



Hazardous Location Heaters

200W and 300W Models

# INSTRUCTION MANUAL

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**NOTE: The respective operating instructions must be observed. For EC Type Examination Certificate PTB 02 ATEX 1116X and IEC Scheme Certificate IECEX PTB 07.0055X, see [www.nVent.com](http://www.nVent.com).**



# APPLICATION

These electric-finned heaters are designed to be used in small enclosures or cabinets where measuring instruments, control valves or similar equipment in hazardous areas must be heated.

Vertical-finned heaters heat the area by transferring the heat to the surrounding air, creating convection current. This type of heater is recommended when it is not possible to mount a heating block directly to a flat surface.

SL heaters are self limiting. Their PTC (Positive Temperature Coefficient) cartridges automatically increase their resistance as the heater block temperature increases. Higher resistance results in lower heating power. The heating power is very low at high temperatures so that the temperature cannot exceed the maximum temperature of the respective temperature class. The estimated heat output is reflected in the performance curve; see Figure 1.

If maintaining a constant temperature in the enclosure is desired, an additional temperature controller should be used.

## PERFORMANCE CURVE

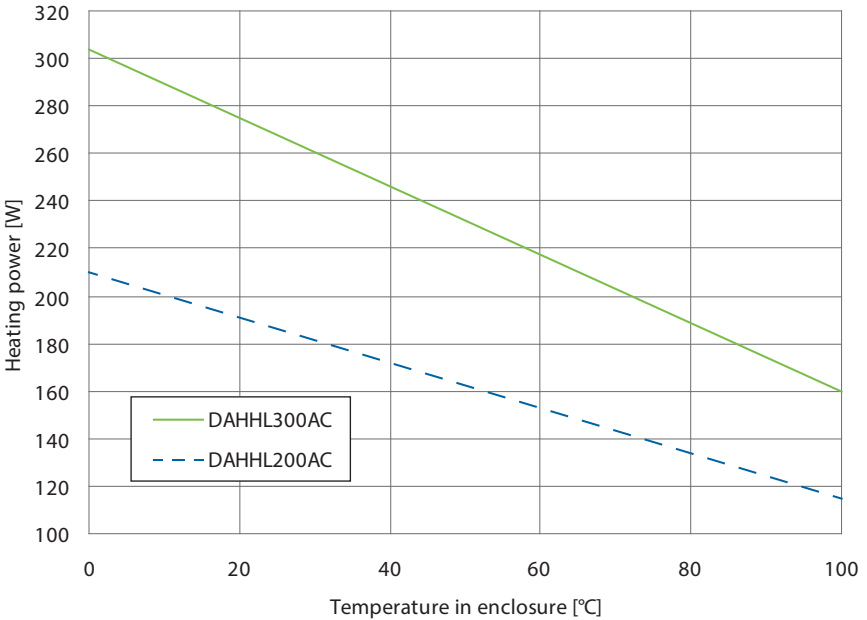


Figure 1

# TECHNICAL DATA

## DESIGN DATA

	<b>DAHHL200AC</b>	<b>DAHHL300AC</b>
Rated voltage	110 - 265 VAC OR VDC	110 - 265 VAC OR VDC
Maximum Rated Current (Amps) (acc. to DIN VDE 0298)	10	10
Nominal power [W]	200	300
Temperature class	T3	T3
Ambient temperature	-76 to +140 F (-60 to +60 C)	-76 to +140 F (-60 to +60 C)
Maximum permissible operating temperature range at normal rating	-76 to +302 F (-60 to +150 C)	-76 to +302 F (-60 to +150 C)
Installation position	Fins vertical	Fins vertical
Connection cable	39 (1m) long silicone cable, notch and oil resistant, 3x AWG16; Ø 0.37 (9.4mm)	39 (1m) long silicone cable, notch and oil resistant, 3x AWG16; Ø 0.37 (9.4mm)
Conduit connection	½ NPT	½ NPT
Ingress Protection	IP66 / IP68 (1bar/30min)	IP66 / IP68 (1bar/30min)
Material	seawater-proof aluminium, black anodized	seawater-proof aluminium, black anodized
Height (in./mm)	8.9 (225)	12.8 (325)
Width (in./mm)	9.0 (229)	9.0 (229)
Depth (in./mm)	2.4 (60)	2.4 (60)
Weight (lb./g)	7.9 (3600)	11.7 (5300)

