

Product Manual

ise smart connect KNX Vaillant

Order No. S-0001-006

Complete set for installation, consisting of the two system components:

- ise smart connect KNX Vaillant and
- ise eBUS Adapter

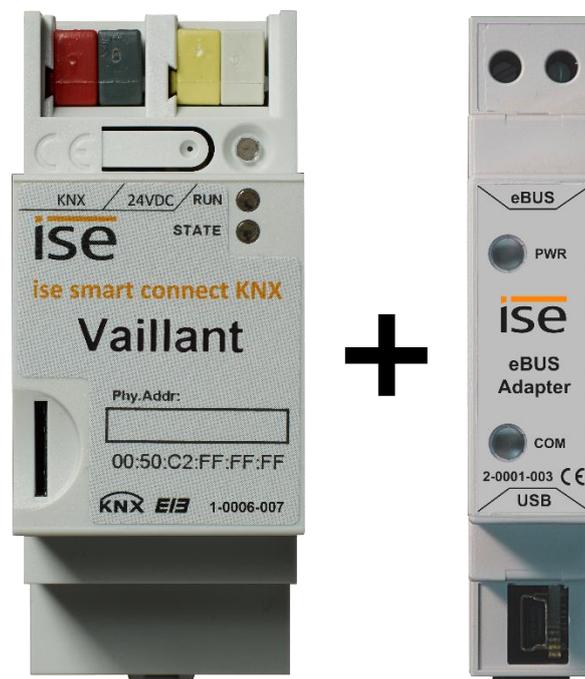
Order No. 1-0006-007

- ise smart connect KNX Vaillant

Order No. 2-0001-003

- ise eBUS Adapter

Valid for application software version 1.0
and firmware version 1.2



Eine intelligente
Lösung empfohlen
von Vaillant



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1 Product description

1.1 Functions

- Operation of a multiMATIC controlled Vaillant¹ heating and domestic warm water system via KNX².
- Control of heating and cooling function, hot water and ventilation with the usual KNX operating devices – regardless of heating control.
- Easy connection of visualisation systems and facility management systems.
- Changes made using the heating control are reported on the KNX.
- Supports accelerated transmission from the ETS² to the ise smart connect KNX Vaillant via a direct IP connection.
- Configuration of the ise smart connect KNX Vaillant is carried out using the latest version of the ETS4 or ETS5. The application accesses ETS functions not supported by earlier ETS versions. This is why previous versions of ETS cannot be used for configuration.
- Together with the ise eBUS Adapter, the ise smart connect KNX Vaillant establishes the connection between the smart heating control and your KNX system.

Important note:

To ensure functional control, the use of both system components is required. The ise smart connect KNX Vaillant can therefore only be used together with the ise eBUS Adapter. The system components can be ordered as a set or individually (for replacement purposes). The Vaillant heating system must be controlled via a multiMATIC controller. No other controller is compatible.

Important!

The device must be supplied with voltage by a dedicated power supply unit. Do not use the auxiliary voltage output of a KNX power supply unit which is also supplying a KNX line.

1.2 Vaillant goes KNX

The ise smart connect KNX Vaillant allows you to implement innovative solutions for your intelligent house.

Connecting KNX and Vaillant opens up new possibilities:

- Your presence and absence control the heating.
- Operating devices in every room desired enable convenient access to your Vaillant system.
- "Immediate" hot water can be requested using a sensor or operating device in the corresponding room.
- Integration of heating and/or ventilation in building scenarios.

These and other application examples can be found in more detail in chapter 1.5 "Use scenarios – Comfort solutions with KNX and Vaillant".

¹ Vaillant is a registered trademark of Vaillant Deutschland GmbH & Co. KG

² ETS and KNX are registered trademarks of KNX Association cvba

1.3 Definitions and explanation of terms

- **ise eBUS Adapter**

The ise eBUS Adapter is a system component to connect the Vaillant bus modular control with the KNX system. It connects:

- devices of the ise smart connect series for eBUS connection (in this case, ise smart connect KNX Vaillant) and
- the Vaillant controller with one another over a USB interface.

It is a specially designed system component for this use case.

Any other or extended use is considered improper.

- **Vaillant system**

All components of the Vaillant heating system are designated as the Vaillant system. One of these components must be a multiMATIC controller, with which the ise smart connect KNX Vaillant communicates. This can also be the radio module of the multiMATIC controller:

Information on the operation, installation and any required accessories can be found in the corresponding documents issued by Vaillant.

- **eBUS**

The commands generated by KNX devices are prepared via the ise smart connect KNX Vaillant and the ise eBUS Adapter to enable communication with the central control of the Vaillant system via the eBUS.

Separate addressing of ise system components for the eBUS is not necessary.

The eBUS connection point is described in chapter 2.5 Connection of the ise eBUS Adapter with the eBUS.

The relevant instructions for installation on the eBUS provided by Vaillant (connection, procedures, cable selection, etc.) must be observed.

1.4 Function schematic



Control your heating system using KNX.
This enables you to access the control or call up entire scenarios from anywhere.

Room 1

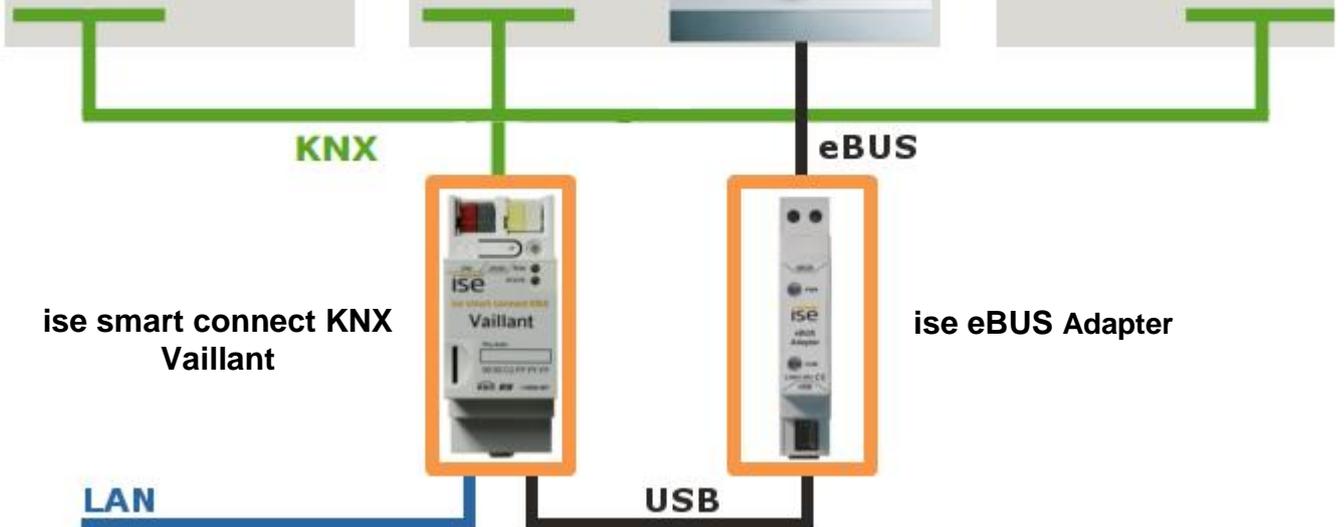


KNX operation

Room 2



Room 3



1.5 Use scenarios – Comfort solutions with KNX and Vaillant

Enhance the existing Comfort functions of your KNX system with smart heating and domestic warm water control.

1.5.1 Your presence controls the heating

You won't be at home for a longer period of time. KNX enables you to perform an occupied-home simulation today, allowing you to conveniently activate the alarm system by actuating the "absence switch". With the ise smart connect KNX Vaillant you can now also switch your heating system to "standby mode". This allows you to reduce the room temperature setpoint values in all rooms (if desired) and minimise heating.

1.5.2 Controlling hot water and heating as needed

You want to be able to enter and change the times and setpoint values for heating and hot water in your visualisation or any other operating device quickly and easily. This means you can save energy without renouncing comfort. After all, the system only works when you need it.

1.5.3 Adjusting heating and hot water to special situations

You want to be able to react to short-term changes in use quickly and easily (longer than usual periods of absence, events, parties, etc.). With the ise smart connect KNX Vaillant, you can temporarily change the times and setpoint values for heating and hot water. After this period, your standard values apply once again.

1.5.4 Controlling ventilation

Adapt the ventilation system to meet your needs. Start e.g. ventilation boost at the push of a button.

1.6 Obtaining information from the Vaillant system

1.6.1 Preparing information on energy yield

Prepare information on the energy yield of the heatpumps and/or solar system to create a clear overview of the energy generation on your visualisation. Note that this information must be provided by the components used in the heating system. You can contact the Vaillant company to find out the extent to which your system supports this information.

1.6.2 Energy consumption at a glance

Prepare information on the energy consumption to create a constant overview of consumption on your visualisation (or other display). Recognise changes and adapt the control to changed usage behaviour if necessary. Note that this information must be provided by the components used in the heating system. You can contact the Vaillant company to find out the extent to which your system supports this information.

1.6.3 Display heating status

Prepare information on your heating system to create a constant overview of the system on your visualisation. This enables you to react immediately in the event of a fault.

1.6.4 Heating active/inactive

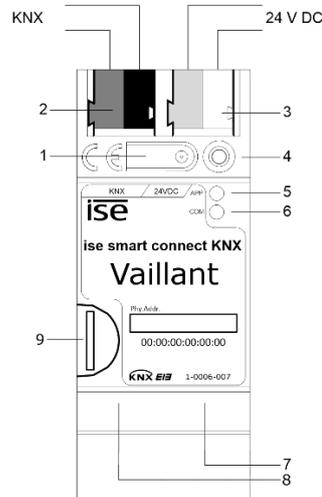
Check whether the heating is currently active at any time via your visualisation.

1.6.5 Display water pressure, signal for insufficient pressure

Receive an alarm signal for insufficient water pressure. Select the signalling in a manner and location that allows you to react quickly.

