

QUICK GUIDE



KA 5500-Z EN

Translation of original instructions



TROVIS I/O

Notes on this document

This quick guide assists you in mounting and operating the device safely. The instructions in this quick guide are binding for handling SAMSON devices.

- For the safe and proper use of these instructions, read them carefully and keep them for later reference.
- If you have any additional questions not related to the contents of this quick guide, contact SAMSON's After-sales Service (aftersaleservice@samsongroup.com).

Definition of signal words

DANGER

Hazardous situations which, if not avoided, will result in death or serious injury

WARNING

Hazardous situations which, if not avoided, could result in death or serious injury

NOTICE

Property damage message or malfunction

Note

Additional information

Tip

Recommended action

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1 Warranty

We are constantly developing our products and therefore, reserve the right to change the product at any time without notice.

We do not assume any liability for the accuracy or completeness of this document. Moreover, we do not guarantee that the buyer can use the product for an intended purpose. SAMSON rejects any liability for claims by the buyer, especially claims for compensation including lost profits or any other financial loss, except the damage was caused intentionally or by gross negligence. If an essential term of the contract is breached by negligence, SAMSON's liability is limited to the foreseeable damage.

2 Safety instructions

The device must be mounted, started up or operated only by trained and experienced personnel familiar with the product. Proper shipping and storage are assumed.

The device has been designed for use in electrical power systems. For wiring and maintenance, you are required to observe the relevant safety regulations.

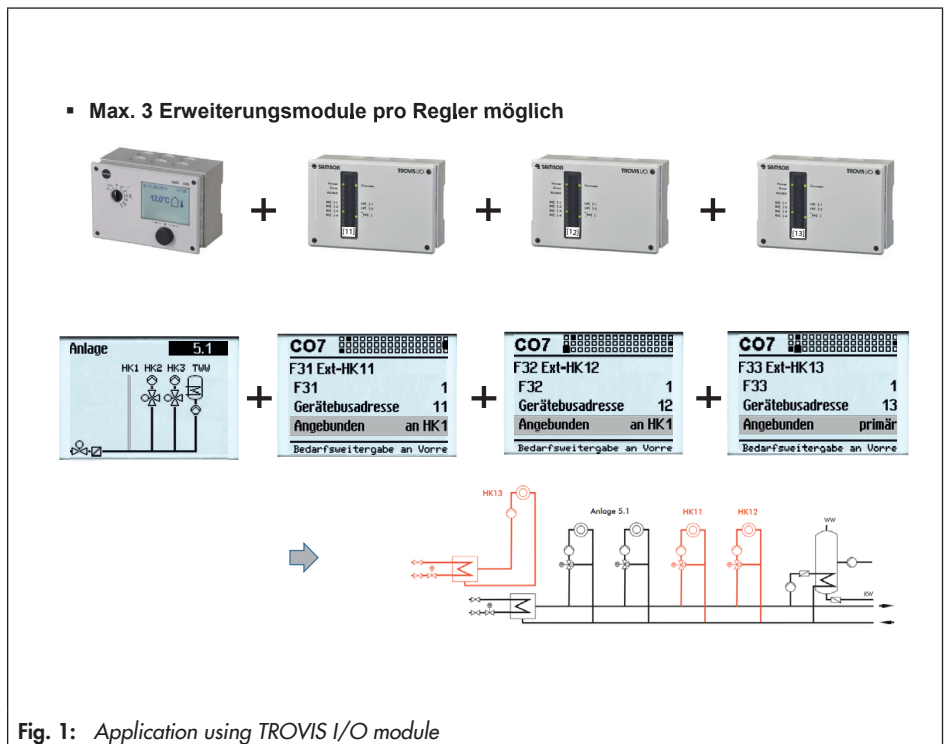
This quick guide is intended to provide the necessary information for installing and starting up the device.

3 Application

The TROVIS I/O module is used to add a control circuit to TROVIS 5578 Heating Controllers (firmware version V2.50 and higher).

The device receives operation and configuration settings from the controller over the device bus. It analyses the data from sensors connected to the analog inputs and performs control tasks based on the measured variable, control parameter and set point. The control signal is issued at the relay outputs and passed onto the controllers over device bus. For servicing purposes, it receives information on hardware and software versions for indication in the extended operating level.

After the TROVIS I/O module is switched on, it does not perform any control tasks or issue a control signal until the TROVIS 5578 Controller has sent the operation and configuration settings over the device bus.



