

SL MINITHERM Self-limiting Heater



1 Application

The self-limiting electric finned heater is designed to be used in small enclosures or cabinets where measuring instruments, control valves or similar equipment in hazardous areas must be heated. Finned heaters heat the area by transferring the heat from the heater to the surrounding air, creating a convection current. This type of heater is recommended when it is not possible to mount a heating block to a flat surface.

In order to maintain a constant temperature in the housing, it is recommended to use a temperature controller TAE ... or optional TS

2 Special Features & Advantages

- Self-limiting, no limiter, no fusible link
- Vertical or horizontal installation, with almost no difference in heat output
- Adjusts automatically to voltage

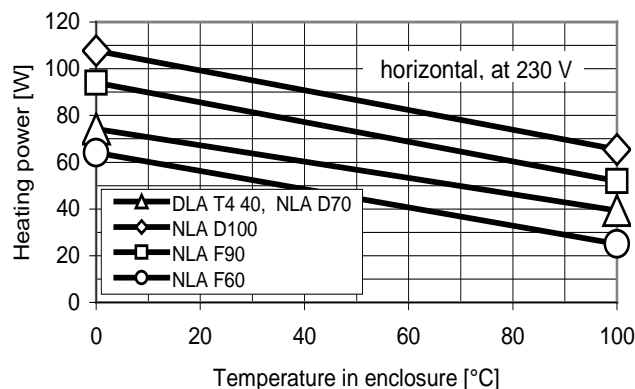
3 Description

The SL MINITHERM heater consists of a block with fins and a connection cable, which is heated by a PTC cartridge. The heat is transferred from the fins to the surrounding air.

Explosion-proof types of heaters are equipped with a ground terminal and a different nameplate.

4 Performance

The output of an explosion-proof PTC heater depends on the temperature. The diagramme, below, shows the output at different internal air temperatures.



4 Explosion Protection

EC Examination certificate	PTB 02 ATEX 1116 X PTB 03 ATEX 2027 X
IEC Scheme certificate	IECEX PTB 07.0055X
IEC Scheme Type of Protection	II 2G Ex db IIC T6, T5, T4, T3 II 2D Ex tb IIIC T85°C, T100°C, T135°C, T200°C

5 Technical Data

Explosion-proof Model	SL MINITHERM DLA T4 40
Nominal voltage	110 bis 265 V
Nominal power	70 W
Ambient temperature range	-60 to +180°C
Protection degree	IP68
Material	seawater-proof aluminium, black anodized

Non Explosion-proof Models	SL MINITHERM NLA...			
	F60	D70	F90	D100
Nominal voltage	110 bis 265 V			
Nominal power	60W	70W	90W	100W
Ambient temperature range	-60 to +180°C			
Protection degree	IP68		IP54	

6 Options

TS	Room temp. controller for freeze protection Marking II 2 G Ex mb IIC T6
AM	Failure alarm opening at < 5 °C
3M	Connection cable 3 m long
S	Material: stainless steel, 1.4571

All INTERTEC explosion-proof heaters can also be supplied

- to North American standards (NEC/CEC)
- in a less expensive, Non-explosion-proof design
- as Bi-Standard (see datasheet [HD508](#))



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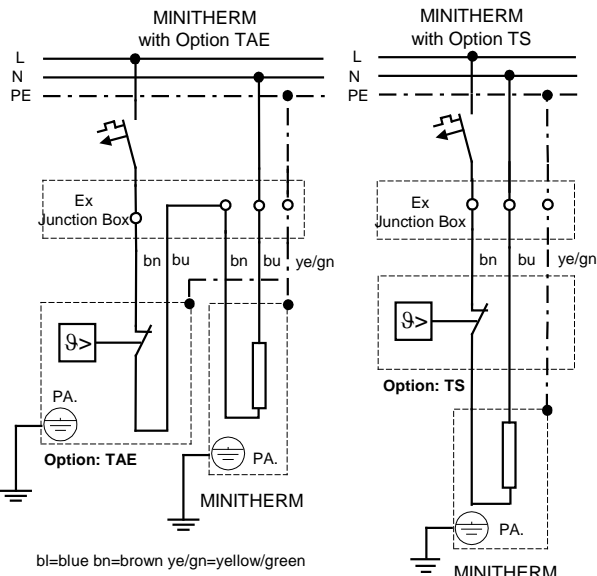
7 Temperature Limitation

PTC-elements (Positive Temperature Coefficient) raise their electric resistance with rising temperature. High resistance means low heating power. The heating power gets very low at high temperatures so that the temperature cannot exceed the maximum temperature of the respective temperature class. The PTB Certificate of Conformity stipulates that the heat transfer coefficient of the surrounding enclosure must not be less than $K=0,5 \text{ W/K}$. All INTERTEC enclosures meet these requirements.