2 Installation, electrical connection and operation

2.1 Device design ise smart connect KNX Vaillant



Dimensions:

Width (W):
36 mm (2 HP)

Height (H):
90 mm

Depth (D):
74 mm

Figure 1: ise smart connect KNX Vaillant.

1	Programming button for KNX	Switches the device to the ETS programming mode or vice versa.	
2	KNX connection (twisted pair)	On left: (+/red) On right: (-/black)	
3	Connection Power supply	DC 24 to 30 V, 2 W (at 24 V) On left: (+/yellow) On right: (-/white)	
4	KNX programming LED (red)	Red:	Device is in ETS programming mode
5	LED APP (green)	Green: Normal operation Off / flashes:	For start or diagnosis code, see 4.2.1/4.2.2
6	LED COM (yellow)	Yellow: Normal operation (brief dark phases indicate KNX telegram traffic) Off / flashes:	For start or diagnosis codes, see 4.2.1/4.2.2
7	Ethernet connection	LED 10/100 speed (green) On: 100 Mbit/s Off: 10 Mbit/s	LED link/ACT (orange) On: Connection to IP network Off: No connection Flashing: Data reception on IP
8	USB connection	USB connection type A, establishes the connection to the Vaillant system via the ise eBUS Adapter. Use the supplied USB cable as standard. Please note that the use of USB cables with a length of more than 3 m is generally not permitted.	
9	MicroSD card holder	No function.	

2.2 Safety notes

Electrical devices may only be installed and mounted by a qualified electrician. In doing so, the applicable accident prevention regulations must be observed. Failure to observe the installation instructions can result in damage to the device, fire or other dangers.

**DANGER!**

Electric shock if live parts are touched. Electric shock may lead to death. Isolate connection cables before working on the device. Cover up live parts in the vicinity!

**IMPORTANT!**

The device must be supplied with voltage by a dedicated power supply unit. Do not use the auxiliary voltage output of a KNX power supply unit which is also supplying a KNX line.

Please see the installation instructions enclosed with the device for more information.

2.3 Mounting and electrical connection

Mounting the device

- The device is intended for fixed installation in indoor spaces and dry rooms.
- Snap it on to the top-hat rail as per DIN EN 60715, vertical mounting; network connections must face downward.
- ⓘ A KNX data rail is not required; the connection to KNX-TP is established using the accompanying bus connection terminal.
- ⓘ Observe temperature range (0 °C to +45 °C); do not install over heat-emitting devices and ensure sufficient ventilation/cooling if necessary.

Connecting the device

- Connect the KNX-TP bus line to the KNX connection of the device using the included KNX bus connection terminal. The bus line must be led to near the device terminal with the sheathing in tact! Bus line leads without sheathing (SELV) must be installed isolated in such a way that they are securely protected from all non-safety-low-voltage lines (SELV/PELV) (comply with ≥ 4 mm spacing or use cover; see also VDE regulations on SELV (DIN VDE 0100-410/"Secure isolation", KNX installation specifications)!
- Connecting the external power supply to the power supply connection (3) of the device using a KNX device connection terminal, preferably yellow/white.
Polarity: left/yellow: (+), white/right: (-).

Note: If the "non-choked" auxiliary power output of a KNX power supply is used as an auxiliary energy source, you must ensure that the overall current consumption (including all KNX-TP devices) on the line segment does not exceed the rated voltage of the power supply.

- **Important:** The device must be supplied with voltage by a dedicated power supply unit. Do not use the auxiliary voltage output of a KNX power supply unit which is also supplying a KNX line.

- Connection of one IP network line to the network connection of the device (7).
- Connection of USB interface (8) to the ise eBUS Adapter. Use the supplied USB cable as standard. Please note that the use of USB cables with a length of more than 3 m is generally not permitted. When connecting an active ise smart connect KNX Vaillant with the ise eBUS Adapter, the initialisation may require up to three minutes. During this time, the ise smart connect KNX Vaillant may re-start.

Note: The use of the ise smart connect KNX Vaillant requires the use of an ise eBUS Adapter. This can be ordered as a set or individually (for replacement purposes).

Mounting/removing a cover cap

A cover cap can be mounted for protection of the KNX bus and power supply connections from dangerous voltage, particularly in the connection area.

The cap is mounted with an attached bus and power supply terminal and a connected bus and power supply line to the rear.

- Mounting the cover cap: The cover cap is pushed over the bus terminal until it audibly engages (comp. Figure 2: Mounting/removing a cover cap (A)).
- Removing the cover cap: The cover cap is removed by pressing it in slightly on the side and pulling it off to the front (comp. Figure 2: Mounting/removing a cover cap (B)).

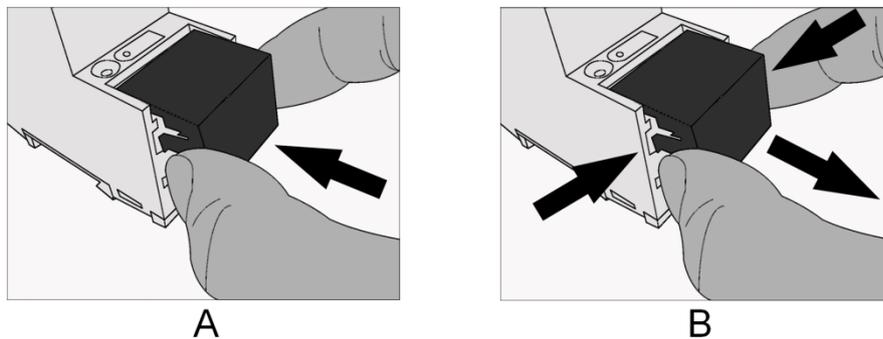


Figure 2: Mounting/removing a cover cap.

2.4 Device designise eBUS Adapter

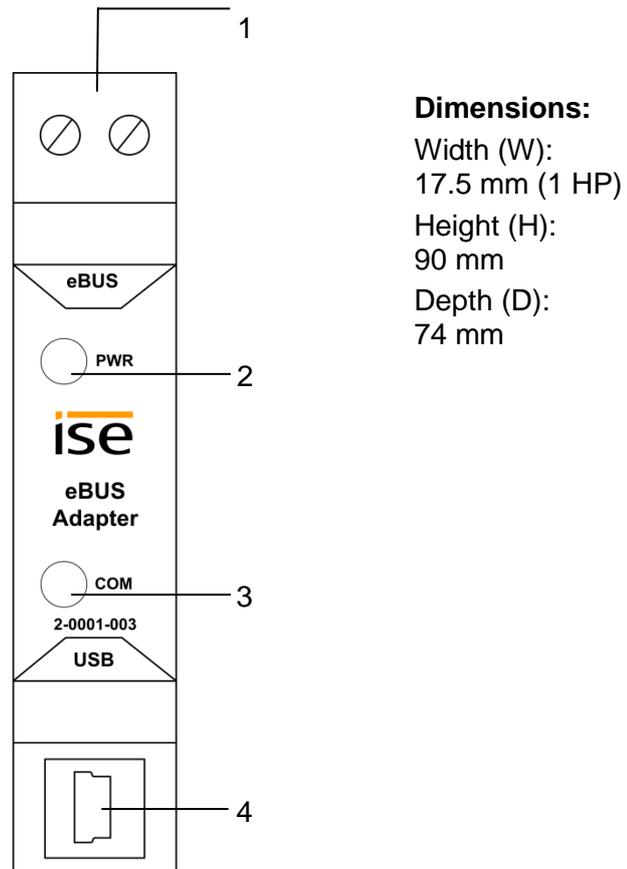


Figure 3: ise eBUS Adapter.

1	eBUS connection	<u>Important note:</u> The maximum length of the eBUS connection cable is 125 m. Please see chapter 2.5 Connection of the ise eBUS Adapter with the eBUS for the position of the eBUS connection.
2	LED <i>PWR</i> (green)	Green: Minimum voltage from eBUS is connected
3	LED <i>COM</i> (green)	Green: Connection of ise smart connect KNX Vaillant with eBUS established
4	USB connection	<u>Important note:</u> The adapter cable for the USB port is equipped with a mini USB-B angled plug. To prevent damage, the angled plug must always be pulled out the front. Use the supplied USB cable as standard. Please note that the use of USB cables with a length of more than 3 m is generally not permitted.

Please see the installation instructions enclosed with the device for more information.

2.5 Connection of the ise eBUS Adapter with the eBUS

The heating technology supplier has installed a junction box in which an eBUS cable is laid from the heating system. In this junction box, the company executing the KNX system will establish the connection to the ise eBUS Adapter.

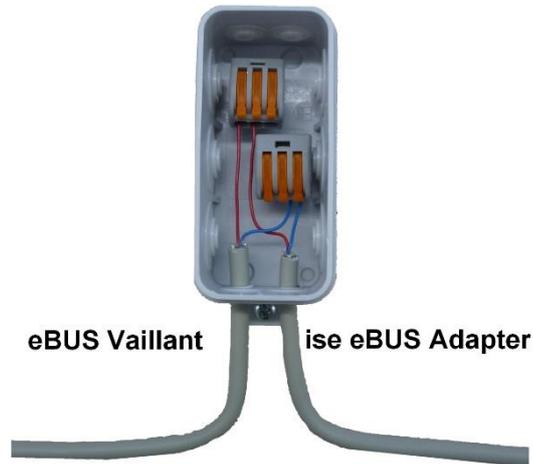


Figure 4: Junction box for the connection of the ise eBUS Adapter to the heating system.

The position of the junction box can be seen in the handover protocol from executing company for heating, air conditioning and ventilation technology to the building technology planner (KNX bus system). The corresponding information can be found in Point 7 "Position of eBUS connection point between the Vaillant heating system and KNX Gateway".

Once the connection between the KNX system and the eBUS is established, the KNX system executer must attach the following sticker (which is enclosed with the product) to the Vaillant system:



Figure 5: Heating system marking.

It is recommended to attach the sticker here:



Figure 6: Sticker attachment to BMU.