4 Installation

The TROVIS I/O module is ready for use with its default settings. Settings must only be changed at the device when several TROVIS I/O modules are to be operated on one or more TROVIS 5578 Controllers connected over the device bus.

When several TROVIS I/O modules are used, we recommend affixing the enclosed numbered labels on the front of the device to be able to identify its associated control circuit.

DIL switches

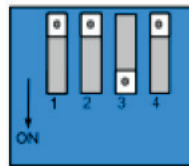
Two DIL switches are used to set the device bus address of the TROVIS I/O module. A third DIL switch allows the activation of the bus termination for the device bus when the TROVIS I/O module is the last device at the end of the device bus network. All changes to the DIL switches come immediately into effect while the device is in operation.

The DIL switches are located on the bottom of the electronics housing next to the LAN port for function analysis and firmware updates.

Table 1: Switch positions

Item	Designation	ON	OFF
1	RS-485 bus termination	Active	Not active
2	Internal function	Not permissible	Operating status
3	Device bus address	Sets one of four device bus addresses. In the delivered state, the device bus address is adjustable between 11 and 14.	
4			

DIL no.		Device bus address
3	4	
OFF	OFF	11
OFF	ON	12
ON	OFF	13
ON	ON	14



NOTICE

Risk of malfunction due to incorrect switch position.

→ Only operate the device when the DIL switch 2 is in the OFF position.

4.1 Mounting

Dimensions in mm (W x H x D): 144 x 98 x 54

The controller consists of the electronics housing and the base with the terminals. The device is suitable for panel, wall and rail mounting (see Fig. 2).

Panel mounting

1. Undo the two screws (1).
2. Pull apart the electronics housing and the base.
3. Make panel cut-out with the dimensions 138 x 92 mm (W x H).
4. Push the housing through the panel cut-out.
5. Tighten the two screws (2) to clamp the controller housing against the panel.
6. Perform electric wiring on the base as described in section 4.2.
7. Place on the electronics housing.
8. Tighten the two screws (1).

