1 LUK-XP

Compact controller for air-cooled liquid subcoolers

1.1 Front view

Fig. 1: Front view LUK-XP

1.2 Features

- Continuous adjustment of the subcooler fan speed to the current liquid temperature by the PI controller
- Setpoint shift according to condensation temperature (optional)
- Support for higher baud rates on the Wurm CAN communication bus (C-BUS) adjustable by DIP switch
- C-BUS address adjustable by rotary switch
- Connection to the Wurm system via C-BUS and FRIGODATA XP

1.3 Safety instructions

Writing conventions

CAUTION

- Avoid the described hazard: Otherwise **minor** or **medium** bodily injury or property damage will result.

WARNING

- Avoid the described hazard: Otherwise there is danger from **electric voltage** that can lead to death or **serious** bodily injury.

For your safety

For safe operation and to avoid personal injury and equipment damage through operator error, read these instructions, become familiar with the device, and follow all safety instructions on the product and in this document, as well as the safety guidelines of Wurm GmbH & Co. KG Elektronische Systeme. Keep these instructions ready to hand for quick reference, and pass them on with the device if the product is sold.

Wurm GmbH & Co. KG Elektronische Systeme accepts no liability in the case of improper use or use for purposes other than the intended purpose.

Target group	This manual is intended for "service technician" personnel.
Intended use	The device is designed to provide constant control of the subcooler fan speed based on the current liquid temperature of the refrigerant.

WARNING

DANGER TO LIFE FROM ELECTRIC SHOCK AND/OR FIRE!

- Switch off the power to the entire plant when carrying out installation, wiring or disassembly work! Otherwise, mains voltage and/or external voltage may still be present, even if the control voltage is switched off.
- The wiring of the device must be carried out only by qualified electricians!
- Use the correct tools for any work!
- Check the entire wiring after connection!
- Observe the maximum loads for all connections!
- Never expose the device to moisture, for example due to condensation or cleaning agents.
- Stop operating the device if it is faulty or damaged and its safe operation is compromised!
- Only open the device while it is disconnected from the power supply!
- Do not repair the device yourself! If the device requires repairs, send it in with an exact description of the fault!

CAUTION

ELECTROMAGNETIC INTERFERENCE MAY CAUSE FAULTS!

- Always use shielded data cables, and place them far away from power lines!

Wurm Infocenter

paperless info

Version and validity of the documentation

Version	Date	
V1.8.0 and higher	2021-12	Documentation status

Any versions not listed are special solutions for individual projects and are not described in detail in this document.
This document will automatically cease to be valid if a new technical description is issued.
Manufacturer: Wurm GmbH & Co. KG Elektronische Systeme, Morsbachtalstraße 30, D-42857 Remscheid
You can find more information on our website at www.wurm.de

1.4 Circuit diagram

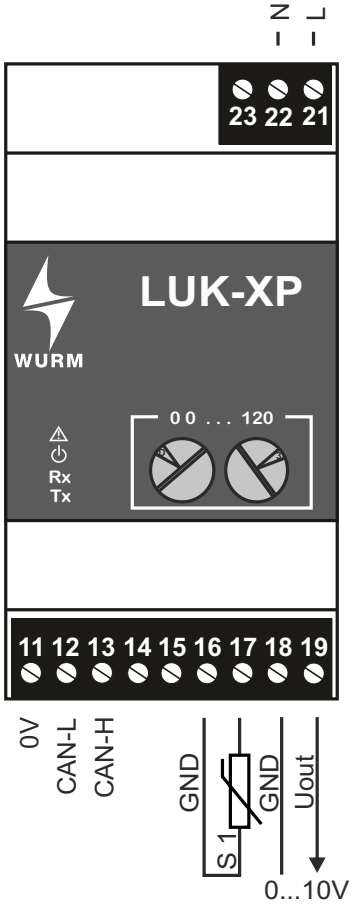

Fig. 2: Circuit diagram LUK-XP

1.5 Installing the device

This device is designed for top-hat rail installation. The housing has a standard size according to DIN 43880 and is also suitable for installation in installation boxes.

The device can be positioned immediately adjacent to another device without gaps.

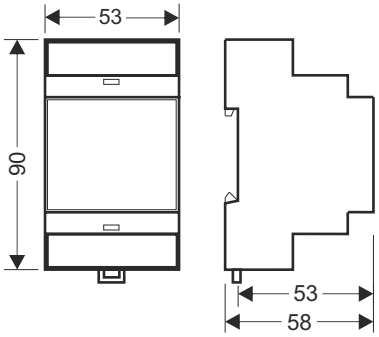

Fig. 3: Dimensions LUK-XP

WARNING

DANGER TO LIFE FROM ELECTRIC SHOCK AND/OR FIRE!

- Switch off the power to the entire plant before installing. Otherwise, mains voltage and/or external voltage may still be present, even if the control voltage is switched off.

✓ The entire plant must be free of voltage.

1. **(A)** Place the device with the leading edge at an acute angle to the top-hat rail.
2. **(B)** Push the device downwards onto the top-hat rail.
   ▶ The device snaps into place with the fastening safety catch **(a)** on the top-hat rail.
   ▶ You can now connect the device.

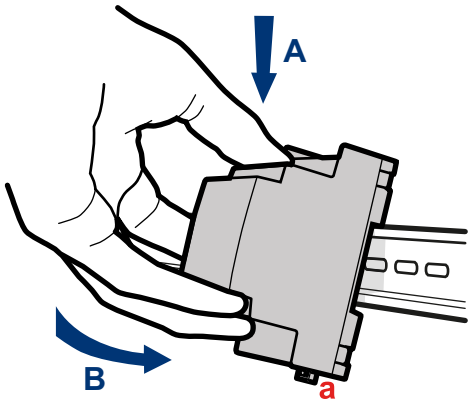

Fig. 4: Top-hat rail installation

Sensor extension

We recommend the use of shielded cables for probe extension.

Cable length	Cross-section
Up to 100m	0.75mm^2
Up to 400m	1.5mm^2

1.6 Technical data

Power supply	230V~, +10% / -15%, 5VA approx.
Temperature sensor	TRK277/7 PLUS, TRK277/G2, DGF or T2015
Analogue output	1 x 0...10V=, non-floating, for connecting a speed regulator or frequency converter, max. load 1mA, alternatively for controlling an ADC multiple contact switch
Central unit	Single-chip microcomputer, data memory
Monitoring system	Monitoring of connected sensors, Self-monitoring of data memory and microcomputer
Communication	3-wire CAN bus interface with integrated power supply, galvanically isolated
Dimensions	(W x H x D) 53 x 90 x 58mm (DIN 43880)
Fastening	Top-hat rail TH 35-15 or TH 35-7.5 (DIN EN 60715)
Ambient temperature	Operation: 0...+55°C, storage: -25...+70°C
Degree of protection	IP20
Weight	Approx. 300g
CE conformity	- 2014/30/EU (EMC Directive) - 2014/35/EU (Low Voltage Directive) CE
	RoHS II
Valid from	Version 1.8.0