3 Configuration

Configuration of the ise smart connect KNX Vaillant system components is divided into the following steps:

Preparations:	For explanations, see
1 installing ise eBUS Adapter. Connect the ise smart connect KNX Vaillant with the ise eBUS Adapter via the USB interface. Use the supplied USB cable as standard. Please note that the use of USB cables with a length of more than 3 m is generally not permitted.	→ Chapter 2
2 Mount ise smart connect KNX Vaillant, connect it to KNX bus connection and auxiliary voltage. <u>Important note:</u> If you use the Ethernet connection of the device, please ensure that the device is only supplied with voltage by a dedicated power supply unit. Do not use the auxiliary voltage output of a KNX power supply unit which is also supplying a KNX line.	→ Chapter 1.4
3 Connect the ise eBUS Adapter with the eBUS in the intended junction box. <u>Important note:</u> The maximum length of the eBUS connection cable is 125 m.	→ Chapter 1.4
4 Install the ise smart connect KNX Vaillant on the IP network and make settings in the router of the IP network if necessary.	

Configuration via ETS:

After installing the device and connecting the bus, power supply and, if necessary, Ethernet, the device can be commissioned. The preparatory configuration is carried out using the Engineering Tool Software, ETS, available from the KNX Association, see www.knx.org.

Please note that the use of the symbol "\" is not permitted in device names and will lead to a device fault. If you have used this symbol, a factory reset is required. For this purpose, see chapter 4.6.1 "Factory reset using the programming button on the device".

1 Create the ise smart connect KNX Vaillant as a device in the ETS.	→ Chapter 3.1
2 Assign physical address as usual corresponding to the KNX topology.	
3 Set IP address, IP subnet mask and default gateway address of the ise smart connect KNX Vaillant or select "Obtain an IP address automatically (from a DHCP server)".	→ Chapter 3.3
4 General parameters for setting the ise smart connect KNX Vaillant.	→ Chapter 3.4.1
5 Connect group addresses to group objects as usual.	→ Chapter 3.5
6 The ise smart connect KNX Vaillant is now ready for commissioning via "Program ETS" and for function testing.	

3.1 Configuration step 1 – Create ise smart connect KNX Vaillant as device in the ETS

If it has not yet been done, import the ETS device application to the ise smart connect KNX Vaillant once in the device catalogue of its ETS, for example using the "*Import Products*" function on the start page of the ETS.

You can download the ETS application from our website under www.ise.de free of charge.

The other explanations in this document refer to

Hardware		Application software	
Device:	ise smart connect KNX Vaillant	Application:	ise smart connect KNX Vaillant
		Version:	V1.0
Manufacturer:	ise GmbH		
Order No.	1-0006-007		
Version:	V1.0		
Design:	DRA (series installation)		

If you already have an ETS project with a previous database entry, you can also update the application program. To do this, drag the new database entry to the project and then select the device with the old database entry. Now, in the device "Properties", select "Information" and then the "Application" (ETS 4.2) or "Application program" (ETS 5) tab.

Here, use the "Update application program" (ETS 4.2) or "Update" (ETS 5) button to replace the old database entry. Existing links with group addresses are not lost. The newly added device can now be deleted again.

In ETS 4.2, you require a special license for this. From ETS 5, this is possible with every license.

3.2 Configuration step 2 – Assigning a physical address

In the ETS, assign the device a physical address as usual corresponding to the KNX topology .

3.3 Configuration step 3 – Setting the IP address, subnet mask and address of the standard gateway

In addition to the physical address on the KNX network, the ise smart connect KNX Vaillant can also be assigned an address on the IP data network. This includes the following information:

- IP address
- Subnet mask
- Address of the default gateway.

This can occur in two ways, either

- automatically by obtaining the data from a DHCP server (e.g. integrated in the router of the data network) or
- via manual setting in the ETS.

Proceed as follows for this purpose:

1. Select the device in the ETS.

2. Display the properties of the device in the sidebar of the ETS as shown in Figure 7: Device properties dialogue of the ETS.

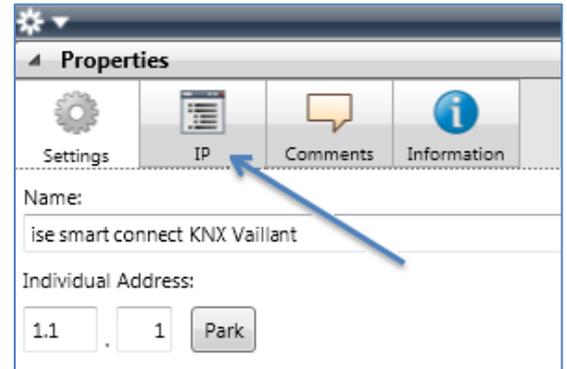


Figure 7: Device properties dialogue of the ETS

3. Select the "IP" tab as per Figure 8: Setting of the IP address data of the device on the "IP" tab in the sidebar of the ETS. Then select either

Obtain an IP address automatically (default)

The address data are obtained automatically from a DHCP server on the data network.

or

Use the following address

and enter the data manually.
 You can usually obtain the permissible IP address range and the subnet mask and standard gateway from the router configuration interface.

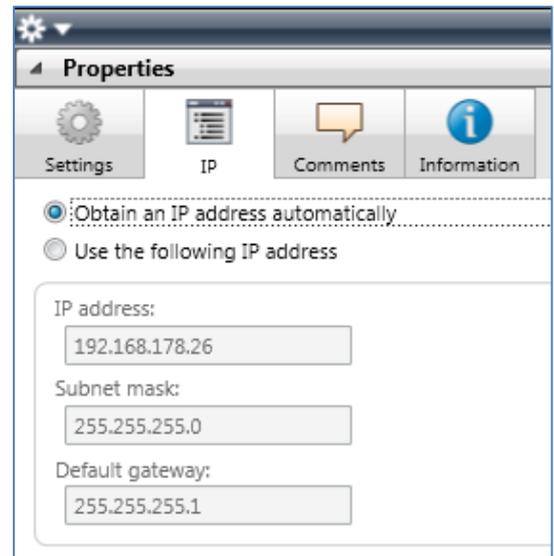


Figure 8: Setting of the IP address data of the device on the "IP" tab in the sidebar of the ETS

If the *Obtain an IP address automatically* setting is used, a DHCP server must issue the ise smart connect KNX Vaillant a valid IP address.

If a DHCP server is not available for this setting, the device starts up after a waiting time with an AutoIP address (address range from 169.254.1.0 to 169.254.254.255).

As soon as a DHCP server is available, the device is automatically assigned a new IP address.

3.4 Setting general parameters.

3.4.1 Parameters System dimensioning

In the first part of the parameterisation, a prompt is given for system dimensioning. Please take the system dimensioning from the handover protocol from the heating, air conditioning and ventilation technology supplier.

Individual components are requested separately. The default value of each parameter is marked in **bold**.

System dimensioning	Components	Entry/Selection	Remarks
Gas boiler	A Vaillant gas boiler is available	yes no	
Heat generator	A Vaillant heatpump is available	yes no	
Thermal solar system	A thermal solar system is available, the data from which is recorded by the multiMATIC	yes no	
Ventilation	A Vaillant recoVAIR domestic ventilation unit is available, which is controlled by the multiMATIC	yes no	
Heating zone 1	A heating zone 1 is available for room heating	yes no	
"	The cooling function for zone 1 is activated in the multiMATIC	yes no	
Heating zone 2	A heating zone 2 is available for room heating	yes no	
"	The cooling function for zone 2 is activated in the multiMATIC	yes no	
Heating zone 3	A heating zone 3 is available for room heating	yes no	
"	The cooling function for zone 3 is activated in the multiMATIC	yes no	

System dimensioning	Components	Entry/Selection	Remarks
Hot water	Hot water is controlled via the multiMATIC	yes no	
"	A Vaillant VPM-W domestic hot water unit is available in the system	yes no	
"	For hot water cylinder charging, a mixer circuit is configured as a cylinder charging circuit	yes no	
Sensors	The automated date/time configuration functions at the system location	yes no	
"	The multiMATIC displays the fuel consumption (gas consumption) in the "Information" menu.	yes no	
"	The multiMATIC displays the consumption (current consumption) in the "Information" menu	yes no	
"	The multiMATIC displays the system pressure in the "Information/System Status" menu	yes no	
"	When falling below the following water pressure, the heating system should be re-filled with water.	0 bar	Normal value is 1 bar

3.4.2 Parameters use cases

In the second part of the parameterisation, a prompt is given for corresponding use cases. The possible use cases are already defined by the system dimensioning. Please simply mark the cases you wish with a tick. No ticks are marked during the first call-up.

Please note that all supported use cases appear in the following list. The actual use cases possible for a system depend on the system dimensioning. Only these will be offered by the ETS.

Rubric	Use cases
Smart control	I would like "Standby" activation in my home to also switch my heating to "standby".
"	I would like to be able to configure hot water heating and heating in my visualisation with time control.
"	I always want to be able to carry out short-term changes to my regular heating and hot water control in order to maintain a pleasant room temperature and hot water during longer periods of presence (e.g. overtime in the office or party at home).
"	I want to be able to change the operation mode of the ventilation or switch on/off the ventilation boost in order to adapt the ventilation to my current requirements.
Information	I want to see the energy yield of my heatpump and thermal solar system in my visualisation in order to observe the overall yield of my system.
"	I want to be able to see the energy consumption of my Vaillant system in my visualisation in order to display the current value and historical diagrams.
"	I want to be able to see the system status of my Vaillant system in my visualisation in order to have constant reassurance that everything is okay.
"	I want to see the current water pressure of the system in my visualisation and be able to activate an alarm if it becomes too low in order to be able to react to it.

3.5 Connect group addresses to group objects.

Various group objects are available for the connection of group addresses at the ise smart connect KNX Vaillant. The visibility of the group objects is dependent on the provisions of chapter 3.4.1 Parameters System dimensioning and 3.4.2 Parameters use cases. Dependency is specified for each group object in italics under "Description".