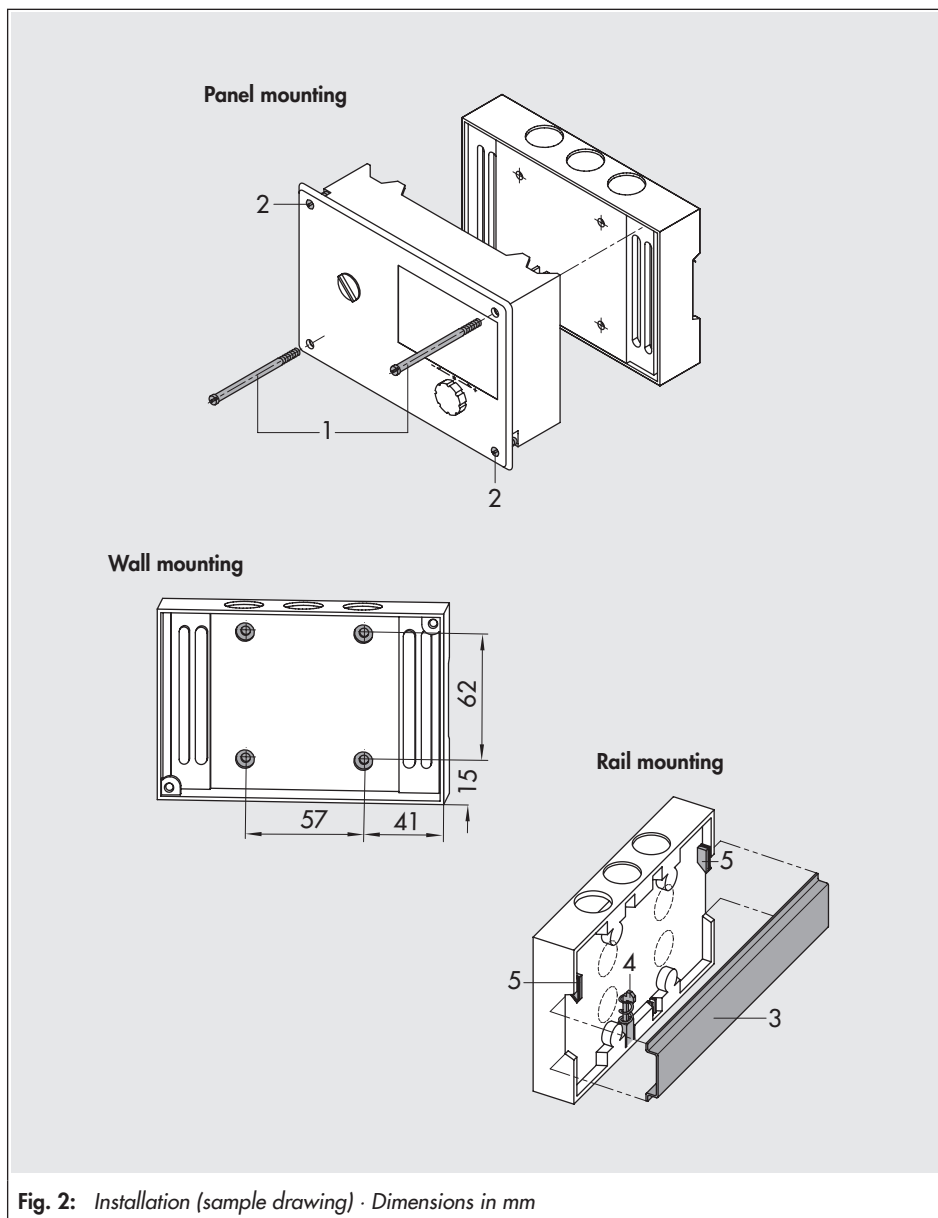
Wall mounting

1. Undo the two screws (1).
2. Pull apart the electronics housing and the base.
3. If necessary, drill holes with the specified dimensions in the appropriate places. Fasten the base with four screws.
4. Perform electric wiring on the base as described in section 4.2.
5. Place on the electronics housing.
6. Tighten the two screws (1).

Installation

Rail mounting

1. Fasten the spring-loaded hook (5) at the bottom of the top hat rail (3).
2. Slightly push the TROVIS I/O module upwards and pull the top hook (5) over the top hat rail.
3. Undo the two screws (1).
4. Pull apart the electronics housing and the base.
5. Perform electric wiring on the base as described in section 4.2.
6. Place on the electronics housing.
7. Tighten the two screws (1).



4.2 Electrical connection

DANGER

Risk of fatal injury due to electric shock.

- For electrical installation, you are required to observe the relevant electrotechnical regulations of the country of use as well as the regulations of the local power suppliers. Therefore, such work must be performed by trained and experienced personnel.
 - The terminal 28 allows the integration of safety equipment which have a direct influence on electric actuators. If this is not the case, connect a jumper from terminal 22 to terminal 28.
 - ➔ Do not connect ELV cables (according to VDE 0100) to these terminals.
 - ➔ Disconnect the voltage supply from the controller and protect it against unintentional re-connection before performing any work on the terminals.
-

Note

The electric actuators and pumps are not automatically supplied with a voltage by the TROVIS I/O module. They can be connected over terminals 23 and 28 to an external voltage supply. If this is not the case, connect a jumper from terminal 22 to terminals 23 and 28.

A wiring diagram is affixed to the back of the electronics housing. It shows the assignment of the terminals on the back panel.

DANGER

Risk of fatal injury as a result of failing to observe the permissible touch voltage.

Separation of the circuits is absolutely essential when SELV equipment is connected to terminals 23 and 28 as this equipment has a different intended use of the supply voltage than specified in the technical data (230 V AC).

The creepage and clearance present in the base and TROVIS I/O expansion module do not guarantee the required dielectric strength and the safe separation of the 230 V supply voltage and the other circuits.

- ➔ Take appropriate safety precautions (e.g. by using coupling relays for the control of electric actuators operated with 24 V or for ELV fault signaling contacts).
 - ➔ Only connect 230 V equipment.
-

