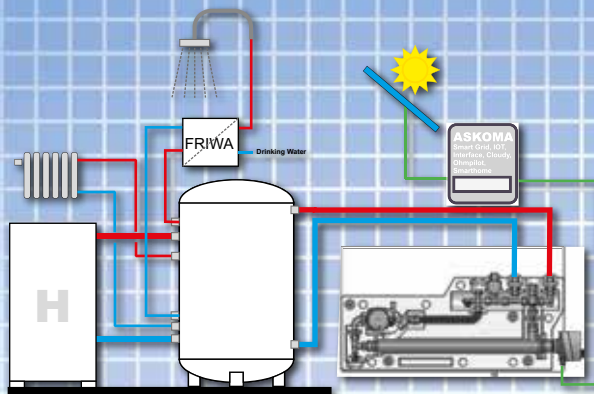
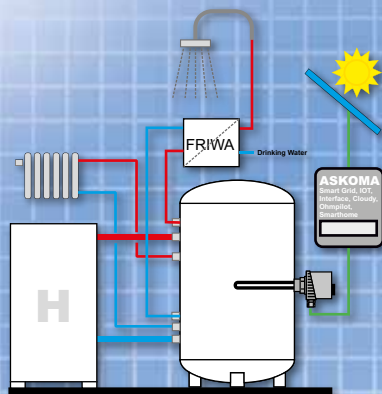



ELECTRIC HEATERS FOR OWN POWER CONSUMPTION



FOR HEATING INDUSTRIAL
AND HEATING WATER WITH PHOTOVOLTAICS



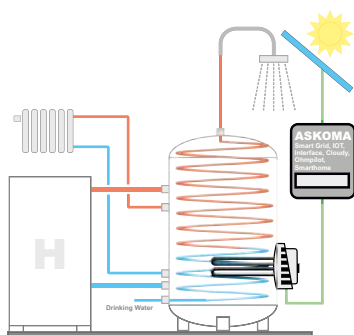
ASKOMA  we care
about energy

ASKOMA AG

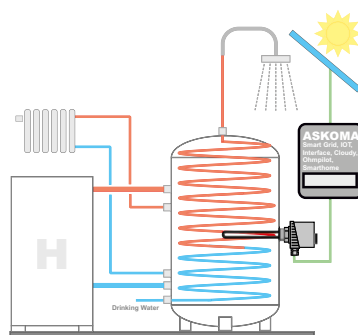
Industriestrasse 1 • 4922 Bützberg, Switzerland
T +41 62 958 70 80 • F +41 62 958 70 81
info@askoma.com • www.askoma.com

WHAT ADVANTAGE DO YOU HAVE IF YOU DECIDE FOR AN ASKOMA HEATER?

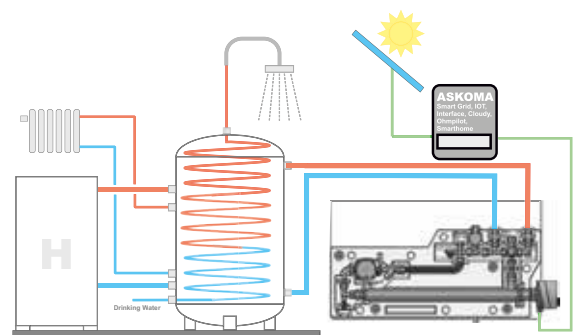
- 52 years of experience in our high-quality products
- With our insulated heating elements in the PV series you will have no corrosion whatsoever in the buffer tank
- Regardless of whether you have a stainless steel, enamel or black steel buffer tank
You will get a heating insert for all materials, thanks to DIP switch
- In the high-quality Incoloy equipment, the heating inserts are approved for high-quality drinking and heating water
- Definitely a product for all applications (3 and 7 levels, IoT 7 levels or continuously variable)
- No matter which energy management system you decide on or have already decided on, with ASKOMA heating inserts you always achieve the optimum solution for storing the maximum PV excess energy
- The **ASKOHEAT-PV** can be operated up to 85 °C in continuous operation to save excess energy



Flange heater



Screw-in heater



ASKOCONSOLE-WALL
with Screw-in heater

INDEX ASKOHEAT-PV

Suitable for any commercial energy home system, inverter, battery and **ASKOCLOUD**

You want to store surplus energy, generate high storage temperatures and retrieve them when needed?

Page

1

ASKOCONSOLE-WALL
without junction box



- Matching screw-in heaters can be found in the list on page 1.4

ASKOCONSOLE-WALL
with junction box



- Matching screw-in heaters can be found in the list on page 1.4

ASKOCONSOLE-WALL
with junction box and
ASKOCLOUD



- Matching screw-in heaters can be found in the list on page 1.4

ASKOCLOUD, controllable via WLAN or LAN

Page

2

ASKOHEAT-IoT 230 V~
1.75 – 4.40 kW 400 V~



- 7 level control via WLAN or LAN

You have a power manager that controls via Modbus TCP, WLAN, LAN or 0-10V signal

Page

3

ASKOHEAT-INTERFACE 230 V~
1.75 – 4.40 kW 400 V~



- 7 level control via Modbus-TCP, WLAN, LAN or 0-10 V

Do you have an energy manager that controls relays?

Page

4

ASKOHEAT-PV 230 V~
1.75 – 4.40 kW 400 V~



- 7 stage control via three relays – 230 V

ASKOHEAT-PV 230 V~
1.75 – 9.00 kW 400 V~



- 3 stage control via three relays – 230 V

You have a power manager Fronius Ohmpilot, which continuously controls?

Page

5

ASKOHEAT-OHMPILOT 400 V~
1.00 – 9.00 kW



- continuously variable

You have a power manager SolarEdge, which continuously controls?

Page

6

ASKOHEAT-SOLAREEDGE 230 V~
1.00 – 3.00 kW



- continuously variable

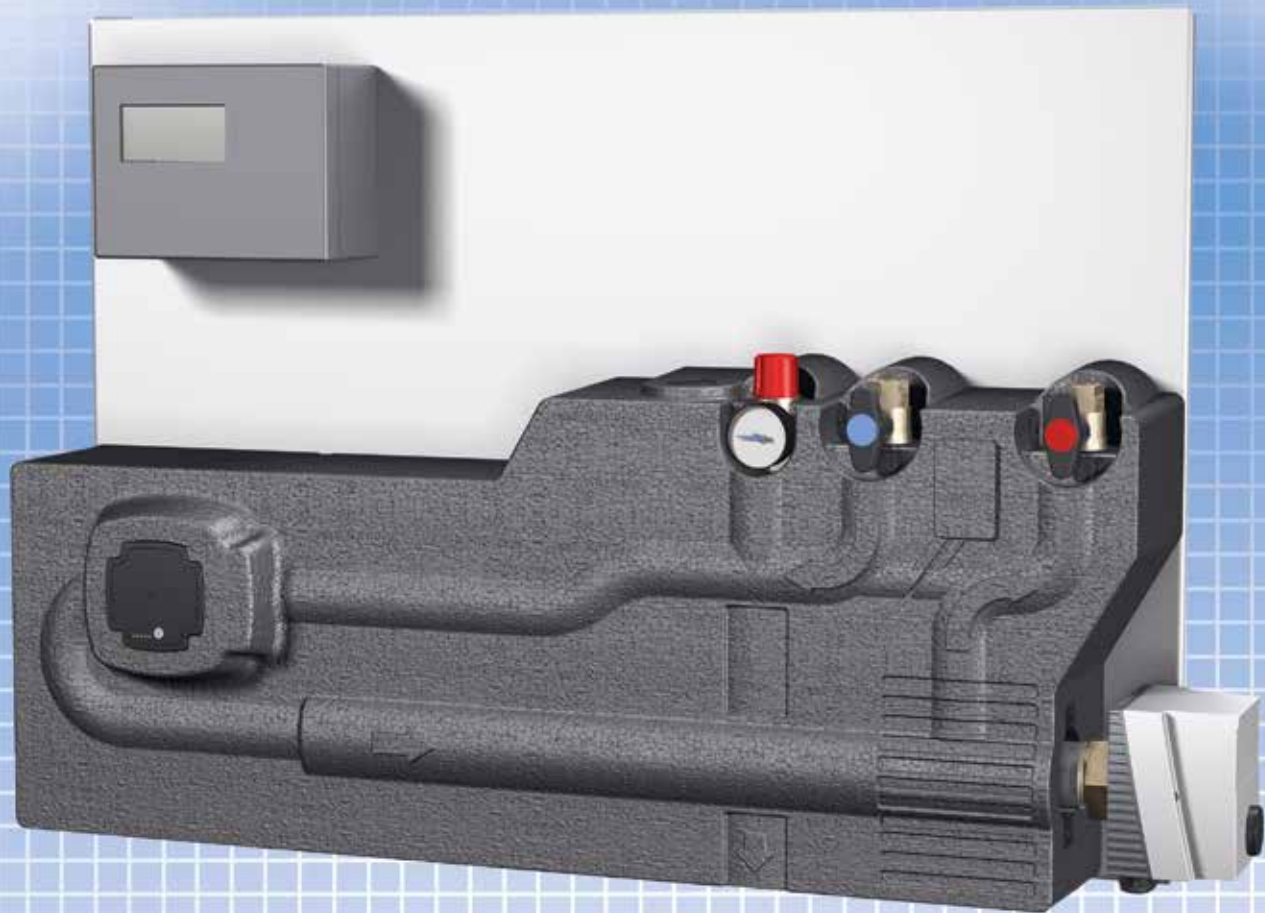
We are happy to advise you when needed on heating inserts to other energy managers.



ASKOCONSOLE-WALL

FOR HIGH STORAGE TEMPERATURES, LEGIONELLA PROTECTION
AND FOR SURPLUS PV POWER STORAGE

1.1



ASKOMA *we care
about energy*

WALL CONSOLE READY FOR CONNECTION

- Highly efficient tank charging
- Easy to install
- No turbulence in thermal stratification
- Max. surplus PV power storage
- Legionella protection
- Control possible via WLAN, LAN, Modbus TCP or 0–10 V



APPLICATION EXAMPLES

The **ASKOCONSOLE-WALL** is designed for easy installation on any conventional buffer tank to provide the user with energy-efficient, smooth, high-temperature stratification.

To this end, the **ASKOCONSOLE-WALL** can be connected directly to the **relevant buffer tank**.

On the **ASKOCONSOLE-WALL**, the user sets the thermostatic valve (no. 8) to the desired temperature between 50°C and 75°C with which the **buffer tank** should be filled.

Example: desired temperature is set at 60°C. The heating water in the **ASKOCONSOLE-WALL** circulates within the internal circuit until the water is heated to 60°C.

The thermostatic valve then opens and the hot water passes to the tank. This continues for as long as water at the desired temperature is available. Then, the thermostatic valve closes and the process begins again.

The **ASKOHEAT** can heat the heating water up to 85°C and then switches off.

ASKOHEAT heating elements are available in a variety of power output levels and this **ASKOHEAT** in the following variants: 3 levels, 7 levels, IOT 7 levels or continuously variable.

The **ASKOHEAT** IOT levels can be controlled via WLAN, LAN, Modbus TCP or 0–10 V.

This is available in 230 V and 400 V.

Which of these should be used depends on the surplus power output of your PV system and your energy management system.

It sounds complicated, but it isn't – we are happy to provide you with information about which **ASKOHEAT** heating element you require for your system.

The **ASKOCONSOLE-WALL** can also be used as direct heating.

Hygienic tank with integrated solar heat exchanger

The **ASKOCONSOLE-WALL** is designed for easy installation on a **hygienic tank with integrated solar heat exchanger**.

To this end, the **ASKOCONSOLE-WALL** can be connected directly to the **solar heat exchanger loop**. This requires the customer to connect a solar expansion tank to connection no. 4 (see next page) (size must be dimensioned and supplied by the technician on the basis of internal volume).

- **ASKOHEAT** heating elements in 4 power output levels available (see last page).

Hygienic tank without integrated solar heat exchanger

The **ASKOCONSOLE-WALL** is designed for easy, direct installation on a **hygienic tank** to provide the user with energy-efficient, smooth, high-temperature stratification.

- **ASKOHEAT** heating elements in 4 power output levels available (see last page).

Buffer tank with freshwater station

The **ASKOCONSOLE-WALL** is designed for easy, direct installation on a **buffer tank** to provide the user with energy-efficient, smooth, high-temperature stratification.

- **ASKOHEAT** heating elements in 4 power output levels available (see last page).

Subject to technical changes

ADVANTAGES OF ASKOCONSOLE-WALL

Easy to install

- Simple wall installation
- Ready to connect with two flexible oxygen-tight OXYban hoses (included)
- Pump and heating elements pre-wired
- Incl. pre-wiring for customer-specific control of surplus PV power usage (details of control manufacturer required)

Technical design

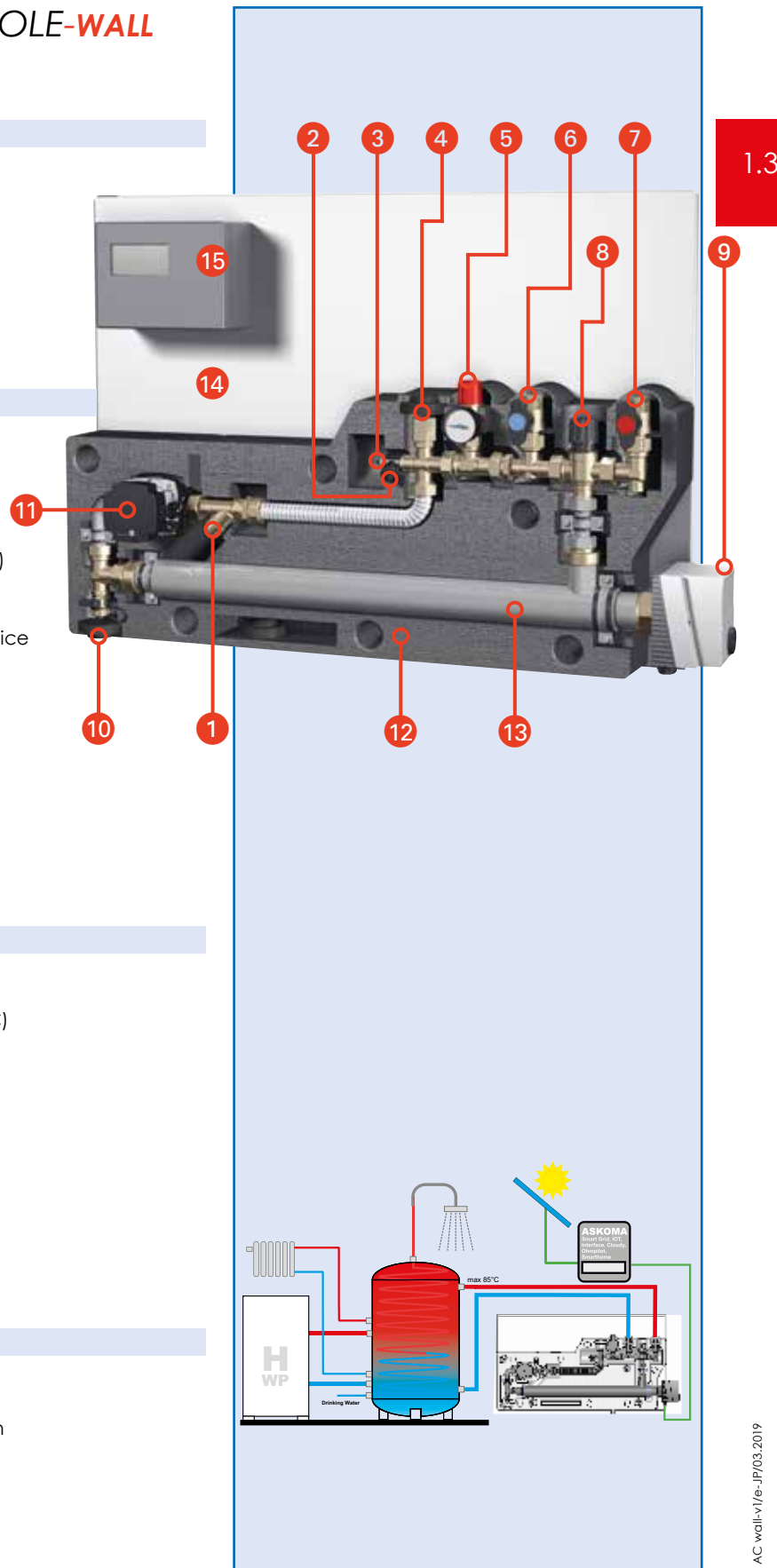
- ① Strainer
- ② Filling valve
- ③ Vent valve
- ④ Outlet for possible expansion tank
- ⑤ Pressure relief valve
- ⑥ Return flow shutoff (and OXYban hose connection)
- ⑦ Flow shutoff (and OXYban hose connection)
- ⑧ Thermostatic valve 50–75°C
- ⑨ Screw-in heating unit **ASKOHEAT** according to choice of power and control
- ⑩ Drain cock
- ⑪ Circulation pump
- ⑫ Insulation housing
- ⑬ Instantaneous water heater **ASKOFLOW**
- ⑭ Console back panel
- ⑮ Electrical junction box ready for customer-specific energy management system












Technical advantages

- For max. surplus PV power storage
- Automatic temperature control
- Flow temperature can be freely selected (50–75°C)
- Temperatures up to 85°C possible
- Full buffer tank volume can be used
- Legionella protection thanks to high temperature
- Self-regulating pump
- Temporary manual heating mode possible
- No turbulence in thermal stratification of tank
- Large hot water output capacity
- Pressure relief valve 3 bar
- Hydraulic unit tested up to 10 bar
- Slight changes possible

Approvals

- EN 60335-2-21
Condensate drain in housing prevents corrosion
No damage to the heating element during dry run
Overvoltage resistant (7.25%)
- EN 60335-1, EN 60335-2-73
- EN 55014-1, EN 55014-2
- EN 62233
- EN 60529



	Order no..	Appellation	Description	Mounting Depth mm	Use
1.1. ASKOCONSOLE-WALL					
	012-2102		ASKOCONSOLE-WALL consisting of a console back panel, a hydraulic unit and an insulation housing. Strainer, filling valve, vent valve, outlet for possible expansion tank, pressure relief valve, return flow shutoff, flow shutoff, thermostatic valve 50–75°C, connection for ASKOHEAT according to choice of power and control, drain cock, circulation pump, two-part insulation housing, two oxygen-tight OXYban connection hoses for flexible connection to the buffer tank (length 1600 mm).	1300x700	
1.2. ASKOCONSOLE-WALL including ASKO CLOUD					
	012-2201		As 1.1. and 1.2. with ASKO CLOUD , ASKO SMARTMETER-WLAN , for exclusive surplus PV power usage in the heating element for energy storage in the buffer tank. For this, you select the correct power and voltage for your heating element under 3.3. or 3.4. with WLAN outlet as required (an on-site, customer-specific energy management system is required for comprehensive surplus power usage, see 1.2.).	1300x700	
2.2. ASKOCONSOLE-WALL for customer-specific energy management system – pre-wired					
	012-2101 012-5500 105-0001 012-2105 012-2106	with JUNCTION BOX for OHMPILOT for SMARTFOX for ZIEHL 4000 for SOLAREEDGE	As 1.1. with additional electrical junction box ready for customer-specific energy management system (can be chosen according to size requirements), incl. pre-wiring of circulation pump and heating element, meaning easy on-site connection to junction box only (we are happy to provide information on which ASKOHEAT heating element you require for your energy management system).	1300x700	
3.2. ASKOHEAT-IoT, 7 levels, 230 V, WLAN, LAN, including 4 x PT 1000 sensors					
	012-6261	AHIR-BI-IOT2-C-1.7	ASKOHEAT-IoT , EHK 1 1/2" EHK 230 V, 7 levels, 1.75 kW	400	console
	012-6262	AHIR-BI-IOT2-C-3.5	ASKOHEAT-IoT , EHK 1 1/2" EHK 230 V, 7 levels, 3.5 kW	600	console
	012-6263	AHIR-BI-IOT2-C-4.4	ASKOHEAT-IoT , EHK 1 1/2" EHK 230 V, 7 levels, 4.4 kW	700	console
3.3. ASKOHEAT-IoT, 7 levels, 400 V, WLAN, LAN, including 4 x PT 1000 sensors					
	012-6281	AHIR-BI-IOT4-C-1.7	ASKOHEAT-IoT , EHK 1 1/2" EHK 400 V, 7 levels, 1.75 kW	400	console
	012-6282	AHIR-BI-IOT4-C-3.5	ASKOHEAT-IoT , EHK 1 1/2" EHK 400 V, 7 levels, 3.5 kW	600	console
	012-6283	AHIR-BI-IOT4-C-4.4	ASKOHEAT-IoT , EHK 1 1/2" EHK 400 V, 7 levels, 4.4 kW	700	console
3.4. ASKOHEAT-INTERFACE, 7 levels, 230 V, WLAN, LAN, Modbus-TCP, analog 0-10 V					
	012-6361	AHIR-BI-IOT2-A-1.7	ASKOHEAT-IF , EHK 1 1/2" EHK 230 V, 7 levels, 1.75 kW	400	console
	012-6362	AHIR-BI-IOT2-A-3.5	ASKOHEAT-IF , EHK 1 1/2" EHK 230 V, 7 levels, 3.5 kW	600	console
	012-6263	AHIR-BI-IOT2-A-4.4	ASKOHEAT-IF , EHK 1 1/2" EHK 230 V, 7 levels, 4.4 kW	700	console
3.5. ASKOHEAT-INTERFACE 7 levels, 400 V, WLAN, LAN, Modbus-TCP, analog 0-10 V					
	012-6381	AHIR-BI-IOT4-A-1.7	ASKOHEAT-IF , EHK 1 1/2" EHK 400 V, 7 levels, 1.75 kW	400	console
	012-6382	AHIR-BI-IOT4-A-3.5	ASKOHEAT-IF , EHK 1 1/2" EHK 400 V, 7 levels, 3.5 kW	600	console
	012-6383	AHIR-BI-IOT4-A-4.4	ASKOHEAT-IF , EHK 1 1/2" EHK 400 V, 7 levels, 4.4 kW	700	console
	012-0126		optional with Modbus-TCP sensor set with 4x PT 1000 sensor		console
3.6. ASKOHEAT-PV, 7 levels, 230 V, Relay control					
	012-6151	AHIR-BI-PV2-A-1.75	ASKOHEAT-PV EHK 1 1/2" EHK 230 V, 7 levels, 1.75 kW	400	console/water heater
	012-6152	AHIR-BI-PV2-A-3.5	ASKOHEAT-PV EHK 1 1/2" EHK 230 V, 7 levels, 3.5 kW	600	console/water heater
	012-6153	AHIR-BI-PV2-A-4.4	ASKOHEAT-PV EHK 1 1/2" EHK 230 V, 7 levels, 4.4 kW	700	console/water heater
3.7. ASKOHEAT-PV, 7 levels, 400 V, Relay control					
	012-6171	AHIR-BI-PV4-A-1.75	ASKOHEAT-PV EHK 1 1/2" EHK 400 V, 7 levels, 1.75 kW	400	console/water heater
	012-6172	AHIR-BI-PV4-A-3.5	ASKOHEAT-PV EHK 1 1/2" EHK 400 V, 7 levels, 3.5 kW	600	console/water heater
	012-6173	AHIR-BI-PV4-A-4.4	ASKOHEAT-PV EHK 1 1/2" EHK 400 V, 7 levels, 4.4 kW	700	console/water heater
3.8. ASKOHEAT-OHMPILOT, continuously variable, 400 V					
	012-5501	AHIR-BI-OP-1.0	ASKOHEAT-OHMPILOT , 400 V, continuously variable 1.0 kW	300	console/water heater
	012-5502	AHIR-BI-OP-2.0	ASKOHEAT-OHMPILOT , 400 V, continuously variable 2.0 kW	300	console/water heater
	012-5503	AHIR-BI-OP-2.5	ASKOHEAT-OHMPILOT , 400 V, continuously variable .5 kW	350	console/water heater
	012-5504	AHIR-BI-OP-3.0	ASKOHEAT-OHMPILOT , 400 V, continuously variable 3.0 kW	400	console/water heater
	012-5505	AHIR-BI-OP-3.8	ASKOHEAT-OHMPILOT , 400 V, continuously variable 3.8 kW	450	console/water heater
	012-5506	AHIR-BI-OP-4.5	ASKOHEAT-OHMPILOT , 400 V, continuously variable 4.5 kW	500	console/water heater
	012-5507	AHIR-BI-OP-6.0	ASKOHEAT-OHMPILOT , 400 V, continuously variable 6.0 kW	600	console/water heater
	012-5508	AHIR-BI-OP-7.5	ASKOHEAT-OHMPILOT , 400 V, continuously variable 7.5 kW	700	console/water heater
3.9. ASKOHEAT-SOLAREEDGE, continuously variable, 230 V					
	012-5701	AHIR-BI-SE-1.0	ASKOHEAT-SOLAREEDGE , 230 V, continuously variable 1.0 kW	300	console/water heater
	012-5702	AHIR-BI-SE-2.0	ASKOHEAT-SOLAREEDGE , 230 V, continuously variable 2.0 kW	300	console/water heater
	012-5703	AHIR-BI-SE-2.5	ASKOHEAT-SOLAREEDGE , 230 V, continuously variable 2.5 kW	350	console/water heater
	012-5704	AHIR-BI-SE-3.0	ASKOHEAT-SOLAREEDGE , 230 V, continuously variable 3.0 kW	400	console/water heater

Special sizes on request




ASKOHEAT-IoT

SCREW-IN HEATER AND FLANGE HEATER, 7 LEVELS
FOR WLAN AND LAN



2.1

ASKOMA  we care
about energy

SCREW-IN HEATER IN 1 1/2"
FLANGE HEATER Ø 180 MM

- 7 levels
- 230 V / 400 V
- For WLAN and LAN



APPLICATION EXAMPLES

Our scope of supply includes the **ASKOHEAT-*IoT*** in various power classes as 230 V or 400 V versions.

3 connection variants are available: Flanged and screw-in heaters 1½" and also in the **ASKOCONSOLE-WALL**.

With the **ASKOCLOUD** you get the **ASKOSMARTMETER** which is WLAN capable. Install this next to the house node (home electricity meter).

The **ASKOSMARTMETER** measures the power surplus of PV, wind turbine, water turbine or CHP, which can not be used in the house.

The excessive current income is also no longer storable in a battery system or car charging station.

Then, the **ASKOSMARTMETER** communicates the surplus power in the **ASKOCLOUD**, which in turn communicates with the **ASKOHEAT-*IoT*** WLAN.

The **ASKOHEAT-*IoT*** WLAN adapts its power via its 7 levels and takes over the energy, converts the surplus power into heat and stores it in your existing on-site buffer memory.