Note on cycle time:

- Communication objects with defined cycle time:
The ise smart connect KNX Vaillant updates the information on the status of the heating system at regular intervals (cycle time). Changes to the status are therefore only identified during the next query.
- Communication objects with no defined cycle time:
The ise smart connect KNX Vaillant updates the information based on events. Changes to the status are therefore identified in real time.
- It is possible that values are made available by the heating regulator for a longer period of time. This means that, even if the values are polled by the ise smart connect KNX Vaillant at shorter intervals, the values on the KNX bus do not change until updating occurs in the heating regulator. It can also happen that values which have already been updated are shown in the display of the controller, but are not yet available to the ise smart connect KNX Vaillant. In addition to the cycle time, the updating time in the controller is also specified for group objects concerned.

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 1	System in service mode	Read	1 bit	1,011	CR-T-
Rubric:	Connections	Data type:		Status	
Function:	Indicates whether the system's service mode is currently active. Zykluszeit: 1 min				
Description:	This group object is always visible.				
 2	Fault heating generator	Read	1 bit	1,002	CR-T-
Rubric:	Connections	Data type:		Boolean	
Function:	Indicates whether one of the available heat generators has an error. Zykluszeit: 15 min				
Description:	This group object is always visible. True = Error exists				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 3	Time	Read	3 byte	10,001	CR-T-
Rubric:	Date/time	Data type:	Time of day		
Function:	Provides the Vaillant system time. The time is updated every full minute. Synchronisation with the controller system time: 1 hr				
Description:	<p>This group object is visible when the automatic date/time configuration functions at the location of the system.</p> <p><i>Parameters > System dimensioning > Sensors > Does the automatic date/time display function at the location of the system? <yes></i></p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 4	Date	Read	3 byte	11,001	CR-T-
Rubric:	Date/time	Data type:	Date		
Function:	Provides the Vaillant system date. Synchronisation with the controller system time: 60 min				
Description:	<p>This group object is visible when the automatic date/time configuration functions at the location of the system.</p> <p><i>Parameters > System dimensioning > Sensors > Does the automatic date/time display function at the location of the system? <yes></i></p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 5	Outside temperature	Read	2 byte	9,001	CR-T-
Rubric:	Temperature	Data type:	Temperature (°C)		
Function:	<p>Provides the outside temperature.</p> <p>Zykluszeit: 1 min</p> <p>Value range > -40 °C</p>				
Description:	<p>This group object is always visible.</p> <p>With a value of -40 °C or lower, error code 7 is sent to group object 12. This can indicate a defect in the temperature sensor.</p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 6	System status: Standby	Read	1 bit	1,011	CR-T-
Rubric:		Data type:	Status		
Function:	<p>Indicates whether the system is in "Standby" mode.</p> <p>Zykluszeit: 1 min</p>				
Description:	<p>This group object is always visible.</p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 7	System status: Heating	Read	1 bit	1,011	CR-T-
Rubric:		Data type:		Status	
Function:	Indicates whether the system is in "Heating" mode. Zykluszeit: 1 min				
Description:	<p>This group object is visible when a heating zone is available and the corresponding use case has been selected.</p> <p><i>Parameters > System dimensioning > Heating zone N > A heating zone N is available for room heating <yes></i> and <i>Parameters > Information > I would like to see (...) the system status of my Vaillant system (...) <✓></i></p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 8	System status: Cooling	Read	1 bit	1,011	CR-T-
Rubric:		Data type:		Status	
Function:	Indicates whether the system is in "Cooling" mode. Zykluszeit: 1 min				
Description:	<p>This group object is visible when the Vaillant system is also to be used for cooling.</p> <p>For this, there must be a heating zone with activated cooling function and the corresponding use case must be selected.</p> <p><i>Parameters > System dimensioning > Heating zone N > A heating zone N is available for room heating <yes></i> and <i>Parameters > System dimensioning > Heating zone N > The cooling function is activated for zone N in the multiMATIC <yes></i> and <i>Parameters > Information > I would like to see (...) the system status of my Vaillant system (...) <✓></i></p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 9	System status: Hot water	Read	1 bit	1,011	CR-T-
Rubric:		Data type:		Status	
Function:	Indicates whether the system is in "Hot water" mode. Zykluszeit: 1 min				
Description:	<p>This group object is visible when the hot water is controlled by the multiMATIC. Please note that</p> <ul style="list-style-type: none"> – if a VPM-W Vaillant domestic hot water unit is used or – if a mixer circuit is configured as a cylinder charge circuit for hot water cylinder charge, <p>control via the multiMATIC is not possible. In this case, this group object is not visible.</p> <p><i>Parameters > System dimensioning > Hot water > Hot water is controlled via the multiMATIC <yes></i> and <i>Parameters > Information > I would like to see (...) the system status of my Vaillant system (...) <✓></i></p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 10	Water pressure	Read	2 byte	9,006	CR-T-
Rubric:		Data type:		Pressure (Pa)	
Function:	Displays the current water pressure of the system. Zykluszeit: 1 min Value range: 0–670760 Pa (0–6.70760 bar)				
Description:	<p>This group object is visible when the current water pressure of the Vaillant system is to be displayed. For this, the multiMATIC must display the system pressure and the corresponding use case must be selected.</p> <p><i>Parameters > System dimensioning > Sensors > The multiMATIC displays the system pressure in the "Information/System Status" menu</i> and <i>Parameters > Use cases > Information > I would like to see the current water pressure in my visualisation (...) <✓></i></p> <p>If the system pressure exceeds the value of 6.70760 bar, error code 7 is sent to group object 12.</p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 11	KNX Gateway error	Read	1 bit	1,002	CR-T-
Rubric:	Connections	Data type:		Boolean	
Function:	Indicates whether the KNX Gateway has an error.				
Description:	<p>This group object is always visible. True = Error exists</p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 12	Last KNX Gateway error	Read	1 byte	20.*	CR-T-
Rubric:	Error	Data type:		1 byte	
Function:	Error code of last KNX Gateway error				
Description:	<p>This group object is always visible.</p> <p>1 = multiMATIC not found. eBUS communication is possible, but no multiMATIC was found.</p> <p>2 = Reserved for subsequent use.</p> <p>3 = Error in communication with the ise eBUS Adapter. Communication between the ise smart connect KNX Vaillant and the ise eBUS Adapter is not possible via USB.</p> <p>4 = eBUS cable is not connected. eBUS connection not recognised.</p> <p>5 = No answer from the eBUS. No answer to query from eBUS.</p> <p>6 = Value is not supported. There is no corresponding eBUS value for a KNX value.</p> <p>7 = Value not permitted. The received value is not within the permitted range (eBUS and KNX).</p> <p>LED status displays on the ise smart connect KNX Vaillant are allocated to the error codes 1 to 4. The corresponding values are described in chapter 4.2.2 LED status display in operation.</p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 20	Domestic hot water circuit – operation mode	Write	1 byte	20,103	CRWT-
Rubric:		Data type:		DHW mode	
Function:	<p>Sets and reads the operation mode of the domestic hot water circuit. The following assignment of the KNX to controller mode is used:</p> <p>Auto = Auto</p> <p>LegioProtect = Not supported</p> <p>Normal = Day</p> <p>Reduced = Not supported</p> <p>Off/FrostProtect = Off</p> <p>If an unsupported mode is sent, error code 6 is sent over group object 12.</p> <p>Zykluszeit: 1 min</p>				
Description:	<p>This group object is visible when the hot water is controlled by the multiMATIC. Please note that</p> <ul style="list-style-type: none"> – if a VPM-W Vaillant domestic hot water unit is used or – if a mixer circuit is configured as a cylinder charge circuit for hot water cylinder charge, <p>control via the multiMATIC is not possible. In this case, this group object is not visible.</p> <p><i>Parameters > System dimensioning > Hot water > Hot water is controlled via the multiMATIC <yes></i></p> <p>and</p> <p><i>Parameters > Use cases > Smart control > Any use case <✓></i></p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 21	Domestic hot water circuit - "Auto" operation mode	Write	1 bit	1,011	CRWT-
Rubric:		Data type:		Status	
Function:	<p>Activates the "Auto" operation mode for the domestic hot water circuit or shows whether this is active. Corresponds to "Auto" of data type DHW mode. Zykluszeit: 1 min</p>				
Description:	<p>This group object is visible when the hot water is controlled by the multiMATIC. Please note that</p> <ul style="list-style-type: none"> – if a VPM-W Vaillant domestic hot water unit is used or – if a mixer circuit is configured as a cylinder charge circuit for hot water cylinder charge, <p>control via the multiMATIC is not possible. In this case, this group object is not visible.</p> <p><i>Parameters > System dimensioning > Hot water > Hot water is controlled via the multiMATIC <yes></i> and <i>Parameters > Use cases > Smart control > Any use case <✓></i></p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 22	Domestic hot water circuit - "Day" operation mode	Write	1 bit	1,011	CRWT-
Rubric:		Data type:		Status	
Function:	<p>Activates the "Day" operation mode for the domestic hot water circuit or shows whether this is active. Corresponds to "Normal" of data type DHW mode. Zykluszeit: 1 min</p>				
