

Flange heater

AHFR-BI-PV4-A...

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

PV own power consumption

- Immersion heater with 7-stage switching via 3 built-in relays at 16 A
- 7 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-A-1.75	012-6671	1.75 kW (0.25 + 0.50 + 1.00 kW)	260 mm
AHFR-BI-PV4-A-3.5	012-6672	3.50 kW (0.50 + 1.00 + 2.00 kW)	360 mm
AHFR-BI-PV4-A-4.4	012-6673	4.40 kW (0.65 + 1.25 + 2.50 kW)	420 mm
AHFR-BI-PV4-A-5.8	012-6674	5.80 kW (0.83 + 1.66 + 3.33 kW)	490 mm

Technical data

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

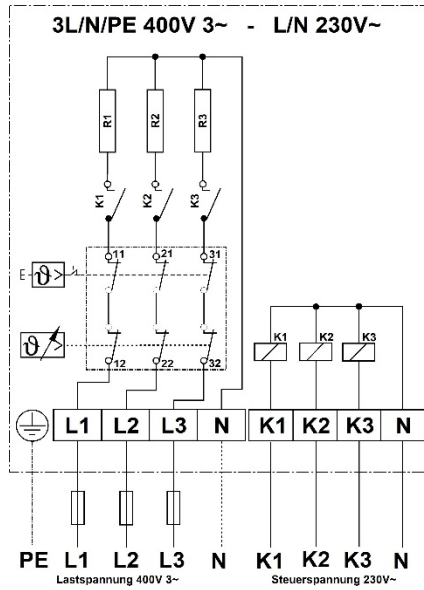
Application range	Adjustable cut-off temperature	0...*...28...85 °C
	Safety cut-off temperature ϑ_{off}	110 °C (0-9 K)
	Ambient temperature on switching head	max. 50 °C (T50)
	Thermal switching differential	11.0 K \pm 5.5 K
	Ambient temperature for storage and transport	-30...+90 °C
Calibration	Calibration tolerance	\pm 7 K
	Time factor in water	<45 s
Specification	Flange material	St 37
	Outside flange diameter	Ø 180 mm
	Pitch circle diameter	Ø 150 mm / 8 X M12
	Flange seal	EPDM, KTW certification
	Plastic disk	PP-H, FDA certification
	Heating tube	Incoloy 825, 2.4858 Ø8.2 mm
	Immersion tube	Incoloy 825, 2.4858
	Surface load	7 W/cm ²
	Electrical connection	Spring clip and screw type terminal
	Operating pressure	max. 10 bar
	Housing cover	Polycarbonate, RAL 7035 (light gray)
	Protection mode	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

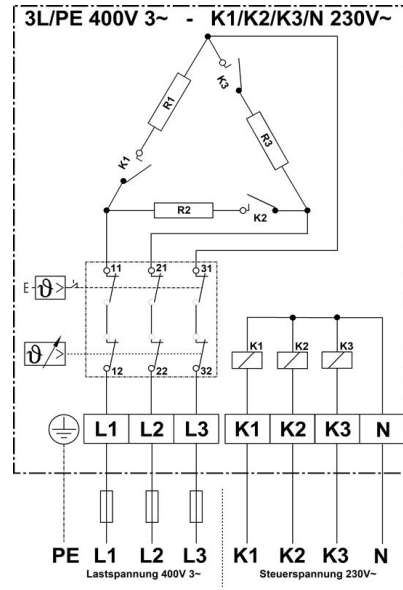
Power range: 1.75 kW



Operating voltage:
L1 / L2 / L3 / N 400 V 3~

Control voltage:
K1 / K2 / K3 / N 230 V~

Power range: 3.5 kW up to 5.8 kW



Operating voltage:
L1 / L2 / L3 400 V 3~

Control voltage:
K1 / K2 / K3 / N 230 V~

Dimension drawing