Example:

You have a 1000L buffer tank with a fresh water station that you heat up to 40° C with your heat pump. With the **ASKOCONSOLE-WALL** and the **ASKOHEAT-*IoT*** you can load this buffer up to 85° C.

This means: 1000L x 45° C temperature to max. 85° C x 1.16 / 1000 = You can save around 52kW of PV power.

If you want to save your heat pump's compressor in summer operation for domestic water heating to increase its service life, you can store even more energy than the 52kW listed above. This energy will then be available on demand as needed.

«Joy in heating» through the maximum use of surplus of specially produced renewable energy.

Hygienic tank

- The **ASKOHEAT-*IoT*** flange and screw-in heaters are designed for easy, direct installation on a hygienic tank to provide the user with energy-efficient, smooth, high-temperature stratification and to store the maximum PV excess current.
- **ASKOHEAT** heating inserts are selectable in many performance sizes.

Buffer tank, alternatively with fresh water station

- The **ASKOHEAT-*IoT*** flange and screw-in heaters are designed for easy, direct installation on a buffer tank to provide the user with energy-efficient, smooth, high-temperature stratification and to store the maximum PV excess current.
- **ASKOHEAT** heating inserts are selectable in many performance sizes.

Drink water storage with ASKOMA PV heating storage insert

- The **ASKOHEAT-*IoT*** flange and screw-in heaters are designed for easy, direct installation on a drinkwater storage to provide the user with energy-efficient, smooth, high-temperature stratification and to store the maximum PV excess current.
- **ASKOHEAT** heating inserts are selectable in many performance sizes.

Technical alterations reserved

ADVANTAGES ASKOHEAT-E

Easy to install

- ① Standard hex for secure tightening with conventional wrenches
- ② Tapered thread for precise housing position and tight installation (1½" and 2" standard)
- ③ With insulated mounting of the heating tubes, suitable for enamelled boilers

Technical Design

- ④ Low surface load (8 W/cm²) for low calcification
- ⑤ Optimal sensor position in the oval immersion tube for identical temperature measurement of safety temperature limiter and temperature control

Technical advantages (on customer request)

- Pre-wired with connection cable
- Various colour options for housing (OEM)
- 400 V and 230 V models
- Multi-stage settings for heating elements
- Fitting thread 1¼" for heating water

ADVANTAGES ASKOHEAT-F

Easy to install

- ① Standard flange Ø 180 mm
- ② Flat gasket included

Technical design

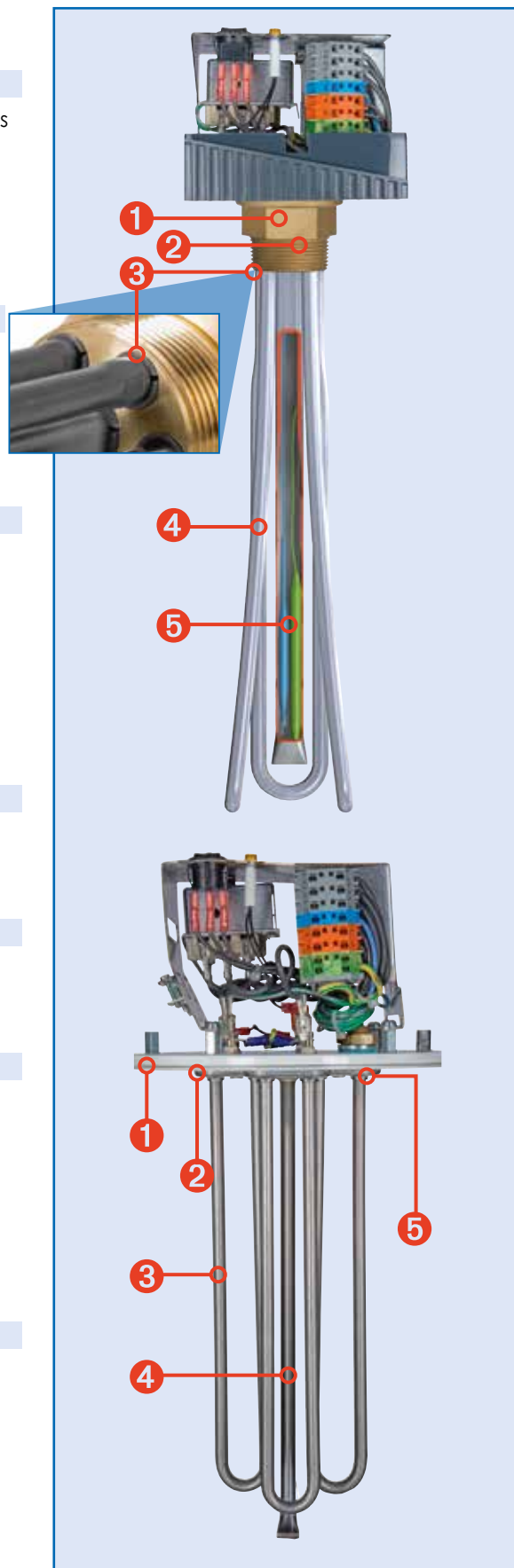
- ③ Low surface load (7 W/cm²) for low calcification
- ④ Optimal sensor position
- ⑤ Insulated assembly of the heating elements for low corrosion

Technical advantages (on customer request)

- Cable entry possible on the side at the top
- Pre-wired with connection cable
- Various colour options for housing (OEM)
- 400 V and 230 V models
- 3 stage settings for heating elements

Approvals

- EN 60335-2-21
Condensate drain in housing prevents corrosion
No damage to the heating element during dry run
Overvoltage resistant (7.25 %)
- EN 60335-1, EN 60335-2-73
- EN 55014-1, EN 55014-2
- EN 62233
- EN 60529



Screw-in heater Insulated mounting

AHIR-BI-IOT2...

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

PV own power consumption

- IOT solution with higher ranked cloud
- Worldwide controllable
- 7 linear power ranges
- Observance of the domestic use



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 mounted isolated into a 1½" conical brass nipple by food-safe plastic sleeves.
Thanks to the insulated mounting of the heating tubes, the devices are also suitable for enamelled boilers.
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 OFF 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]
AHIR-BI-IOT2-1.75	012-6251	1.75 kW (0.25 + 0.50 + 1.00 kW)	400 mm
AHIR-BI-IOT2-3.5	012-6252	3.50 kW (0.50 + 1.00 + 2.00 kW)	600 mm
AHIR-BI-IOT2-4.4	012-6253	4.40 kW (0.65 + 1.25 + 2.50 kW)	700 mm

Function

IOT

The device is operated via IOT platform called **ASKOCLOUD**. The sensors and actuator data are transmitted to the cloud via secured VPN connection and saved there as well. Via this cloud a worldwide data retrieval as well as the control of the device is warranted.

In a proprietary app the temperature of the tank, the device's heating capacity as well as the own consumption in the building (optional) can be displayed.

A meter is measuring the energy fed into the grid. As soon as the energy exceeds the smallest power value of the heating element, it switches on. If more PV energy is available, the performance of the heating element will be turned up in 7 levels. The increasing or falling energy consumption in the building is considered, and the device's heating capacity will then be reduced or entirely turned off automatically. After reaching the preset temperature on the control, the thermostat is turning off the heating mode.

The configuration of the device as well as the login data of the cloud, will be transacted by the partner portal and will be described in a separate document, which is available upon request.

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...95 °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	R 1½" conical
	Brass nipple	CuZn40Pb2
	Heating tube	Incoloy 825, 2.4858
	Surface load	8-9 W/cm²
	Electrical connection	Clamp- and spring clamp technology
	Operating pressure	max. 10 bar
	Housing cover	Polycarbonate, RAL 7035 (light gray)
	Housing base	Polycarbonate, RAL 7016 (anthracite gray)
	Protection mode	IP41 acc. EN 60529

Fitting notes

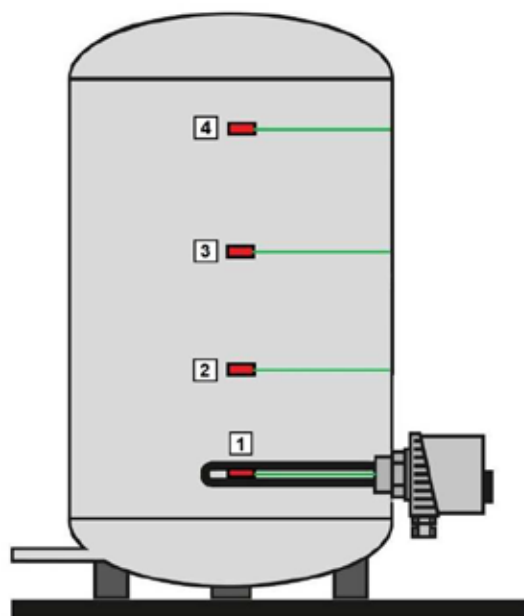
The device must be installed horizontally. The heating tubes must be covered entirely by the liquid. The circulation of the liquid shall not be inhibited.

Please note: This heating element is applicable in stainless steel boilers as well as in black steel / enamelled boilers. Select the settings via DIP switch according to the boiler type.

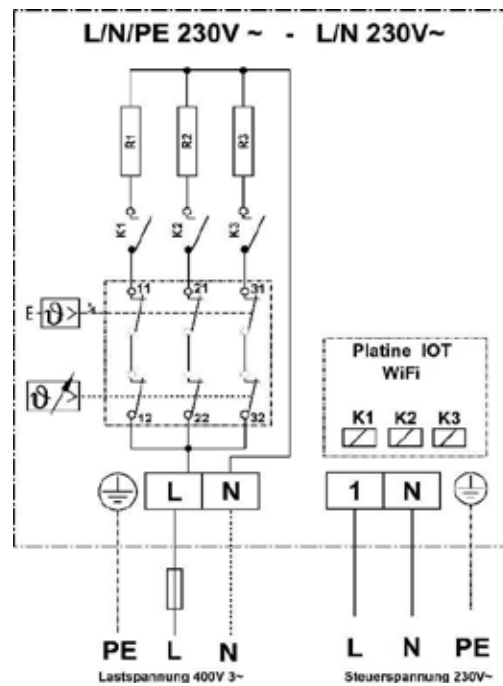
Temperature sensor

Up to 4 temperature sensores can be connected on the heating element (PT1000 sensors). The four temperatures are displayed in the app as gauge and value.

The sensor 1 is already integrated in the immersion tube of the heating element. The additional sensors 2, 3 and 4 can be ordered as optional accessory with the order-no. 012-0125.



Wiring diagram

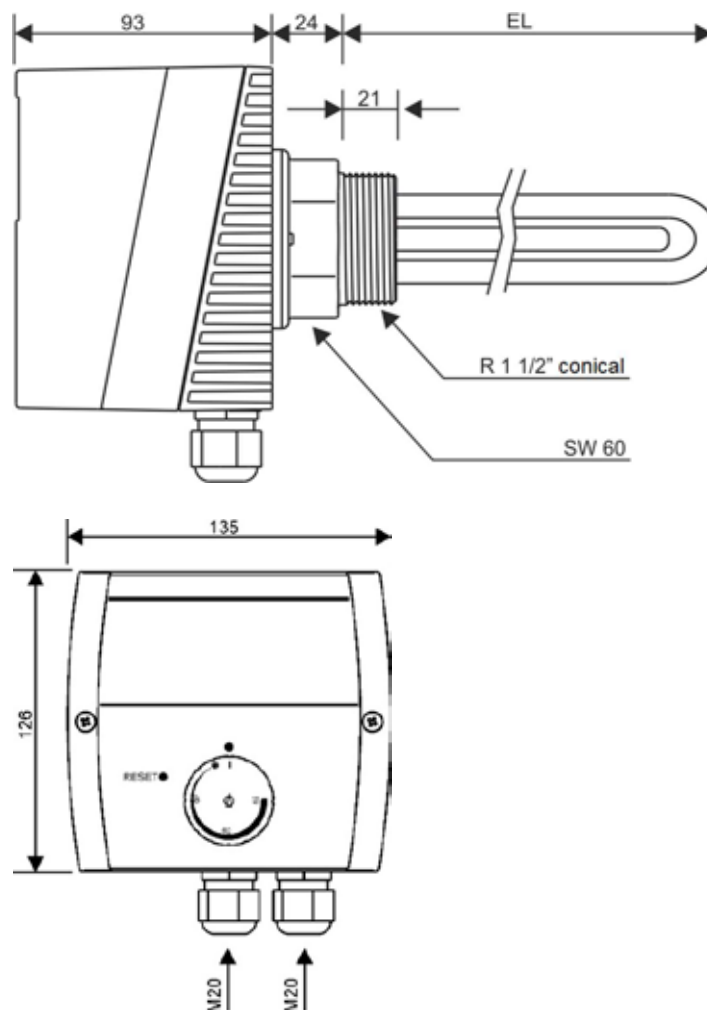


Operating voltage:
L1 / L2 / L3 / N 400 V 3~

Control voltage:
L / N / PE 230 V~

2.6

Dimension drawing



Screw-in heater Insulated mounting

AHIR-BI-IOT2-C...

with combination of temperature control, safety temperature limiter and power switching unit for photovoltaic systems, suitable for installation in ASKOCONSOLE-WALL

PV own power consumption

- IOT solution with higher ranked cloud
- Worldwide controllable
- 7 linear power ranges
- Observance of the domestic use



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 mounted isolated into a 1½" conical brass nipple by food-safe plastic sleeves.
Thanks to the insulated mounting of the heating tubes, the devices are also suitable for enamelled boilers.
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 OFF 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]
AHIR-BI-IOT2-C-1.75	012-6261	1.75 kW (0.25 + 0.50 + 1.00 kW)	400 mm
AHIR-BI-IOT2-C-3.5	012-6262	3.50 kW (0.50 + 1.00 + 2.00 kW)	600 mm
AHIR-BI-IOT2-C-4.4	012-6263	4.40 kW (0.65 + 1.25 + 2.50 kW)	700 mm

Function

IOT

The device is operated via IOT platform called **ASKOCLOUD**. The sensors and actuator data are transmitted to the cloud via secured VPN connection and saved there as well. Via this cloud a worldwide data retrieval as well as the control of the device is warranted.

In a proprietary app the temperature of the tank, the device's heating capacity as well as the own consumption in the building (optional) can be displayed.

A meter is measuring the energy fed into the grid. As soon as the energy exceeds the smallest power value of the heating element, it switches on. If more PV energy is available, the performance of the heating element will be turned up in 7 levels. The increasing or falling energy consumption in the building is considered, and the device's heating capacity will then be reduced or entirely turned off automatically. After reaching the preset temperature on the control, the thermostat is turning off the heating mode.

The configuration of the device as well as the login data of the cloud, will be transacted by the partner portal and will be described in a separate document, which is available upon request.

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...95 °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	R 1½" conical
	Brass nipple	CuZn40Pb2
	Heating tube	Incoloy 825, 2.4858
	Surface load	8-9 W/cm²
	Electrical connection	Clamp- and spring clamp technology
	Operating pressure	max. 10 bar
	Housing cover	Polycarbonate, RAL 7035 (light gray)
	Housing base	Polycarbonate, RAL 7016 (anthracite gray)
	Protection mode	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.

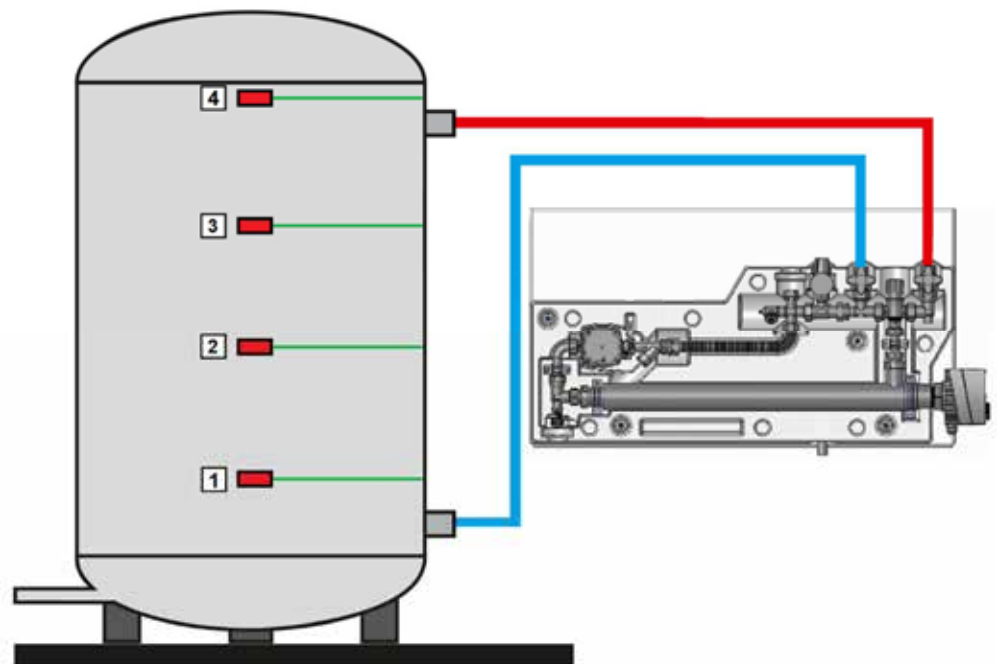
Please note: This heating element is applicable in stainless steel boilers as well as in black steel / enamelled boilers. Select the settings via DIP switch according to the boiler type.

2.8

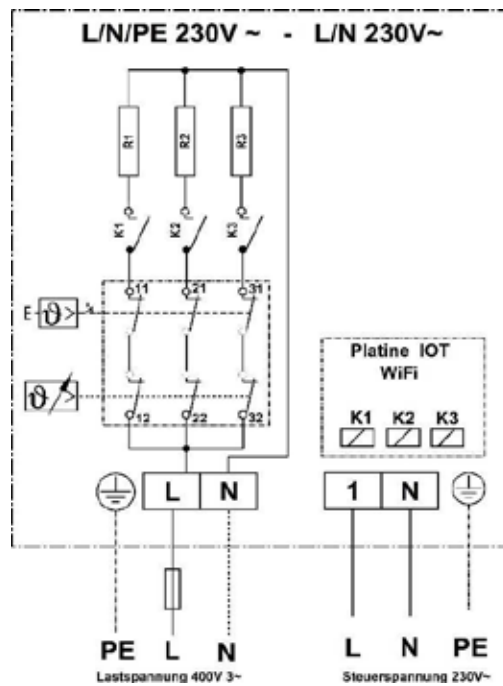
Temperature sensor

The 4 supplied temperature sensors (PT1000-Fühler) can be connected on the heating element. Thanks to these sensors a monitoring and visualisation of the thermal stratification in the tank is possible.

When using the heating element in the ASKOCONSOLE-WALL with junction box, the 4 supplied sensors will be connected on clamps in the junction box. The connection to the heating element will already be wired.



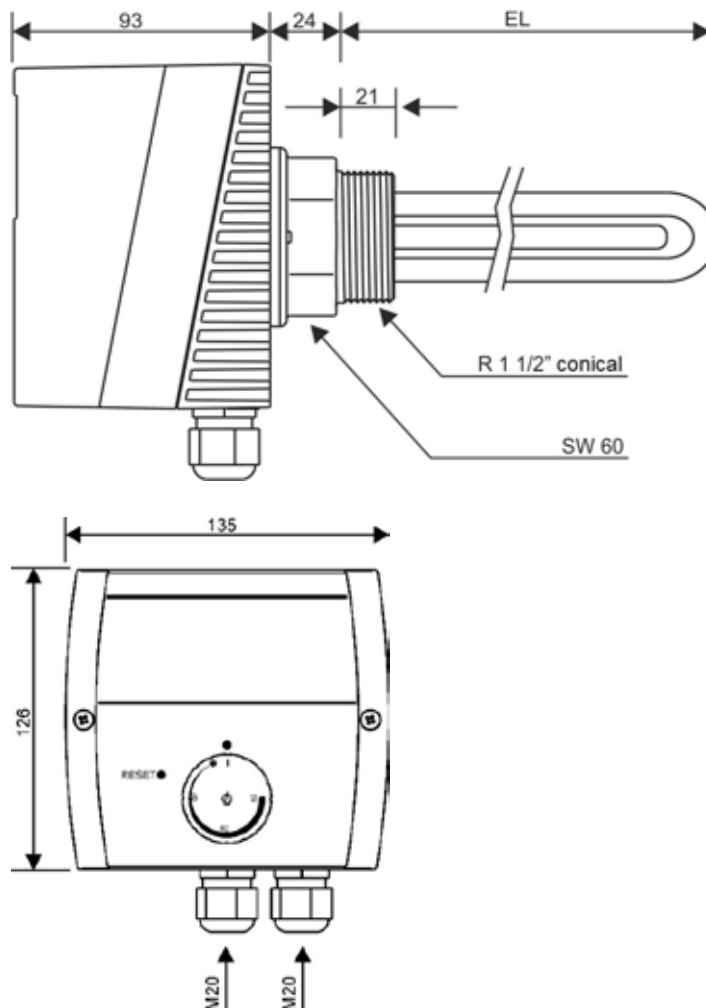
Wiring diagram



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

Control voltage:
L / N / PE 230 V~

Dimension drawing



Flange heater

AHFR-BI-IOT2...

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

PV own power consumption

- IOT solution with higher ranked cloud
- Worldwide controllable
- 7 linear power ranges
- Observance of the domestic use



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-IOT2-1.75	012-6751	1.75 kW (0.25 + 0.50 + 1.00 kW)	260 mm
AHFR-BI-IOT2-3.5	012-6752	3.50 kW (0.50 + 1.00 + 2.00 kW)	360 mm
AHFR-BI-IOT2-4.4	012-6753	4.40 kW (0.65 + 1.25 + 2.50 kW)	420 mm

Function

IOT

The device is operated via IOT platform called **ASKOCLOUD**. The sensors and actuator data are transmitted to the cloud via secured VPN connection and saved there as well. Via this cloud a worldwide data retrieval as well as the control of the device is warranted.

In a proprietary app the temperature of the tank, the device's heating capacity as well as the own consumption in the building (optional) can be displayed.

A meter is measuring the energy fed into the grid. As soon as the energy exceeds the smallest power value of the heating element, it switches on. If more PV energy is available, the performance of the heating element will be turned up in 7 levels. The increasing or falling energy consumption in the building is considered, and the device's heating capacity will then be reduced or entirely turned off automatically. After reaching the preset temperature on the control, the thermostat is turning off the heating mode.

The configuration of the device as well as the login data of the cloud, will be transacted by the partner portal and will be described in a separate document, which is available upon request.

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

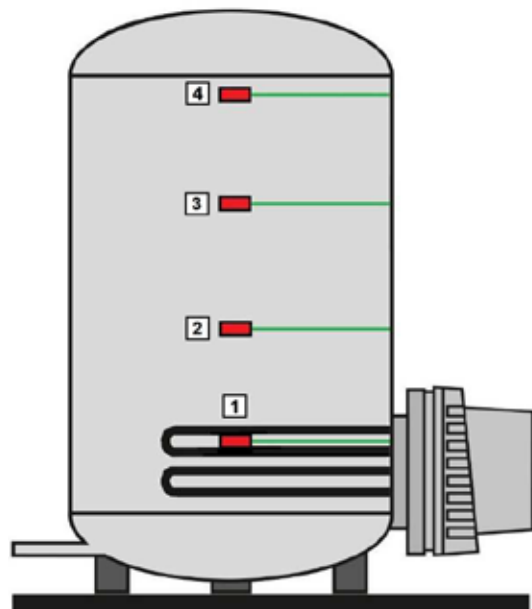
The device must be installed horizontally. The heating tubes must be covered entirely by the liquid. The circulation of the liquid shall not be inhibited.

Please note: This heating element is applicable in stainless steel boilers as well as in black steel / enamelled boilers. Select the settings via DIP switch according to the boiler type.

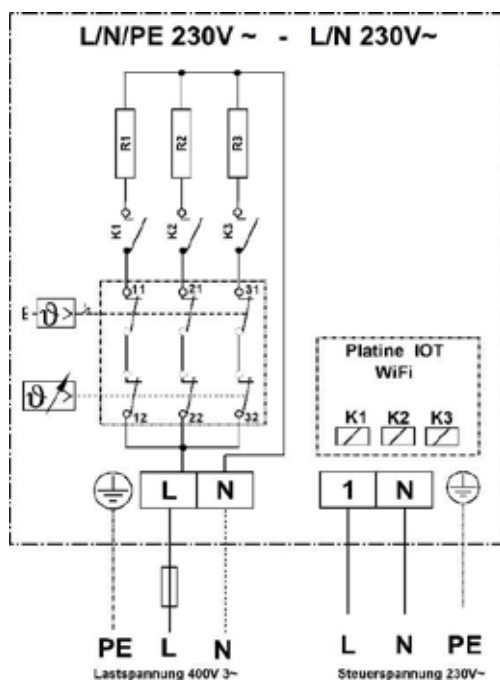
Temperature sensor

Up to 4 temperature sensors can be connected on the heating element (PT1000 sensors). The four temperatures are displayed in the app as gauge and value.

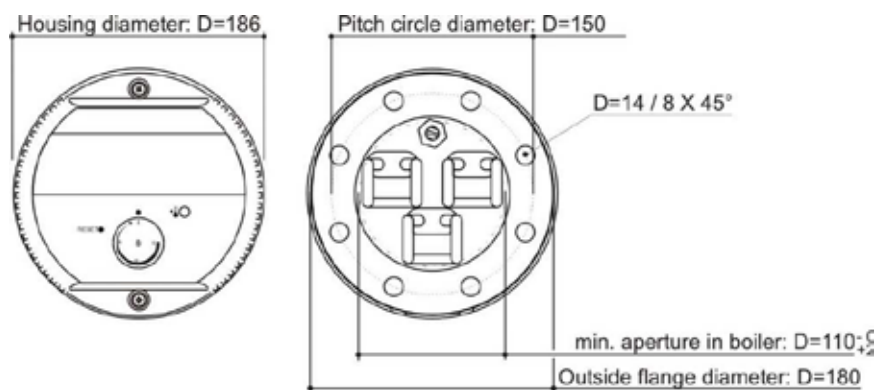
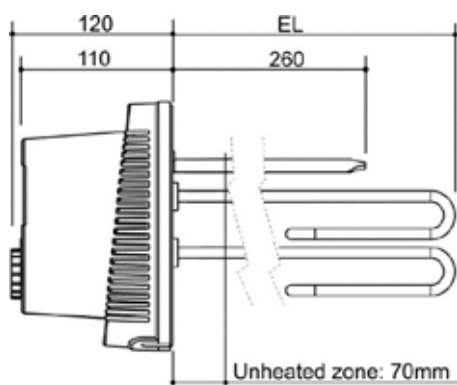
The sensor 1 is already integrated in the immersion tube of the heating element. The additional sensors 2, 3 and 4 can be ordered as optional accessory with the order-no. 012-0125.