Description:	<p>This group object is visible when the hot water is controlled by the multiMATIC. Please note that</p> <ul style="list-style-type: none"> – if a VPM-W Vaillant domestic hot water unit is used or – if a mixer circuit is configured as a cylinder charge circuit for hot water cylinder charge, <p>control via the multiMATIC is not possible. In this case, this group object is not visible.</p> <p><i>Parameters > System dimensioning > Hot water > Hot water is controlled via the multiMATIC <yes></i> and <i>Parameters > Use cases > Smart control > Any use case <✓></i></p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 23	Domestic hot water circuit - "Off" operation mode	Write	1 bit	1,011	CRWT-
Rubric:		Data type:		Status	
Function:	Activates the "Off" operation mode for the domestic hot water circuit or shows whether this is active. Corresponds to "Off" of data type DHW mode. Zykluszeit: 1 min				
Description:	This group object is visible when the hot water is controlled by the multiMATIC. Please note that <ul style="list-style-type: none"> – if a VPM-W Vaillant domestic hot water unit is used or – if a mixer circuit is configured as a cylinder charge circuit for hot water cylinder charge, control via the multiMATIC is not possible. In this case, this group object is not visible. <i>Parameters > System dimensioning > Hot water > Hot water is controlled via the multiMATIC <yes></i> and <i>Parameters > Use cases > Smart control > Any use case <✓></i>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 24	Domestic hot water circuit – hot water setpoint value	Write	2 byte	9,001	CRWT-
Rubric:		Data type:		Temperature (°C)	
Function:	Sets and reads the current setpoint value of the domestic hot water circuit. Zykluszeit: 1 min Value range: 35–70 °C				
Description:	This group object is visible when the hot water is controlled by the multiMATIC. Please note that <ul style="list-style-type: none"> – if a VPM-W Vaillant domestic hot water unit is used or – if a mixer circuit is configured as a cylinder charge circuit for hot water cylinder charge, control via the multiMATIC is not possible. In this case, this group object is not visible. <i>Parameters > System dimensioning > Hot water > Hot water is controlled via the multiMATIC <yes></i> and <i>Parameters > Use cases > Smart control > I would like to be able to configure heating and hot water heating with time control <✓></i> If a value outside the value range is written to this group object, error code 7 is sent to group object 12.				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 25	Domestic hot water circuit – 1x cylinder charge	Write	1 bit	1,011	CRWT-
Rubric:		Data type:		Status	
Function:	Activates or deactivates the "One-time cylinder charge" mode of the domestic hot water circuit and displays this status. Zykluszeit: 1 min				
Description:	This group object is visible when the hot water is controlled by the multiMATIC. Please note that – if a VPM-W Vaillant domestic hot water unit is used or – if a mixer circuit is configured as a cylinder charge circuit for hot water cylinder charge, control via the multiMATIC is not possible. In this case, this group object is not visible. <i>Parameters > System dimensioning > Hot water > Hot water is controlled via the multiMATIC <yes></i> and <i>Parameters > Use cases > Smart control > I would like to be able to make short-term changes to my regular heating and hot water control (...) <✓></i>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 30	Ventilation – "Auto" operation mode	Write	1 bit	1,011	CRWT-
Rubric:		Data type:		Status	
Function:	Activates the "Auto" operation mode for the ventilation system or shows whether this is active. Zykluszeit: 1 min				
Description:	This group object is visible when a Vaillant recoVAIR domestic ventilation unit is controlled by the multiMATIC. <i>Parameters > System dimensioning > Ventilation > A Vaillant recoVAIR domestic ventilation unit is available, which is controlled by the multiMATIC <yes></i> and <i>Parameters > Use cases > Smart control > Any use case <✓></i>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 31	Ventilation – "Day" operation mode	Write	1 bit	1,011	CRWT-
Rubric:		Data type:		Status	
Function:	Activates the "Day" operation mode for the ventilation system, or shows whether this is active. Zykluszeit: 1 min				
Description:	This group object is visible when a Vaillant recoVAIR domestic ventilation unit is controlled by the multiMATIC. <i>Parameters > System dimensioning > Ventilation > A Vaillant recoVAIR domestic ventilation unit is available, which is controlled by the multiMATIC <yes> and Parameters > Use cases > Smart control > Any use case <✓></i>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 32	Ventilation – "Night" operation mode	Write	1 bit	1,011	CRWT-
Rubric:		Data type:		Status	
Function:	Activates the "Night" operation mode for the ventilation system, or shows whether this is active. Zykluszeit: 1 min				
Description:	This group object is visible when a Vaillant recoVAIR domestic ventilation unit is controlled by the multiMATIC. <i>Parameters > System dimensioning > Ventilation > A Vaillant recoVAIR domestic ventilation unit is available, which is controlled by the multiMATIC <yes> and Parameters > Use cases > Smart control > Any use case <✓></i>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 33	Ventilation – 1x ventilation boost	Write	1 bit	1,011	CRWT-
Rubric:		Data type:		Status	
Function:	Activates or deactivates the "One-time ventilation boost" operation mode for the ventilation system or shows whether this is active. Zykluszeit: 1 min				
Description:	This group object is visible when a Vaillant recoVAIR domestic ventilation unit is controlled by the multiMATIC. <i>Parameters > System dimensioning > Ventilation > A Vaillant recoVAIR domestic ventilation unit is available, which is controlled by the multiMATIC <yes> and Parameters > Use cases > Smart control > Any use case <✓></i>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 34	Cooling days manual cooling	Write	1 byte	5.*	CRWT-
Rubric:		Data type:	8-bit unsigned		
Function:	Sets and reads the number of days for manual cooling. Zykluszeit: 1 min Value range: 0–99 days				
Description:	<p>This group object is visible when a Vaillant heatpump is available and the cooling function is activated for at least one heating zone in the multiMATIC.</p> <p><i>Parameters > System dimensioning > Heatpump > A Vaillant heatpump is available <yes></i></p> <p>and</p> <p><i>Parameters > System dimensioning > Heating zone N > A heating zone N is available for room heating <yes> and The cooling function for zone N is activated in the multiMATIC</i></p> <p>and</p> <p><i>Parameters > Use cases > Smart control > I would like to be able to configure heating and hot water heating in my visualisation with time control <✓></i></p> <p>If a value outside the value range is written to this group object, error code 7 is sent to group object 12.</p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 50	Energy yields – solar yield	Read	4 byte	13,013	CR-T-
Rubric:		Data type:	Active energy (kWh)		
Function:	Provides the accumulated solar yield which was read during the last query. Zykluszeit: 1 Std. Updating in the controller: Up to 24 hr				
Description:	<p>This group object is visible when the thermal solar yield of a solar thermal system is to be displayed.</p> <p>For this, the multiMATIC must record the data and the corresponding use case must be selected.</p> <p><i>Parameters > System dimensioning > Thermal solar installation > A thermal solar system heatpump is available (...) <yes></i></p> <p>and</p> <p><i>Parameters > Use cases > Information > I would like to see (...) the energy yield of my heatpump and thermal solar installation (...) <✓></i></p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 51	Energy yields – Environmental yield	Read	4 byte	13,013	CR-T-
Rubric:	Data type:		Active energy (kWh)		
Function:	Provides the accumulated environment yield which was read during the last query. Zykluszeit: 1 Std. Updating in the controller: Up to 24 hr				
Description:	<p>This group object is visible when the environment yield of a Vaillant heatpump is to be displayed. For this, the multiMATIC must record the data and the corresponding use case must be selected.</p> <p><i>Parameters > System dimensioning > Heatpump > A Vaillant heatpump is available (...) <yes></i> and <i>Parameters > Use cases > Information > I would like to see (...) the energy yield of my heatpump and thermal solar installation (...) <✓></i></p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 52	Energy consumption - Consumption gas for heating	Read	4 byte	13,013	CR-T-
Rubric:	Data type:		Active energy (kWh)		
Function:	Provides the accumulated gas consumption for heating which was read during the last query. Zykluszeit: 1 Std. Updating in the controller: Up to 24 hr				
Description:	<p>This group object is visible if a Vaillant gas boiler is available, the multiMATIC records the data and the corresponding use case was selected.</p> <p><i>Parameters > System dimensioning > Gas boiler > A Vaillant gas boiler is available (...) <yes></i> and <i>Parameters > System dimensioning > Sensors > The multiMATIC displays (...) the fuel consumption (gas consumption) <yes></i> and <i>Parameters > Use cases > Information > I would like to be able to see (...) the energy consumption (...) <✓></i></p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 53	Energy consumption - Consumption gas for hot water	Read	4 byte	13,013	CR-T-
Rubric:	Data type:		Active energy (kWh)		
Function:	Provides the accumulated gas consumption for hot water which was read during the last query. Zykluszeit: 1 Std. Updating in the controller: Up to 24 hr				
Description:	This group object is visible if a Vaillant gas boiler is available, the multiMATIC records the data and the corresponding use case was selected. <i>Parameters > System dimensioning > Gas boiler > A Vaillant gas boiler is available (...) <yes></i> and <i>Parameters > System dimensioning > Sensors > The multiMATIC displays (...) the fuel consumption (gas consumption) <yes></i> and <i>Parameters > Use cases > Information > I would like to be able to see (...) the energy consumption (...) <✓></i>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 54	Energy consumption - Consumption electricity for heating	Read	4 byte	13,013	CR-T-
Rubric:	Data type:		Active energy (kWh)		
