

# CP VARITHERM DPA ...

# Electric heater



## 1 Application

Heating of instrument enclosures in hazardous areas, designed for

- freeze protection
- condensation protection
- temperature maintenance preferably horizontal installation.

## 2 Special Features and Advantages

- Horizontal design allows for optimum installation of the heater underneath the instruments in the enclosure
- Vertical installation is also possible
- Freeze-protection thermostat (TS) integrated in the connection cable as standard or, optionally, with protective thermostat (TS40) for temperature maintenance.
- High heat transfer capabilities due to large surface area of black anodized aluminium fins
- Heater fins can be removed and modified by INTERTEC, if necessary for installation purposes

## 3 Description

VARITHERM heaters are finned heaters, heating the air in the enclosure by convection.

A non-resettable temperature limiter built to ATEX design specifications is integrated in the core block, cutting off the power in case of a technical failure or excessive heating resulting from an external heat source. For this reason and for reasons of operational safety the heater must only be operated under conditions that ensure that the trip temperature of the limiter will not be exceeded:

- The ambient temperature in the enclosure must not exceed the maximum permissible values. This, in case of freeze protection heaters, will be guaranteed by the TS thermostat or, in case of heaters used for temperature maintenance, by the TS 40 protective thermostat.
- For temperature maintenance, an additional external TAE thermostat must be connected in series and installed on the surface of the heater to enhance thermal coupling (see 7.2). Alternatively, a TC temperature controller can be used.
- Ensure effective convection by observing the necessary clearances as per section 7 on the next page. Take care not to cover the fins.

With regard to the residual current devices and insulation monitors, attention must be paid to DIN EN 60079-14:2014 and/or the operating instructions. A temperature indicator shows potential problems and failures at an early stage (e.g. incorrect installation). Please check the application if more than 3 fields have irreversibly changed to black.



All INTERTEC explosion-proof heaters can also be supplied

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



For any specific applications requiring high temperature maintenance we will be pleased to select the suitable combination of heater and controller.

## 4 Explosion Protection

EC Examination certificate	PTB 02 ATEX 1041 X
IEC Scheme Certificate	IECEX PTB 07.0052X
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 Types

Ingress Protection	IP68
Nominal voltage	230V AC (220-240 V AC)
Operating temp. range	-60 to 180°C
Connection cable	silicone cable, notch and oil resistant, 3x1,5mm <sup>2</sup> 8,8mmØ
Length of connect. cable	1 m
Dimensions, (L x W)	220 x 213 mm
Material	seawater-proof aluminium, black anodized

### 5.1 for freeze protection

CP VARITHERM DPA ... TS	50 T6 100	200 T4 80	300 T3 60	400 T3 80	500 T3 100
Nom. power	50 W	200 W	300 W	400 W	500 W
Temperature class	T6	T4	T3	T3	T3
Height	100 mm	80 mm	60 mm	80 mm	100 mm

### 5.2 for temperature maintenance to 40° C

CP VARITHERM DPA ... TS40	200 T3 40	300 T3 80	125 T4 100
Nominal power	200 W	300 W	125 W
Temperature class	T3	T3	T4
Height	40 mm	80 mm	100 mm

Temperature control must be provided by an additional TAE thermostat or TC temperature controller. (Other types upon request)

## 6 Options

AM	Failure alarm opening at < 5 °C silicone cable, notch and oil resistant, 5x1,0mm <sup>2</sup> 8,5mm Ø
3M	Connection cable 3 m long
120V	Nominal voltage 120V AC
250V	Nominal voltage 250 V AC (245-265V AC)
MB	St. steel mounting bracket (bow-type)
MW	Stainless steel mounting brackets



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## 7 Installation

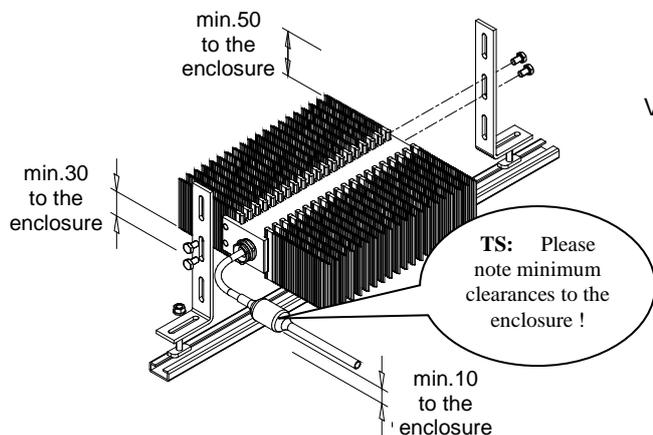
Trouble-free installation, e.g. on a mounting plate or the INTERTEC mounting system (C-rails) in the instrument enclosures or protective cabinets, is possible.