Wiring diagram



Dimension drawing



Screw-in heater Insulated mounting

AHIR-BI-IOT4...

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

PV own power consumption

- IOT solution with higher ranked cloud
- Worldwide controllable
- 7 linear power ranges
- Observance of the domestic use



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 mounted isolated into a 1½" conical brass nipple by food-safe plastic sleeves.
Thanks to the insulated mounting of the heating tubes, the devices are also suitable for enamelled boilers.
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 OFF 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

2.13

Type summary

Industrial and
heating water
Incoloy 825, 2.4858

Type	Order-no.	Power	Immersion length [EL]
AHIR-BI-IOT4-1.75	012-6271	1.75 kW (0.25 + 0.50 + 1.00 kW)	400 mm
AHIR-BI-IOT4-3.5	012-6272	3.50 kW (0.50 + 1.00 + 2.00 kW)	600 mm
AHIR-BI-IOT4-4.4	012-6273	4.40 kW (0.65 + 1.25 + 2.50 kW)	700 mm

Function

IOT

The device is operated via IOT platform called **ASKOCLOUD**. The sensore and actuator data are transmitted to the cloud via secured VPN connection and saved there as well. Via this cloud a worldwide data retrieval as well as the control of the device is warranted.

In a proprietary app the temperature of the tank, the device's heating capacity as well as the own consumption in the building (optional) can be displayed.

A meter is measuring the energy fed into the grid. As soon as the energy exceeds the smallest power value of the heating element, it switches on. Is more PV energy available, the performance of the heating element will be turned up in 7 levels. The increasing or falling energy consumption in the building is considered, and the device's heating capacity will then be reduced or entirely turned off automatically. After reaching the preset temperature on the control, the thermostat is turning off the heating mode.

The configuration of the device as well as the login data of the cloud, will be transacted by the partner portal and will be described in a separate document, which is available upon request.

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...95 °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	R 1½" conical
	Brass nipple	CuZn40Pb2
	Heating tube	Incoloy 825, 2.4858
	Surface load	8-9 W/cm²
	Electrical connection	Clamp- and spring clamp technology
	Operating pressure	max. 10 bar
	Housing cover	Polycarbonate, RAL 7035 (light gray)
	Housing base	Polycarbonate, RAL 7016 (anthracite gray)
	Protection mode	IP41 acc. EN 60529

Fitting notes

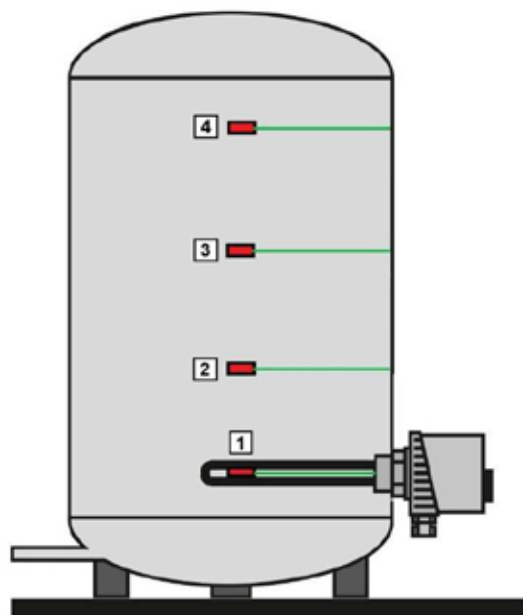
The device must be installed horizontally. The heating tubes must be covered entirely by the liquid. The circulation of the liquid shall not be inhibited.

Please note: This heating element is applicable in stainless steel boilers as well as in black steel / enamelled boilers. Select the settings via DIP switch according to the boiler type..

Temperature sensor

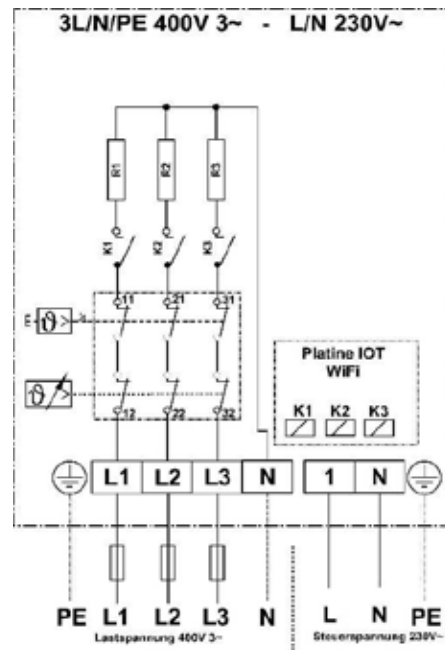
Up to 4 temperature sensores can be connected on the heating element (PT1000 sensors). The four temperatures are displayed in the app as gauge and value.

The sensor 1 is already integrated in the immersion tube of the heating element. The additional sensors 2, 3 and 4 can be ordered as optional accessory with the order-no. 012-0125.



Wiring diagram

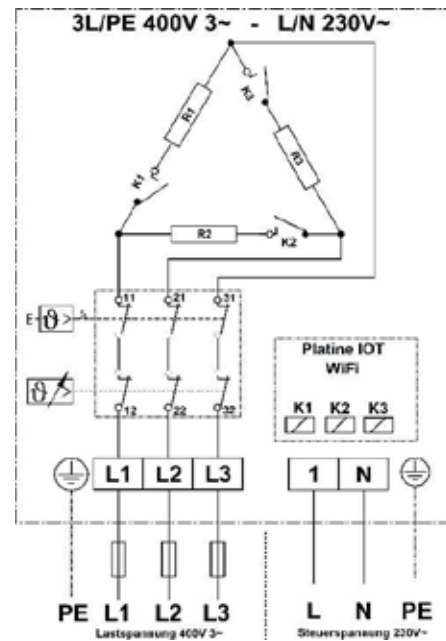
Power range: 1.75 kW



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

Control voltage:
L / N / PE 230 V~

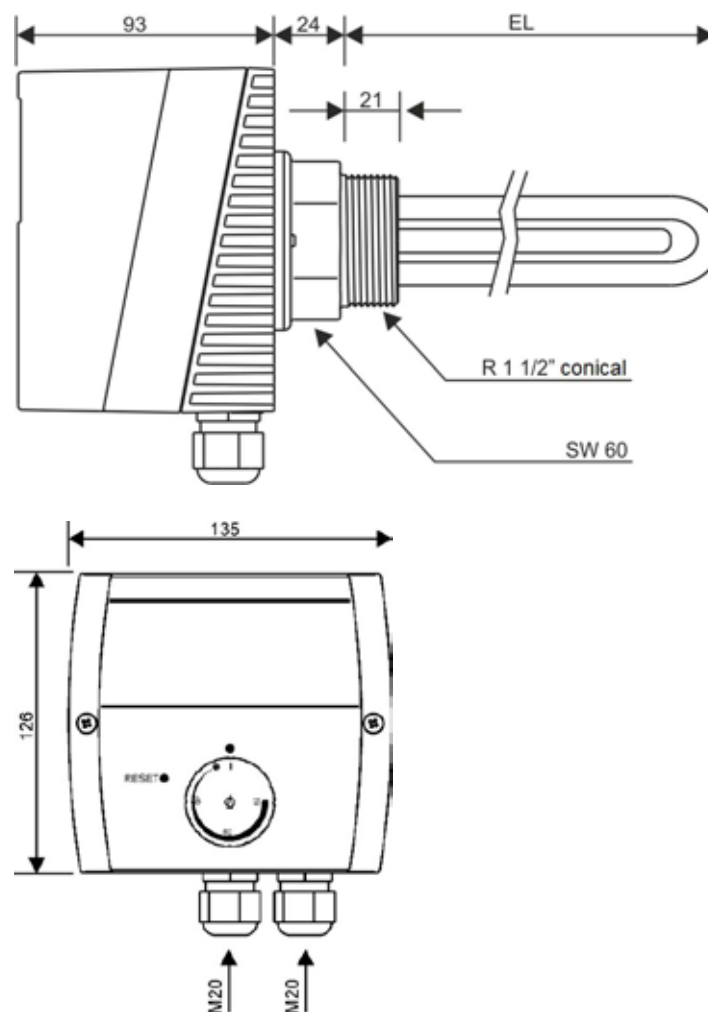
Power range: 3.5 kW and 4.4 kW



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

Control voltage:
L / N / PE 230 V~

Dimension drawing



2.15

Screw-in heater
Insulated mounting

AHIR-BI-IOT4-C...

with combination of temperature control, safety temperature limiter and power switching unit for photovoltaic systems, suitable for installation in ASKOCONSOLE-WALL

PV own power consumption

- IOT solution with higher ranked cloud
- Worldwide controllable
- 7 linear power ranges
- Observance of the domestic use

**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 mounted isolated into a 1½" conical brass nipple by food-safe plastic sleeves. Thanks to the insulated mounting of the heating tubes, the devices are also suitable for enamelled boilers. 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 OFF 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]
AHIR-BI-IOT4-C-1.75	012-6281	1.75 kW (0.25 + 0.50 + 1.00 kW)	400 mm
AHIR-BI-IOT4-C-3.5	012-6282	3.50 kW (0.50 + 1.00 + 2.00 kW)	600 mm
AHIR-BI-IOT4-C-4.4	012-6283	4.40 kW (0.65 + 1.25 + 2.50 kW)	700 mm

Function**IIOT**

The device is operated via IOT platform called **ASKOCLOUD**. The sensors and actuator data are transmitted to the cloud via secured VPN connection and saved there as well. Via this cloud a worldwide data retrieval as well as the control of the device is warranted.

In a proprietary app the temperature of the tank, the device's heating capacity as well as the own consumption in the building (optional) can be displayed.

A meter is measuring the energy fed into the grid. As soon as the energy exceeds the smallest power value of the heating element, it switches on. If more PV energy is available, the performance of the heating element will be turned up in 7 levels. The increasing or falling energy consumption in the building is considered, and the device's heating capacity will then be reduced or entirely turned off automatically. After reaching the preset temperature on the control, the thermostat is turning off the heating mode.

The configuration of the device as well as the login data of the cloud, will be transacted by the partner portal and will be described in a separate document, which is available upon request.

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...95 °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	R 1½" conical
	Brass nipple	CuZn40Pb2
	Heating tube	Incoloy 825, 2.4858
	Surface load	8-9 W/cm²
	Electrical connection	Clamp- and spring clamp technology
	Operating pressure	max. 10 bar
	Housing cover	Polycarbonate, RAL 7035 (light gray)
	Housing base	Polycarbonate, RAL 7016 (anthracite gray)
	Protection mode	IP41 acc. EN 60529

Fitting notes

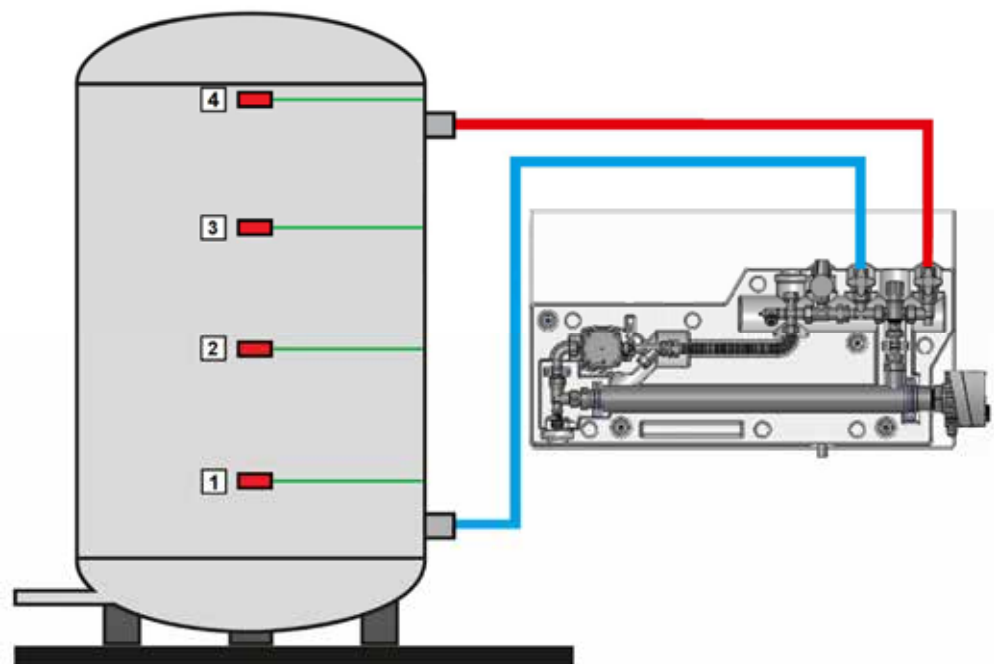
The device must be installed horizontally. The heating tubes must be covered entirely by the liquid. The circulation of the liquid shall not be inhibited.

Please note: This heating element is applicable in stainless steel boilers as well as in black steel / enamelled boilers. Select the settings via DIP switch according to the boiler type.

Temperature sensor

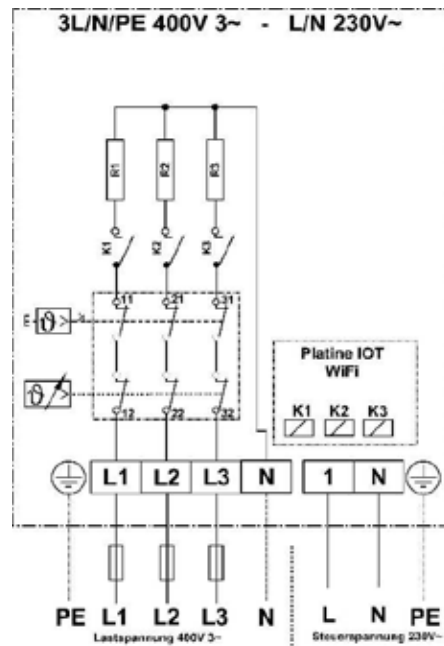
The 4 supplied temperature sensors (PT1000-Fühler) can be connected on the heating element. Thanks to these sensors a monitoring and visualisation of the thermal stratification in the tank is possible.

When using the heating element in the ASKOCONSOLE-WALL with junction box, the 4 supplied sensors will be connected on clamps in the junction box. The connection to the heating element will already be wired.



Wiring diagram

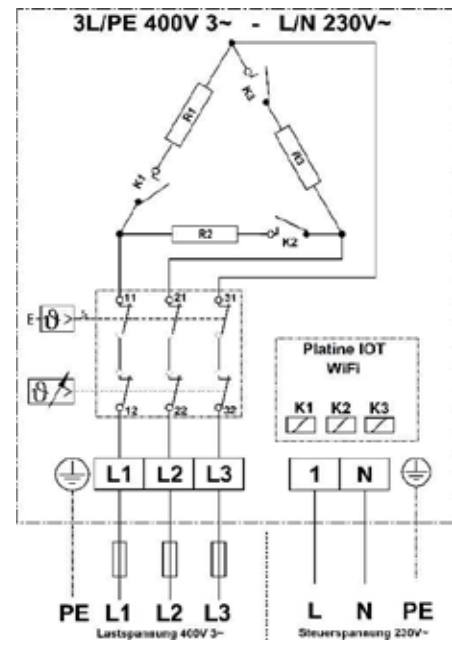
Power range: 1.75 kW



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

Control voltage:
L / N / PE 230 V~

Power range: 3.5 kW and 4.4 kW

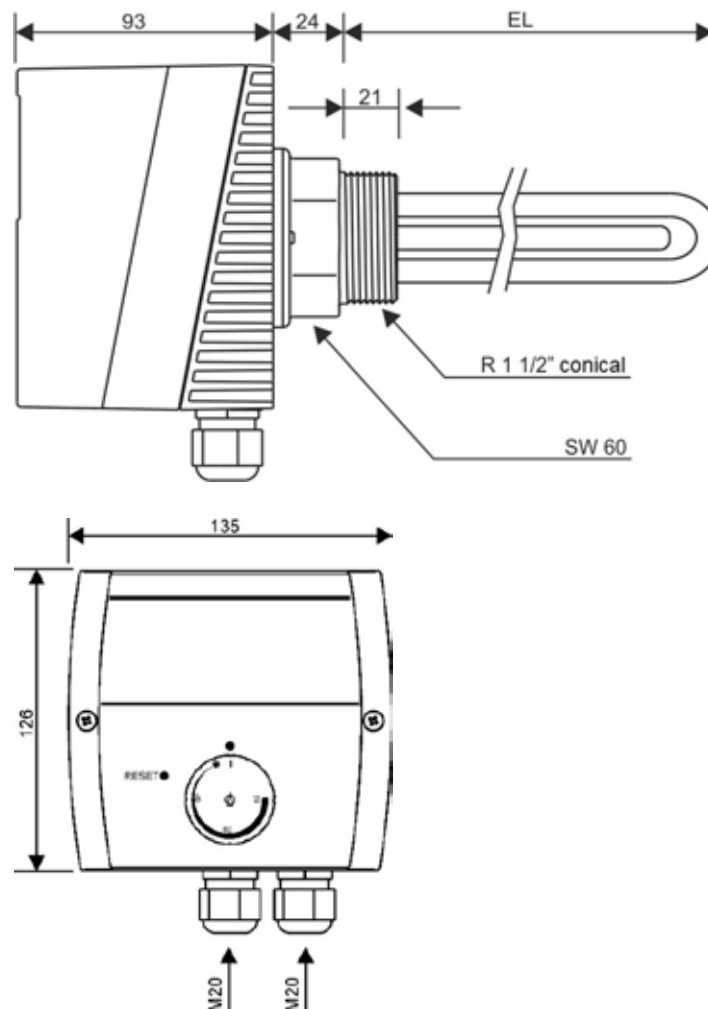


Operating voltage:
L1 / L2 / L3 400 V 3~

Control voltage:
L / N / PE 230 V~

2.18

Dimension drawing



Flange heater

AHFR-BI-IOT4...

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

PV own power consumption

- IOT solution with higher ranked cloud
- Worldwide controllable
- 7 linear power ranges
- Observance of the domestic use



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-IOT4-1.75	012-6761	1.75 kW (0.25 + 0.50 + 1.00 kW)	260 mm
AHFR-BI-IOT4-3.5	012-6762	3.50 kW (0.50 + 1.00 + 2.00 kW)	360 mm
AHFR-BI-IOT4-4.4	012-6763	4.40 kW (0.65 + 1.25 + 2.50 kW)	420 mm
AHFR-BI-IOT4-5.8	012-6764	5.80 kW (0.83 + 1.66 + 3.33 kW)	490 mm

Function

IOT

The device is operated via IOT platform called **ASKOCLOUD**. The sensors and actuator data are transmitted to the cloud via secured VPN connection and saved there as well. Via this cloud a worldwide data retrieval as well as the control of the device is warranted.

In a proprietary app the temperature of the tank, the device's heating capacity as well as the own consumption in the building (optional) can be displayed.

A meter is measuring the energy fed into the grid. As soon as the energy exceeds the smallest power value of the heating element, it switches on. If more PV energy is available, the performance of the heating element will be turned up in 7 levels. The increasing or falling energy consumption in the building is considered, and the device's heating capacity will then be reduced or entirely turned off automatically. After reaching the preset temperature on the control, the thermostat is turning off the heating mode.

The configuration of the device as well as the login data of the cloud, will be transacted by the partner portal and will be described in a separate document, which is available upon request.

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

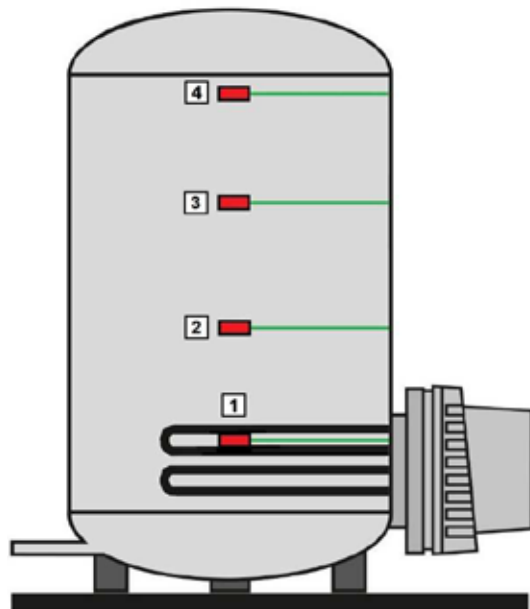
The device must be installed horizontally. The heating tubes must be covered entirely by the liquid. The circulation of the liquid shall not be inhibited.

Please note: This heating element is applicable in stainless steel boilers as well as in black steel / enamelled boilers. Select the settings via DIP switch according to the boiler type.

Temperature sensor

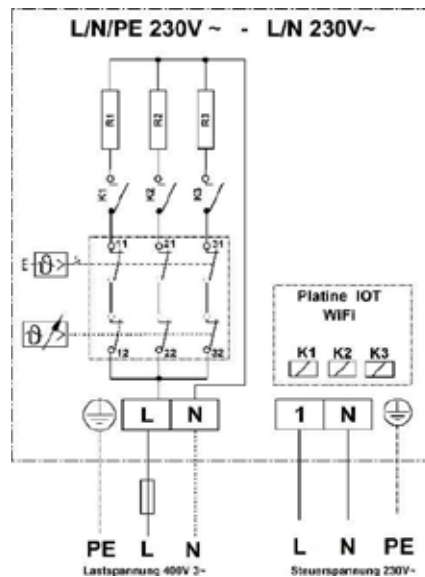
Up to 4 temperature sensores can be connected on the heating element (PT1000 sensors). The four temperatures are displayed in the app as gauge and value.

The sensor 1 is already integrated in the immersion tube of the heating element. The additional sensors 2, 3 and 4 can be ordered as optional accessory with the order-no. 012-0125.



Wiring diagram

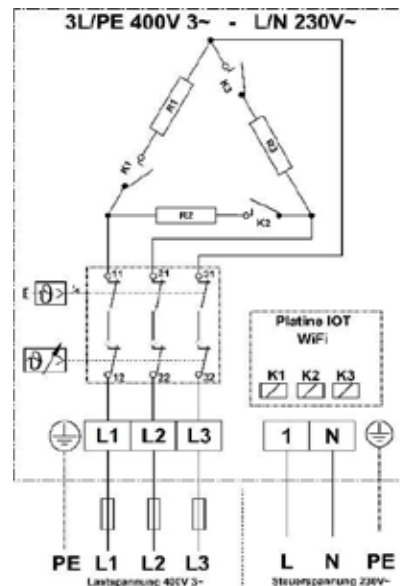
Power range: 1.75 kW



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

Control voltage:
L / N / PE 230 V~

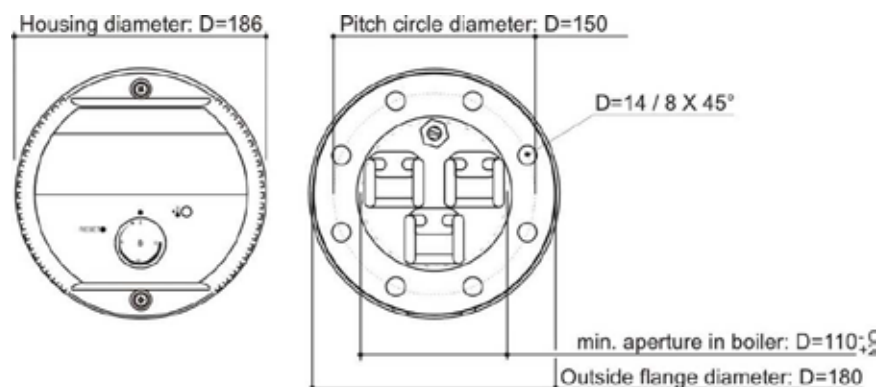
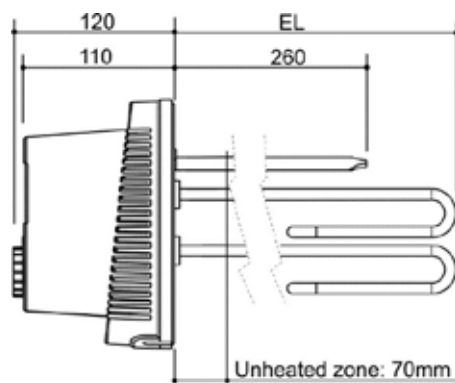
Power range: 3.5 kW up to 5.8 kW



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

Control voltage:
L / N / PE 230 V~

Dimension drawing



2.21

Notes




ASKOHEAT-INTERFACE

SCREW-IN HEATER AND FLANGE HEATER, 7 LEVELS
FOR WLAN, LAN, MODBUS-TCP OR 0-10 V



3.1

ASKOMA  we care
about energy

SCREW-IN HEATER IN 1½"
FLANGE HEATER Ø 180 MM

- 7 levels
- 230 V / 400 V
- For WLAN, LAN, Modbus-TCP or 0-10 V



APPLICATION EXAMPLES

ASKOHEAT-Interface is used in energy management systems that communicate via WLAN, LAN, Modbus TCP or 0-10 V signals.

Our scope of supply includes the **ASKOHEAT-Interface** 7 levels in various power classes as 230 V or 400 V versions.

3 connection variants are available: Flanged and screw-in heaters 1½" and also in the **ASKOCONSOLE-WALL**.

The **ASKOHEAT-Interface** converts your electricity surplus from the PV system, wind turbine, water turbine or CHP into heat and stores it in your buffer tank / boiler in the house. This heat is then available when needed.

Example:

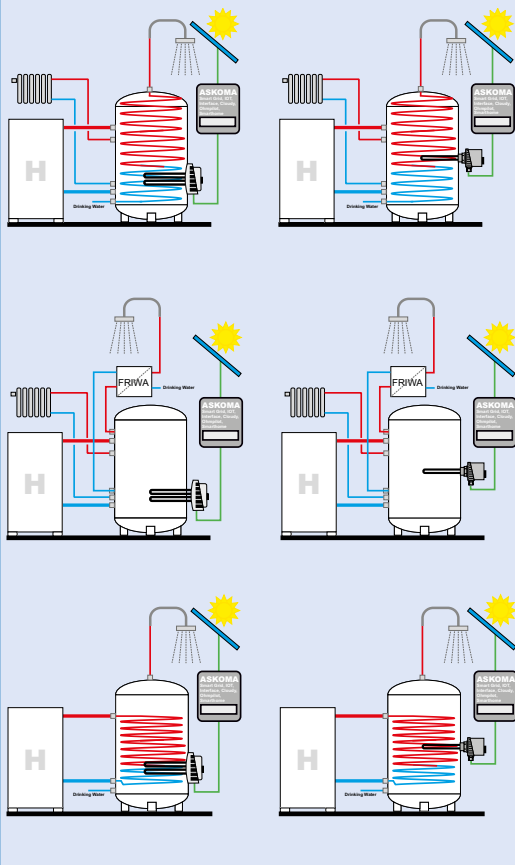
You have a 1000L buffer tank with a fresh water station that you heat up to 40° C with your heat pump. With the **ASKOCONSOLE-WALL** and the **ASKOHEAT-Interface** you can load this buffer up to 85° C.

