Installation instructions

KNX Module
FCU-EXT-KNX-MODUL

Doc-ID: M_FCU-EXT-KNX-MODUL_EN

Version: V 1.01

1 Safety

See safety instructions of the sauna control.

1.1 Intended Use

Any damage claims which arise due to improper use are excluded. Only the user is responsible for damages caused by improper use.

Electric potential

DANGER!
Danger to life due to electric potential!

Contact with live components can be fatal.
Damage of the insulation of the individual components can be dangerous to life.

Therefore:

– Disconnect the unit from the mains before carrying out any work on it (switch off the fuse in the distribution box) and secure against restarting. Check for zero potential. The control device should be disconnected from the mains before opening the casing.

– In case of damage to the insulation, switch off the power supply immediately and carry out the repair.

– Work on electrical unit should be carried out by certified electricians only.

– Keep moisture away from live components, since it can lead to short circuit.

2 General Information

2.1 Liability limitation

All the details and instructions in this manual have been compiled taking into consideration the relevant standard specifications and stipulations and the state-of-the-art technology as well as our knowledge and experience of many years.
The manufacturer does not take any liability for damages caused by:

- Non-compliance to the operating and installation manual
- Improper use
- Unauthorized alterations
- Technical changes
- Use of unapproved spare parts and consumables.

Otherwise the obligations agreed upon in the delivery contract, the general business conditions as well as the delivery terms of the manufacturer and the legal regulations valid at the time of concluding the agreement are applicable.

Guarantee   The guarantee period of the manufacturer starts from the time of dispatch by the manufacturer and is valid for 24 months. The delivery date can be determined from the device number on the nameplate.

The manufacturer does not assume any liability which differs from this regulation. Guarantee claims must be submitted to the sauna manufacturer or dealer.

2.2 Demands on technical personnel

The assembly, installation, commissioning as well as rectification of defects and repairs must be carried out by qualified persons only unless otherwise mentioned.

- **Technical personnel**
  Due to their technical training, knowledge and experience as well as the knowledge of the relevant regulations these persons are in a position to carry out the tasks assigned to them and to identify possible dangers on their own.

- **Certified electricians**
  Due to their technical training, knowledge and experience as well as the knowledge of the relevant standard specifications and regulations these experts are in a position to carry out jobs on the electrical unit and to identify possible dangers on their own. In Germany certified electricians have to fulfill the stipulations of the accident prevention regulation BGV A3 (e.g. master electrician). In other countries corresponding stipulations are applicable that have to be followed.

3   Installation

3.1   Assembly

The KNX module is prepared for DIN rail mounting.

3.2   Connections

Connections of the KNX Module.

3.2.1   Sauna Control Unit

Connect the Fasel sauna control to the "Fasel-Bus" connection with an RJ-45 cable. The Fasel bus is only compatible with the Fasel control units. Do not connect any other LAN / Ethernet device!

3.2.2   KNX Bus

The KNX module can be integrated directly into a KNX-TP system. Therefore install the KNX cables on the "KNX-TP" connection. When connecting the KNX bus, pay attention to the polarity of the cables! The programming button next to the KNX connection is required for the setup in the ETS software. Further specifications for KNX installation can be found in the KNX specifications of the KNX Association (https://www.knx.org).

4   Setup KNX

4.1   ETS

4.1.1   ETS Software

The ETS software (from version 5.0) is required for the installation. The setup and programming of the KNX bus must be done by a trained person / company. The software and the required software license for the ETS are not included in the scope of delivery and must be obtained from the KNX Association (https://www.knx.org).

4.1.2   ETS Application

The parameters of the KNX module can be configured using the ETS software. The corresponding application can be found in the ETS catalogs under the manufacturer name "Fasel GmbH Elektronik" and the device name "FCU-EXT-KNX-MODUL". Alternatively, you can download it from https://www.fasel-gmbh.de/ .

4.2   Parameters

With the adjustable parameters you set your corresponding product and the desired functions. The type of sauna control is defined by the FCU name.

Name of the sauna control	Functions
FCU x000	Finnish sauna
FCU x200	Finnish sauna and sauna with humidity
FCU x400	Finnish sauna, sauna with humidity and infrared
FCU x000-Steam	Steam Bath

Set your parameters according to the sauna control unit you are using. Make sure that you only activate functions that are available in your sauna control unit. The wrong configuration can lead to malfunctions.

4.3 KNX Group Objects

The Group Objects (GO) are available according to the set parameters.

**Table of KNX Group Objects**

GO	Name	Object function	DPT	Read/ Write
1	Temperature	Setpoint	DPT9.001	Write
2	Temperature	Setpoint State	DPT9.001	Read
3	Temperature	Value	DPT9.001	Read
4	Humidity	Setpoint	DPT5.001	Write
5	Humidity	Setpoint State	DPT5.001	Read
6	Humidity	Value	DPT5.001	Read
7	IR Max. Value	Setpoint	DPT9.001	Write
8	IR Max. Value	Setpoint State	DPT9.001	Read
9	Sauna Start	Switch	DPT1.001	Write
10	Sauna Start	Switch State	DPT1.001	Read
11	Sauna Mode	Trigger	DPT1.017	Write
12	Sauna Mode	Switch State	DPT1.001	Read
13	Sauna & Humidity Mode	Trigger	DPT1.017	Write
14	Sauna & Humidity Mode	Switch State	DPT1.001	Read
15	IR Mode	Trigger	DPT1.017	Write
16	IR Mode	Switch State	DPT1.001	Read
17	Dryer Mode	Switch State	DPT1.001	Read
18	Main Switch	On/Off	DPT1.001	Write
19	Main Switch	Switch State	DPT1.001	Read
20	Cabin Light	On/Off	DPT1.001	Write
21	Cabin Light	Switch State	DPT1.001	Read
22	Cabin Light Dimming	Value	DPT5.001	Write
23	Cabin Light Dimming	Relative Value	DPT3.007	Write
24	Cabin Light Dimming	Value State	DPT5.001	Read
25	Fan	On/Off	DPT1.001	Write
26	Fan	Switch State	DPT1.001	Read

