor with 2 soldering lugs (optionally double soldering lugs) as connection points, prepared to be soldered into a printed circuit board.

Dimensioning

Power per wire wound space is valid for a surface excess temperature of 200 K

$$P' = 0,02\frac{W}{mm^2} = \left(2,0\frac{W}{cm^2}\right)$$

The total power of a mica flat resistor depends upon the wire wound space.

You can calculate as follows: $A = C \times B$ (dim. in mm)

The total power is therefore $P = P' \times A$ (power in W)

You can calculate the total length as follows :

With B ≥ 33mm: $L = C + 18\,mm$, with B ≤ 32mm: $L = C + 48\,mm$

The values of P´ for short time operation (depending upon DCF) amount to:

DCF	100%	60%	40%	25%	15%	6%
P´ (W/mm²)	0,02	0,03	0,044	0,06	0,084	0,164

These overload factors are valid for a total cycle time of maximum120 s!

Application

An important application is the use as internal braking resistors as well as series resistors for current limiting when charging the intermediate circuit capacitors of frequency converters.

These resistors are fitting extremely well into the given space. Further application as load or protective resistor.

Special designs

- low noise and low induction
- with centre taps, i.e.. with several partial resistors on one strap

Example of dimensioning and selection of a specific unit:

braking resistor for frequency converter for integration into an enclosure, connection at wires; for short time operation of 180 W at 25% DCF and a total cycle time of 120 s; resistance value 100 Ω; calculation of the necessary space: A = 180 W : 0,06 W/mm² = 3000 mm²; the winding length at a supposed width of 50 mm is 60 mm (3000 mm² : 50 mm). The total length would be 78 mm (60+18 mm distance from edge);
type designation would be: GZ 78x50D-100;
connection at 2 wires SIF 1,5 mm², each 200 mm long, equipped with conductor sleeves. Resistor rated for 180 W at 25 % DCF, which complies with a continuous dissipation of 60 W

GZ   78   x   50   D   -   100

D1=D2=200mm 1,5mm² SIF with conductor limit coverings.
— ohmic value ± 10%
— connection at wires (D)
— width B
— total length L
— type series (blank winding with strip cementing)