This means: 1000L x 45° C temperature to max. 85° C x 1.16 / 1000 = You can save around 52kW of PV power.

If you want to save your heat pump's compressor in summer operation for domestic water heating to increase its service life, you can store even more energy than the 52kW listed above. This energy will then be available on demand as needed.

«Joy in heating» through the maximum use of surplus specially produced renewable energy.

3.2



Hygienic tank

- The **ASKOHEAT-INTERFACE** flange and screw-in heaters are designed for easy, direct installation on a hygienic tank to provide the user with energy-efficient, smooth, high-temperature stratification and to store the maximum PV excess current.
- **ASKOHEAT** heating inserts are available in many versions.

Buffer tank, alternatively with fresh water station

- The **ASKOHEAT-INTERFACE** flange and screw-in heaters are designed for easy, direct installation on a buffer tank to provide the user with energy-efficient, smooth, high-temperature stratification and to store the maximum PV excess current.
- **ASKOHEAT** heating inserts are available in many versions.

Drink water storage with ASKOMA PV heating storage insert

- The **ASKOHEAT-INTERFACE** flange and screw-in heaters are designed for easy, direct installation on a drink water storage to provide the user with energy-efficient, smooth, high-temperature stratification and to store the maximum PV excess current.
- **ASKOHEAT** heating inserts are available in many versions.

Technical alterations reserved

ADVANTAGES ASKOHEAT-E

Easy to install

- ① Standard hex for secure tightening with conventional wrenches
- ② Tapered thread for precise housing position and tight installation (1½" and 2" standard)
- ③ With insulated mounting of the heating tubes, suitable for enamelled boilers

Technical Design

- ④ Low surface load (8 W/cm²) for low calcification
- ⑤ Optimal sensor position in the oval immersion tube for identical temperature measurement of safety temperature limiter and temperature control

Technical advantages (on customer request)

- Pre-wired with connection cable
- Various colour options for housing (OEM)
- 400 V and 230 V models
- Multi-stage settings for heating elements
- Fitting thread 1¼" for heating water

ADVANTAGES ASKOHEAT-F

Easy to install

- ① Standard flange Ø 180 mm
- ② Flat gasket included

Technical design

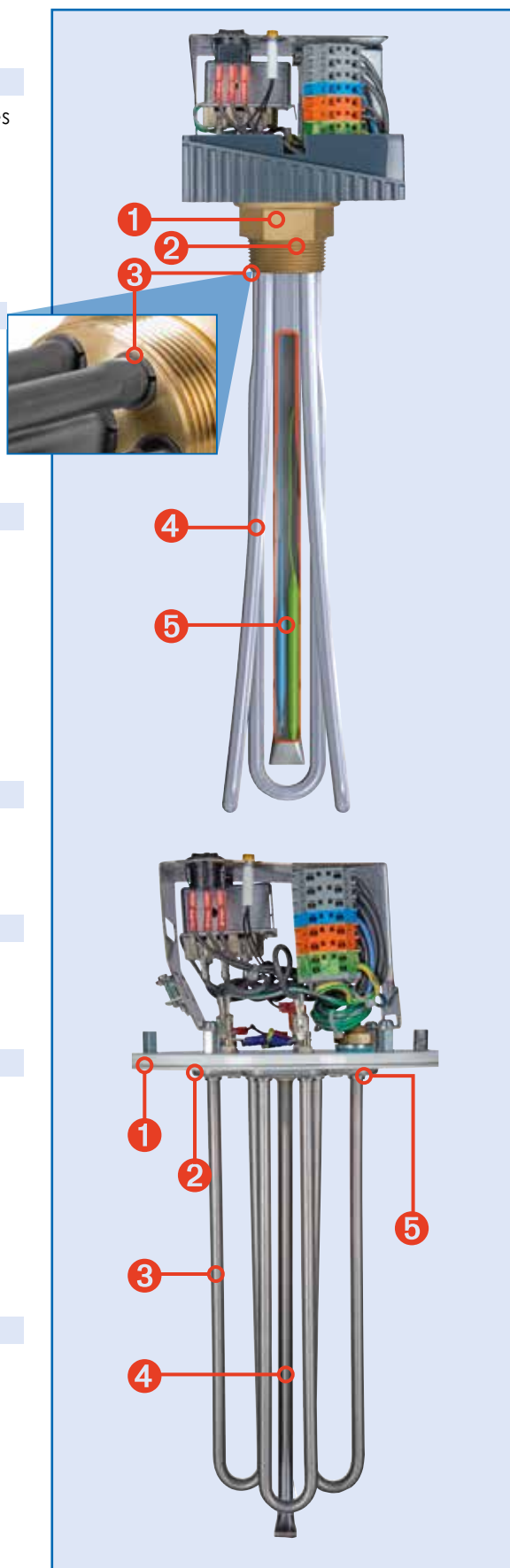
- ③ Low surface load (7 W/cm²) for low calcification
- ④ Optimal sensor position
- ⑤ Insulated assembly of the heating elements for low corrosion

Technical advantages (on customer request)

- Cable entry possible on the side at the top
- Pre-wired with connection cable
- Various colour options for housing (OEM)
- 400 V and 230 V models
- 3 stage settings for heating elements

Approvals

- EN 60335-2-21
Condensate drain in housing prevents corrosion
No damage to the heating element during dry run
Overvoltage resistant (7.25 %)
- EN 60335-1, EN 60335-2-73
- EN 55014-1, EN 55014-2
- EN 62233
- EN 60529



Screw-in heater Insulated mounting

AHIR-BI-IF2...

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

PV own power consumption

- Controllable via Modbus TCP, LAN or WLAN
- Controllable via analogue signal 0-10V
- 7 linear power stages



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 mounted isolated into a 1½" conical brass nipple by food-safe plastic sleeves.
Thanks to the insulated mounting of the heating tubes, the devices are also suitable for enamelled boilers.
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 OFF 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

3.4

Type summary

Industrial and heating water
Incoloy 825, 2.4858

Type	Order-no.	Power	Immersion length [EL]
AHIR-BI-IF2-1.75	012-6351	1.75 kW (0.25 + 0.50 + 1.00 kW)	400 mm
AHIR-BI-IF2-3.5	012-6352	3.50 kW (0.50 + 1.00 + 2.00 kW)	600 mm
AHIR-BI-IF2-4.4	012-6353	4.40 kW (0.65 + 1.25 + 2.50 kW)	700 mm

Function

Analog mode (0-10 V control signal)

The heating element can be controlled with a 0-10 V analog signal in 7 power stages
As soon as the voltage of 1.25 V is reached the device turns up to the first heating stage.
Every following stage needs a voltage rise of 1.25 V.
When the voltage of 8.75 V is reached, the device turns up to the 7th power stage. To avoid flickering, a hysteresis of 0.25 V is programmed

Modbus TCP

In this function the device obtains an IP address via DHCP server. After the heating element is embedded in the network, it can be controlled within 7 power stages and the temperature of the sensors can be read out.

The modbus TCP is described in a separate document and available upon request.

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...95 °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	R 1½" conical
	Brass nipple	CuZn40Pb2
	Heating tube	Incoloy 825, 2.4858
	Surface load	8-9 W/cm²
	Electrical connection	Clamp- and spring clamp technology
	Operating pressure	max. 10 bar
	Housing cover	Polycarbonate, RAL 7035 (light gray)
	Housing base	Polycarbonate, RAL 7016 (anthracite gray)
	Protection mode	IP41 acc. EN 60529

Fitting notes

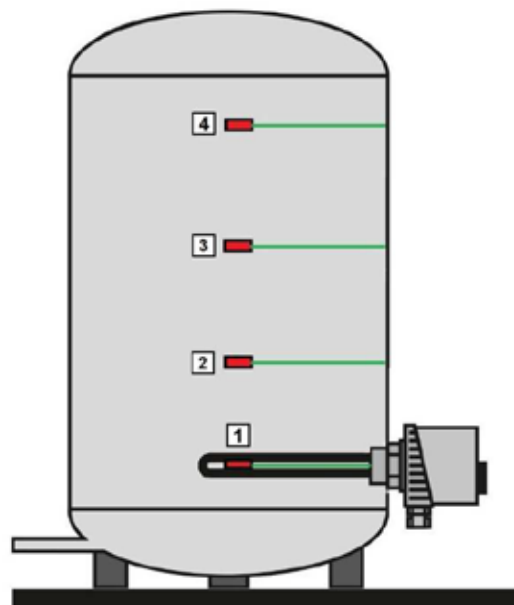
The device must be installed horizontally. The heating tubes must be covered entirely by the liquid. The circulation of the liquid shall not be inhibited.

Please note: This heating element is applicable in stainless steel boilers as well as in black steel / enamelled boilers. Select the settings via DIP switch according to the boiler type.

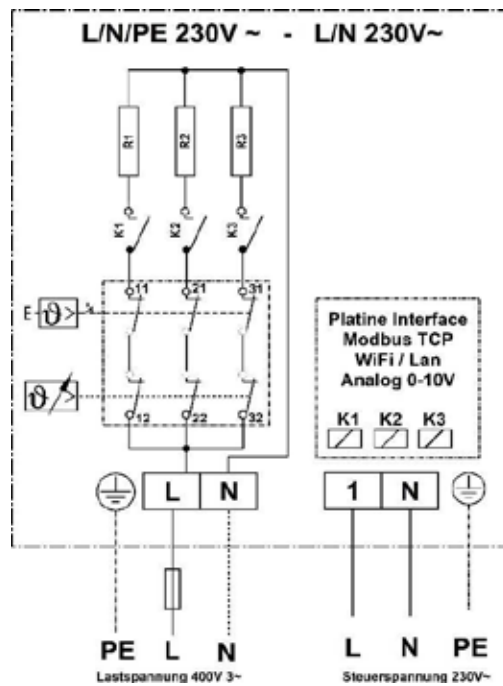
Temperature sensor

Up to 4 temperature sensores can be connected on the heating element (PT1000 sensors). The four temperatures are displayed in the app as gauge and value.

The sensor 1 is already integrated in the immersion tube off he heating element. The additional sensors 2, 3 and 4 can be ordered as optional accessory with the order-no. 012-0125.



Wiring diagram



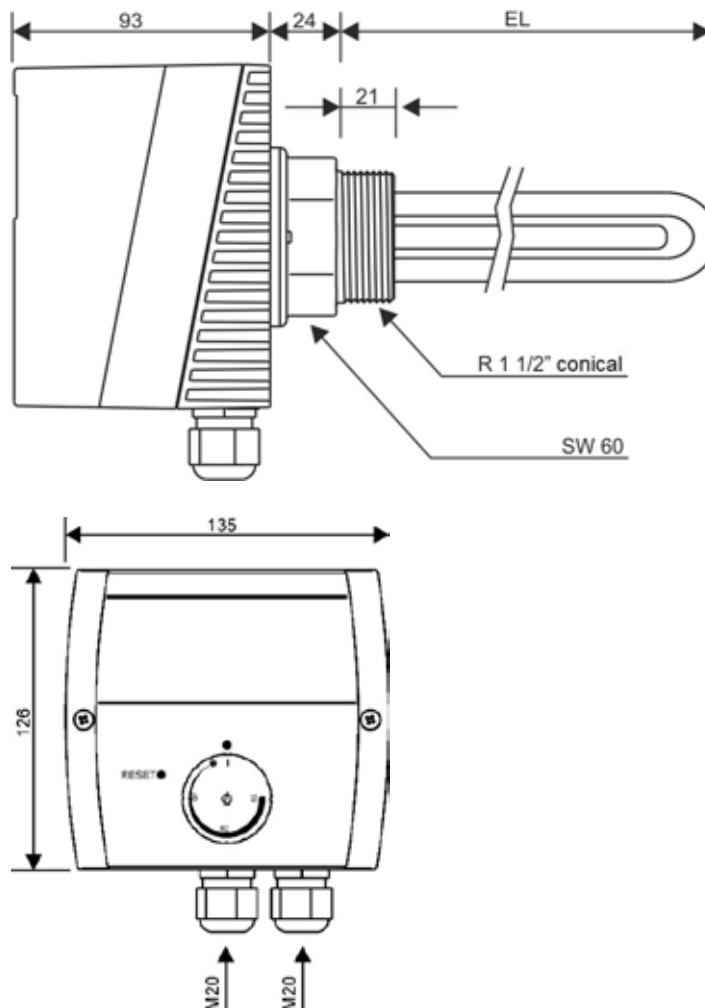
Operating voltage:

L1 / L2 / L3 / N 400 V 3~

Control voltage:

L / N / PE 230 V~

Dimension drawing



Screw-in heater
Insulated mounting

AHIR-BI-IF2-C...

with combination of temperature control, safety temperature limiter and power switching unit for photovoltaic systems, suitable for installation in ASKOCONSOLE-WALL

PV own power consumption

- Controllable via Modbus TCP, LAN or WLAN
- Controllable via analogue signal 0-10V
- 7 linear power stages



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 mounted isolated into a 1½" conical brass nipple by food-safe plastic sleeves.
Thanks to the insulated mounting of the heating tubes, the devices are also suitable for enamelled boilers.
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 OFF 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

3.7

Type summary

Industrial and
heating water
Incoloy 825, 2.4858

Type	Order-no.	Power	Immersion length [EL]
AHIR-BI-IF2-C-1.75	012-6361	1.75 kW (0.25 + 0.50 + 1.00 kW)	400 mm
AHIR-BI-IF2-C-3.5	012-6362	3.50 kW (0.50 + 1.00 + 2.00 kW)	600 mm
AHIR-BI-IF2-C-4.4	012-6363	4.40 kW (0.65 + 1.25 + 2.50 kW)	700 mm

Function

Analog mode (0-10 V control signal)

The heating element can be controlled with a 0-10 V analog signal in 7 power stages
As soon as the voltage of 1.25 V is reached the device turns up to the first heating stage.
Every following stage needs a voltage rise of 1.25 V.
When the voltage of 8.75 V is reached, the device turns up to the 7th power stage. To avoid flickering, a hysteresis of 0.25 V is programmed

Modbus TCP

In this function the device obtains an IP address via DHCP server. After the heating element is embedded in the network, it can be controlled within 7 power stages and the temperature of the sensors can be read out.

The modbus TCP is described in a separate document and available upon request.

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...95 °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	R 1½" conical
	Brass nipple	CuZn40Pb2
	Heating tube	Incoloy 825, 2.4858
	Surface load	8-9 W/cm²
	Electrical connection	Clamp- and spring clamp technology
	Operating pressure	max. 10 bar
	Housing cover	Polycarbonate, RAL 7035 (light gray)
	Housing base	Polycarbonate, RAL 7016 (anthracite gray)
	Protection mode	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.

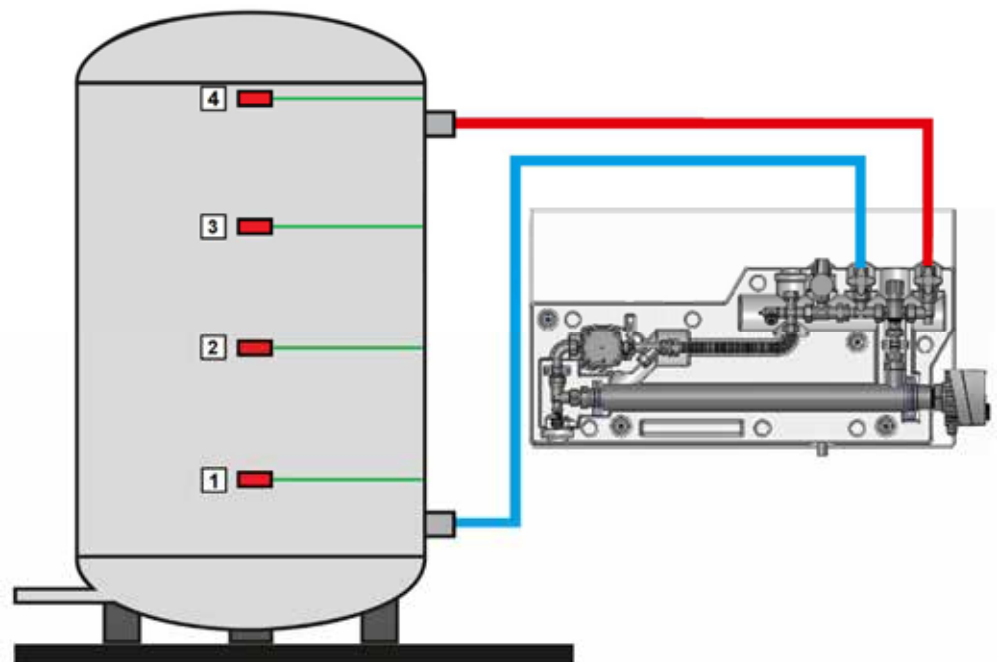
Please note: This heating element is applicable in stainless steel boilers as well as in black steel / enamelled boilers. Select the settings via DIP switch according to the boiler type.

Temperature sensor

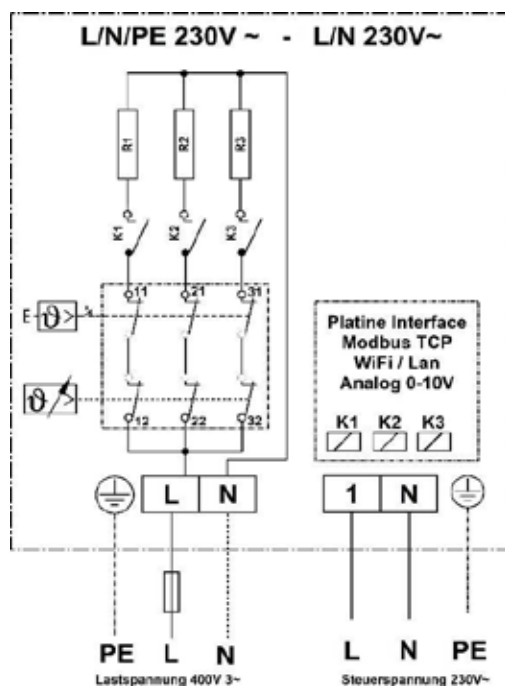
When using the heating element in the ASKOCONSOLE-WALL with junction box, the 4 supplied sensors will be connected on clamps in the junction box. The connection to the heating element will already be wired.

The 4 sensors can be ordered as optional accessory with the order-no. 012-0126.

3.8



Wiring diagram



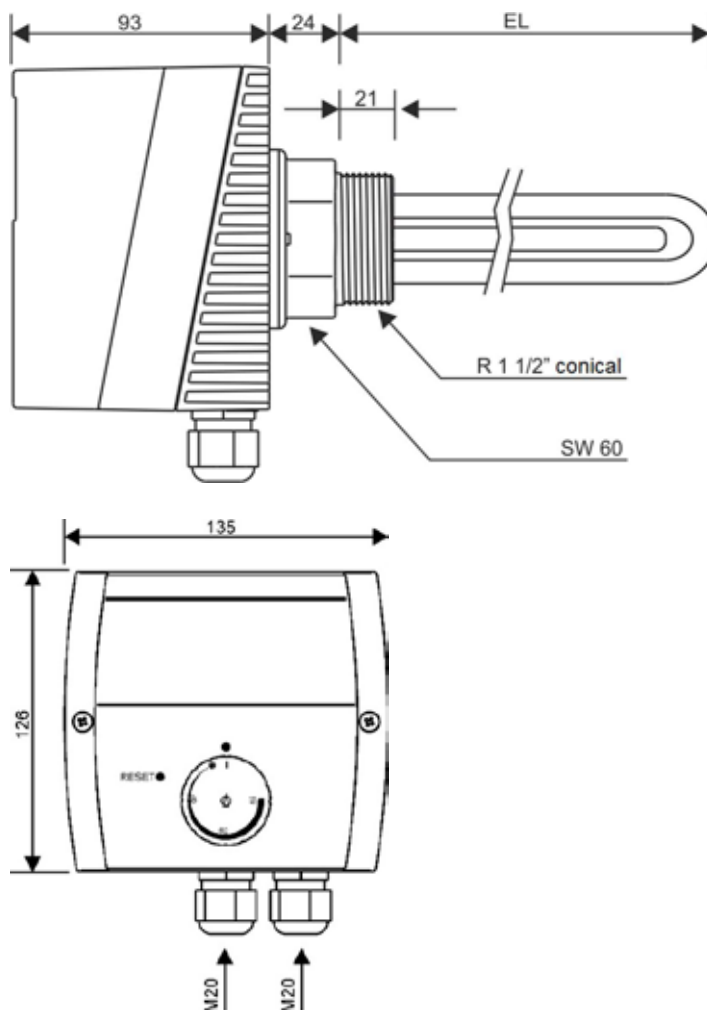
Operating voltage:

L1 / L2 / L3 / N 400 V 3~

Control voltage:

L / N / PE 230 V~

Dimension drawing



Flange heater

AHFR-BI-IF2...

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

PV own power consumption

- Controllable via Modbus TCP, LAN or WLAN
- Controllable via analogue signal 0-10V
- 7 linear power stages



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-IF2-1.75	012-6771	1.75 kW (0.25 + 0.50 + 1.00 kW)	260 mm
AHFR-BI-IF2-3.5	012-6772	3.50 kW (0.50 + 1.00 + 2.00 kW)	360 mm
AHFR-BI-IF2-4.4	012-6773	4.40 kW (0.65 + 1.25 + 2.50 kW)	420 mm

Function

Analog mode (0-10 V control signal)

The heating element can be controlled with a 0-10 V analog signal in 7 power stages. As soon as the voltage of 1.25 V is reached the device turns up to the first heating stage. Every following stage needs a voltage rise of 1.25 V. When the voltage of 8.75 V is reached, the device turns up to the 7th power stage. To avoid flickering, a hysteresis of 0.25 V is programmed.

Modbus TCP

In this function the device obtains an IP address via DHCP server. After the heating element is embedded in the network, it can be controlled within 7 power stages and the temperature of the sensors can be read out.

The modbus TCP is described in a separate document and available upon request.

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

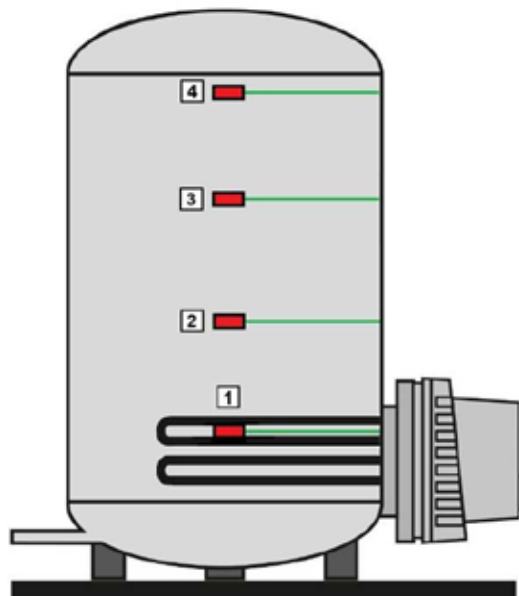
The device must be installed horizontally. The heating tubes must be covered entirely by the liquid. The circulation of the liquid shall not be inhibited.

Please note: This heating element is applicable in stainless steel boilers as well as in black steel / enamelled boilers. Select the settings via DIP switch according to the boiler type.

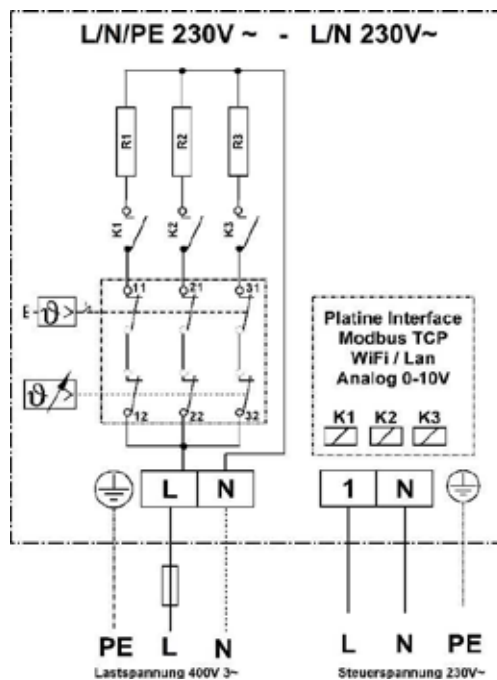
Temperature sensor

Up to 4 temperature sensores can be connected on the heating element (PT1000 sensors). The four temperatures are displayed in the app as gauge and value.

The sensor 1 is already integrated in the immersion tube of the heating element. The additional sensors 2, 3 and 4 can be ordered as optional accessory with the order-no. 012-0125.



Wiring diagram



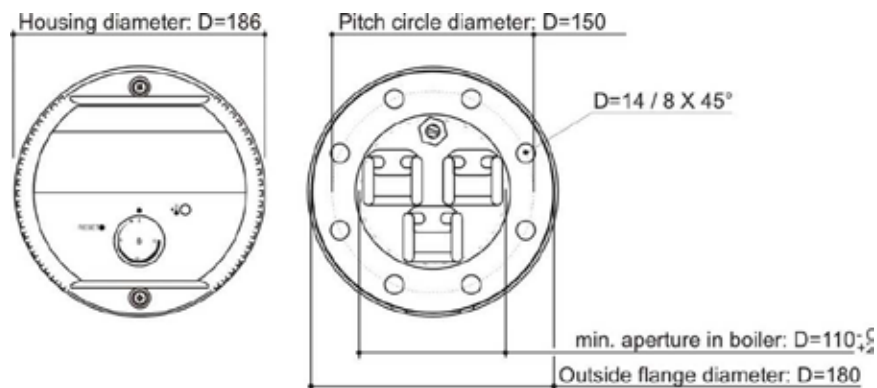
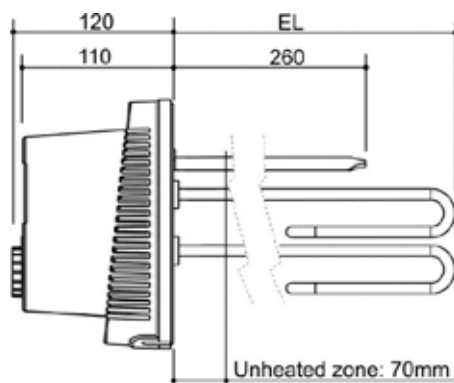
Operating voltage:

L / N / PE 230 V~

Control voltage:

L / N / PE 230 V~

Dimension drawing



**Screw-in heater
Insulated mounting****AHIR-BI-IF4...**

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

PV own power consumption

- Controllable via Modbus TCP, LAN or WLAN
- Controllable via analogue signal 0-10V
- 7 linear power stages

**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 mounted isolated into a 1½" conical brass nipple by food-safe plastic sleeves.
Thanks to the insulated mounting of the heating tubes, the devices are also suitable for enamelled boilers.
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 OFF 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

3.13

Type summary

Industrial and
heating water
Incoloy 825, 2.4858

Type	Order-no.	Power	Immersion length [EL]
AHIR-BI-IF4-1.75	012-6371	1.75 kW (0.25 + 0.50 + 1.00 kW)	400 mm
AHIR-BI-IF4-3.5	012-6372	3.50 kW (0.50 + 1.00 + 2.00 kW)	600 mm
AHIR-BI-IF4-4.4	012-6373	4.40 kW (0.65 + 1.25 + 2.50 kW)	700 mm

Function**Analog mode** (0-10 V control signal)

The heating element can be controlled with a 0-10 V analog signal in 7 power stages
As soon as the voltage of 1.25 V is reached the device turns up to the first heating stage.
Every following stage needs a voltage rise of 1.25 V.
When the voltage of 8.75 V is reached, the device turns up to the 7th power stage. To avoid flickering, a hysteresis of 0.25 V is programmed

Modbus TCP

In this function the device obtains an IP address via DHCP server. After the heating element is embedded in the network, it can be controlled within 7 power stages and the temperature of the sensors can be read out.

