

DATA SHEET

Controller UFSmini-II

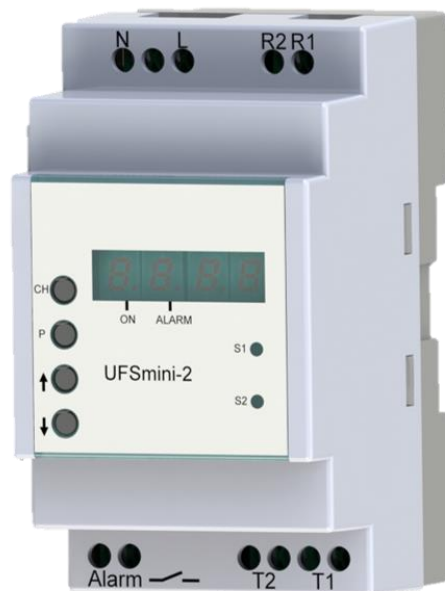
Version 1.7

Notice:

No liability or warranty can be accepted for any errors.
We reserve the right to make technical changes at any time

Datenblatt

Regler UFSmini-II



1 Contents

1	Contents	3
2	General Description.....	4
3	Controller Operation	5
3.1	Regulation:	5
3.2	Configuration in delivery state	6
3.3	Display	7
3.4	Menu guidance.....	7
3.5	Disable and enable channel 2.....	8
3.6	Error codes	8
3.7	Connection design	9
4	Technical Data	10
5	Connection Diagram.....	11
6	Dimensions	12
7	Terminal Connections.....	13
8	DIN Rail Installation	13
9	Repair	14

2 General Description

Cold stores and rooms give off cold to their surroundings. In the area of supports, foundations and floors that are partially or completely embedded in the ground, the underlying soil takes on the cold. If the natural heat flow from the surroundings and the ground is not sufficient, the moisture in the ground freezes, expands and the ground is lifted. Depending on the soil conditions, this can cause significant damage to the building.

An underfreeze protection (as can be realized with UFSmini-II) for deep-freeze houses and rooms is therefore essential and a reliable precaution against frost damage and moisture.

The UFSmini-II temperature controller is a two-channel temperature controller with NTC measuring point inputs and offers temperature control. This allows normal system architectures for temperature control to be implemented for the above-mentioned applications.

The temperature controller UFSmini-II offers an alarm in case of error via a voltage-free contact.

3 Controller Operation

The described modes and functions apply to both channels of the UFSmini-II. The settings or displays are to be made or seen according to the circuit diagram.

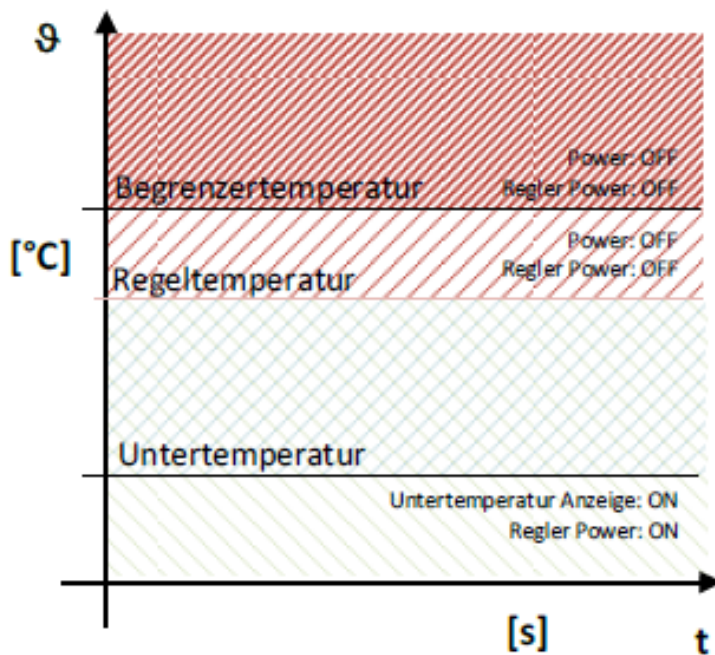
3.1 Regulation:

The measuring point temperature is recorded via the connected temperature sensor and the switching output is activated when the temperature falls below the setpoint. With a switching hysteresis, the relay output is switched off again after reaching the setpoint.

