

AHR-B-PV-...
AHR-H-PV-...

Screw-in heater

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
- Devices with different heat stages e.g. 500 W, 1000 W, 2000 W upon request



Application

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

Features

- SH The heating element is made of three U-shaped heating tubes, which are soldered into a 1½" sonical brass nipple.
The unheated zone is 150 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 water
Cronifer 1.4529

Heating water
CN 18/8 1.4541

Type	Order-no.	Power	Immersion length [EL]
AHR-B-PV-1.0	012-3801	1.00 / 0.66 / 0.33kW; 230V~	300mm
AHR-B-PV-1.5	012-3802	1.50 / 1.00 / 0.50kW; 230V~	300mm
AHR-B-PV-2.0	012-3803	2.00 / 1.33 / 0.67kW; 230V~	300mm
AHR-B-PV-2.5	012-3804	2.50 / 1.65 / 0.83kW; 230V~	350mm
AHR-B-PV-3.0	012-3805	3.00 / 2.00 / 1.00kW; 230V~	400mm
AHR-B-PV-3.8	012-3806	3.80 / 2.52 / 1.26kW; 230V~	450mm
AHR-B-PV-4.5	012-3807	4.50 / 3.00 / 1.50kW; 230V~	500mm
AHR-B-PV-6.0	012-3808	6.00 / 4.00 / 2.00kW; 230V~	600mm
AHR-H-PV-1.0	012-3821	1.00 / 0.66 / 0.33kW; 230V~	300mm
AHR-H-PV-1.5	012-3822	1.50 / 1.00 / 0.50kW; 230V~	300mm
AHR-H-PV-2.0	012-3823	2.00 / 1.33 / 0.67kW; 230V~	300mm
AHR-H-PV-2.5	012-3824	2.50 / 1.65 / 0.83kW; 230V~	350mm
AHR-H-PV-3.0	012-3825	3.00 / 2.00 / 1.00kW; 230V~	400mm
AHR-H-PV-3.8	012-3826	3.80 / 2.52 / 1.26kW; 230V~	450mm
AHR-H-PV-4.5	012-3827	4.50 / 3.00 / 1.50kW; 230V~	500mm
AHR-H-PV-6.0	012-3828	6.00 / 4.00 / 2.00kW; 230V~	600mm

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

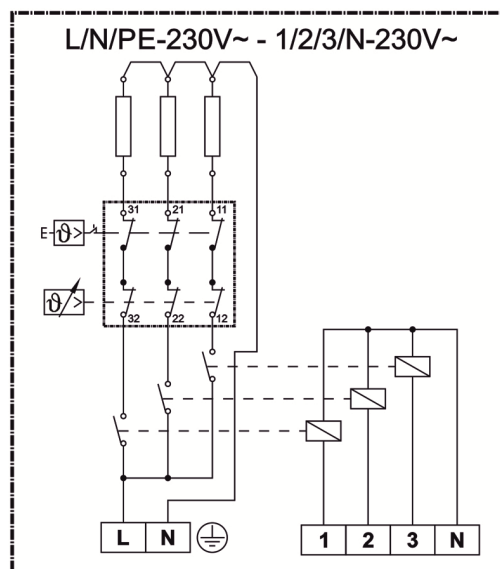
Fitting thread
Brass nipple
Heating tube industrial water
Heating tube heating water
Surface load
Electrical connection
Operating pressure
Housing cover
Housing base
Protection mode

R 1 1/2" sonical
CuZn40Pb2
Cronifer 1.4529, Ø 8.2 mm
CN 18/8 1.4541, Ø 8.2 mm
8-9 W/cm²
Spring clip
10 bar max.
Polycarbonate, RAL 7035 (light gray)
Polycarbonate, RAL 7016 (anthracite gray)
IP41 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

L/N/PE 230 V~
1/N, 2/N, 3/N 230 V~

Dimension drawing

