

SL BLOCKTHERM Self-limiting Block Heater



1 Application

The self-limiting electric conduction heater is designed to be attached directly to manifolds, measuring instruments, control valves and similar equipment installed in hazardous areas. It heats the device by heat conduction. This is the easiest, safest and most economical method of freeze protection or temperature maintenance.

2 Special Features & Advantages

- Energy saving
- Self limiting, no fusible link or limiter
- Requires very little space
- Adjusts automatically to the voltage

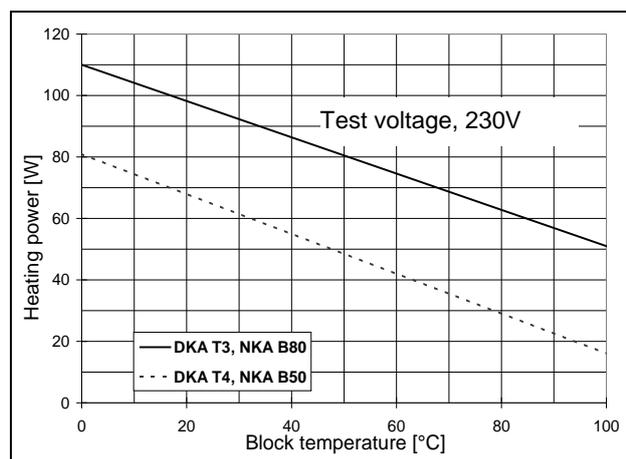
3 Description

BLOCKTHERM is a metal heating block. The PTC cartridge provides the heat that is transferred through the heater block to the device to which it is attached. Explosion-proof types of heaters are equipped with a ground terminal and a different nameplate.

4 Performance

A conduction heater requires considerably less power than a finned convection heater, as the heat conducting qualities of metal are much better than those of air. The air surrounding the whole installation in the enclosure serves as additional insulation.

The diagram below shows the heating power at different block temperatures.



Ordering example of the explosion-proof models:
SL BLOCKTHERM DLA T4 TS AM

Ordering example to NEC Standard (CSA ...):
SL BLOCKTHERM CLA T4 AM

Ordering example of the non-explosion-proof models:
SL BLOCKTHERM NKA B50 3M



5 Explosion protection

EC Examination Certificate	PTB 02 ATEX 1116 X
IEC Scheme Certificate	IECEx PTB 07.0055X
Marking	II 2 G Ex d IIC T4 bzw. T3
	II 2 D Ex tD A21 IP65 T135°C, T200°C

6 Technical Data

Explosion-proof Models	DKA T4	DLA T4	DKA T3	DLA T3
Length of Block (see 10)	90mm	105mm	90mm	105mm
Temp. Class	T4		T3	
Nominal Voltage	110 to 265 V			
Nominal Power	50 W		80 W	
Operating Temp. Range	-50° to +180°C			
Ingress Protection	IP68			
Material	seawater-proof aluminium, black anodized			

All Intertec explosion-proof heaters can also be supplied to American NEC standard (CSA/NRTL).

Non Explosion-proof Models	NKA B50	NLA B50	NKA B80	NLA B80
Length of Block (see 10)	90mm	105mm	90mm	105mm
Nominal Voltage	110 to 265 V			
Nominal Power	50W		80W	
Ambient temp. range	200°C			
Ingress Protection	IP68			

7 Options

TS (Gas) (Dust)	Room temp. controller for freeze protection II 2 G Ex dm IIC T4 bzw. T3 II 2 D Ex tDmD A21 IP65 T135°C, T200° C
S	Material: stainless steel, 1.4571
AM	Failure alarm opens at < 5°C (only possible with version "L", Length of Block 105mm)
3M	Connection cable 3 m long

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8 Temperature Limitation

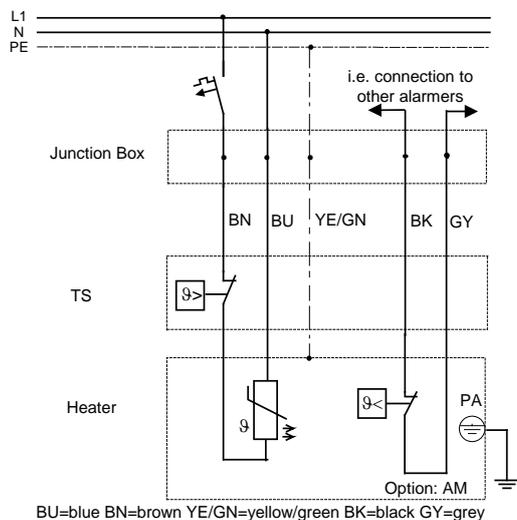
PTC-elements (Positive Temperature Coefficient) raise their electric resistance with rising temperature. High resistance means low heating power. The heating power gets very low at high temperatures so that the temperature cannot exceed the maximum temperature of the respective temperature class. The 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.

