

Flange heater

AHFR-BI-PV4-S...

with combination of temperature control, safety temperature limiter and power switching unit for photovoltaic systems

PV own power consumption

- Immersion heater with 3-stage switching via 3 built-in relays at 16 A
- 3 linear power stages
- For PV-controlling without load switching circuit



Application

Auxiliary heating system of industrial water and heating water in photovoltaic systems.

Features

- FH The heating element is made of three U-shaped heating tubes, each press-fitted into a press-fitting nipple. These are bolted with the immersion tube onto a steel flange. A food-safe plastic disk serves as insulation. The unheated zone is 70 mm for all types.
- TC Electromechanical temperature control acc. EN 14597, not fail safe.
- STL Electromechanical safety temperature limiter acc. EN 14597, fail safe. If nominal value is reached, the limiter switches and stays locked in this position. Reset is performed manually and is only possible after the sensing element is cooled off by approx. 10 K.
- Time factor of sensing element acc. EN 14597
 - Operation type TC Type 2 B acc. EN 14597
 - Operation type STL Type 2 BK acc. EN 14597

Type summary

Industrial and heating water
Incoloy 825, 2.4858

| Type | Order-no. | Power | Immersion length [EL] |
|-------------------|-----------|------------------------------|-----------------------|
| AHFR-BI-PV4-S-2.0 | 012-6661 | 2.0 kW (3 x 0.66 kW) | 260 mm |
| AHFR-BI-PV4-S-2.5 | 012-6662 | 2.5 kW (3 x 0.83 kW) | 310 mm |
| AHFR-BI-PV4-S-3.0 | 012-6663 | 3.0 kW (3 x 1.00 kW) | 260 mm |
| AHFR-BI-PV4-S-4.0 | 012-6664 | 4.0 kW (3 x 1.33 kW) | 260 mm |
| AHFR-BI-PV4-S-5.0 | 012-6665 | 5.0 kW (3 x 1.66 kW) | 300 mm |
| AHFR-BI-PV4-S-6.0 | 012-6666 | 6.0 kW (3 x 2.00 kW) | 360 mm |
| AHFR-BI-PV4-S-7.5 | 012-6667 | 7.5 kW (3 x 2.50 kW) | 420 mm |
| AHFR-BI-PV4-S-9.0 | 012-6668 | 9.0 kW (3 x 3.00 kW) | 490 mm |
| AHFR-BI-PV4-S-10 | 012-6669 | 10.0 kW (3 x 3.33 kW) | 540 mm |

Technical data

The following indications are valid for the above listed standard types. Due to the function, other types might show different data.

| | | |
|-----------------------|---|--|
| Application range | Adjustable cut-off temperature | 0...*...28...85 °C |
| | Safety cut-off temperature ϑ_{off} | 110 °C (0-9 K) |
| | Ambient temperature on switching head | max. 50 °C (T50) |
| | Thermal switching differential | 11.0 K \pm 5.5 K |
| | Ambient temperature for storage and transport | -30...+90 °C |
| Calibration | Calibration tolerance | \pm 7 K |
| | Time factor in water | <45 s |
| Specification | Flange material | St 37 |
| | Outside flange diameter | \varnothing 180 mm |
| | Pitch circle diameter | \varnothing 150 mm / 8 X M12 |
| | Flange seal | EPDM, KTW certification |
| | Plastic disk | PP-H, FDA certification |
| | Heating tube | Incoloy 825, 2.4858 \varnothing 8.2 mm |
| | Immersion tube | Incoloy 825, 2.4858 |
| Surface load | 7 W/cm ² | |
| Electrical connection | Spring clip and screw type terminal | |

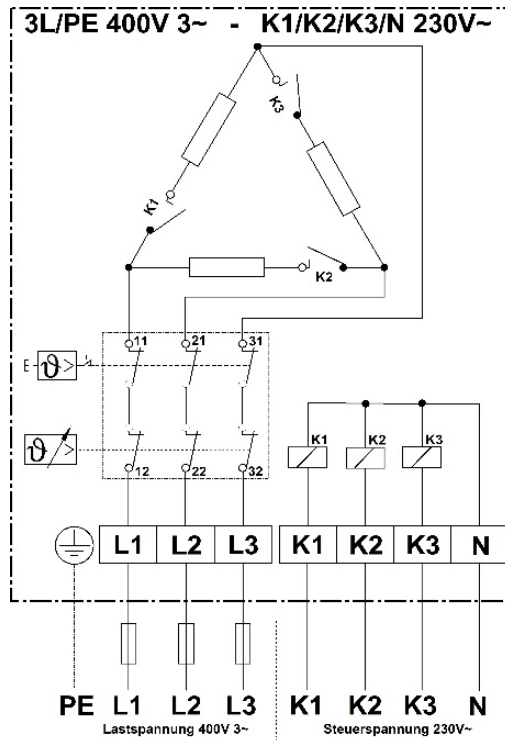
Operating pressure
Housing cover
Protection mode

max. 10 bar
Polycarbonate, RAL 7035 (light gray)
IP21 acc. EN 60529

Fitting notes

The device must be installed horizontally. The heating tubes must be covered entirely by the liquid. The circulation of the liquid shall not be inhibited.

Wiring diagram



Operating voltage:

L1 / L2 / L3 400 V 3~

Control voltage:

K1 / K2 / K3 / N 230 V~

Dimension drawing