The modbus TCP is described in a separate document and available upon request.

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...95 °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	R 1½" conical
	Brass nipple	CuZn40Pb2
	Heating tube	Incoloy 825, 2.4858
	Surface load	8-9 W/cm²
	Electrical connection	Clamp- and spring clamp technology
	Operating pressure	max. 10 bar
	Housing cover	Polycarbonate, RAL 7035 (light gray)
	Housing base	Polycarbonate, RAL 7016 (anthracite gray)
	Protection mode	IP41 acc. EN 60529

Fitting notes

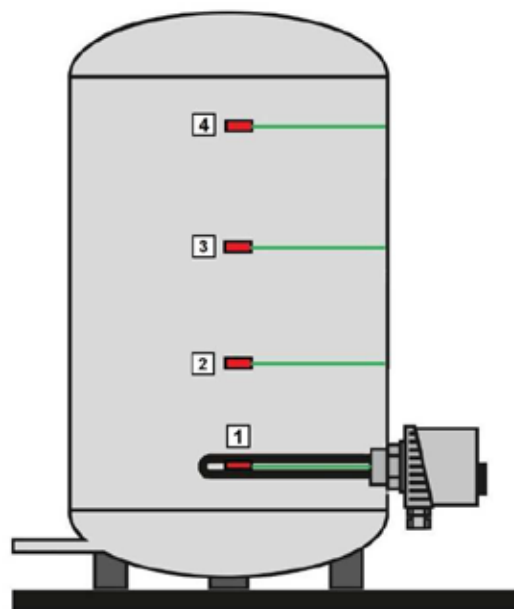
The device must be installed horizontally. The heating tubes must be covered entirely by the liquid. The circulation of the liquid shall not be inhibited.

Please note: This heating element is applicable in stainless steel boilers as well as in black steel / enamelled boilers. Select the settings via DIP switch according to the boiler type.

Temperature sensor

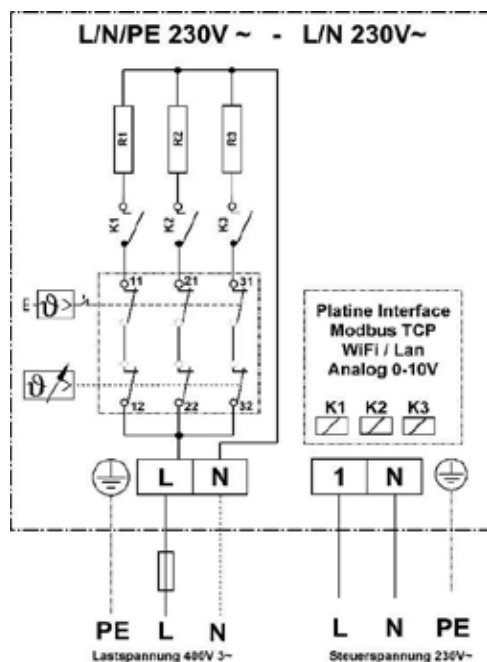
Up to 4 temperature sensores can be connected on the heating element (PT1000 sensors). The four temperatures are displayed in the app as gauge and value.

The sensor 1 is already integrated in the immersion tube of the heating element. The additional sensors 2, 3 and 4 can be ordered as optional accessory with the order-no. 012-0125.

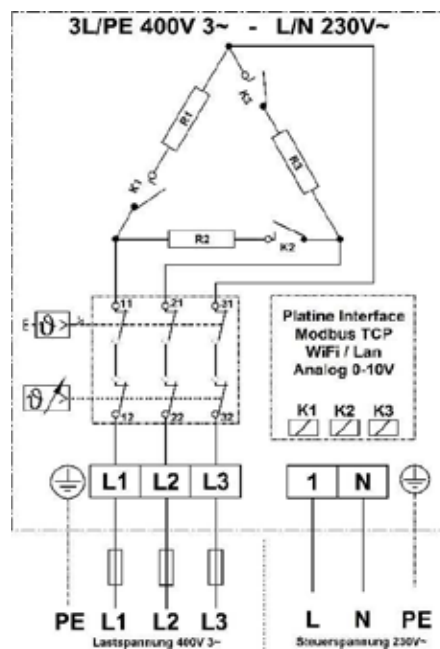


Wiring diagram

Power range: 1.75 kW



Power range: 3.5 kW and 4.4 kW



Operating voltage:

L1 / L2 / L3 / N 400 V 3~

Control voltage:

L / N / PE 230 V~

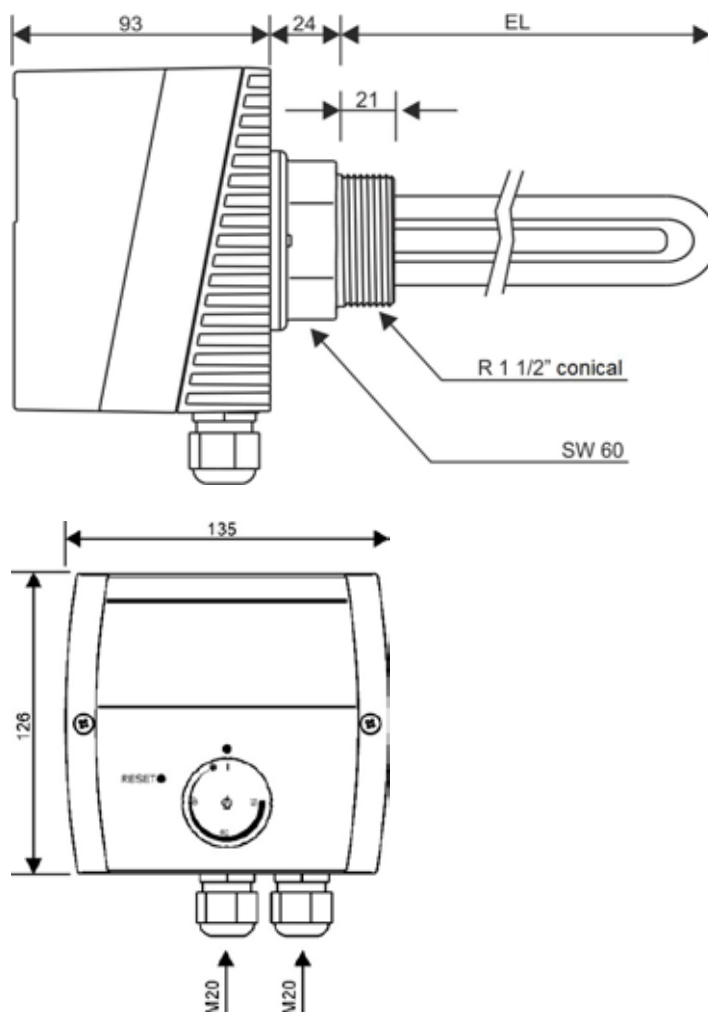
Operating voltage:

L1 / L2 / L3 400 V 3~

Control voltage:

L / N / PE 230 V~

Dimension drawing



3.15

Screw-in heater
Insulated mounting
AHIR-BI-IF4-C...

with combination of temperature control, safety temperature limiter and power switching unit for photovoltaic systems, suitable for installation in ASKOCONSOLE-WALL

PV own power consumption

- Controllable via Modbus TCP, LAN or WLAN
- Controllable via analogue signal 0-10V
- 7 linear power stages


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 mounted isolated into a 1½" conical brass nipple by food-safe plastic sleeves. Thanks to the insulated mounting of the heating tubes, the devices are also suitable for enamelled boilers. 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 OFF 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]
AHIR-BI-IF4-C-1.75	012-6381	1.75 kW (0.25 + 0.50 + 1.00 kW)	400 mm
AHIR-BI-IF4-C-3.5	012-6382	3.50 kW (0.50 + 1.00 + 2.00 kW)	600 mm
AHIR-BI-IF4-C-4.4	012-6383	4.40 kW (0.65 + 1.25 + 2.50 kW)	700 mm

Function
Analog mode (0-10 V control signal)

The heating element can be controlled with a 0-10 V analog signal in 7 power stages. As soon as the voltage of 1.25 V is reached the device turns up to the first heating stage. Every following stage needs a voltage rise of 1.25 V. When the voltage of 8.75 V is reached, the device turns up to the 7th power stage. To avoid flickering, a hysteresis of 0.25 V is programmed.

Modbus TCP

In this function the device obtains an IP address via DHCP server. After the heating element is embedded in the network, it can be controlled within 7 power stages and the temperature of the sensors can be read out.

The modbus TCP is described in a separate document and available upon request.

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...95 °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	R 1½" conical
	Brass nipple	CuZn40Pb2
	Heating tube	Incoloy 825, 2.4858
	Surface load	8-9 W/cm²
	Electrical connection	Clamp- and spring clamp technology
	Operating pressure	max. 10 bar
	Housing cover	Polycarbonate, RAL 7035 (light gray)
	Housing base	Polycarbonate, RAL 7016 (anthracite gray)
	Protection mode	IP41 acc. EN 60529

Fitting notes

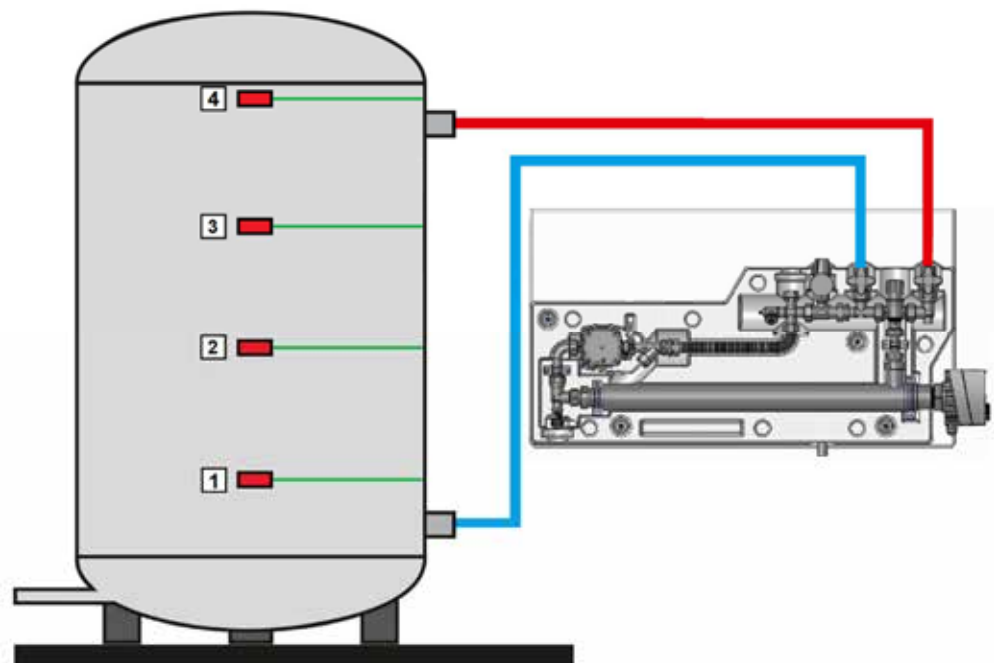
The device must be installed horizontally. The heating tubes must be covered entirely by the liquid. The circulation of the liquid shall not be inhibited.

Please note: This heating element is applicable in stainless steel boilers as well as in black steel / enamelled boilers. Select the settings via DIP switch according to the boiler type.

Temperature sensor

When using the heating element in the ASKOCONSOLE-WALL with junction box, the 4 supplied sensors will be connected on clamps in the junction box. The connection to the heating element will already be wired.

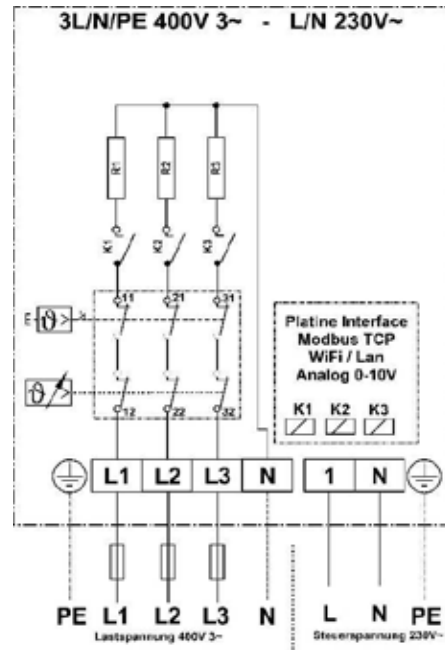
The 4 sensors can be ordered as optional accessory with the order-no. 012-0126.



3.17

Wiring diagram

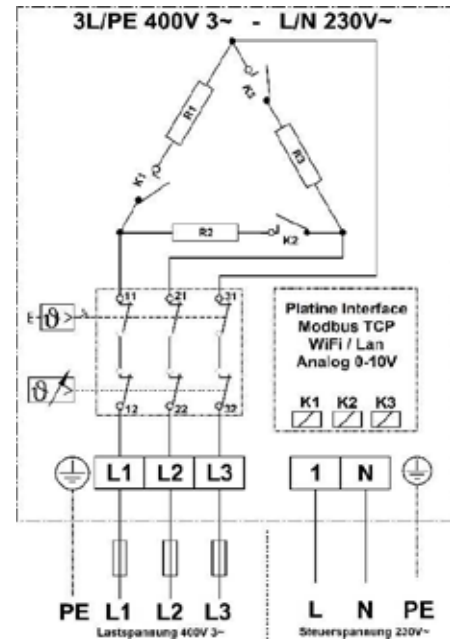
Power range: 1.75 kW



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

Control voltage:
L / N / PE 230 V~

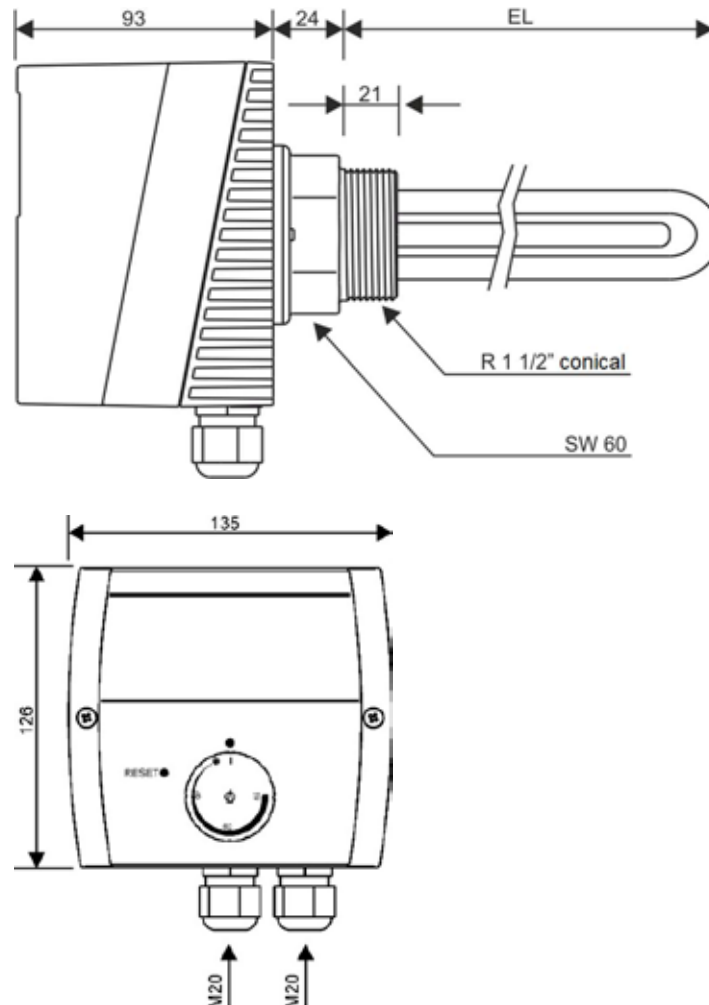
Power range: 3.5 kW and 4.4 kW



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

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

Dimension drawing



Flange heater

AHFR-BI-IF4...

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

PV own power consumption

- Controllable via Modbus TCP, LAN or WLAN
- Controllable via analogue signal 0-10V
- 7 linear power stages



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-IF4-1.75	012-6781	1.75 kW (0.25 + 0.50 + 1.00 kW)	260 mm
AHFR-BI-IF4-3.5	012-6782	3.50 kW (0.50 + 1.00 + 2.00 kW)	360 mm
AHFR-BI-IF4-4.4	012-6783	4.40 kW (0.65 + 1.25 + 2.50 kW)	420 mm
AHFR-BI-IF4-5.8	012-6784	5.80 kW (0.83 + 1.66 + 3.33 kW)	490 mm

Function

Analog mode (0-10 V control signal)

The heating element can be controlled with a 0-10 V analog signal in 7 power stages. As soon as the voltage of 1.25 V is reached the device turns up to the first heating stage. Every following stage needs a voltage rise of 1.25 V. When the voltage of 8.75 V is reached, the device turns up to the 7th power stage. To avoid flickering, a hysteresis of 0.25 V is programmed.

Modbus TCP

In this function the device obtains an IP address via DHCP server. After the heating element is embedded in the network, it can be controlled within 7 power stages and the temperature of the sensors can be read out.

The modbus TCP is described in a separate document and available upon request.

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	Housing cover	Polycarbonate, RAL 7035 (light gray)
	Protection mode	IP21 acc. EN 60529

Fitting notes

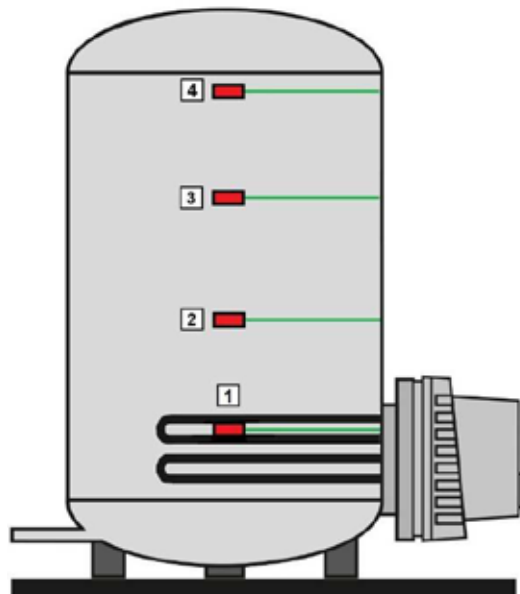
The device must be installed horizontally. The heating tubes must be covered entirely by the liquid. The circulation of the liquid shall not be inhibited.

Please note: This heating element is applicable in stainless steel boilers as well as in black steel / enamelled boilers. Select the settings via DIP switch according to the boiler type.

Temperature sensor

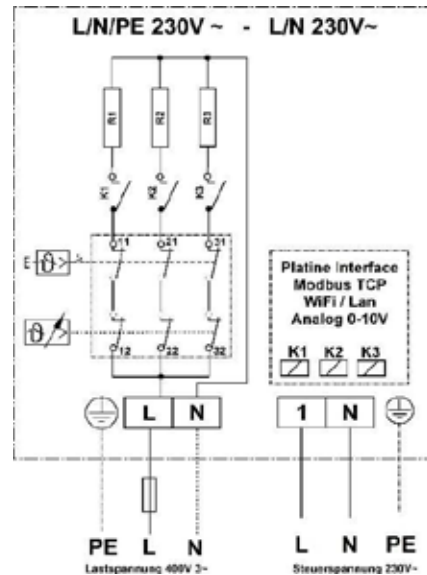
Up to 4 temperature sensores can be connected on the heating element (PT1000 sensors). The four temperatures are displayed in the app as gauge and value.

The sensor 1 is already integrated in the immersion tube of the heating element. The additional sensors 2, 3 and 4 can be ordered as optional accessory with the order-no. 012-0125.



Wiring diagram

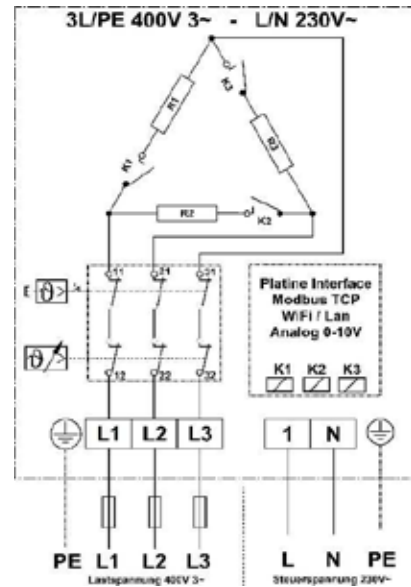
Power range: 1.75 kW



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

Control voltage:
L / N / PE 230 V~

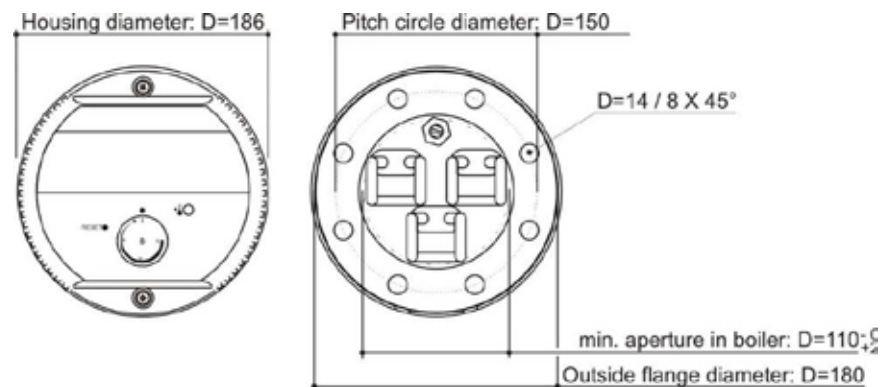
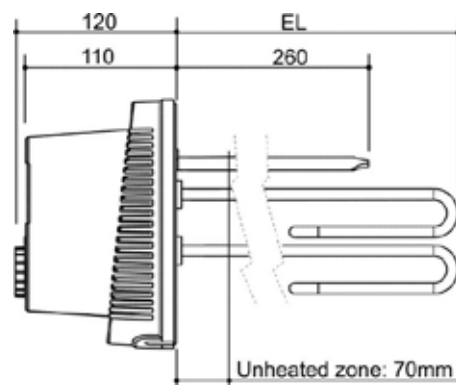
Power range: 3.5 kW up to 5.8 kW



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

Control voltage:
L / N / PE 230 V~

Dimension drawing



3.21




ASKOHEAT-PV

SCREW-IN HEATER AND FLANGE HEATER, 7 AND 3 LEVELS
INCLUDING 3 RELAYS - 230 V



4.1

ASKOMA  we care
about energy

SCREW-IN HEATER IN 1½"
FLANGE HEATER Ø 180 MM

- 7 and 3 levels
- 230 V / 400 V
- Including 3 Relays - 230 V



APPLICATION EXAMPLES

The **ASKOHEAT-PV** relay 7- and 3-stage are used with energy management systems, which controls the built-in 3 relays in the heating element.

Our scope of supply includes the **ASKOHEAT-PV** 7 or 3 levels in various power classes as 230 V or 400 V versions.

3 connection variants are available: Flanged and screw-in heaters 1½" and also in the **ASKOCONSOLE-WALL**.

The **ASKOHEAT-PV** converts your electricity surplus from the PV system, wind turbine, water turbine or CHP into heat and stores it in your buffer tank / boiler in the house. This heat is then available when needed.

Example:

You have a 1000L buffer tank with a fresh water station that you heat up to 40° C with your heat pump. With the **ASKOCONSOLE-WALL** and the **ASKOHEAT-PV** you can load this buffer up to 85° C.

This means: $1000\text{L} \times 45^\circ\text{C temperature to max. } 85^\circ\text{C} \times 1.16 / 1000 =$ You can save around 52kW of PV power.

If you want to save your heat pump's compressor in summer operation for domestic water heating to increase its service life, you can store even more energy than the 52kW listed above. This energy will then be available on demand as needed.

«Joy in heating» through the maximum use of surplus of specially produced renewable energy.

Hygienic tank

- The **ASKOHEAT-PV** flange and screw-in heaters are designed for easy, direct installation on a hygienic tank to provide the user with energy-efficient, smooth, high-temperature stratification and to store the maximum PV excess current.
- **ASKOHEAT** heating inserts are selectable in many performance sizes.

Buffer tank, alternatively with fresh water station

- The **ASKOHEAT-PV** flange and screw-in heaters are designed for easy, direct installation on a buffer tank to provide the user with energy-efficient, smooth, high-temperature stratification and to store the maximum PV excess current.
- **ASKOHEAT** heating inserts are selectable in many performance sizes.

Drink water storage with ASKOMA PV heating storage insert

- The **ASKOHEAT-PV** flange and screw-in heaters are designed for easy, direct installation on a drink water storage to provide the user with energy-efficient, smooth, high-temperature stratification and to store the maximum PV excess current.
- **ASKOHEAT** heating inserts are selectable in many performance sizes.