Function:	Provides the accumulated current consumption for heating which was read during the last query. Zykluszeit: 1 Std. Updating in the controller: Up to 24 hr				
Description:	This group object is visible when the multiMATIC displays the consumption (current consumption) and the corresponding use case has been selected. <i>Parameters > System dimensioning > Sensors > The multiMATIC displays (...) the consumption (current consumption) <yes></i> and <i>Parameters > Use cases > Information > I would like to be able to see (...) the energy consumption (...) <✓></i>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 55	Energy consumption - Consumption electricity for hot water	Read	4 byte	13,013	CR-T-
Rubric:	Data type:		Active energy (kWh)		
Function:	Provides the accumulated current consumption for hot water which was read during the last query. Zykluszeit: 1 Std. Updating in the controller: Up to 24 hr				
Description:	This group object is visible when the multiMATIC displays the consumption (current consumption) and the corresponding use case has been selected. <i>Parameters > System dimensioning > Sensors > The multiMATIC displays (...) the consumption (current consumption) <yes></i> and <i>Parameters > Use cases > Information > I would like to be able to see (...) the energy consumption (...) <✓></i>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 60	Heating zone 1 – operation mode	Write	1 byte	20,102	CRWT-
Rubric:	Data type:		HVAC mode		
Function:	Sets and reads the operation mode of heating zone 1. The following assignment of the KNX to controller mode is used: Auto = Auto Comfort = Day Standby = Night Economy = Night (default assignment) Building Protection = Off For group object 63, the assignment is set to the last "Standby" or "Economy" value sent. Zykluszeit: 1 min				
Description:	This group object is visible when a heating zone 1 is available and the corresponding use case has been selected. <i>Parameters > System dimensioning > Heating zone 1 > A heating zone 1 is available for room heating <yes></i> and <i>Parameters > Use cases > Smart control > Any use case <✓></i>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 61	Heating zone 1 – "Auto" operation mode	Write	1 bit	1,011	CRWT-
Rubric:		Data type:		Status	
Function:	Activates the "Auto" operation mode for heating zone 1 or shows whether this is active. Corresponds to "Auto" of data type HVAC mode. Zykluszeit: 1 min				
Description:	This group object is visible when a heating zone 1 is available and the corresponding use case has been selected. <i>Parameters > System dimensioning > Heating zone 1 > A heating zone 1 is available for room heating <yes></i> and <i>Parameters > Use cases > Smart control > Any use case <✓></i>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 62	Heating zone 1 – "Day" operation mode	Write	1 bit	1,011	CRWT-
Rubric:		Data type:		Status	
Function:	Activates the "Day" operation mode for heating zone 1 or shows whether this is active. Corresponds to "Comfort" of data type HVAC mode. Zykluszeit: 1 min				
Description:	This group object is visible when a heating zone 1 is available and the corresponding use case has been selected. <i>Parameters > System dimensioning > Heating zone 1 > A heating zone 1 is available for room heating <yes></i> and <i>Parameters > Use cases > Smart control > Any use case <✓></i>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 63	Heating zone 1 – "Night" operation mode	Write	1 bit	1,011	CRWT-
Rubric:		Data type:		Status	
Function:	The "Night" operation mode is activated for heating zone 1 or shows whether this is active. Corresponds to "Economy" or "Standby" of data type HVAC mode. The last value written to group object 60 is decisive for this state. "Economy" is used as standard. Zykluszeit: 1 min				
Description:	This group object is visible when a heating zone 1 is available and the corresponding use case has been selected. <i>Parameters > System dimensioning > Heating zone 1 > A heating zone 1 is available for room heating <yes></i> and <i>Parameters > Use cases > Smart control > Any use case <✓></i>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 64	Heating zone 1 – "Off" operation mode	Write	1 bit	1,011	CRWT-
Rubric:		Data type:		Status	
Function:	<p>Activates the "Off" operation mode for heating zone 1 or shows whether this is active. Corresponds to "Building Protection" of data type HVAC mode. Zykluszeit: 1 min</p>				
Description:	<p>This group object is visible when a heating zone 1 is available and the corresponding use case has been selected. <i>Parameters > System dimensioning > Heating zone 1 > A heating zone 1 is available for room heating <yes></i> and <i>Parameters > Use cases > Smart control > Any use case <✓></i></p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 65	Heating zone 1 – day temperature heating	Write	2 byte	9,001	CRWT-
Rubric:		Data type:		Temperature (°C)	
Function:	<p>Sets and reads the current setpoint value for the day temperature of heating zone 1. Zykluszeit: 1 min Value range: 5–30 °C</p>				
Description:	<p>This group object is visible when a heating zone 1 is available and the corresponding use case has been selected. <i>Parameters > System dimensioning > Heating zone 1 > A heating zone 1 is available for room heating <yes></i> and <i>Parameters > Use cases > Smart control > I would like to be able to configure heating and hot water heating (...) with time control <✓></i> If a value outside the value range is written to this group object, error code 7 is sent to group object 12.</p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 66	Heating zone 1 – night temperature heating	Write	2 byte	9,001	CRWT-
Rubric:	Data type:		Temperature (°C)		
Function:	Sets and reads the current setpoint value for the night temperature of heating zone 1. Zykluszeit: 1 min Value range: 5–30 °C				
Description:	This group object is visible when a heating zone 1 is available and the corresponding use case has been selected. <i>Parameters > System dimensioning > Heating zone 1 > A heating zone 1 is available for room heating <yes></i> and <i>Parameters > Use cases > Smart control > I would like to be able to configure heating and hot water heating (...) with time control <✓></i> If a value outside the value range is written to this group object, error code 7 is sent to group object 12.				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 67	Heating zone 1 – day temperature cooling	Write	2 byte	9,001	CRWT-
Rubric:	Data type:		Temperature (°C)		
Function:	Sets and reads the current setpoint value for the day temperature cooling of heating zone 1. Zykluszeit: 1 min Value range: 15–30 °C				
Description:	This group object is visible if a Vaillant heatpump and a heating zone 1 is available, the cooling function is activated in the multiMATIC and the corresponding use case has been selected. <i>Parameters > System dimensioning > Heatpump > A Vaillant heatpump is available <yes></i> and <i>Parameters > System dimensioning > Heating zone 1 > A heating zone 1 is available for room heating <yes></i> and <i>Parameters > System dimensioning > Heating zone 1 > The cooling function is activated for zone 1 in the multiMATIC <yes></i> and <i>Parameters > Use cases > Smart control > I would like to be able to configure heating and hot water heating (...) with time control <✓></i> If a value outside the value range is written to this group object, error code 7 is sent to group object 12.				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 75	Heating zone 2 – operation mode	Write	1 byte	20,102	CRWT-
Rubric:	Data type:		HVAC mode		
Function:	<p>Sets and reads the operation mode of heating zone 2. The following assignment of the KNX to controller mode is used:</p> <p>Auto = Auto Comfort = Day Standby = Night Economy = Night (default assignment) Building Protection = Off</p> <p>For group object 78, the assignment is set to the last "Standby" or "Economy" value sent. Zykluszeit: 1 min</p>				
Description:	<p>This group object is visible when a heating zone 2 is available and the corresponding use case has been selected.</p> <p><i>Parameters > System dimensioning > Heating zone 2 > A heating zone 2 is available for room heating <yes></i> and <i>Parameters > Use cases > Smart control > Any use case <✓></i></p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 76	Heating zone 2 – "Auto" operation mode	Write	1 bit	1,011	CRWT-
Rubric:	Data type:		Status		
Function:	<p>Activates the "Auto" operation mode for heating zone 2 or shows whether this is active. Corresponds to "Auto" of data type HVAC mode. Zykluszeit: 1 min</p>				
Description:	<p>This group object is visible when a heating zone 2 is available and the corresponding use case has been selected.</p> <p><i>Parameters > System dimensioning > Heating zone 2 > A heating zone 2 is available for room heating <yes></i> and <i>Parameters > Use cases > Smart control > Any use case <✓></i></p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 77	Heating zone 2 – "Day" operation mode	Write	1 bit	1,011	CRWT-
Rubric:	Data type:		Status		
Function:	<p>Activates the "Day" operation mode for heating zone 2 or shows whether this is active. Corresponds to "Economy" or "Standby" of data type HVAC mode. The last value written to group object 75 is decisive for this state. "Economy" is used as standard. Zykluszeit: 1 min</p>				
Description:	<p>This group object is visible when a heating zone 2 is available and the corresponding use case has been selected. <i>Parameters > System dimensioning > Heating zone 2 > A heating zone 2 is available for room heating <yes></i> and <i>Parameters > Use cases > Smart control > Any use case <✓></i></p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 78	Heating zone 2 – "Night" operation mode	Write	1 bit	1,011	CRWT-
Rubric:	Data type:		Status		
Function:	<p>The "Night" operation mode is activated for heating zone 2 or shows whether this is active. Corresponds to "Comfort" of data type HVAC mode. Zykluszeit: 1 min</p>				
Description:	<p>This group object is visible when a heating zone 2 is available and the corresponding use case has been selected. <i>Parameters > System dimensioning > Heating zone 2 > A heating zone 2 is available for room heating <yes></i> and <i>Parameters > Use cases > Smart control > Any use case <✓></i></p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 79	Heating zone 2 – "Off" operation mode	Write	1 bit	1,011	CRWT-