When the temperature at the temperature sensor falls below an adjustable lower temperature, the alarm output is activated. The control is not influenced by this. If the temperature at the sensor exceeds the set undertemperature, the alarm output is switched off again.

If an adjustable threshold value (limit temperature) is exceeded at the temperature sensor, the alarm output is switched and the control is interrupted.

If a cable break or a short circuit is detected at one of the two temperature sensors, an alarm is triggered and the control is interrupted.



The limit temperature is set to 40 C° at the factory!!!



PLEASE ADJUST ACCORDING TO THE PROCESS!



3.2 Configuration in delivery state

Set temperature:	5°C
Under temperature:	2°C
Limit temperature:	40°C
Channel 2:	Disabled

3.3 Display

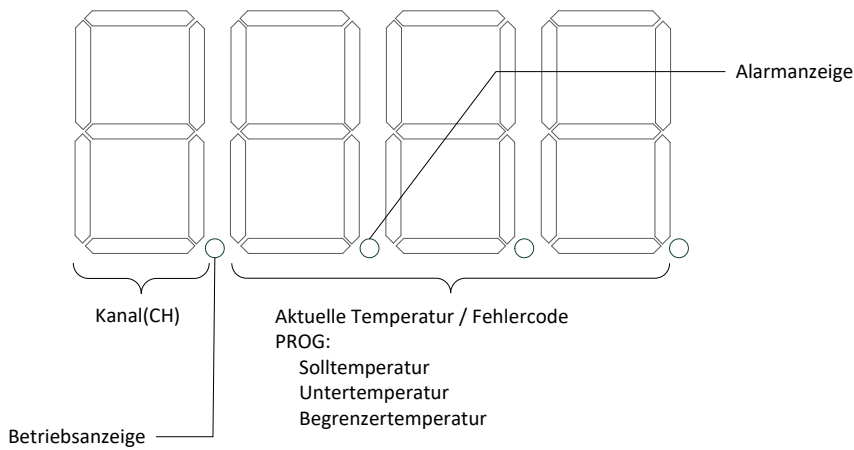


Figure 1: Display

3.4 Menu guidance

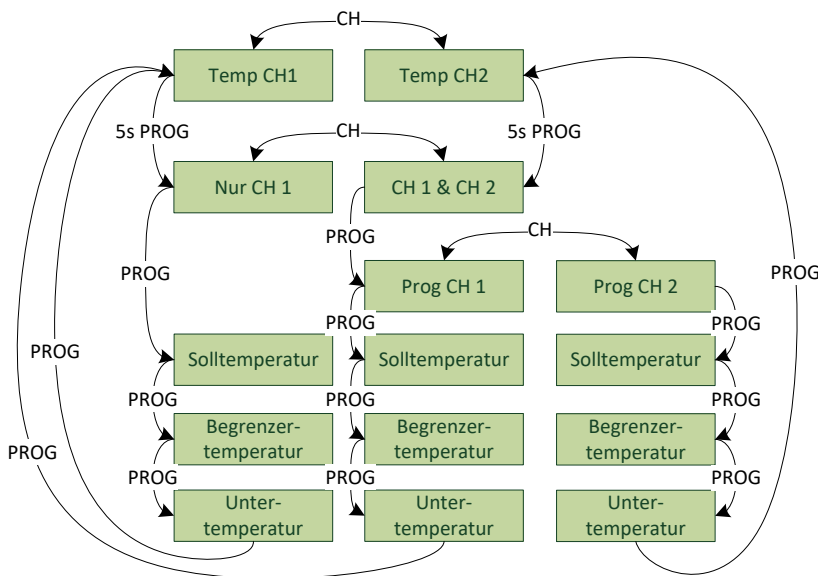


Figure 2: Menu guidance

3.5 Disable and enable channel 2

To disable or enable channel 2, the programming menu must be started by pressing the programming key for 5 seconds. Then, in the first step, the CH key can be used to select between the single-channel and dual-channel operating modes.