Technical alterations reserved

ADVANTAGES ASKOHEAT-E

Easy to install

- ① Standard hex for secure tightening with conventional wrenches
- ② Tapered thread for precise housing position and tight installation (1½" and 2" standard)
- ③ With insulated mounting of the heating tubes, suitable for enamelled boilers

Technical Design

- ④ Low surface load (8 W/cm²) for low calcification
- ⑤ Optimal sensor position in the oval immersion tube for identical temperature measurement of safety temperature limiter and temperature control

Technical advantages (on customer request)

- Pre-wired with connection cable
- Various colour options for housing (OEM)
- 400 V and 230 V models
- Multi-stage settings for heating elements
- Fitting thread 1¼" for heating water

ADVANTAGES ASKOHEAT-F

Easy to install

- ① Standard flange Ø 180 mm
- ② Flat gasket included

Technical design

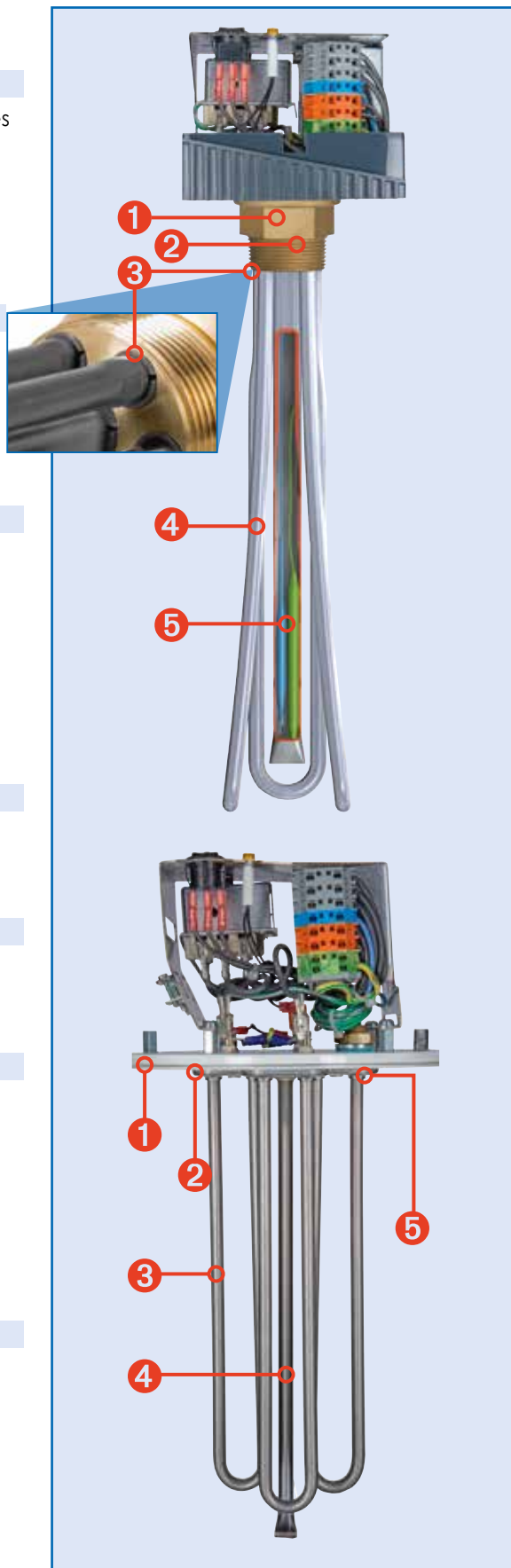
- ③ Low surface load (7 W/cm²) for low calcification
- ④ Optimal sensor position
- ⑤ Insulated assembly of the heating elements for low corrosion

Technical advantages (on customer request)

- Cable entry possible on the side at the top
- Pre-wired with connection cable
- Various colour options for housing (OEM)
- 400 V and 230 V models
- 3 stage settings for heating elements

Approvals

- EN 60335-2-21
Condensate drain in housing prevents corrosion
No damage to the heating element during dry run
Overvoltage resistant (7.25 %)
- EN 60335-1, EN 60335-2-73
- EN 55014-1, EN 55014-2
- EN 62233
- EN 60529



Screw-in heater
insulated mounting

AHIR-BI-PV2-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

- SH The heating element is made of three U-shaped heating tubes, which are mounted isolated into a 1½" sonical brass nipple by food-safe plastic sleeves.
Thanks to the insulated mounting of the heating tubes, the devices are also suitable for enamelled boilers.
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 145979

Type summary

Industrial and
heating water
Incoloy 825, 2.4858

Type	Order-no.	Power	Immersion length [EL]
AHIR-BI-PV2-A-1.75	012-6151	1.75 kW (0.25 + 0.50 + 1.00 kW)	400 mm
AHIR-BI-PV2-A-3.5	012-6152	3.50 kW (0.50 + 1.00 + 2.00 kW)	600 mm
AHIR-BI-PV2-A-4.4	012-6153	4.40 kW (0.65 + 1.25 + 2.50 kW)	700 mm

Technical data

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

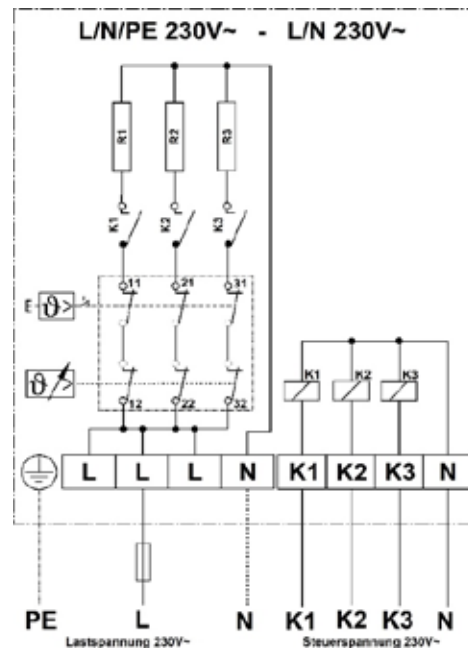
Application range	Adjustable cut-off temperature	0...*...28...85 °C
	Safety cut-off temperature ϑ_{off}	110 °C (0-9 K)
	Ambient temperature on switching head	max. 50 °C (T50)
	Thermal switching differential	11.0 K ± 5.5 K
	Ambient temperature for storage and transport	-30...+90 °C
Calibration	Calibration tolerance	± 7 K
	Time factor in water	<45 s
Specification	Fitting thread	R 1½" conical
	Brass nipple	CuZn40Pb2
	Heating tube	Incoloy 825, 2.4858
	Surface load	8-9 W/cm²
	Electrical connection	Spring clip
	Operating pressure	max. 10 bar
	Housing cover	Polycarbonate, RAL 7035 (light gray)
	Housing base	Polycarbonate, RAL 7016 (anthracite gray)
	Protection mode	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.

Please note: This heating element is applicable in stainless steel boiler as well as in black steel / black steel enamelled boilers. Select the settings via DIP switch according to the boiler type.

Wiring diagram



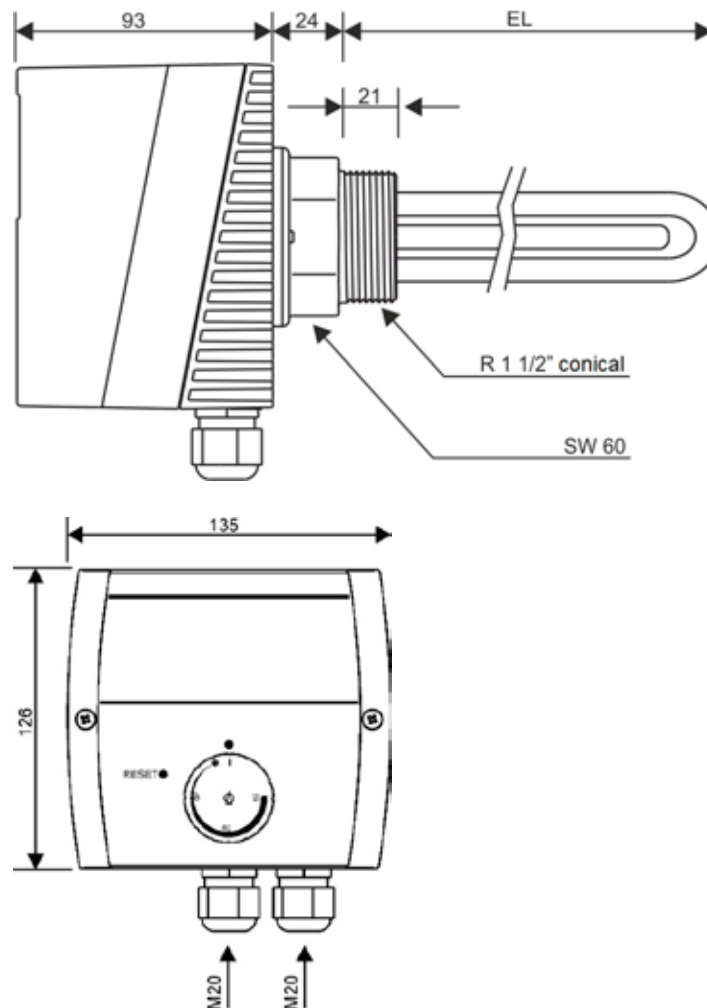
Operating voltage:

L / N / PE 230 V~

Control voltage:

K1 / K2 / K3 / N 230 V~

Dimension drawing



Screw-in heater
insulated mounting

AHIR-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

- SH The heating element is made of three U-shaped heating tubes, which are mounted isolated into a 1½" sonical brass nipple by food-safe plastic sleeves.
Thanks to the insulated mounting of the heating tubes, the devices are also suitable for enamelled boilers.
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 145979

Type summary

Industrial and
heating water
Incoloy 825, 2.4858

Type	Order-no.	Power	Immersion length [EL]
AHIR-BI-PV4-A-1.75	012-6171	1.75 kW (0.25 + 0.50 + 1.00 kW)	400 mm
AHIR-BI-PV4-A-3.5	012-6172	3.50 kW (0.50 + 1.00 + 2.00 kW)	600 mm
AHIR-BI-PV4-A-4.4	012-6173	4.40 kW (0.65 + 1.25 + 2.50 kW)	700 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 ± 5.5 K
	Ambient temperature for storage and transport	-30...+90 °C
Calibration	Calibration tolerance	± 7 K
	Time factor in water	<45 s
Specification	Fitting thread	R 1½" conical
	Brass nipple	CuZn40Pb2
	Heating tube	Incoloy 825, 2.4858
	Surface load	8-9 W/cm²
	Electrical connection	Spring clip
	Operating pressure	max. 10 bar
	Housing cover	Polycarbonate, RAL 7035 (light gray)
	Housing base	Polycarbonate, RAL 7016 (anthracite gray)
	Protection mode	IP41 acc. EN 60529

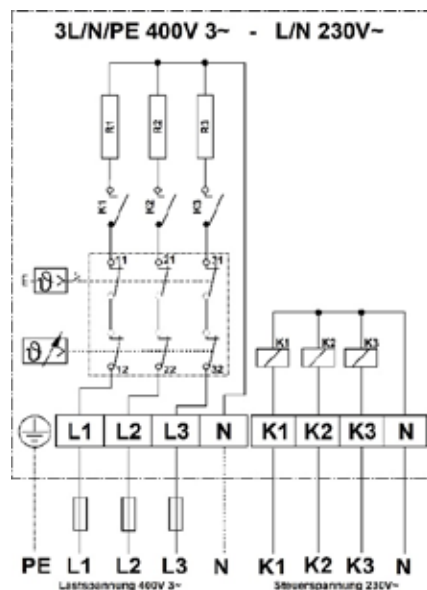
Fitting notes

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.

Please note: This heating element is applicable in stainless steel boiler as well as in black steel / black steel enamelled boilers. Select the settings via DIP switch according to the boiler type.

Wiring diagram

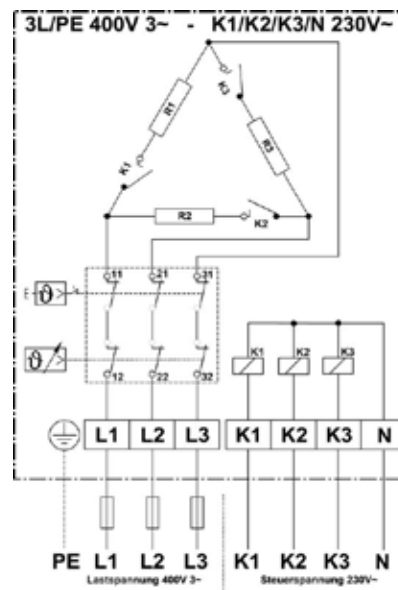
Power range: 1.75 kW



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

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

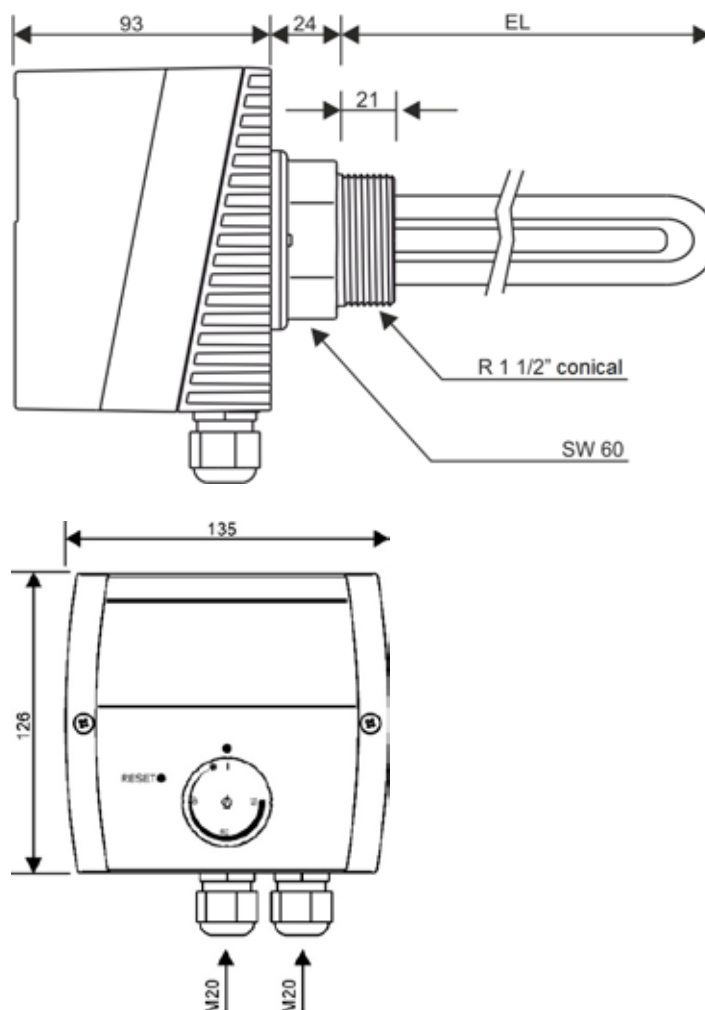
Power range: 3.5 kW and 4.4 kW



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

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

Dimension drawing



Flange heater

AHFR-BI-PV2-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-PV2-A-1.75	012-6651	1.75 kW (0.25 + 0.50 + 1.00 kW)	260 mm
AHFR-BI-PV2-A-3.5	012-6652	3.50 kW (0.50 + 1.00 + 2.00 kW)	360 mm
AHFR-BI-PV2-A-4.4	012-6653	4.40 kW (0.65 + 1.25 + 2.50 kW)	420 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

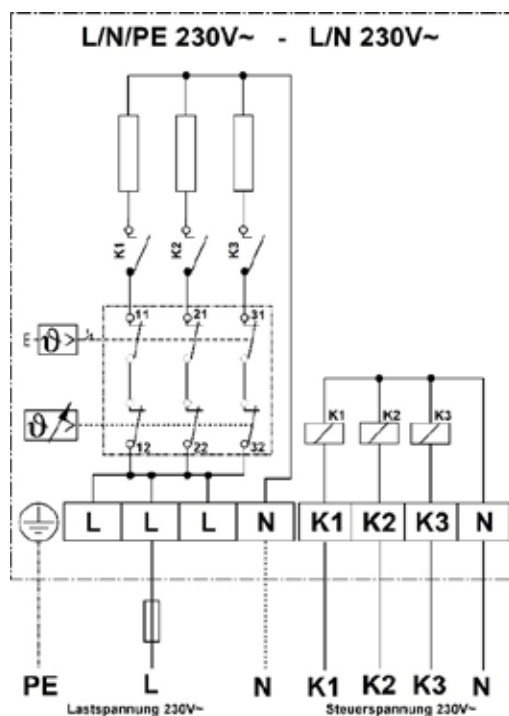
Specification

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



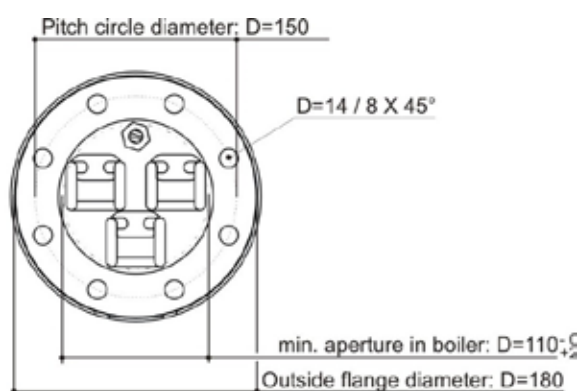
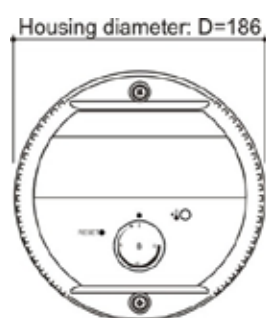
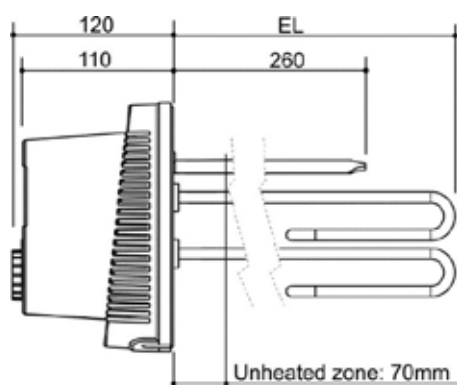
Operating voltage:

L / N / PE 230 V~

Control voltage:

K1 / K2 / K3 / N 230 V~

Dimension drawing



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.

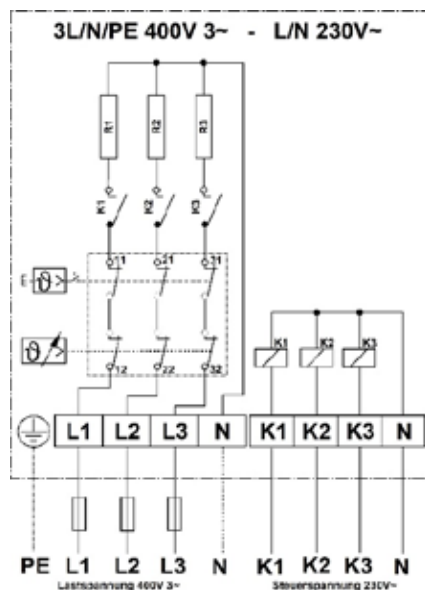
Application range	Adjustable cut-off temperature	0...*...28...85 °C
	Safety cut-off temperature ϑ_{off}	110 °C (0-9 K)
	Ambient temperature on switching head	max. 50 °C (T50)
	Thermal switching differential	11.0 K \pm 5.5 K
	Ambient temperature for storage and transport	-30...+90 °C
Calibration	Calibration 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

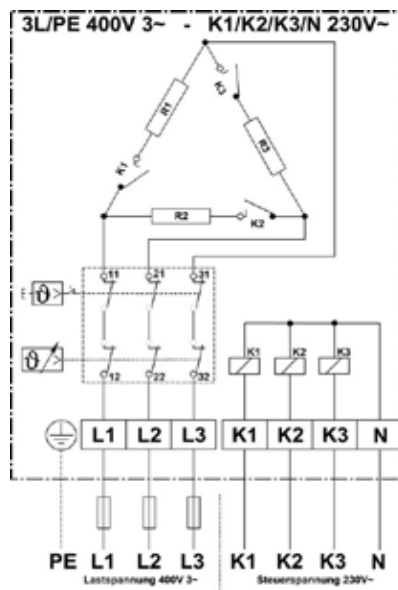
Power range: 1.75 kW



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

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

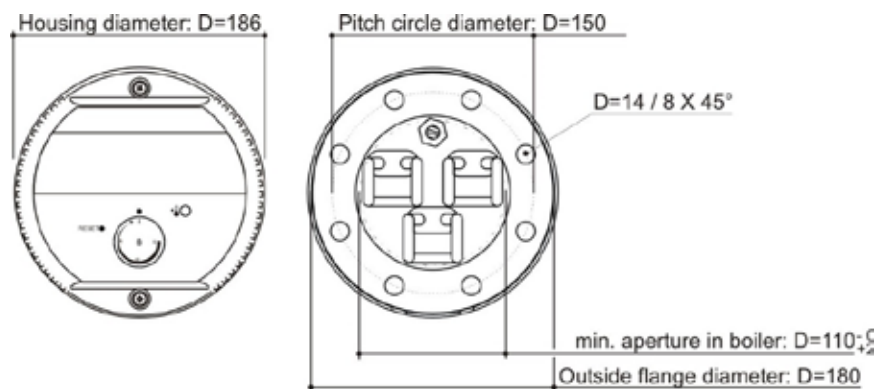
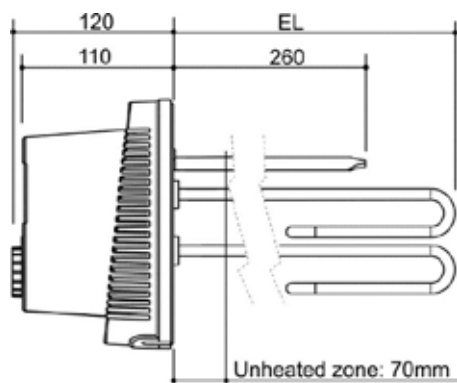
Power range: 3.5 kW up to 5.8 kW



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

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

Dimension drawing



Screw-in heater
insulated mounting

AHIR-BI-PV2-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

- SH The heating element is made of three U-shaped heating tubes, which are mounted isolated into a 1½" sonical brass nipple by food-safe plastic sleeves.
Thanks to the insulated mounting of the heating tubes, the devices are also suitable for enamelled boilers.
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 145979

Type summary

Industrial and
heating water
Incoloy 825, 2.4858

Type	Order-no.	Power	Immersion length [EL]
AHIR-BI-PV2-S-1.0	012-6141	1.00 kW (3 x 0.33 kW)	300 mm
AHIR-BI-PV2-S-1.5	012-6142	1.50 kW (3 x 0.50 kW)	300 mm
AHIR-BI-PV2-S-2.0	012-6143	2.00 kW (3 x 0.67 kW)	300 mm
AHIR-BI-PV2-S-2.5	012-6144	2.50 kW (3 x 0.83 kW)	350 mm
AHIR-BI-PV2-S-3.0	012-6145	3.00 kW (3 x 1.00 kW)	400 mm
AHIR-BI-PV2-S-3.8	012-6146	3.80 kW (3 x 1.26 kW)	450 mm
AHIR-BI-PV2-S-4.5	012-6147	4.50 kW (3 x 1.50 kW)	500 mm

Technical data

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

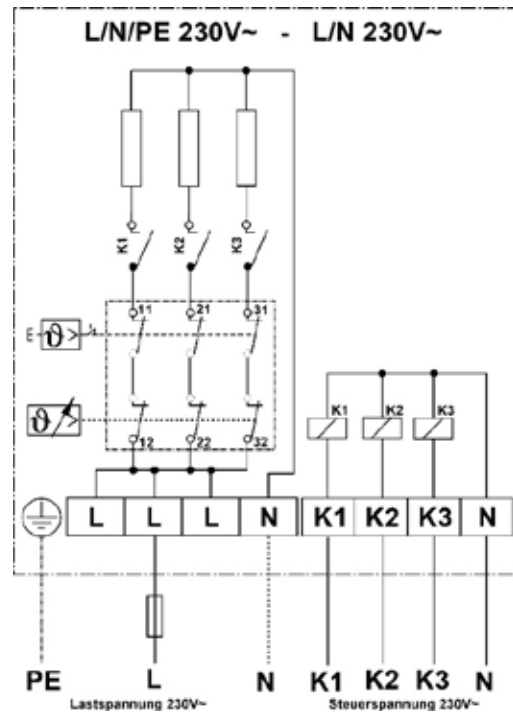
Application range	Adjustable cut-off temperature	0...*...28...85 °C
	Safety cut-off temperature ϑ_{off}	110 °C (0-9 K)
	Ambient temperature on switching head	max. 50 °C (T50)
	Thermal switching differential	11.0 K \pm 5.5 K
	Ambient temperature for storage and transport	-30...+90 °C
Calibration	Calibration tolerance	\pm 7 K
	Time factor in water	<45 s
Specification	Fitting thread	R 1½" conical
	Brass nipple	CuZn40Pb2
	Heating tube	Incoloy 825, 2.4858
	Surface load	8-9 W/cm²
	Electrical connection	Spring clip
	Operating pressure	10 bar max.
	Housing cover	Polycarbonate, RAL 7035 (light gray)
	Housing base	Polycarbonate, RAL 7016 (anthracite gray)
	Protection mode	IP41 acc. EN 60529

Fitting notes

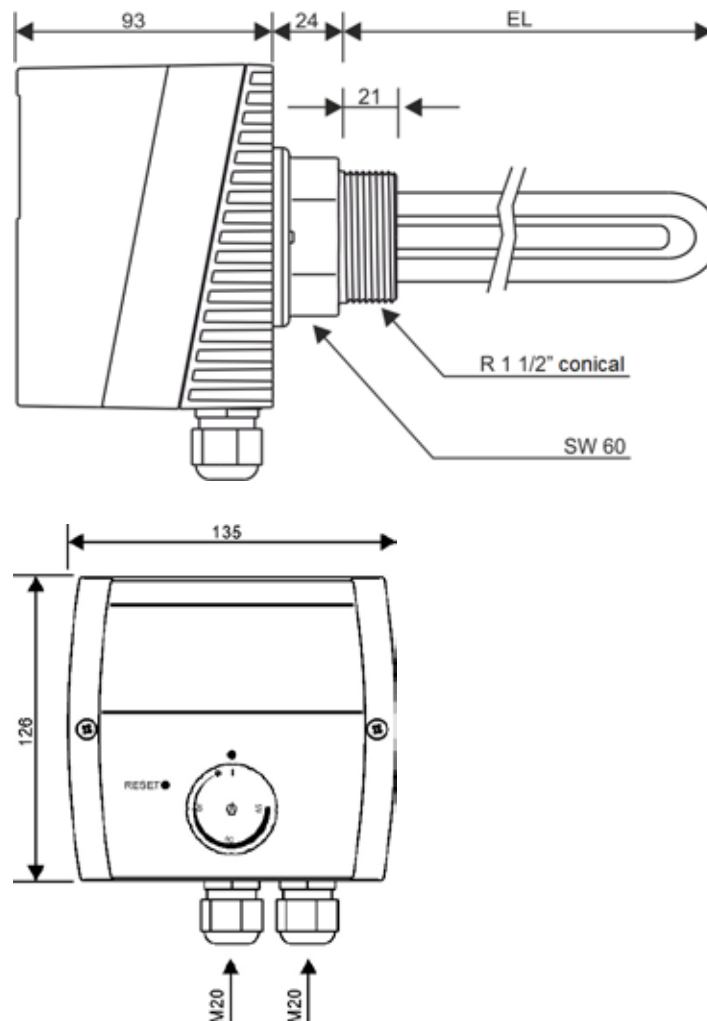
The device must be installed horizontally. The heating tubes must be covered entirely by the liquid. The circulation of the liquid shall not be inhibited.