27	Fan Dimming	Value	DPT5.001	Write
28	Fan Dimming	Value State	DPT5.001	Read
29	Timer	Setpoint	DPT10.001	Write
30	Timer	Setpoint State	DPT10.001	Read
31	Time	Time	DPT10.001	Write
32	Error	State	DPT1.001	Read
33	Error	Message	DPT16.000	Read
34	Door Watch	State	DPT1.001	Read
35	RGB	On/Off	DPT1.001	Write
36	RGB	Switch State	DPT1.001	Read
37	RGB Automatic	On/Off	DPT1.001	Write
38	RGB Automatic	Switch State	DPT1.001	Read
39	RGB	Value (3x8Bit)	DPT232.6	Write
40	RGB Dimming	Value	DPT5.001	Write
41	RGB Dimming	Relative Value	DPT3.007	Write
42	RGB Dimming	Value State	DPT5.001	Read
43	Seat Heater	On/Off	DPT1.001	Write
44	Seat Heater	Switch State	DPT1.001	Read

4.3.1 Setpoints (GO 1-8)

The setpoints for temperature and humidity can be set and read out depending on the sauna mode set. Furthermore, the current temperature values and humidity values in the sauna can be read out via GO 3 and 6. The functionality and setting ranges for temperature and humidity can be found in the instructions for the sauna control unit.

4.3.2 Sauna Start (GO 9-10)

This GO can be used to start and stop the sauna and read out the current status. The sauna can only be started if the sauna is in a safe state (see GO 32) and there are no errors.

4.3.3 Sauna Mode Settings (GO 11-16)

The desired sauna mode can be set and read out.

4.3.4   Dryer Mode (GO 17)

It can be read out whether the dry mode of the FCU is active.

4.3.5   Main Switch & Main Switch State (GO 18-19)

The main switch switches the control to a safe off state. The sauna control cannot be started if it is in the off state.

4.3.6   Cabin Light and Fan (GO 20-28)

The on/off and dimming functions can be changed and read out for the cabin light and the fan.
The %-values are converted according to the internal levels.

4.3.7   Time Functions (GO 29-31)

The heating duration can be changed and read out using the timer functions.
The time in the FCU control can be set via the Time GO.

4.3.8   Error State and Message (GO 32-33)

The error status outputs current error messages from the FCU control.

4.3.9   Door Watch (GO 34)

The door watch only works in combination with an active door contact program on the FCU control. The status indicates whether the control is in safe mode (= 1).

4.3.10   RGB Parameters (GO 35-42)

The RGB functions of the FCU can be set and read out via the RGB parameters if a compatible color light control is connected. With the GO 35 and 36, the colored light can be switched on/off and the status can be read out. The automatic mode can be set using GO 37 and 38. With the GO 39, individual colors (3x8Bit) can be set. The dimming of the colored light can be set using the GO 40 and 41. The % values are converted according to the internal levels.

4.3.11   Seat Heater (GO 43-44)

The seat heater can be switched on/off via GO 43 and read out via GO 44. The seat heater function is only optional and only available in IR mode.

5 Technical Data

Designation	FCU-EXT-KNX-MODUL
Supply voltage KNX	DC 30V SELV (KNX) / max. 3mA
Connection KNX	Twisted Pair
Supply voltage Fasel-Bus	DC 12V
Connection Fasel-Bus	RJ-45
FCU compatibility	FCU V6.25 or later
Dimensions	(H x W x D in mm) 60 x 70 x 86
Ambient temperature	0 to +40 °C
Rel. humidity	max. 80 % r. humidity, non-condensing

6 General Information

6.1 Liability limitation

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■ Improper use

■ Unauthorized alterations

■ Technical changes

■ Use of unapproved spare parts and consumables.

The actual scope of delivery can deviate from the explanations and the presentation given here in case of special designs, additional orders or technical updates.

Otherwise the obligations agreed upon in the delivery contract, the general business conditions as well as the delivery terms of the manufacturer and the legal regulations valid at the time of concluding the agreement are applicable

Guarantee   The guarantee period of the manufacturer starts from the time of dispatch by the manufacturer and is valid for 24 months. The delivery date can be determined from the device number on the nameplate.

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6.2 Copyright

Handing over the operating and installation manual to a third party without the written consent of the manufacturer is not permitted.

6.3 Scope of delivery

For information on the scope of delivery, pl. see the delivery note.

6.4 Spare parts

CAUTION
Danger of injury due to incorrect spare parts

Incorrect or defective spare parts could lead to damage, incorrect functioning or total breakdown and can impair the safety.

Therefore:

– Use only original spare parts of the manufacturer.
– Repairs of the sauna control should be carried out only by the technical experts.

Obtain spare parts from the installer or the dealer of the sauna unit. For address see the invoice, delivery note or the reverse of the manual.

6.5 Customer service

Your dealer or the installer of the sauna unit can provide technical information on request.

The address you can find on the invoice, delivery note or the reverse of this manual.

NOTE!

For quick processing, before calling note down the data on the nameplate as well as the model, serial number, version etc..

7 Decommissioning and disposal

■ Do not dispose the sauna control with household waste.
■ Dispose the control unit according to the respective country-specific regulations.