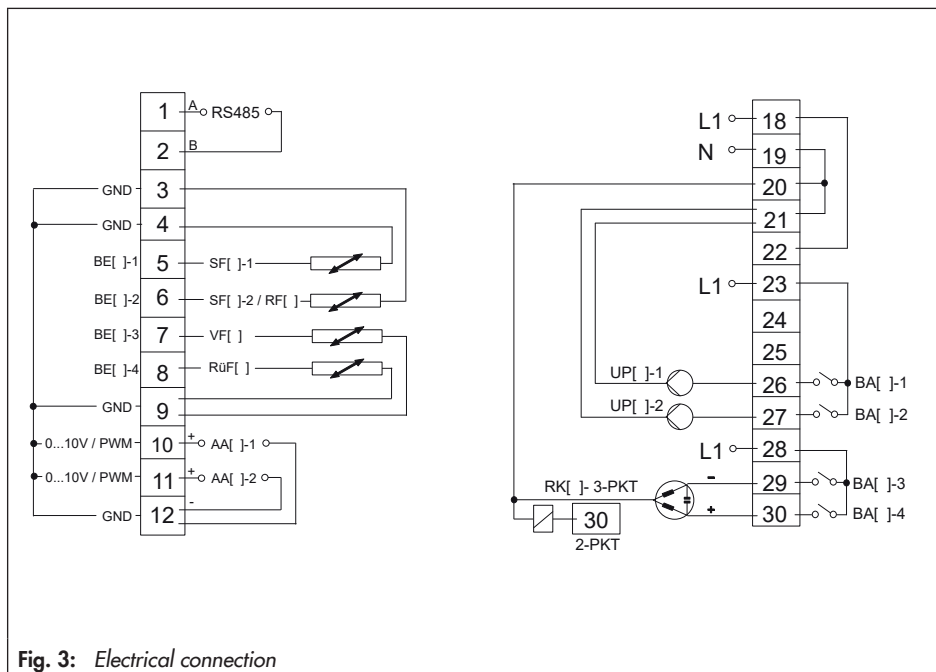
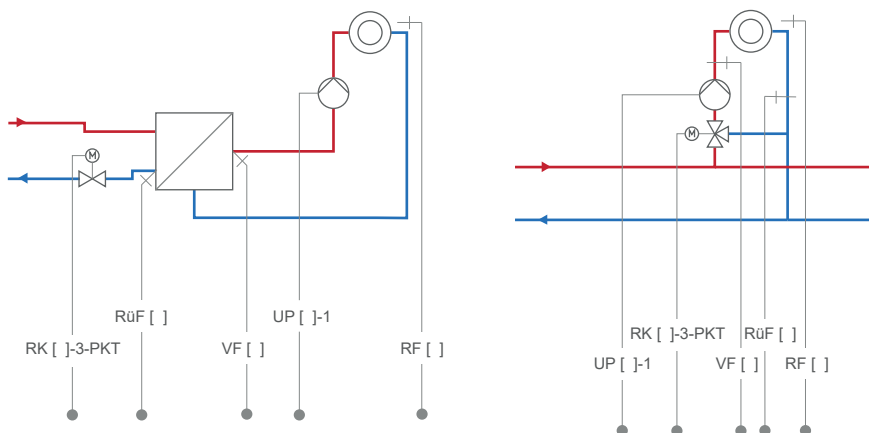


Fig. 3: Electrical connection

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5 LEDs

Location and meaning

The TROVIS I/O module has the following LEDs to indicate various states of the device. The operating states of the device are indicated by LEDs during start-up and servicing.

- Green: Device functioning properly
- Red: Error
- Blinking: Functions according to Table 2