Please note: This heating element is applicable in stainless steel boiler as well as in black steel / black steel enamelled boilers. Select the settings via DIP switch according to the boiler type.

Wiring diagram



Dimension drawing



Screw-in heater
insulated mounting

AHIR-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

- SH The heating element is made of three U-shaped heating tubes, which are mounted isolated into a 1½" conical brass nipple by food-safe plastic sleeves.
Thanks to the insulated mounting of the heating tubes, the devices are also suitable for enamelled boilers.
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 145979

Type summary

Industrial and
heating water
Incoloy 825, 2.4858

Type	Order-no.	Power	Immersion length [EL]
AHIR-BI-PV4-S-1.0	012-6161	1.00 kW (3 x 0.33 kW)	300 mm
AHIR-BI-PV4-S-2.0	012-6162	2.00 kW (3 x 0.66 kW)	300 mm
AHIR-BI-PV4-S-2.5	012-6163	2.50 kW (3 x 0.83 kW)	350 mm
AHIR-BI-PV4-S-3.0	012-6164	3.00 kW (3 x 1.00 kW)	400 mm
AHIR-BI-PV4-S-3.8	012-6165	3.80 kW (3 x 1.26 kW)	450 mm
AHIR-BI-PV4-S-4.5	012-6166	4.50 kW (3 x 1.50 kW)	500 mm
AHIR-BI-PV4-S-6.0	012-6167	6.00 kW (3 x 2.00 kW)	600 mm
AHIR-BI-PV4-S-7.5	012-6168	7.50 kW (3 x 2.50 kW)	700 mm
AHIR-BI-PV4-S-9.0	012-6169	9.00 kW (3 x 3.00 kW)	750 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	Fitting thread	R 1½" conical
	Brass nipple	CuZn40Pb2
	Heating tube	Incoloy 825, 2.4858
	Surface load	8-9 W/cm²
	Electrical connection	Spring clip
	Operating pressure	max. 10 bar
	Housing cover	Polycarbonate, RAL 7035 (light gray)
	Housing base	Polycarbonate, RAL 7016 (anthracite gray)
	Protection mode	IP41 acc. EN 60529

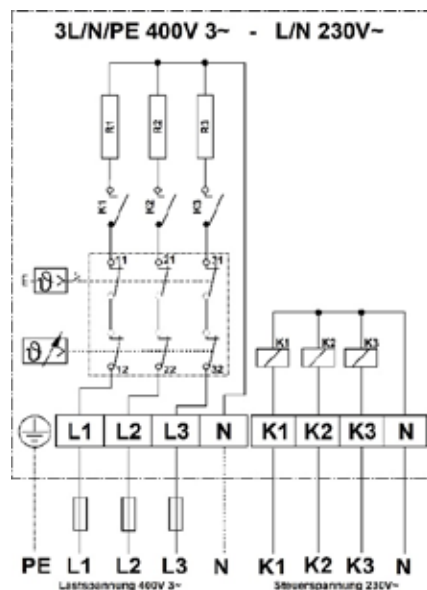
Fitting notes

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.

Please note: This heating element is applicable in stainless steel boiler as well as in black steel / black steel enamelled boilers. Select the settings via DIP switch according to the boiler type.

Wiring diagram

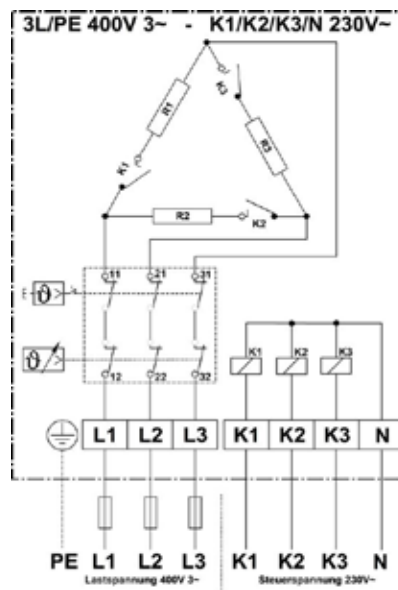
Power range: 1.0 kW up to 3.0 kW



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

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

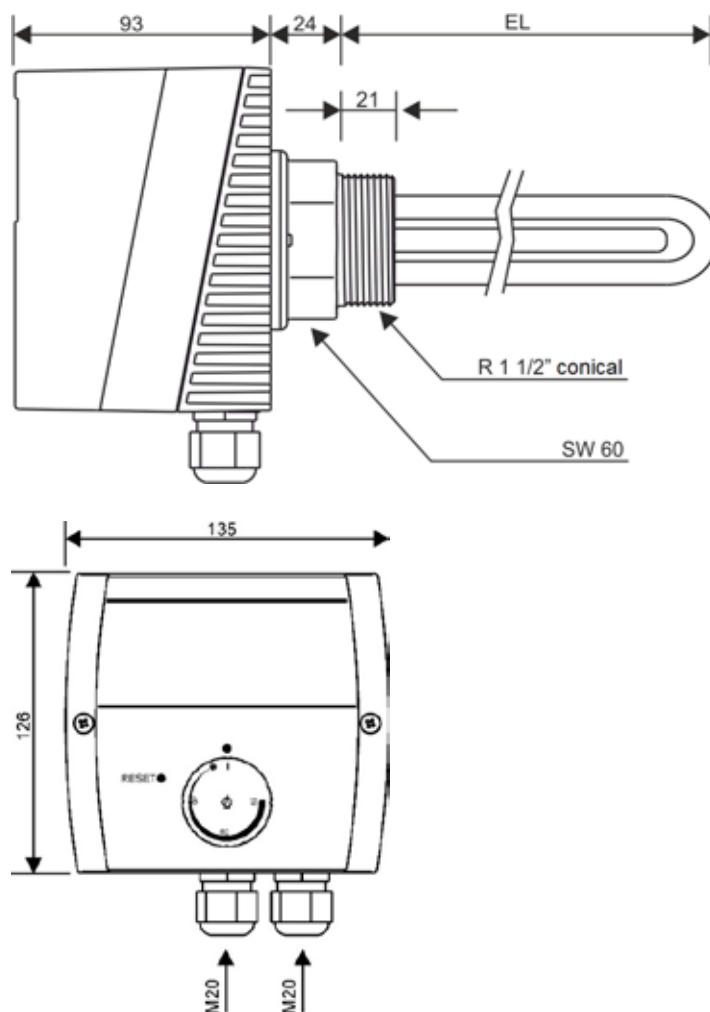
Power range: 3.8 kW up to 9.0 kW



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

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

Dimension drawing



4.15

Flange heater

AHFR-BI-PV2-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-PV2-S-1.0	012-6641	1.0 kW (3 x 0.33 kW)	260 mm
AHFR-BI-PV2-S-2.0	012-6642	2.0 kW (3 x 0.67 kW)	260 mm
AHFR-BI-PV2-S-2.5	012-6643	2.5 kW (3 x 0.83 kW)	310 mm
AHFR-BI-PV2-S-3.0	012-6644	3.0 kW (3 x 1.00 kW)	260 mm

Technical data

Die folgenden Angaben gelten für die oben aufgelisteten Normaltypen. Hiervon abweichende Varianten haben funktionsbedingt andere Daten.

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

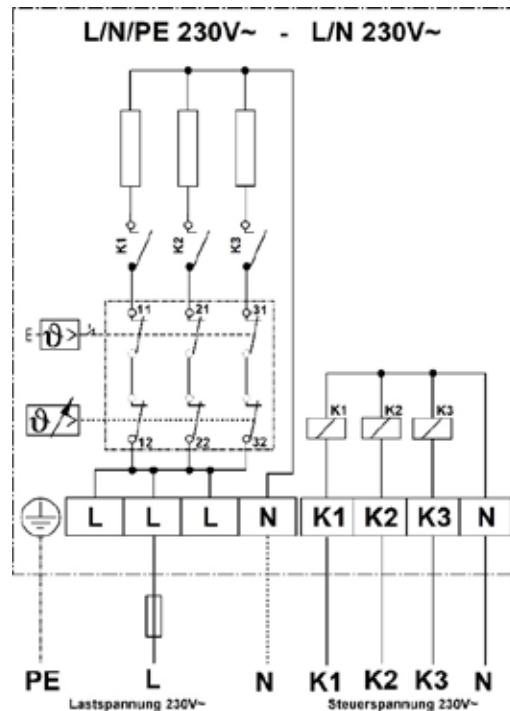
Specification

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	certification
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



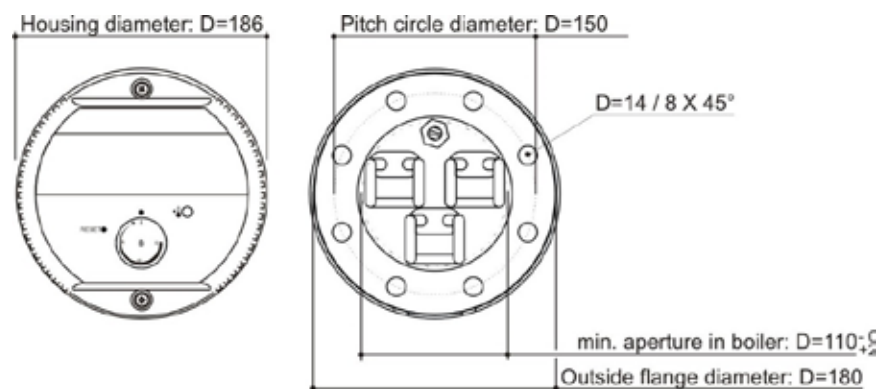
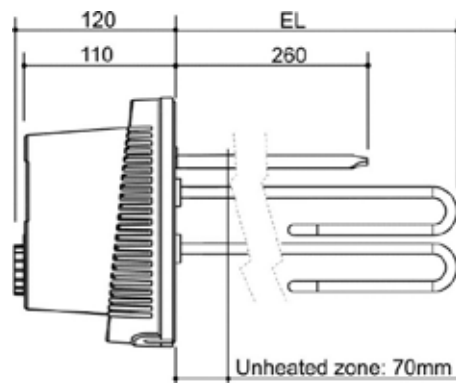
Operating voltage:

L / N / PE 230 V~

Control voltage:

K1 / K2 / K3 / N 230 V~

Dimension drawing



4.17

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	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

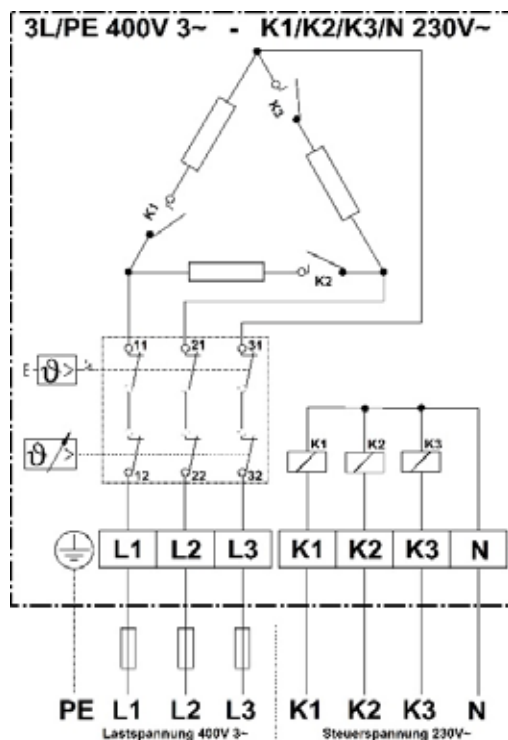
Operating pressure
Housing cover
Protection mode

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



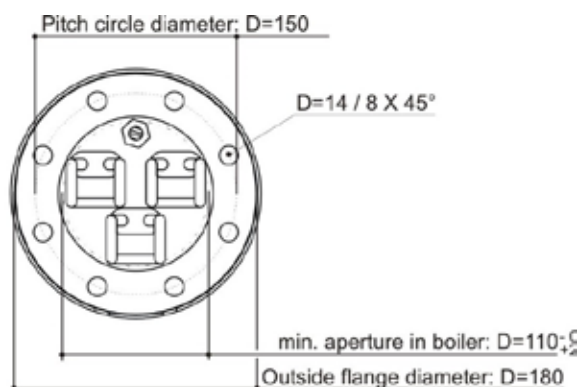
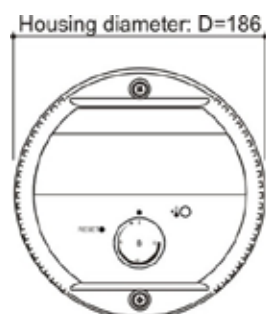
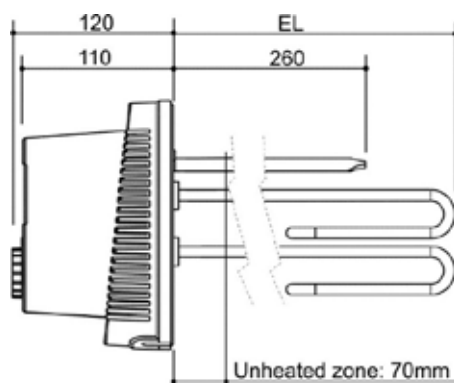
Operating voltage:

L1 / L2 / L3 400 V 3~

Control voltage:

K1 / K2 / K3 / N 230 V~

Dimension drawing



4.19


Notes



ASKOHEAT-OHMPILOT

SCREW-IN HEATER AND FLANGE HEATER
SUITABLE FOR CONTINUOUS OPERATION VIA OHMPILOT



ASKOMA  we care
about energy

5.1

SCREW-IN HEATER IN 1½"
FLANGE HEATER Ø 180 MM

- Continuous heating power via Ohmpilot
- 400 V 3~



APPLICATION EXAMPLES

The **ASKOHEAT-OHMPILOT** is needed if you use a Fronius Ohmpilot continuously steering the **ASKOHEAT-OHMPILOT** 400 V.

Our scope of supply includes the **ASKOHEAT-OHMPILOT** continuously variable in various power classes as 400 V version.

3 connection variants are available: Flanged and screw-in heaters 1½" and also in the **ASKOCONSOLE-WALL**.

The **ASKOHEAT-OHMPILOT** converts your electricity surplus from the PV system, wind turbine, water turbine or CHP into heat and stores it in your buffer tank / boiler in the house. This heat is then available when needed.

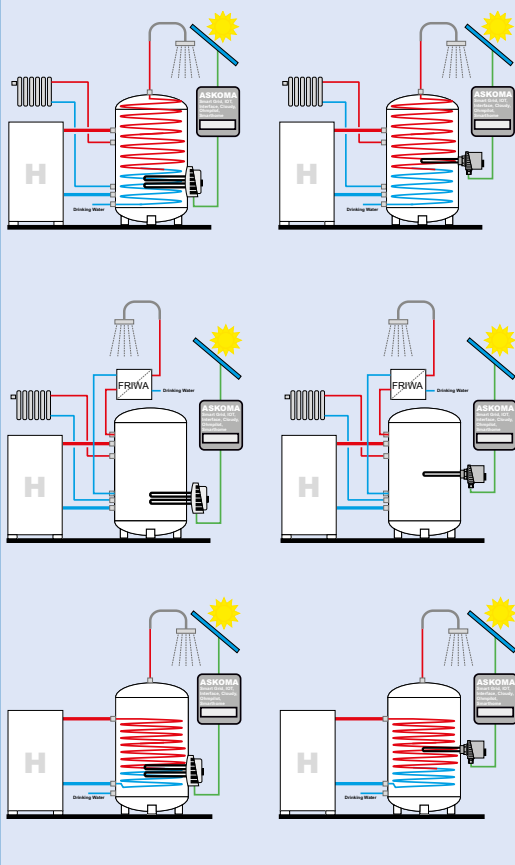
Example:

You have a 1000L buffer tank with a fresh water station that you heat up to 40° C with your heat pump. With the **ASKOCONSOLE-WALL** and the **ASKOHEAT-OHMPILOT** you can load this buffer up to 85° C.

This means: $1000\text{L} \times 45^\circ\text{C temperature to max. } 85^\circ\text{C} \times 1.16 / 1000 =$ You can save around 52kW of PV power.

If you want to save your heat pump's compressor in summer operation for domestic water heating to increase its service life, you can store even more energy than the 52kW listed above. This energy will then be available on demand as needed.

«Joy in heating» through the maximum use of surplus of specially produced renewable energy.



Hygienic tank

- The **ASKOHEAT-OHMPILOT** flange and screw-in heaters are designed for easy, direct installation on a hygienic tank to provide the user with energy-efficient, smooth, high-temperature stratification and to store the maximum PV excess current.
- **ASKOHEAT** heating inserts are selectable in many performance sizes.

Buffer tank, alternatively with fresh water station

- The **ASKOHEAT-OHMPILOT** flange and screw-in heaters are designed for easy, direct installation on a buffer tank to provide the user with energy-efficient, smooth, high-temperature stratification and to store the maximum PV excess current.
- **ASKOHEAT** heating inserts are selectable in many performance sizes.

Drink water storage with ASKOMA PV heating storage insert

- The **ASKOHEAT-OHMPILOT** flange and screw-in heaters are designed for easy, direct installation on a drink water storage to provide the user with energy-efficient, smooth, high-temperature stratification and to store the maximum PV excess current.
- **ASKOHEAT** heating inserts are selectable in many performance sizes.

Technical alterations reserved

ADVANTAGES ASKOHEAT-OP

Easy to install

- ① Standard hex for secure tightening with conventional wrenches
- ② Tapered thread for precise housing position and tight installation (1½" and 2" standard)
- ③ With insulated mounting of the heating tubes, suitable for enamelled boilers

Technical Design

- ④ Low surface load (8 W/cm²) for low calcification
- ⑤ Optimal sensor position in the oval immersion tube for identical temperature measurement of safety temperature limiter and temperature control

Technical advantages (on customer request)

- Pre-wired with connection cable
- Various colour options for housing (OEM)
- 400 V and 230 V models
- Multi-stage settings for heating elements
- Fitting thread 1¼" for heating water

ADVANTAGES ASKOHEAT-FOP

Easy to install

- ① Standard flange Ø 180 mm
- ② Flat gasket included

Technical design

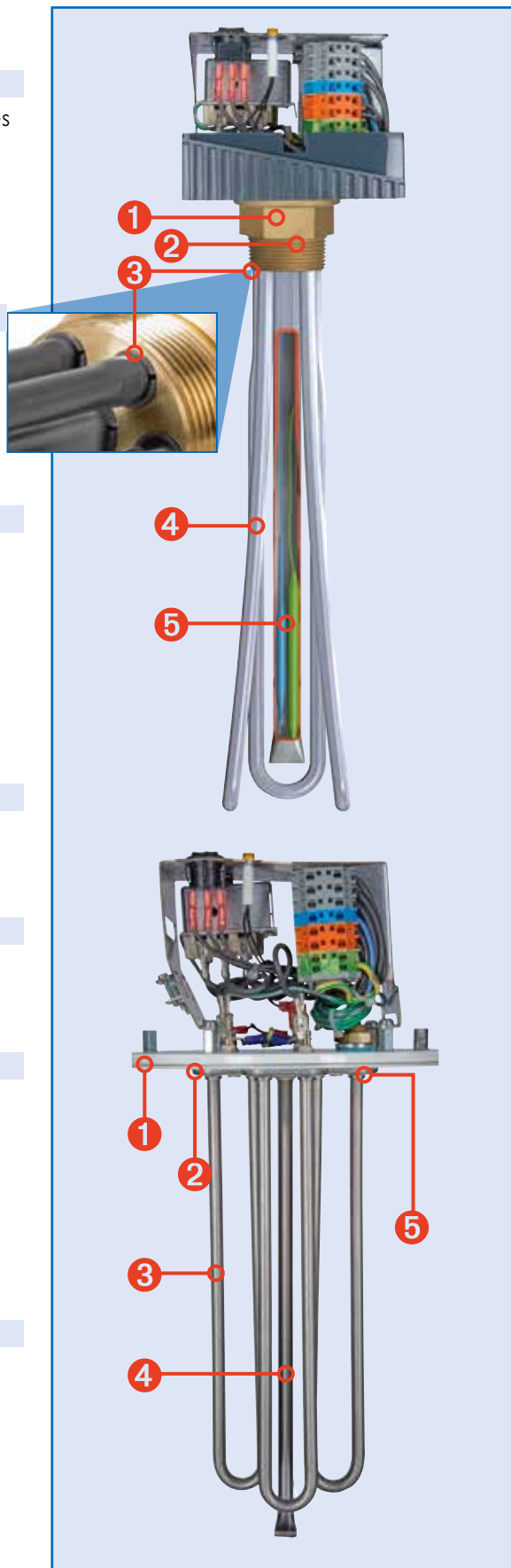
- ③ Low surface load (7 W/cm²) for low calcification
- ④ Optimal sensor position
- ⑤ Insulated assembly of the heating elements for low corrosion

Technical advantages (on customer request)

- Cable entry possible on the side at the top
- Pre-wired with connection cable
- Various colour options for housing (OEM)
- 400 V and 230 V models
- 3 stage settings for heating elements

Approvals

- EN 60335-2-21
Condensate drain in housing prevents corrosion
No damage to the heating element during dry run
Overvoltage resistant (7.25 %)
- EN 60335-1, EN 60335-2-73
- EN 55014-1, EN 55014-2
- EN 62233
- EN 60529



**Screw-in heater
insulated mounting**
AHIR-BI-OP-...

With combination of temperature control and safety
temperature limiter
Compatible with the consumption regulator
Fronius Ohmpilot

PV own power consumption

- Immersion heater with continuous adjustment via Ohmpilot from Fronius
- Power regulation from 0 to 100%


**Application
Features**

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

SH The heating element is made of three U-shaped heating tubes, which are mounted isolated into a 1½" conical brass nipple by food-safe plastic sleeves. Thanks to the insulated mounting of the heating tubes, the devices are also suitable for enamelled boilers. By using the integrated DIP switch, the potential equalisation resistance for the usage in stainless steel tanks is bridgeable. 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 and heating water
Incoloy 825, 2.4858

Type	Order no.	Power	Immersion length [EL]
AHIR-BI-OP-1.0	012-5501	1.00 kW; 400V 3~	300mm
AHIR-BI-OP-2.0	012-5502	2.00 kW; 400V 3~	300mm
AHIR-BI-OP-2.5	012-5503	2.50 kW; 400V 3~	350mm
AHIR-BI-OP-3.0	012-5504	3.00 kW; 400V 3~	400mm
AHIR-BI-OP-3.8	012-5505	3.80 kW; 400V 3~	450mm
AHIR-BI-OP-4.5	012-5506	4.50 kW; 400V 3~	500mm
AHIR-BI-OP-6.0	012-5507	6.00 kW; 400V 3~	600mm
AHIR-BI-OP-7.5	012-5508	7.50 kW; 400V 3~	700mm
AHIR-BI-OP-9.0	012-5509	9.00 kW; 400V 3~	750mm

5.4
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

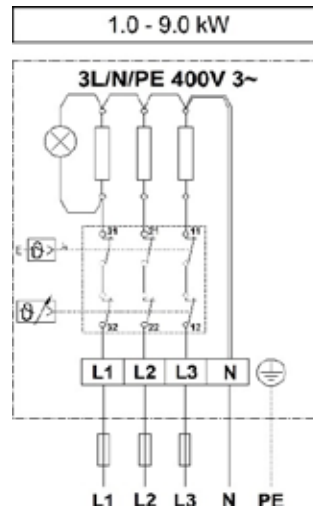
Fitting thread
Brass nipple
Heating tube
Surface load
Electrical connection
Operating pressure
Housing
Protection mode

R 1½" conical
CuZn40Pb2
Incoloy 825, 2.4858
8-9 W/cm2
Screw clip
max. 10 bar
Polycarbonate, RAL 7035 (light gray)
IP41 acc. EN 60529

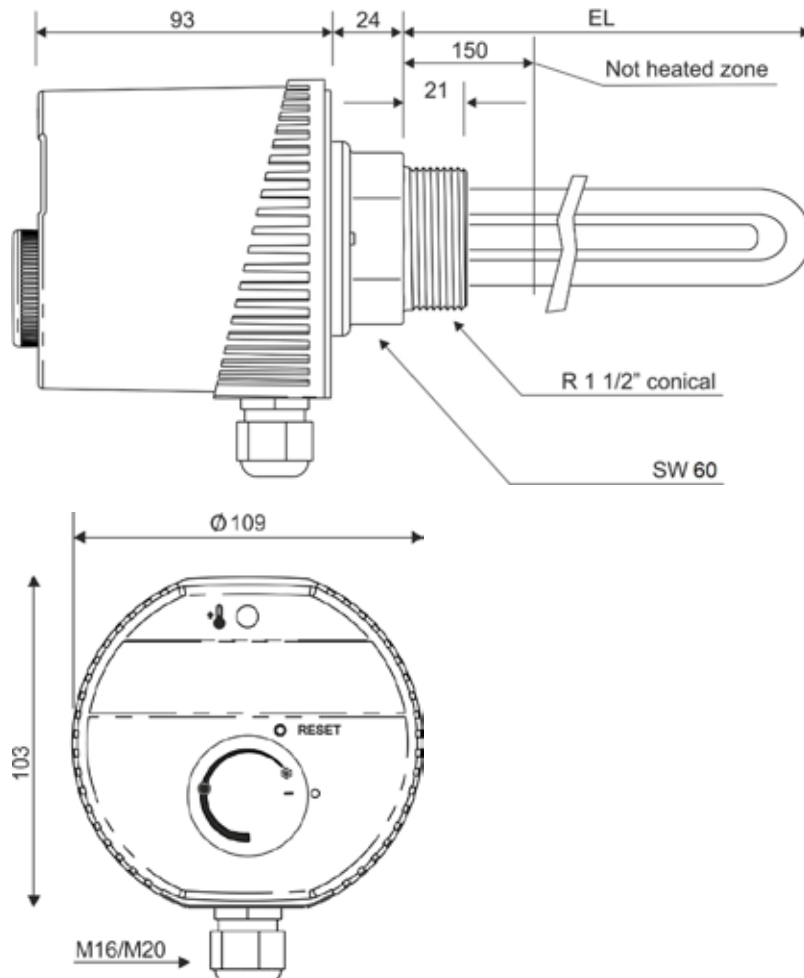
Fitting notes

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



Dimension drawing



Flange heater Ø 180 mm
Incoloy 825; 2.4858

AHFOR-BI-OP-...