## EXPLOSION PROTECTION

	<b>SL MEGATHERM</b>
Manufacturer	INTERTEC-Hess
CSA Certificate	1655545 (LR43674)
CSA Type of Protection	Cl. I, Grp. ABCD T3 Cl. II Grp. EFG
IEC Scheme Certificate	IECEx PTB 07.0055X
EC Type Examination Certificate	PTB 02 ATEX 1116 X
Marking	II 2 G Ex d IIC T3
	II 2 D Ex tD A21 IP65, T200 C

## INSTALLATION INSTRUCTIONS

### MINIMUM CLEARANCES

Four M6 bolts and unistrut nuts are included in the mounting kit for attaching the heater to the unistruts as shown in Figure 2. The heater has four mounting holes in a 6.65 (169mm) square mounting pattern.

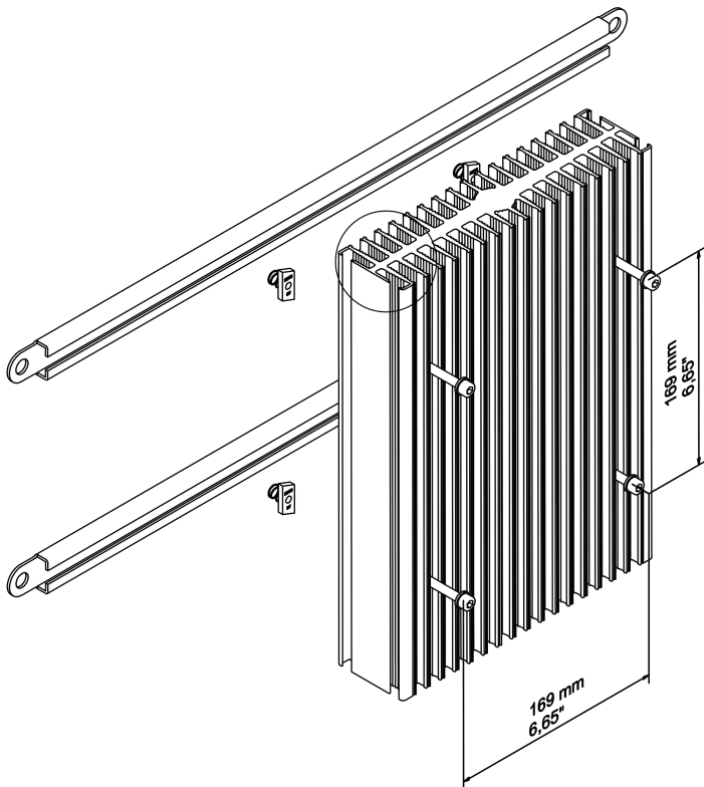


Figure 2

Alternatively, M6 nuts or bolt heads (.394 / 10mm across flats) may be slid into any of the heater fins to provide more mounting flexibility; see Figure 3:

Figure 3

Heaters are equipped with a ground terminal. Use a cable gland or a ½ NPT conduit depending on the application.

Be careful not to bend or exert any load on the connection cable during unpacking and transport.

To ensure effective convection, the heater should be installed with the fins positioned vertically as shown in Figure 2 on page 5. Observe the necessary clearances to the enclosure and the instruments installed near the heater as shown in Figure 4.

**Note: The absolute heat transfer coefficient of the surrounding enclosure must not be smaller than 0.5 W / °C.**

Be sure to comply with the permissible operating temperature range.

Before entering the customer-supplied Ex junction box, the connection cable must be firmly installed observing the permissible bending radius of 5 times the outside cable diameter.

In dusty, hazardous areas, the applicable requirements of the EN 60079-14 have to be observed.