Rubric: Data type: Status

Function: Activates the "Off" operation mode for heating zone 2 or shows whether this is active. Corresponds to "Building Protection" of data type HVAC mode.
 Zykluszeit: 1 min

Description: This group object is visible when a heating zone 2 is available and the corresponding use case has been selected.
Parameters > System dimensioning > Heating zone 2 > A heating zone 2 is available for room heating <yes>
 and
Parameters > Use cases > Smart control > Any use case <✓>

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 80	Heating zone 2 – day temperature heating	Write	2 byte	9,001	CRWT-

Rubric: Data type: Temperature (°C)

Function: Sets and reads the current setpoint value for the day temperature of heating zone 2.
 Zykluszeit: 1 min
 Value range: 5–30 °C

Description: This group object is visible when a heating zone 2 is available and the corresponding use case has been selected.
Parameters > System dimensioning > Heating zone 2 > A heating zone 2 is available for room heating <yes>
 and
Parameters > Use cases > Smart control > I would like to be able to configure heating and hot water heating (...) with time control <✓>
 If a value outside the value range is written to this group object, error code 7 is sent to group object 12.

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 81	Heating zone 2 – night temperature heating	Write	2 byte	9,001	CRWT-
Rubric:	Data type:		Temperature (°C)		
Function:	Sets and reads the current setpoint value for the night temperature of heating zone 2. Zykluszeit: 1 min Value range: 5–30 °C				
Description:	This group object is visible when a heating zone 2 is available and the corresponding use case has been selected. <i>Parameters > System dimensioning > Heating zone 2 > A heating zone 2 is available for room heating <yes></i> and <i>Parameters > Use cases > Smart control > I would like to be able to configure heating and hot water heating (...) with time control <✓></i> If a value outside the value range is written to this group object, error code 7 is sent to group object 12.				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 82	Heating zone 2 – day temperature cooling	Write	2 byte	9,001	CRWT-
Rubric:	Data type:		Temperature (°C)		
Function:	Sets and reads the current setpoint value for the day temperature cooling of heating zone 2. Zykluszeit: 1 min Value range: 15–30 °C				
Description:	This group object is visible if a Vaillant heatpump and a heating zone 2 is available, the cooling function is activated in the multiMATIC and the corresponding use case has been selected. <i>Parameters > System dimensioning > Heatpump > A Vaillant heatpump is available <yes></i> and <i>Parameters > System dimensioning > Heating zone 2 > A heating zone 2 is available for room heating <yes></i> and <i>Parameters > System dimensioning > Heating zone 2 > The cooling function is activated for zone 2 in the multiMATIC <yes></i> and <i>Parameters > Use cases > Smart control > I would like to be able to configure heating and hot water heating (...) with time control <✓></i> If a value outside the value range is written to this group object, error code 7 is sent to group object 12.				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 90	Heating zone 3 – operation mode	Write	1 byte	20,102	CRWT-
Rubric:	Data type:		HVAC mode		
Function:	<p>Sets and reads the operation mode of heating zone 3. The following assignment of the KNX to controller mode is used:</p> <p>Auto = Auto Comfort = Day Standby = Night Economy = Night (default assignment) Building Protection = Off</p> <p>For group object 93, the assignment is set to the last "Standby" or "Economy" value sent. Zykluszeit: 1 min</p>				
Description:	<p>This group object is visible when a heating zone 3 is available and the corresponding use case has been selected.</p> <p><i>Parameters > System dimensioning > Heating zone 3 > A heating zone 3 is available for room heating <yes></i> and <i>Parameters > Use cases > Smart control > Any use case <✓></i></p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 91	Heating zone 3 – "Auto" operation mode	Write	1 bit	1,011	CRWT-
Rubric:	Data type:		Status		
Function:	<p>Activates the "Auto" operation mode for heating zone 3 or shows whether this is active. Corresponds to "Auto" of data type HVAC mode. Zykluszeit: 1 min</p>				
Description:	<p>This group object is visible when a heating zone 3 is available and the corresponding use case has been selected.</p> <p><i>Parameters > System dimensioning > Heating zone 3 > A heating zone 3 is available for room heating <yes></i> and <i>Parameters > Use cases > Smart control > Any use case <✓></i></p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 92	Heating zone 3 – "Day" operation mode	Write	1 bit	1,011	CRWT-
Rubric:		Data type:		Status	
Function:	<p>Activates the "Day" operation mode for heating zone 3 or shows whether this is active. Corresponds to "Comfort" of data type HVAC mode. Zykluszeit: 1 min</p>				
Description:	<p>This group object is visible when a heating zone 3 is available and the corresponding use case has been selected. <i>Parameters > System dimensioning > Heating zone 3 > A heating zone 3 is available for room heating <yes></i> and <i>Parameters > Use cases > Smart control > Any use case <✓></i></p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 93	Heating zone 3 – "Night" operation mode	Write	1 bit	1,011	CRWT-
Rubric:		Data type:		Status	
Function:	<p>The "Night" operation mode is activated for heating zone 3 or shows whether this is active. . Corresponds to "Economy" or "Standby" of data type HVAC mode. The last value written to group object 90 is decisive for this state. "Economy" is used as standard. Zykluszeit: 1 min</p>				
Description:	<p>This group object is visible when a heating zone 3 is available and the corresponding use case has been selected. <i>Parameters > System dimensioning > Heating zone 3 > A heating zone 3 is available for room heating <yes></i> and <i>Parameters > Use cases > Smart control > Any use case <✓></i></p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 94	Heating zone 3 – "Off" operation mode Zykluszeit: 1 min	Write	1 bit	1,011	CRWT-
Rubric:		Data type:		Status	
Function:	Activates the "Off" operation mode for heating zone 3 or shows whether this is active. Corresponds to "Economy" or "Standby" of data type HVAC mode. The last value written to group object 90 is decisive for this state. "Economy" is used as standard.				
Description:	<p>This group object is visible when a heating zone 3 is available and the corresponding use case has been selected.</p> <p><i>Parameters > System dimensioning > Heating zone 3 > A heating zone 3 is available for room heating <yes></i> and <i>Parameters > Use cases > Smart control > Any use case <✓></i></p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 95	Heating zone 3 – day temperature heating	Write	2 byte	9,001	CRWT-
Rubric:		Data type:		Temperature (°C)	
Function:	Sets and reads the current setpoint value for the day temperature of heating zone 3. Zykluszeit: 1 min Value range: 5–30 °C				
Description:	<p>This group object is visible when a heating zone 3 is available and the corresponding use case has been selected.</p> <p><i>Parameters > System dimensioning > Heating zone 3 > A heating zone 3 is available for room heating <yes></i> and <i>Parameters > Use cases > Smart control > I would like to be able to configure heating and hot water heating (...) with time control <✓></i></p> <p>If a value outside the value range is written to this group object, error code 7 is sent to group object 12.</p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 96	Heating zone 3 – night temperature heating	Write	2 byte	9,001	CRWT-
Rubric:		Data type:	Temperature (°C)		
Function:	Sets and reads the current setpoint value for the night temperature of heating zone 3. Zykluszeit: 1 min Value range: 5–30 °C				
Description:	<p><i>Parameters > System dimensioning > Heating zone 3 > A heating zone 3 is available for room heating <yes></i> and <i>Parameters > Use cases > Smart control > I would like to be able to configure heating and hot water heating (...) with time control <✓></i></p> <p>If a value outside the value range is written to this group object, error code 7 is sent to group object 12.</p>				

Object	Name	Direction	Data width	DP type	Flags (CRWTU)
 97	Heating zone 3 – day temperature cooling	Write	2 byte	9,001	CRWT-
Rubric:		Data type:	Temperature (°C)		
Function:	Sets and reads the current setpoint value for the day temperature cooling of heating zone 3. Zykluszeit: 1 min Value range: 15–30 °C				
Description:	<p>This group object is visible if a Vaillant heatpump and a heating zone 3 is available, the cooling function is activated in the multiMATIC and the corresponding use case has been selected.</p> <p><i>Parameters > System dimensioning > Heatpump > A Vaillant heatpump is available <yes></i> and <i>Parameters > System dimensioning > Heating zone 3 > A heating zone 3 is available for room heating <yes></i> and <i>Parameters > System dimensioning > Heating zone 3 > The cooling function is activated for zone 3 in the multiMATIC <yes></i> and <i>Parameters > Use cases > Smart control > I would like to be able to configure heating and hot water heating (...) with time control <✓></i></p> <p>If a value outside the value range is written to this group object, error code 7 is sent to group object 12.</p>				

4 Commissioning

4.1 Operation

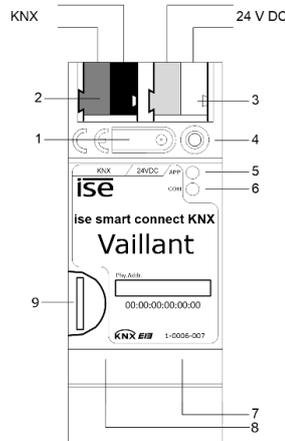


Figure 9: ise smart connect KNX Vaillant.

1	Programming button for KNX	Switches the device to the ETS programming mode or vice versa.	
2	KNX connection (twisted pair)	On left: (+/red)	On right: (-/black)
3	Connection Power supply	DC 24 to 30 V, 2 W (at 24 V) On left: (+/yellow) On right: (-/white)	
4	KNX programming LED (red)	Red: Device is in ETS programming mode	
5	LED APP (green)	Green: Normal operation Off / flashes: For start or diagnosis code, see 4.2.1/4.2.2	
6	LED COM (yellow)	Yellow: Normal operation (brief dark phases indicate KNX telegram traffic) Off / flashes: For start or diagnosis codes, see 4.2.1/4.2.2	
7	Ethernet connection	LED 10/100 speed (green) On: 100 Mbit/s Off: 10 Mbit/s	LED link/ACT (orange) On: Connection to IP network Off: No connection Flashing: Data reception on IP
8	USB connection	USB connection type A, establishes the connection to the Vaillant system via the ise eBUS Adapter. Use the supplied USB cable as standard. Please note that the use of USB cables with a length of more than 3 m is generally not permitted.	
9	MicroSD card holder	No function.	

4.2 LED status displays

The device features three status LEDs on the upper housing side and two status LEDs at the network connections.

The LED displays have **different meanings**

- while the device is starting and
- during operation.

4.2.1 LED status display upon device start-up

After the power supply (DC 24 V on the yellow-white connection terminal) is switched on or after a return in voltage occurs, the device indicates its status through the following LED combinations:

LED "APP" (green)	LED "COM" (yellow)	Meaning	
○ Off	○ Off	No power supply: Please check connections and power supply.	✘
○ Off	● Yellow	Device starting up.	✓
● Green	○ Off	Error – KNX not connected.	✘
○.....● Green Flash slowly	● Yellow	The application is not yet configured, e.g. not yet loaded with the ETS.	✘
● Green	● Yellow	Device booted up and ready for operation.	✓
○.....● Green Flash quickly	○ Off	Error – Please contact support. The firmware cannot be started.	✘
●...○...●...○...●... Green ○...●...○...●...○... Yellow Flash slowly in an alternating fashion		Error – Please contact support. The newly loaded firmware cannot be started. The system is trying to activate the previous firmware (invalid firmware).	✘

4.2.2 LED status display in operation

Once device start-up is complete, the meaning of the LEDs is as follows:

LED "APP" (green)	Meaning
 Green	Normal operation
 off	Device in start-up procedure or out of operation: Wait until the start-up procedure is complete or check the power supply
 Flashes at approx. 1 Hz	Error: Application is not parametrised or not fully parametrised. Check the device parametrisation in the ETS and carry out an application download to the device.
 Three slow flashes followed by a 2 s pause	KNX Gateway error: 3 = Error in communication with the ise eBUS Adapter. Communication between the ise smart connect KNX Vaillant and the ise eBUS Adapter is not possible via USB. 4 = eBUS cable is not connected. eBUS connection not recognised.
 Five slow flashes followed by a 2 s pause	KNX Gateway error: 1 = multiMATIC not found. eBUS communication is possible, but no multiMATIC controller was found.