8 Supply Voltage

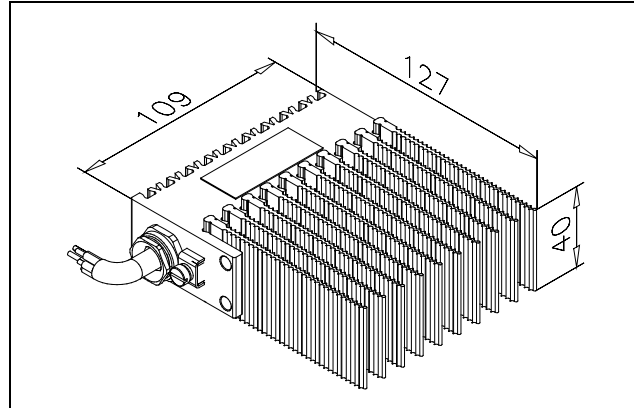
In addition to the above-mentioned temperature characteristics, the PTC-elements show a varistor effect. They control their resistance in accordance to the supply voltage. The nominal power supply voltage may be 110 V to 265 V with the same heater. The heating capacity output may deviate up to 15 % from the data shown in the performance diagramme (4)

9 Electric Wiring

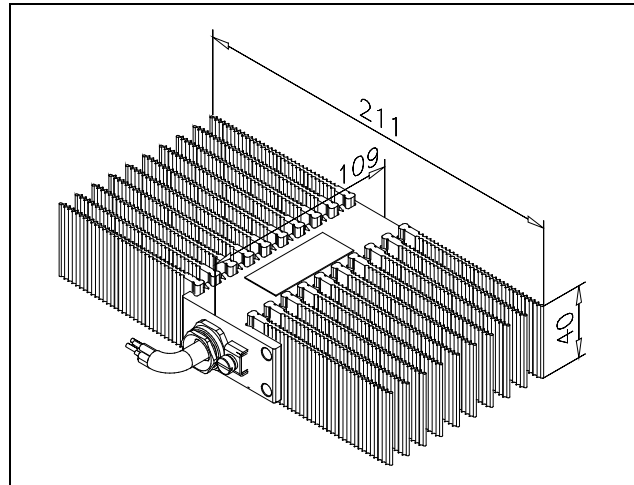


Connection Connection cable: silicone cable, notch and oil resistant, $3 \times 1,5 \text{ mm}^2$, 1m long. Other lengths available upon request (at an extra charge).

10 Dimensions

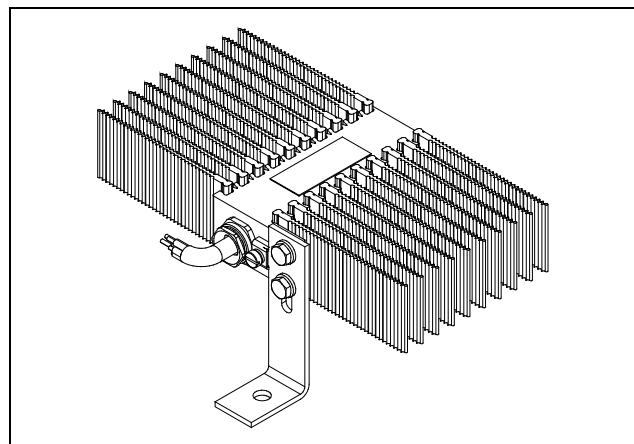


SL MINITHERM NLA F..



SL MINITHERM DLA T4 40,
SL MINITHERM NLA D..

11 Installation



The mounting bracket can be installed on either end of the block.