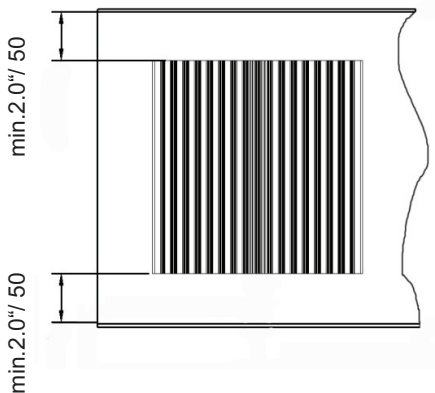


Figure 4

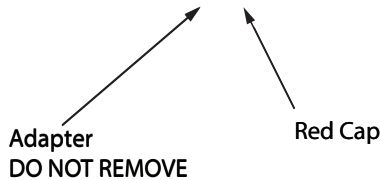


Figure 5

**CAUTION!** Remove the RED protection cap only for ½ NPT conduit installation. Never remove the adapter.

The heater must only be connected and secured by certified technical personnel in accordance with the label specifications rated voltage and rated current:

If operating voltage equals rated voltage, the heater will generate the specified nominal output, with an allowance to voltage fluctuations of up to 10%.

Circuit breakers suitable for up to 16 amps can be used for short circuit and line protection.

A ground terminal is provided for the purpose of ensuring potential equalization. The terminal is marked as such.

In a TT or TN system, a residual current operated protective device (RCD) must be used with a rated response fault current not exceeding 100 mA. Residual current devices with a rated response fault current of 30 mA are preferred.

When installing for an IT system application, an insulation monitor must be used that switches off the power supply as soon as the insulation resistance falls to 50 ohms per volt of the rated voltage or lower (see DIN EN 60079-14:2008; section 7.4).

## **OPERATION**

Turn on the heater once properly installed. The startup current may be 3 to 5 times greater than the nominal current during the first 1 to 2 seconds after powering on.

The heating output may deviate up to 15% from the specified values.

# WIRING DIAGRAM

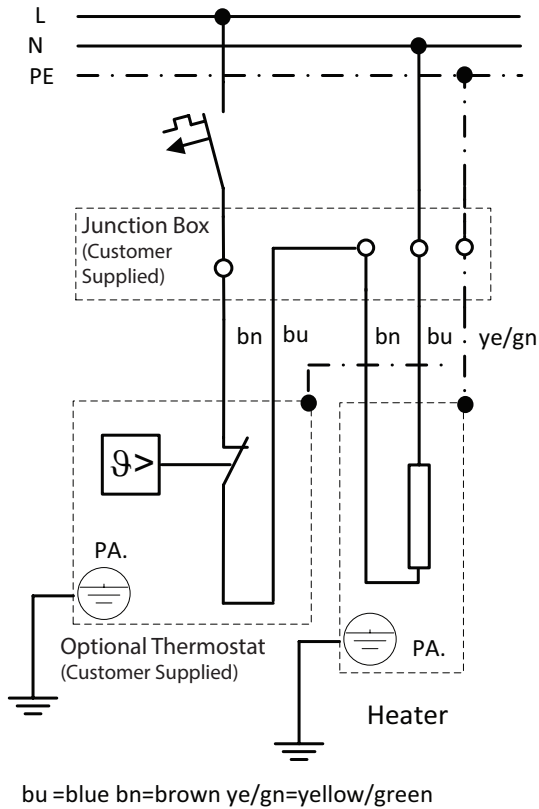


Figure 6

## MAINTENANCE

The heater requires no maintenance.

Performance and safety tests can be conducted at intervals as determined by the operator in compliance with current regulations.

Repairs must only be done by the manufacturer. In dust hazardous areas, applicable requirements of EN 60079-17 and EN 60079-19 must be observed.

## SAFETY INSTRUCTIONS

Installation of the heater in an exposed position involves a certain risk of injury. The ends of the fins and hot surfaces can pose a risk of injuries.

- Maximum 160 C (320 F) with T3 heaters



# CE DECLARATION OF CONFORMITY

EU-Konformitätserklärung  
EU Declaration of Conformity  
ЕС декларация соответствия



INTERTEC Hess GmbH  
Raffineriestraße 8  
93 333 Neustadt / Donau

Wir

We

Мы

**INTERTEC Hess GmbH,**

erklären in alleiniger  
Verantwortung, dass das Produkt

declare under our sole  
responsibility that the product

заявляем под свою  
исключительную  
ответственность, что продукция

**SL MICROTHERM ... ,  
SL BLOCKTHERM ... ,  
SL MEGATHERM ... ,**

**SL VARITHERM ... ,  
SL SLIMTHERM ... ,  
SL DSETHERM ... ,  
SL QUADRATHERM...**

**SL MULTITHERM ... ,  
SL MINITHERM ... ,  
SL FLATTHERM...**

auf das sich diese Erklärung  
bezieht den Bestimmungen der  
folgenden Richtlinien entspricht

to which this declaration relates  
is in accordance with the  
provision of the following  
directives