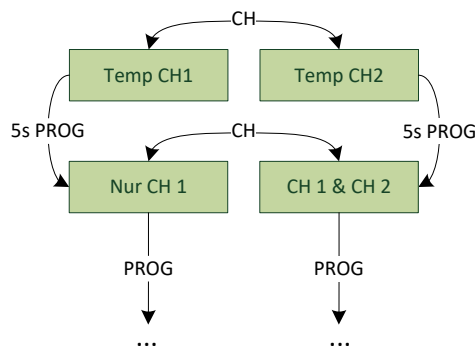


Figure 3: Disable and enable channel 2

3.6 Error codes

Error code	Description
EL	Temperature limit exceeded
EU	Undertemperature undercut
E4	Temperature below the measuring range
E5	Temperature above the measuring range
Cb	Cable break at temperature sensor
Sc	Short circuit on temperature sensor
Alarm display without error code	Watchdog

3.7 Connection design

The execution of the connection must be carried out according to VDE0100, 0800, etc. and is subject to the respective national standards and must only be carried out by a qualified electrician.



Proper fusing of L1 of the UFSmini-II must be ensured by the installing electrician.

Failure to properly and professionally install and connect the UFSmini-II controller module will immediately invalidate any warranty or liability.

4 Technical Data

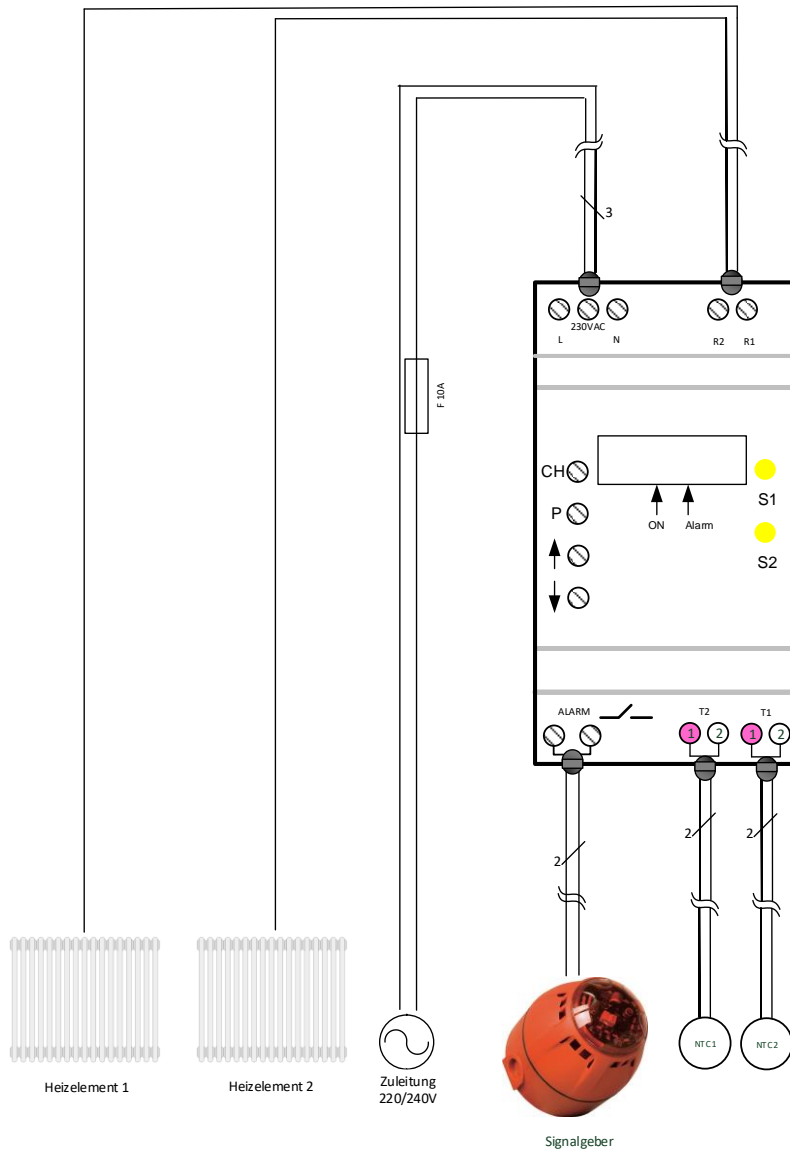
Nominal voltage:	230V- ±6%, 50Hz - 60Hz
Self-consumption:	approx. 2 VA
Self-consumption:	approx. 2,5 VA (2,5 W)
Switching capacity output 1:	230V (AC) 6A ¹ / 30V (DC) 6A
Switching capacity output 2:	230V (AC) 6A ² / 30V (DC) 6A
Switching capacity alarm relay:	230V (AC) 2A ³ / 30V (DC) 2A
Switching hysteresis:	2°C
Operating temperature:	0 °C to 60 °C
Temperature measurement range:	-30°C ... +80°C (depending on the sensor used)
Display accuracy:	1°C
Measurement accuracy:	± 3% (depending on the sensor used)
Alarm contact:	Changer 24V (DC) 2A / 230V (AC) 2A
Display:	7-segment, illuminated
Protection class:	IP20 – Control cabinet installation, vibration-free
Isolation test:	2 KV
Required space:	3TE to DIN 43880