During installation, attention should be paid to the following:

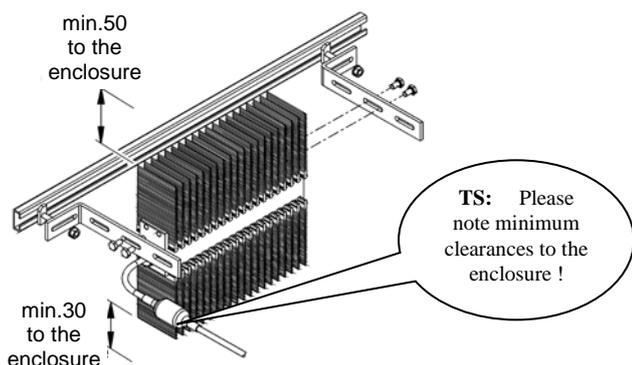
- Follow the installation and operating instructions supplied with the VARITHERM heater.
- The fins must be positioned vertically
- Please note minimum clearances to the enclosure, as per 7.1 and 7.2
- For temperature maintenance install the TAE thermostat on the heater, see 7.2
- The label must be clearly legible

### 7.1 CP VARITHERM DPA ... TS

Horizontal installation

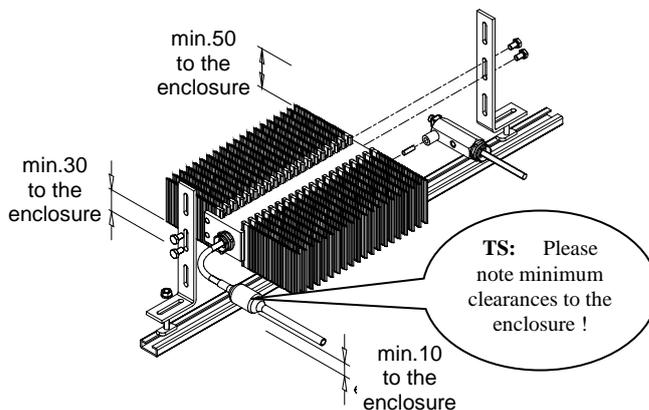


Vertical installation

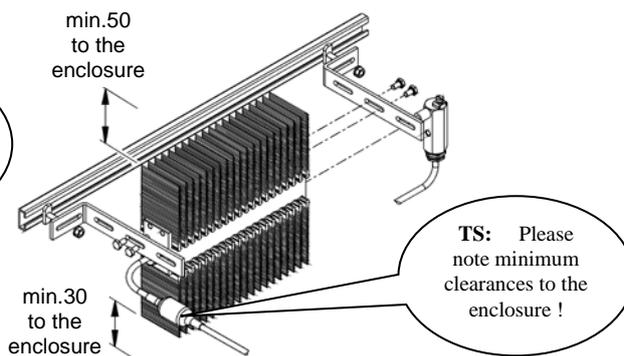


### 7.2 CP VARITHERM DPA ... TS40 with external TAE

Horizontal Installation



Vertical Installation



The brackets in zinc coated steel and fixing bolts illustrated above are included with the heater.

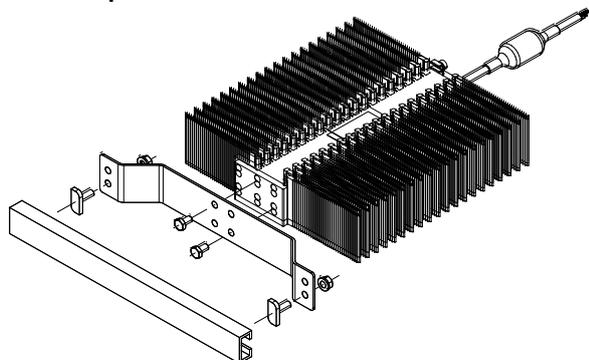
Furthermore, a short threaded rod for mounting the TAE thermostat on the heater is supplied with the TAE.

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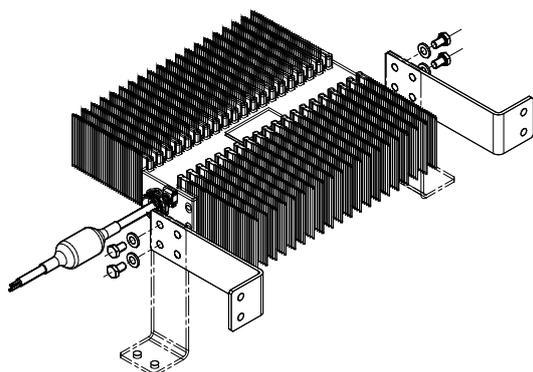


### 7.3 With one bow-type stainless steel mounting bracket (MB) - Special Accessories -



Please note the minimum clearances for the VARITHERM heater and TS thermostat, as illustrated in 7.1 and 7.2.

### 7.4 With two stainless steel mounting brackets (MW) - Special Accessories -

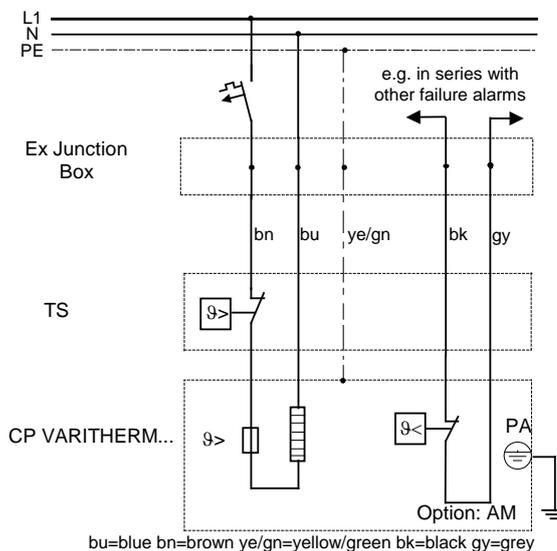


Please note the minimum clearances for the VARITHERM heater and TS thermostat, as illustrated in 7.1 and 7.2.

The MB or MW mounting brackets can be ordered as an option.

## 8 Electric Wiring

### 8.1 CP VARITHERM DPA ... TS



### 8.2 CP VARITHERM DPA ... TS40 with external TAE