на которую распространяется  
данное заявление, соответствует  
следующим директивам

**2014/34/EU (ATEX)  
2014/35/EU (LVD)  
2014/30/EU (EMC)  
2011/65/EU (RoHS)  
2012/19/EU (WEEE)**

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2014/35/EU (LVD)  
2014/30/EU (EMC)  
2011/65/EU (RoHS)  
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**2014/34/EU (ATEX)  
2014/35/EU (LVD)  
2014/30/EU (EMC)  
2011/65/EU (RoHS)  
2012/19/EU (WEEE)**

und mit folgenden Normen oder  
normativen Dokumenten  
übereinstimmt

and is in conformity with the  
following standards or other  
normative documents

и соответствует следующим  
стандартам или другим норма-  
тивным документам

**EN IEC 60079-0:2012+A11:2013 EN IEC 60079-1:2014 EN IEC 60079-31:2014  
EN IEC 60529:1991+A1:2000+A2:2013 EN IEC 61000-6-4:2007+A1:2011**

Kennzeichnung

Marking

Маркировка

CE 0102



**II 2 G Ex db IIC T6, T5, T4, T3**



**II 2 D Ex tb IIIC T85°C, T100°C, T135°C, T200°C**

**Degree of protection IP66/ IP68 1bar/ 30min**

**PTB 02 ATEX 1116 X**

Neustadt, den 24.05.2018

BINT039

Dipl.-Ing. Martin Hess  
Geschäftsführer

# WARRANTY

nVent Equipment Protection warrants that the Goods manufactured by nVent Equipment Protection will be free from defects in material and workmanship for a period of one (1) year from the date of shipment by nVent Equipment Protection, subject to the following conditions and exclusions:

- A. Conditions. All Goods must be installed and operated according to the following specifications:
1. Maximum voltage variation no greater than plus or minus 10% of nameplate nominal rating;
  2. Maximum frequency variation no greater than plus or minus 3 Hz of nameplate nominal rating;
  3. Must not exceed minimum and maximum stated temperatures on the nameplate;
  4. Must not exceed (BTU/Hr) rating, including any heat sink as indicated on the nameplate;
  5. Refrigerant bearing Goods must not be restarted for a period of one (1) minute after intentional or accidental shut-off;
  6. The filters (if applicable) must be cleaned regularly;
  7. The Goods and any parts thereof must not be modified, unless prior written authorization is received from nVent Equipment Protection; and
  8. All Goods must be installed and grounded in accordance with all relevant electrical and safety codes, as well as the National Electric Code and OSHA rules and regulations.
  9. All Goods must be installed in a stationery application, free of vibration.

A violation of any one of these conditions shall render the warranty hereunder void and of no effect.

- B. Exclusions. This warranty shall be void if product is misapplied in any way or:
1. Buyer specified product is inappropriate for system or environment in which it is operating.
  2. Goods are not installed in accordance with nVent Equipment Protection specifications.
  3. Removal or modification of nVent Equipment Protection label affixed to product without written nVent Equipment Protection approval.

nVent Equipment Protection must be notified of a claim in writing not later than fourteen (14) days from the date when Buyer has become aware of such occurrence, or where the defect is such that it may cause damage, immediately, such notice containing a description of how the defect manifests itself. Failure to provide such prompt notice to nVent Equipment Protection shall result in forfeiture of Buyer's rights under this warranty.

In the event of a warranty claim, Buyer is to return defective goods to nVent Equipment Protection in accordance with nVent Equipment Protection Return Policy. Warranty period for repaired goods remains at 1 year from shipment of original goods. nVent Equipment Protection sole obligation to Buyer under this warranty will be, at nVent Equipment Protection option:

- C. Repair or replace nVent Equipment Protection products or parts found to be defective in material or workmanship.
- D. Issue credit for the purchase price paid by Buyer relating to such defective Goods or part.