With combination of temperature control and safety
temperature limiter
Compatible with the consumption regulator
Fronius Ohmpilot

PV own power consumption

- Immersion heater with continuous adjustment via Ohmpilot from Fronius
- Power regulation from 0 to 100%



Application

Auxiliary heating system of industrial water and heating water.

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. Thanks to the insulated mounting of the heating tubes, the devices are also suitable for enamelled boilers. By using the integrated DIP switch, the potential equalisation resistance for the usage in stainless steel tanks is bridgeable. 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 145979

Type summary

Industrial and heating water
Incoloy 825, 2.4858

Type	Order no.	Power	Immersion length [EL]
AHFOR-BI-OP-2.0	012-5601	2.0kW; 400V 3~	260mm
AHFOR-BI-OP-2.5	012-5602	2.5kW; 400V 3~	310mm
AHFOR-BI-OP-4.0	012-5603	4.0kW; 400V 3~	260mm
AHFOR-BI-OP-5.0	012-5604	5.0kW; 400V 3~	300mm
AHFOR-BI-OP-6.0	012-5605	6.0kW; 400V 3~	360mm
AHFOR-BI-OP-7.5	012-5606	7.5kW; 400V 3~	420mm
AHFOR-BI-OP-8.0	012-5607	8.0kW; 400V 3~	450mm
AHFOR-BI-OP-9.0	012-5608	9.0kW; 400V 3~	490mm



5.6

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

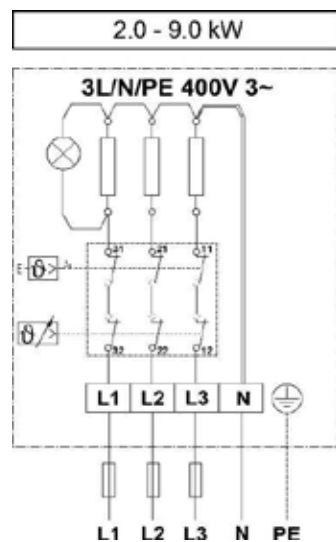
Specification

Flange material	St 37
Outside flange diameter	Ø 180 mm
Pitch circle diameter	Ø 150 mm / 8 X M12
Flange seal	EPDM, KTW and FDA certification
Plastic disk	PP-H, FDA certification
Heating tube	Incoloy 825; 2.4858, Ø 8.2 mm
Immersion tube	Incoloy 825; 2.4858
Surface load	7 W/cm ²
Electrical connection	Screw clip 4mm ²
Operating pressure	max. 10 bar
Housing cover	Polycarbonate, RAL 7035 (light gray)
Protection mode	IP21 acc. EN 60529

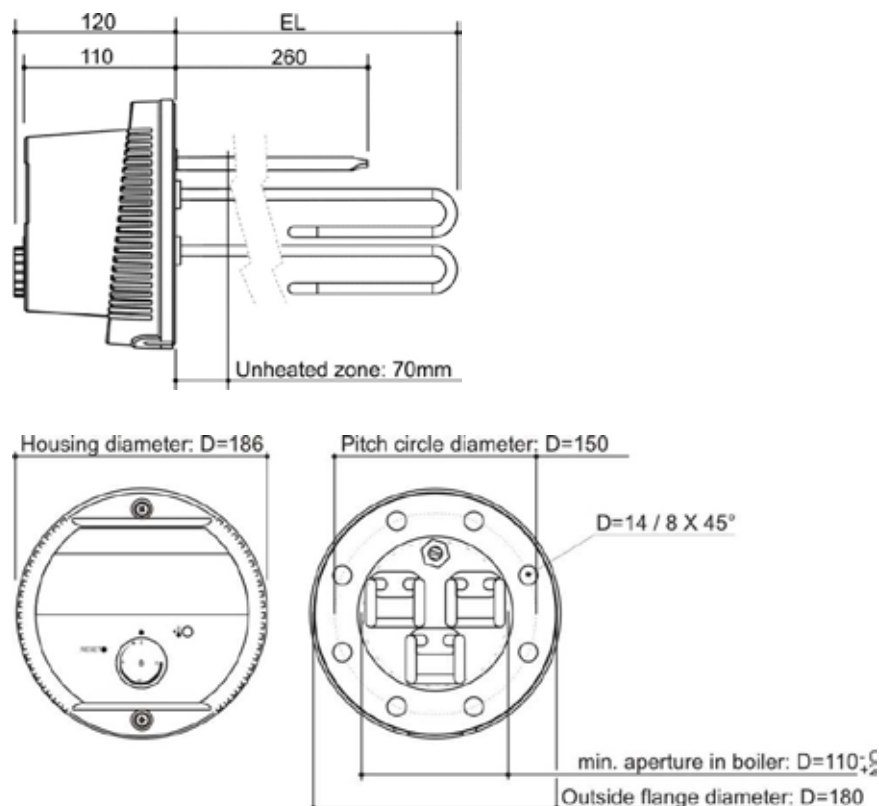
Fitting notes

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



Dimension drawing



Notes



ASKOHEAT-SOLAREEDGE

SCREW-IN HEATER AND FLANGE HEATER
SUITABLE FOR CONTINUOUS OPERATION VIA SOLAREEDGE



ASKOMA *we care
about energy*

SCREW-IN HEATER IN 1½"
FLANGE HEATER Ø 180 MM

- Continuous heating power via solaredge
- 230 V



APPLICATION EXAMPLES

The **ASKOHEAT-SOLAREDDGE** is needed if you are using a Smart Energy warm water controller from SolarEdge which is continuously steering the **ASKOHEAT-SOLAREDDGE** 230 V.

Our scope of supply includes the **ASKOHEAT-SOLAREDDGE** continuously variable in various power classes as 230 V version.

3 connection variants are available: Flanged and screw-in heaters 1½" and also in the **ASKOCONSOLE-WALL**.

The **ASKOHEAT-SOLAREDDGE** converts your electricity surplus from the PV system, wind turbine, water turbine or CHP into heat and stores it in your buffer tank / boiler in the house. This heat is then available when needed.

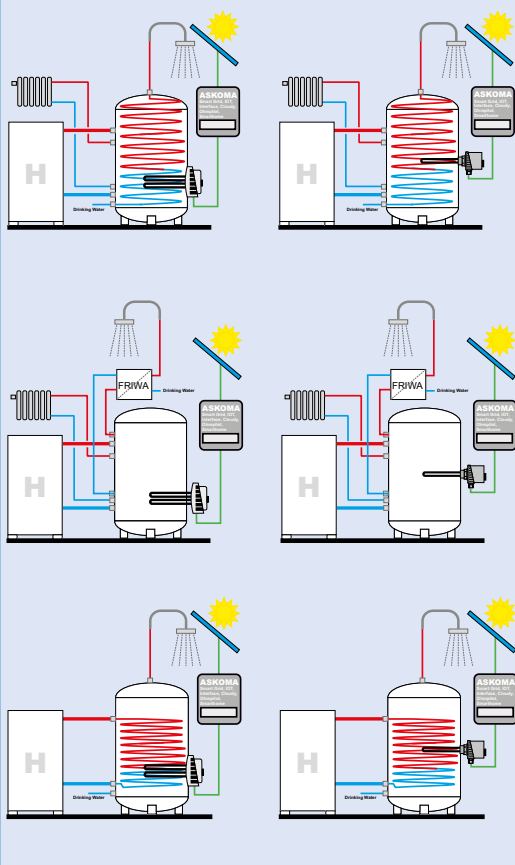
Example:

You have a 1000L buffer tank with a fresh water station that you heat up to 40° C with your heat pump. With the **ASKOCONSOLE-WALL** and the **ASKOHEAT-SOLAREDDGE** you can load this buffer up to 85° C.

This means: $1000\text{L} \times 45^\circ\text{C temperature to max. } 85^\circ\text{C} \times 1.16 / 1000 =$ You can save around 52kW of PV power.

If you want to save your heat pump's compressor in summer operation for domestic water heating to increase its service life, you can store even more energy than the 52kW listed above. This energy will then be available on demand as needed.

«Joy in heating» through the maximum use of surplus of specially produced renewable energy.



Hygienic tank

- The **ASKOHEAT-SOLAREDDGE** flange and screw-in heaters are designed for easy, direct installation on a hygienic tank to provide the user with energy-efficient, smooth, high-temperature stratification and to store the maximum PV excess current.
- **ASKOHEAT** heating inserts are selectable in many performance sizes.

Buffer tank, alternatively with fresh water station

- The **ASKOHEAT-SOLAREDDGE** flange and screw-in heaters are designed for easy, direct installation on a buffer tank to provide the user with energy-efficient, smooth, high-temperature stratification and to store the maximum PV excess current.
- **ASKOHEAT** heating inserts are selectable in many performance sizes.

Drink water storage with ASKOMA PV heating storage insert

- The **ASKOHEAT-SOLAREDDGE** flange and screw-in heaters are designed for easy, direct installation on a drink water storage to provide the user with energy-efficient, smooth, high-temperature stratification and to store the maximum PV excess current.
- **ASKOHEAT** heating inserts are selectable in many performance sizes.

Technical alterations reserved

ADVANTAGES ASKOHEAT-SE

Easy to install

- ① Standard hex for secure tightening with conventional wrenches
- ② Tapered thread for precise housing position and tight installation (1½" and 2" standard)
- ③ With insulated mounting of the heating tubes, suitable for enamelled boilers

Technical Design

- ④ Low surface load (8 W/cm²) for low calcification
- ⑤ Optimal sensor position in the oval immersion tube for identical temperature measurement of safety temperature limiter and temperature control

Technical advantages (on customer request)

- Pre-wired with connection cable
- Various colour options for housing (OEM)
- 400 V and 230 V models
- Multi-stage settings for heating elements
- Fitting thread 1¼" for heating water

ADVANTAGES ASKOHEAT-FSE

Easy to install

- ① Standard flange Ø 180 mm
- ② Flat gasket included

Technical design

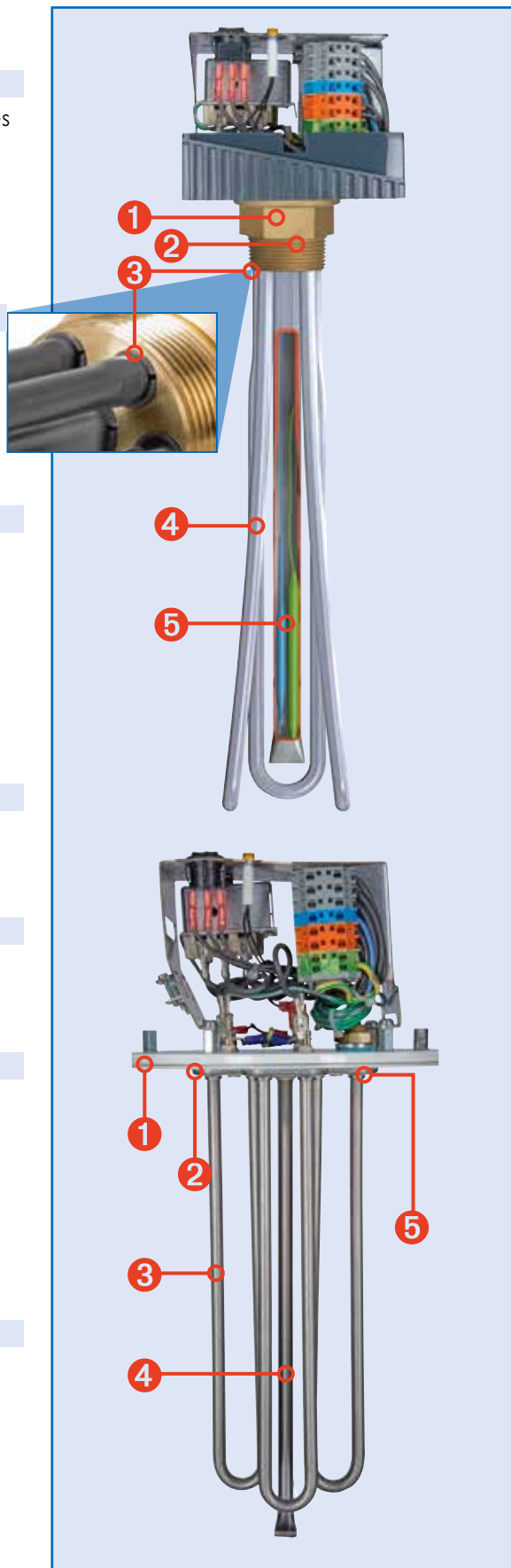
- ③ Low surface load (7 W/cm²) for low calcification
- ④ Optimal sensor position
- ⑤ Insulated assembly of the heating elements for low corrosion

Technical advantages (on customer request)

- Cable entry possible on the side at the top
- Pre-wired with connection cable
- Various colour options for housing (OEM)
- 400 V and 230 V models
- 3 stage settings for heating elements

Approvals

- EN 60335-2-21
Condensate drain in housing prevents corrosion
No damage to the heating element during dry run
Overvoltage resistant (7.25 %)
- EN 60335-1, EN 60335-2-73
- EN 55014-1, EN 55014-2
- EN 62233
- EN 60529



Screw-in heater insulated mounting

AHIR-BI-SE-...

With combination of temperature control and safety
temperature limiter
Compatible with Smart Energy warm water controller
from SolarEdge

PV own power consumption

- Immersion heater with continuous adjustment via SolarEdge
- Power regulation from 0 to 100%



Application Features

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

SH The heating element is made of three U-shaped heating tubes, which are mounted isolated into a 1½" conical brass nipple by food-safe plastic sleeves. Thanks to the insulated mounting of the heating tubes, the devices are also suitable for enamelled boilers. By using the integrated DIP switch, the potential equalisation resistance for the usage in stainless steel tanks is bridgeable. 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 and heating water
Incoloy 825, 2.4858

Type	Order no.	Power	Immersion length [EL]
AHIR-BI-SE-1.0	012-5701	1.00 kW; 230V~	300mm
AHIR-BI-SE-2.0	012-5702	2.00 kW; 230V~	300mm
AHIR-BI-SE-2.5	012-5703	2.50 kW; 230V~	350mm
AHIR-BI-SE-3.0	012-5704	3.00 kW; 230V~	400mm

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

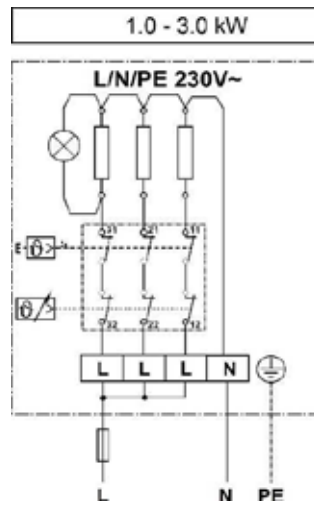
Fitting thread R 1½ " conical
Brass nipple CuZn40Pb2
Heating tube Incoloy 825, 2.4858
Surface load 8-9 W/cm2
Electrical connection Screw clip
Operating pressure max. 10 bar
Housing Polycarbonate, RAL 7035 (light gray)
Protection mode IP41 acc. EN 60529

Montagehinweis

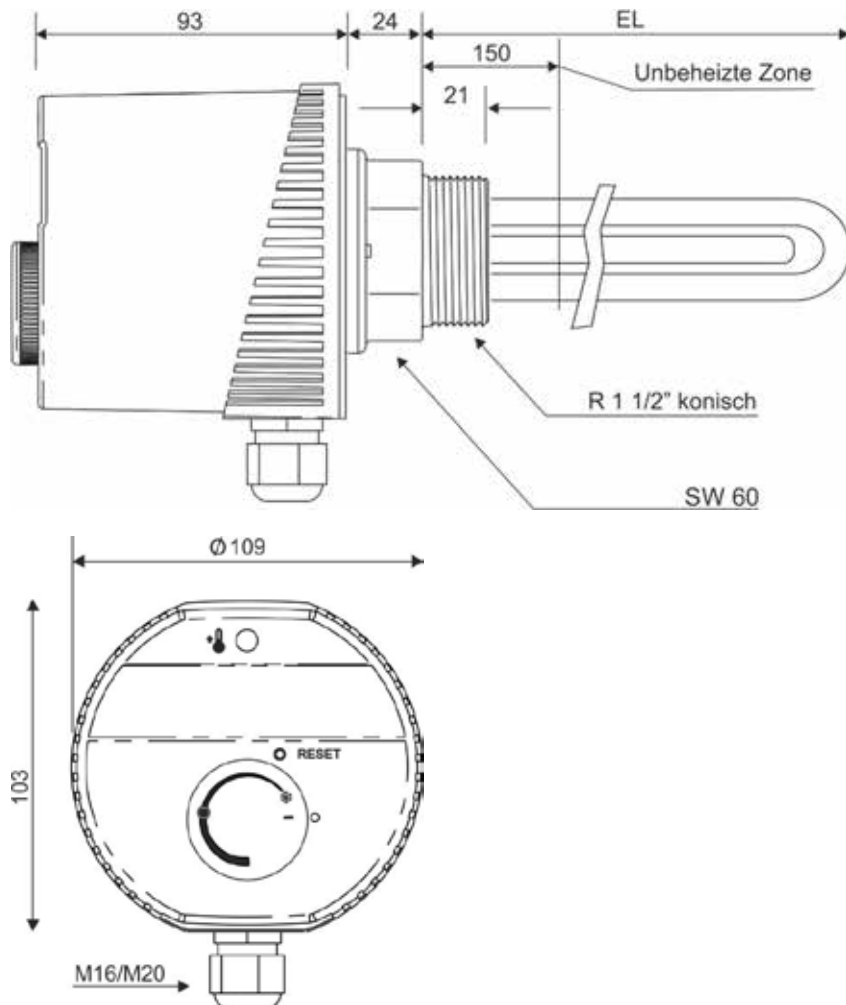
Der Einbau muss waagrecht erfolgen. Die Rundheizstäbe müssen völlig mit Flüssigkeit befüllt sein. Der Flüssigkeitsumlauf durch die Heizkörper darf nicht behindert werden.

Bitte beachten: Dieser Heizstab ist sowohl für Edelstahl-Speicher, als auch für Schwarzstahl-emaillierte Speicher einsetzbar. Je nach Speichertyp die Einstellungen per DIP-Schalter wählen.

Schaltschema



Massbild



Flansch-Heizkörper Ø 180 mm AHFOR-BI-SE-... Incoloy 825; 2.4858

mit Temperaturregler / -begrenzer Kombination
passen für Smart Energy Warmwasser-Controller
von SolarEdge

PV-Eigenstromverbrauch

- Heizstäbe mit stufenloser Zuschaltung über SolarEdge
- Regelung der Leistung von 0 bis 100%



Anwendung

Als Zusatzheizung von Brauch- und Heizungswasser.

Merkmale

FHK Der Heizkörper besteht aus drei U-förmigen Rundheizstäben, die in je einem Pressflansch eingepresst sind. Diese sind mit der Tauchhülse auf einem Stahlflansch aufgeschraubt. Als Isolation dient eine lebensmittelechte Kunststoffscheibe. Dank dem isolierten Einbau der Rundheizstäbe sind die Geräte auch für emaillierte Speicher geeignet. Mittels integriertem DIP-Schalter ist der Potenzialausgleichswiderstand für die Nutzung in Edelstahlpeicher überbrückbar. Die unbeheizte Zone beträgt bei allen Leistungen 70 mm.

TR Elektromechanischer Temperaturregler nach EN 14597 nicht bruchsicher.

STB Elektromechanischer Temperaturbegrenzer nach EN 14597 bruchsicher, bei Überschreiten der Ausschalttemperatur schaltet das Schaltwerk AUS und bleibt in dieser Stellung verriegelt. Entriegeln erfolgt manuell nach Abkühlung des Fühlrohrs um ca. 10 K.

- Zeitkonstante des Fühlrohrs nach EN 14597
- Wirkungsweise TR Typ 2 B nach EN 14597
- Wirkungsweise STB Typ 2 BK nach EN 14597

Typenübersicht

Brauch- und Heizungswasser
Incoloy 825, 2.4858

Typ	Bestell-Nr.	Leistung	Eintauchlänge [EL]
AHFOR-BI-SE-2.0	012-5801	2.0kW; 400V 3~	260mm
AHFOR-BI-SE-2.5	012-5802	2.5kW; 400V 3~	310mm
AHFOR-BI-SE-3.0	012-5803	3.0kW; 400V 3~	260mm

Technische Daten

Die folgenden Angaben gelten für die oben aufgelisteten Normaltypen. Hiervon abweichende Varianten haben funktionsbedingt andere Daten.

Anwendungsbereich

Einstellbereich 0...*...28...85 °C
Ausschalttemperatur ϑ_{off} 110 °C (0-9 K)
Umgebungstemperatur am Schaltwerk max. 50 °C (T50)
Thermische Schaltdifferenz 11.0 K \pm 5.5 K
Umgebungstemperatur bei Lagerung und Transport -30...+90 °C

Eichung

Eichtoleranz \pm 7 K
Zeitkonstante in Wasser <45 s

Ausführung

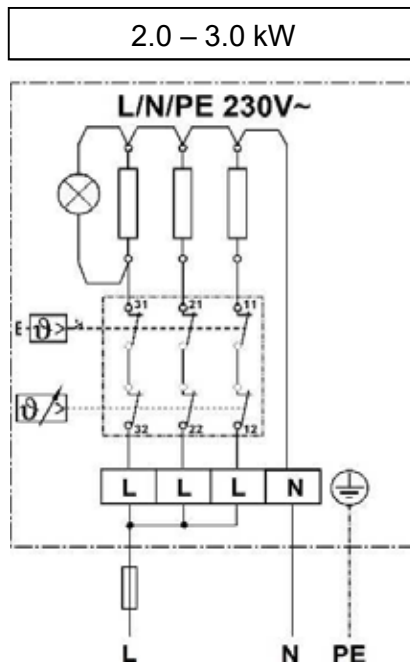
Flansch Material
Flanschdurchmesser aussen
Lochkreisdurchmesser
Flanschdichtung
Kunststoffscheibe
Rundheizstab
Tauchhülse
Oberflächenbelastung
Elektrischer Anschluss
Betriebsdruck
Gehäuseoberteil
Schutzart

St 37
Ø 180 mm
Ø 150 mm / 8 X M12
EPDM, KTW und FDA Zulassung
PP-H, FDA Zulassung
Incoloy 825; 2.4858, Ø 8.2 mm
Incoloy 825; 2.4858
7 W/cm²
Schraubklemmen 4mm²
max. 10 bar
Polycarbonat, RAL 7035 (lichtgrau)
IP21 nach EN 60529

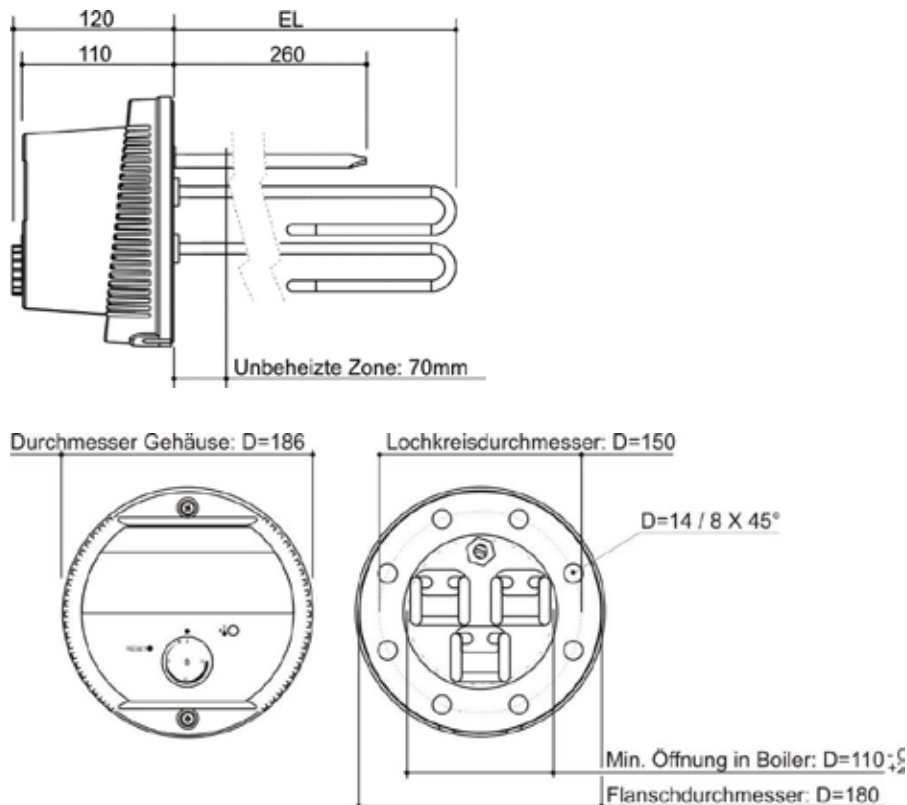
Montagehinweis

Der Einbau muss waagrecht erfolgen. Die Rundheizstäbe müssen völlig mit Flüssigkeit bedeckt sein. Der Flüssigkeitsumlauf durch die Heizkörper darf nicht behindert werden.

Schaltschema



Massbild

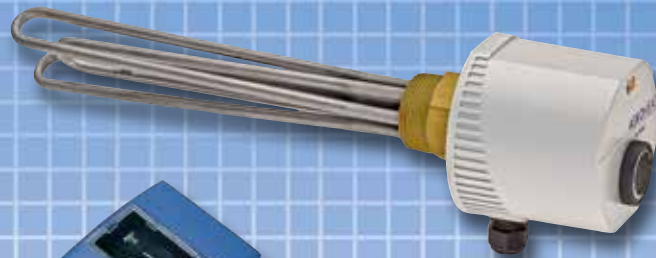


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HEAT

ASKOHEAT



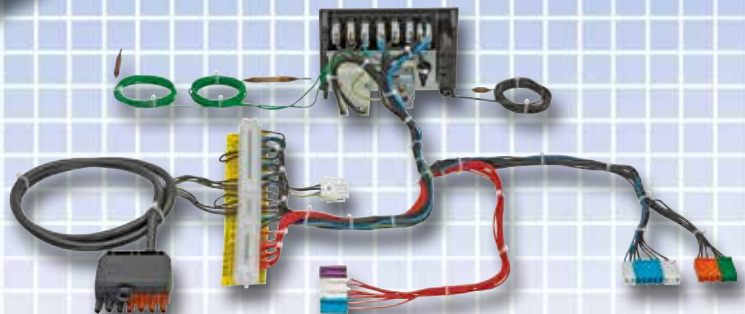
CONTROL

ASKOSTAT



CUSTOMISE

ASKOCONTROL



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