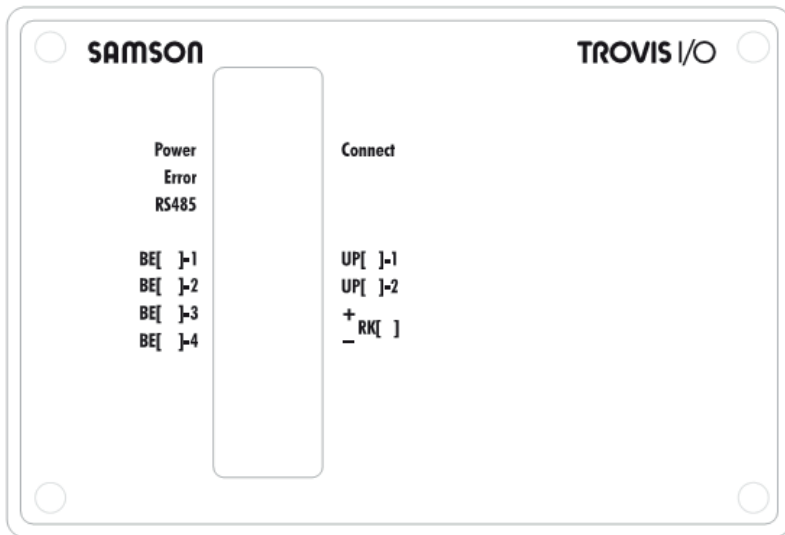


Fig. 4: LEDs

Table 2: *Meaning of the LEDs*

LED name	LED state	Meaning
Power (green)	ON	Device is switched on
	OFF	Device is switched off
	Blinks 1s/1s	Boot loader: waiting for update
	Blinks quickly	Boot loader: communication during update
	Blinks very quickly	Boot loader: firmware programming
Error (red)	Blinking	Communication error RS-485
	OFF	No error
Connect (green)	First ON, then blinking	Connection over the device bus is established
Connect (blue)	ON	Device is connected to voltage supply and starts
RS-485	Blinking	One green and one red LED to indicate communication on the interface. The red LED indicates data are being sent by the TROVIS I/O module and the green LED indicates that data are being received.
UP, RK (green)	ON	Relay contacts (BO) in closed state
	OFF	Relay contacts (BO) in open state
BE (green)	ON	External contact in closed state
	OFF	External contact in open state

6 Technical data

Inputs	4x Pt1000, PTC or Ni1000 sensor inputs, alternatively configurable for binary alarms
Outputs	1x three-step signal: rating max. 250 V AC, 2 A alternatively 1x on/off signal: rating max. 250 V AC, 2 A 2x pump output: rating max. 250 V AC, 2 A All outputs are relay outputs with varistor suppression, 2x 0 to 10 V or PWM signal, configurable, to issue a control signal or for pump speed control
Interfaces	RS-485 device bus interface for communication with TROVIS 5578 (polarity independent)
Supply voltage	85 to 250 V, 48 to 62 Hz, max. 6.6 VA
Ambient temperature	0 to 50 °C (operation), -10 to +60 °C (storage and transport)
Degree of protection	IP40 according to EN 60529
Class of protection	II according to EN 60730
Degree of contamination	2 according to EN 61010-1
Overvoltage category	II according to EN 60730
Noise immunity	According to EN 61000-6-1
Noise emission	According to EN 61000-6-3
Weight	Approx. 0.5 kg
Conformity	CE · EAC

7 Disposal



SAMSON is a producer registered at the following European institution
▶ <https://www.ewrn.org/national-registers/national-registers>.
WEEE reg. no.: DE 62194439/FR 025665

- Observe local, national and international refuse regulations.
- Do not dispose of components, lubricants and hazardous substances together with your other household waste.

i Note

We can provide you with a recycling passport according to PAS 1049 on request. Simply e-mail us at aftersaleservice@samsongroup.com giving details of your company address.

💡 Tip

On request, we can appoint a service provider to dismantle and recycle the product as part of a distributor take-back scheme.

8 Certificates

The following certificate is shown on the next page:

- EU declaration of conformity

The certificate shown was up to date at the time of publishing. The latest certificates can be found on our website:

▶ www.samsongroup.com > Products > Automation Systems > TROVIS 5578-E

EU declaration of conformity



**EU Konformitätserklärung / EU Declaration of Conformity /
Déclaration UE de conformité**

Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller/
This declaration of conformity is issued under the sole responsibility of the manufacturer/
La présente déclaration de conformité est établie sous la seule responsabilité du fabricant.
Für das folgende Produkt / For the following product / Nous certifions que le produit

**Erweiterungsmodul für Heizungs- und Fernheizungsregler /
Extension Modul for Heating and District Heating Controller /
Module d'extension pour Régulateur de chauffage et de chauffage à distance
Typ/Type/Type TROVIS-IO**

wird die Konformität mit den einschlägigen Harmonisierungsrechtsvorschriften der Union bestätigt/
the conformity with the relevant Union harmonisation legislation is declared with/
est conforme à la législation d'harmonisation de l'Union applicable selon les normes:

EMC 2014/30/EU	EN 61000-6-1:2007, EN 61000-6-3:2007 +A1:2011, EN 61000-6-4:2007+A1:2011
LVD 2014/35/EU	EN 60730-1:2016, EN 50344:2001
RoHS 2011/65/EU	EN 50581:2012

Hersteller / Manufacturer / Fabricant:

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Deutschland/Germany/Allemagne

Frankfurt / Francfort, 2020-07-29

Im Namen des Herstellers/ On behalf of the Manufacturer/ Au nom du fabricant.

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