**THIS WARRANTY CONSTITUTES THE ENTIRE WARRANTY WITH RESPECT TO THE GOODS AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY AND IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.**

# RETURN AND REPAIR POLICY

nVent Equipment Protection products that: (i) are made to order, (ii) have been modified by Buyer, (iii) have special finishes, or (iv) are determined by nVent Equipment Protection to constitute "custom" products that cannot be returned to stock or resold to other Buyers, will not be accepted for return by nVent Equipment Protection.

All returns require a Return Material Authorization number (RMA #), regardless of reason for return, whether it be for warranty or out of warranty repair. Returns without an RMA # will be refused by our Receiving Department. An RMA # is valid for 30 days.

- E. An RMA # will be issued by our Product Return Department in Anoka, MN at 763-422-2211. Buyer should have following information available at time of RMA request:
1. Complete Model Number, Serial Number and description of damaged unit being returned.
  2. Original Buyer Purchase Order number and date product was received by Buyer.
  3. Quantity to be returned and a brief description of failure for each unit, if different.
  4. Contact information of Buyer that must include: name of company, billing and shipping address, phone, number, fax number, freight carrier and the name and phone number of a Buyer contact who can elaborate on the claimed defect in detail.
  5. Buyer must provide a Repair Purchase Order number for both warranty and out of warranty repairs. The PO will not exceed 50% of a new unit. Buyer will be notified of repair charges that exceed approved PO amount.
- F. All returns to nVent Equipment Protection must be securely packed, using original cartons if possible. All returns must have the RMA number visible on the outside of the carton. nVent Equipment Protection is not responsible for material damaged in transit. Any refrigerant-bearing Goods must be shipped upright for return.
- G. Shipping cost for all non-warranty repairs is the responsibility of the sender and must be shipped prepaid. Shipping costs for all warranty related repairs will be covered by nVent Equipment Protection provided the goods are returned using a nVent Equipment Protection approved carrier. If after diagnoses the product is determined by nVent Equipment Protection not be covered under warranty, Buyer will be responsible for all shipping charges and will be billed accordingly.
- H. Non-warranty repairs are subject to a \$105 minimum analysis fee. If approval is not received within 30 days, material will be scrapped and all shipping expenses and corresponding analysis fees will be billed to Buyer.
- I. At Buyer's request, Failure Analysis can be provided by nVent Equipment Protection for warrantable goods at no charge. Failure analysis for non-warranty repairs are subject to a \$150 per hour Engineering charge plus any other incurred testing costs.
- J. All returned merchandise must be sent to the following address: nVent Equipment Protection, 2100 Hoffman Way, Anoka, MN 55303-1745.
- K. Credit for accepted returns shall be at the original selling price or the current selling price, whichever is lower, less the restocking charge indicated as follows:
1. Within 60 days of invoice date - 20% of applicable selling price.
  2. Within 61-120 days of invoice date - 30% of applicable selling price.
  3. Within 121-180 days of invoice date - 40% of applicable selling price.
  4. Beyond 180 days - subject to individual review by nVent Equipment Protection.
- If product being returned for credit requires repair or modification, the cost of any labor or material necessary to bring product into saleable condition will be deducted from credit. Buyer may not take credit against returns without prior written nVent Equipment Protection approval.

## LIMITATION OF LIABILITY

NVENT EQUIPMENT PROTECTION WILL NOT BE LIABLE UNDER ANY CIRCUMSTANCES FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES, INCLUDING WITHOUT LIMITATION ANY LOST PROFITS OR LABOR COSTS, ARISING FROM THE SALE, USE OR INSTALLATION OF THE GOODS, FROM THE GOODS BEING INCORPORATED INTO OR BECOMING A COMPONENT OF ANOTHER PRODUCT, FROM ANY BREACH OF THIS AGREEMENT OR FROM ANY OTHER CAUSE WHATSOEVER, WHETHER BASED ON WARRANTY (EXPRESSED OR IMPLIED) OR OTHERWISE BASED ON CONTRACT, OR ON TORT OR OTHER THEORY OF LIABILITY, AND REGARDLESS OF ANY ADVICE OR REPRESENTATIONS THAT MAY HAVE BEEN RENDERED BY NVENT EQUIPMENT PROTECTION CONCERNING THE SALE, USE OR INSTALLATION OF THE GOODS.



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