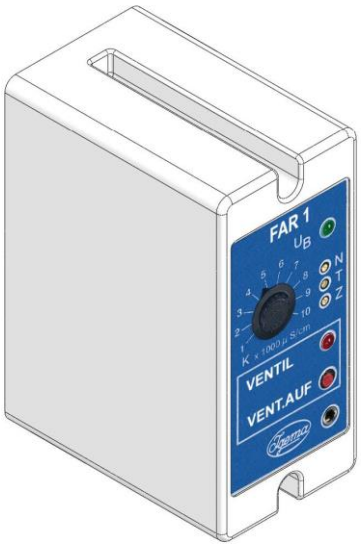
TDS controller type FAR1

Application and function

The IGEMA TDS controller type FAR1 is used for continuous boiler water with high TDS concentration in connection with a valve.
A measuring cell that consists of a special conductivity probe and the cell wall (protection tube or block flange) detects the conductivity.

The product meets EU directive 2014/68/EU (PED).
Applied rules: corresponding DIN EN standards



Function FAR1

If there is a conducting liquid in the measuring cell, the supplying delta voltage drives a current through the liquid. The value of this current is proportional to the conductivity of the liquid in the measuring cell and is detected by the evaluating device where it is transformed into the interface 4 - 20 mA. At the same time, the current is transformed into a tension. This tension is amplified (depending on the position of the limit value regulator) or compared to a reference. If the result of this comparison ≥ to the reference, the relay becomes currentless and the contact "**VENTIL**" (valve) switches to the position "100%" (fully opened).
The LED "**VENTIL**" lights up. If the conductivity of the liquid falls beneath 78% of the adjusted limit value, the relay is activated again. The contact "**VENTIL**" takes the position "**BETRIEB**" (Operation) and the LED "**VENTIL**" goes out. This function can be checked by pressing and holding the key "**VENTIL AUF**" (valve open).
In case of a malfunction of the system, e.g. power failure or short circuit, the evaluating device reacts as if the conductivity would exceed the limit value.
The LED "**U_B**" shows that the operating voltage is on.

Technical basic equipment

- FAR1 is delivered in a plastic plug-in housing for installation in control panels
- Fixation on standard rail 35 mm according to DIN EN 50022 or directly screwed to chassis plate

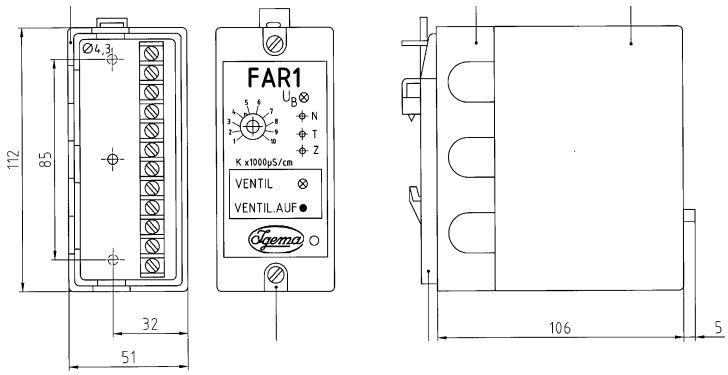
- **Fertigung überwacht**

Technical data

Power supply	230V ± 15% / 50-60 Hz
Input	ca. 4,5 VA
Fuse	80 mA/T
Protection as per DIN EN 60529	IP40 [1)]
Allowable temperature	0 – 60° C

[1)] according to the German regulations VdTÜV-Wasserstand 100, 4.90
a protection of IP54 has to be maintained in the boiler area

Max. operating data of contacts	
Voltage	max. 250 Vac
Current	max. 5 A ohmsch
Transmitter oputput	4-20mA
Electrical conductivity of the liquid	0 µs/cm ≤ æ ≤ 10.000 µS/cm
	0 µs/cm ≤ æ ≤ 1.000 µS/cm
Adjustable limit value „K" at 25° C	1.000 µs/cm ≤ æ ≤ 10.000 µS/cm
	100 µs/cm ≤ æ ≤ 1.000 µS/cm



Trimmer **N** for zero adjustment
Trimmer **T** for compensation of temperature
Trimmer **Z** for line constant
1 = conductivity range of liquid
2 = Jack ø 3,6 mm, for connection of measuring instrument for adjustment

Installation example