9 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 output may be a maximum of 15% higher than that shown in the diagramme overleaf.

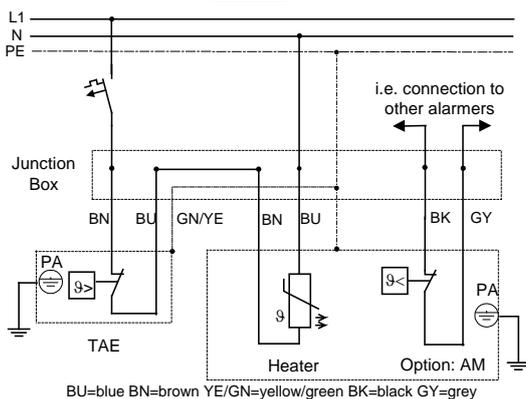
10 Electric Wiring

9.1 BLOCKTHERM with TS



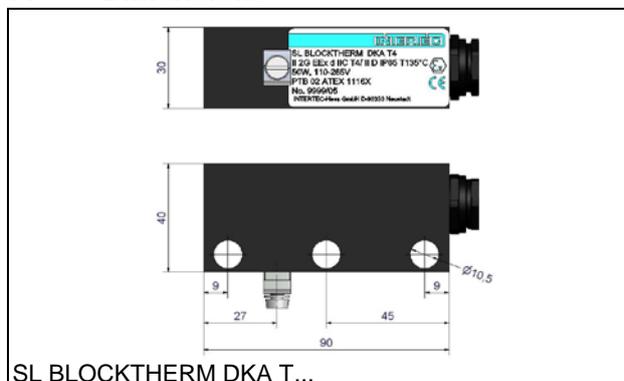
9.2 BLOCKTHERM with TAE

TAE see data sheet [HD223](#)

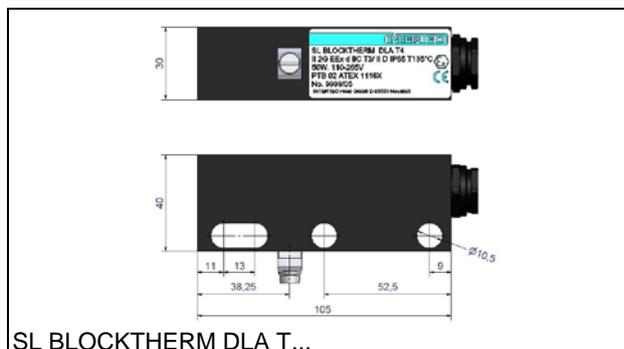


Connection cable Silflex-EWKF 3x1,5 mm², 1m long. Other lengths available upon request (at an extra charge).

11 Dimensions

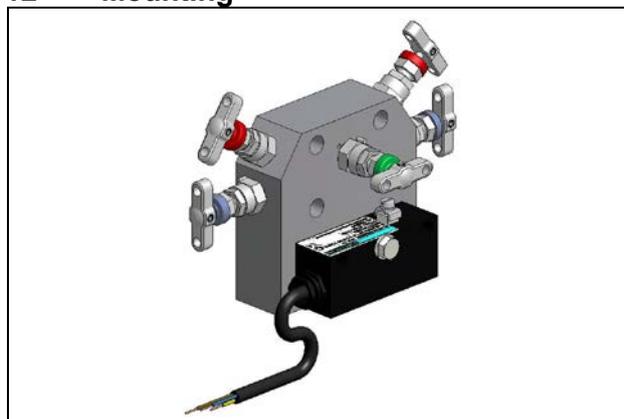


SL BLOCKTHERM DKA T...



SL BLOCKTHERM DLA T...

12 Mounting



The block heater dissipates the heat by conduction. It should be mounted to a flat surface of a heat conducting material (e.g. metal). One bolt is sufficient to mount the heater.

Example:

The SL BLOCKTHERM DKA T4, which is attached to Fisher Rosemount 3051H Transmitter by means of an adapter block, guarantees freeze protection for the transmitter, manifold and impulse lines installed in an INTERTEC Instrument Enclosure at outside temperature as low as -25°C, SL BLOCKTHERM DKA T3 even down to -45°C.