¹ 230 V / 8 A under certain time-limited conditions

² 230 V / 8 A under certain time-limited conditions

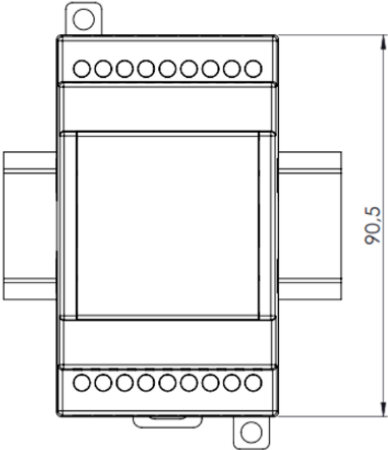
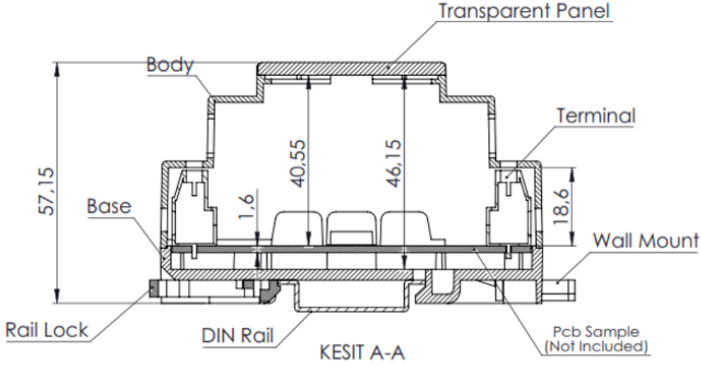
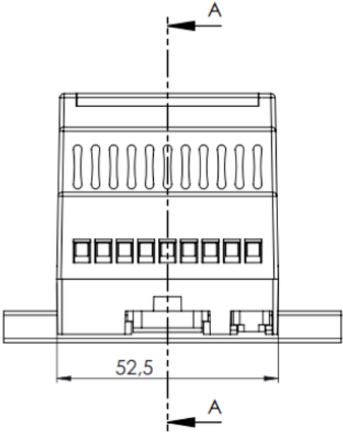
³ 230 V / 4 A under certain time-limited conditions

5 Connection Diagram



Terminal assignment

6 Dimensions



7 Terminal Connections

Inputs:

T 1	NTC Temperature sensor 1
T 2	NTC Temperature sensor 2
L + N	Power supply (fuse protection must be to be provided professionally) (230V AC Line voltage)

Outputs:

R1 (OUT1)	Normally open contact (switching of the resistor via the L-line of the power supply)
R2 (OUT2)	switching of the resistor 2 via the L-line of the power supply)
ALARM (IN +OUT)	Closer

The protective conductor is not required!

8 DIN Rail Installation

Before installing the device on a DIN rail, the fastening clamp must be unlocked with a suitable tool.

The UFSmini-II must only be connected and operated in accordance with the circuit diagram in chapter 4.

Changes or circuit modification of the connection (chapter 4), incorrect connection or when connecting consumers with higher power requirements than the maximum power data specified in chapter 3 will invalidate the warranty.

When installing the controller, make sure that it is installed on non-conductive surfaces or on grounded conductive surfaces.

The installation location should be chosen so that the control indicators are clearly visible.

The installation location must be chosen so that the maximum ambient temperatures, ambient humidity, vibrations or shocks are within the specified limits (chapter 3).

9 Repair

Opening or repairing the UFSmini-II controller module must not be carried out by the operator.

Unauthorized repairs or opening of the housing (seal breakage) on the UFSmini-II controller module will immediately invalidate any warranty or guarantee.

Defective devices should be sent to the manufacturer for repair after an inspection by the operator with a brief description of the error.



Electrical equipment is relevant to safety and must only be installed and de-installed by qualified electricians.