LED "COM" (yellow)	Meaning
Yellow	<u>Normal operation:</u> KNX connection is established, no KNX telegram traffic.
Yellow with brief dark phases	<u>Normal operation:</u> KNX connection is established, KNX telegram traffic.
Off	<u>Error:</u> Connection to KNX is interrupted. Check the bus connection

4.3 Accelerate transfer: Select transfer path *KNX-TP* or *IP*

Programming (transfer from the ETS to the device) occurs in the programming environment of the ETS. An additional KNX data interface is not required for transfer (bus connection via bus connection terminal). The ETS can reach the device from both the IP side and the KNX-TP side.

Due to considerably shorter transfer times, download over the IP side of the device is recommended.

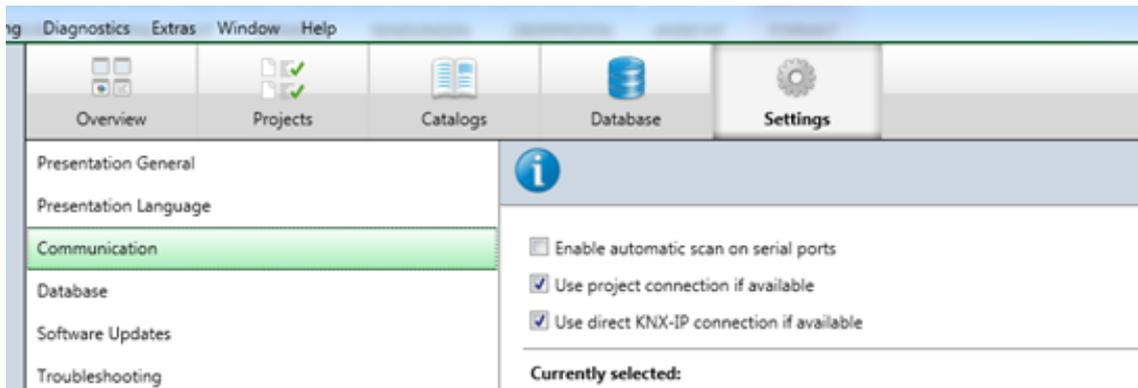


Figure 10: The setting "Use direct KNX-IP connection if available" accelerates the transfer from the ETS to the device.

For transfer of the ETS over the IP side, set the setting

- Use direct KNX-IP connection if available.**

on the ETS start page, → *Settings* tab → *Communication* entry.

4.4 Programming the physical address of the device

- Ensure that the device and bus voltage are switched on.
- Ensure that the programming LED (4) is not illuminated.
- Briefly press the programming button (1) – the programming LED (4) illuminates red.
- Program physical address using the ETS.

After a successful programming procedure,

- LED (4) will go out.
- The ETS shows the completed transfer with a green marking under *History* in the sidebar (normally at the right-hand window edge).
- The ETS sets the commissioning tick on the device for "Adr" and "Cfg".

You can now note down the physical address on the device.

4.5 Transferring application programs and configuration data

After programming the physical address, the application program, parameter settings and group address connections can be transferred to the device.

A connection to the device can be further established via IP or KNX for this purpose.

- For this purpose, select "*Programming application program*". The download lasts approx. 10 seconds with a direct IP connection or about 35 seconds if using TP.
- After the download, please wait approx. 15 seconds while the device copies the data and installs the application.
- Commissioning is complete.

4.6 Factory reset

The following physical KNX address is factory pre-set: 15.15.255

Following the factory reset, the device behaves as in the state of delivery. The device is unconfigured. This can be recognized after starting up the device from the slowly flashing green APP LED (5).

4.6.1 Factory reset using the programming button on the device

The device can be reset to the factory settings through a sequence during start-up.

- Make sure that the device is switched off.
- Press and hold programming button (1) and switch on the device.
- Press and hold programming button (1) until the programming LED (4), the RUN LED (5) and the KNX LED (6) flash slowly simultaneously.
- Briefly release the programming button (1), then press and hold it again until the programming LED (4), the RUN LED (5) and the KNX LED (6) flash quickly simultaneously.
- The factory reset is being carried out; release programming button.
- The device need not be restarted following a factory reset.

The factory reset can be cancelled at any time by interrupting the sequence.

4.6.2 Factory reset using the website of the device

The factory reset can also be triggered from the website of the device.

- Call up the website of the device. For this purpose, double-click the icon of the device in the *Other Devices* area in the network environment.



- Alternatively, you can also enter the IP address of the device in your browser.
- Select *Device Status* in the upper menu bar on the website.
- Select *Factory Reset* in the upper menu bar on the status page.
- Confirm the factory reset when the security prompt appears.
- The next displayed page, *Factory Reset*, indicates that the factory reset is being carried out. As soon as this is complete, the start page is loaded again.

4.7 Firmware update of the device

4.7.1 Firmware update using the device website

The ise smart connect KNX Vaillant makes it possible to install firmware updates using the device website. For this purpose, select the Firmware menu item on the device website. The ise smart connect KNX Vaillant will now automatically search the update server for a newer version and show the current firmware version and the versions of any available updates. If a newer version is available, the associated description of the version is also displayed.

If the new firmware is incompatible with the configuration of the previous firmware, a corresponding message is displayed. A differentiation is made between the following cases here:

1. The new version provides new functionality. After the update, the device functions with the same range of functions as before. New functions cannot be used until an ETS download of a newer catalogue entry occurs.
2. The new version is fully incompatible with parameterisation of the current version being used. An ETS download is absolutely necessary. We recommend unloading the ETS application program before the update and configuring the device with a new catalogue entry after the update.

The update can be started using the *Update Firmware* button. Should an incompatibility arise, the update must be confirmed again for security purposes.

4.7.2 Local firmware update without Internet access

In addition to online updates, it is possible to carry out local updates without an Internet connection. This is intended for devices which do not have an Internet connection at their installation site and are only accessible over the local network. The firmware file can be selected locally using the Select File button and then started using the Update Firmware button. In this case, the user is responsible for ensuring that the update is compatible (see chapter 4.7.3 "Compatibility of catalogue entry with firmware"). A downgrade to an older version is not possible.

4.7.3 Compatibility of catalogue entry with firmware

The version number of the catalogue entry and the firmware use the X.Y format. The main number, X, of the respective version indicates whether the catalogue entry and firmware are compatible. This is the case if both main numbers are identical. The second part of the version number, Y, is not relevant for compatibility. It simply indicates updates within the version.

If new firmware has a higher main number, it cannot be guaranteed that this version is compatible with an old ETS catalogue entry. For this reason, we recommend always unloading the application program from the device before the update and to then only use the new catalogue entry after that.

If the main numbers are the same, it may be necessary to use a new ETS catalogue entry for full functionality. This is not absolutely necessary if the new functions are not used in your project, however.

5 Technical data

5.1 ise smart connect KNX Vaillant

KNX medium	TP
Commissioning mode	S mode (ETS)
KNX supply	DC 21 to 30 V SELV
KNX connection	Bus connection terminal
External supply	
Voltage	DC 24 to 30 V \pm 10%
Connection	Bus connection terminal, preferably yellow (+)/white (-)
Power consumption	typ. 1.2 W (with DC 24 V and connected ise eBUS Adapter)
	If you use the Ethernet connection of the device, please ensure that the device is only supplied with voltage by a dedicated power supply unit. Do not use the auxiliary voltage output of a KNX power supply unit which is also supplying a KNX line.
IP communication	Ethernet 10/100 BaseT (10/100 Mbit/s)
IP connection	1 x RJ45
USB connection	1 x USB type A
	Use the supplied USB cable as standard. Please note that the use of USB cables with a length of more than 3 m is generally not permitted.
Supported protocols	ARP, ICMP, IGMP, UDP/IP, DHCP, AutoIP KNXnet/IP as per KNX system specification: Core, Device Management
microSD card	No function
Ambient temperature	0 °C to +45 °C
Storage temperature	-25 °C to +70 °C
Installation width	36 mm (2 HP)
Installation height	90 mm
Installation depth	74 mm
Protection type	IP20 (compliant with EN60529)
Protection class	III (compliant with IEC 61140)
Test marks	KNX, CE

5.2 ise eBUS Adapter

Operating voltage	Supply via eBUS
eBUS connection	Connection terminal
USB connection	1 x mini USB B
eBUS power consumption:	0.1 W at 24 V
USB power consumption:	0.05 W
Ambient temperature	0 °C to +45 °C
Storage temperature	-25 °C to +70 °C
Installation width	17.5 mm (1 HP)
Installation height	90 mm
Installation depth	74 mm
Test marks	CE

6 Frequently asked questions (FAQ)

- **How do I find out the IP address of my ise smart connect KNX Vaillant?**
Please read about this in chapter 4.6.2 "Factory reset using the website of the device."
- **Are there software updates for my ise smart connect KNX Vaillant device?**
Select "Firmware Update" on the device website to search for available software updates.
Please also visit www.ise.de for more information.
- **Why does the ETS report the error that a protected area cannot be written to when downloading the application program?**
Please ensure that your ETS version is up to date. The ise smart connect KNX Vaillant requires the current version of the ETS4 or ETS5.
- **Why does my ise smart connect KNX Vaillant perform a restart?**
After connecting the ise smart connect KNX Vaillant with the ise eBUS adapter, a restart may be necessary to initialise the eBUS connection. If the device performs another restart, please check whether you used the sign "\" in the device name. This is not permitted and requires a factory reset. For more information, please see 4.6.1.

7 Troubleshooting and support

If you have a problem with your ise smart connect KNX Vaillant and require support, please send an e-mail with a detailed error description and the log file created after the error occurred to support@ise.de. For information on how to download the log files from your ise smart connect KNX Vaillant, please refer to chapter 7.1 "Downloading log files if a problem occurs."

7.1 Downloading log files if a problem occurs

If a problem occurs, the log files are required for providing support. They can be downloaded via the website of the device (see chapter 4.6.2 "Factory reset using the website of the device"). To do so, proceed as follows:

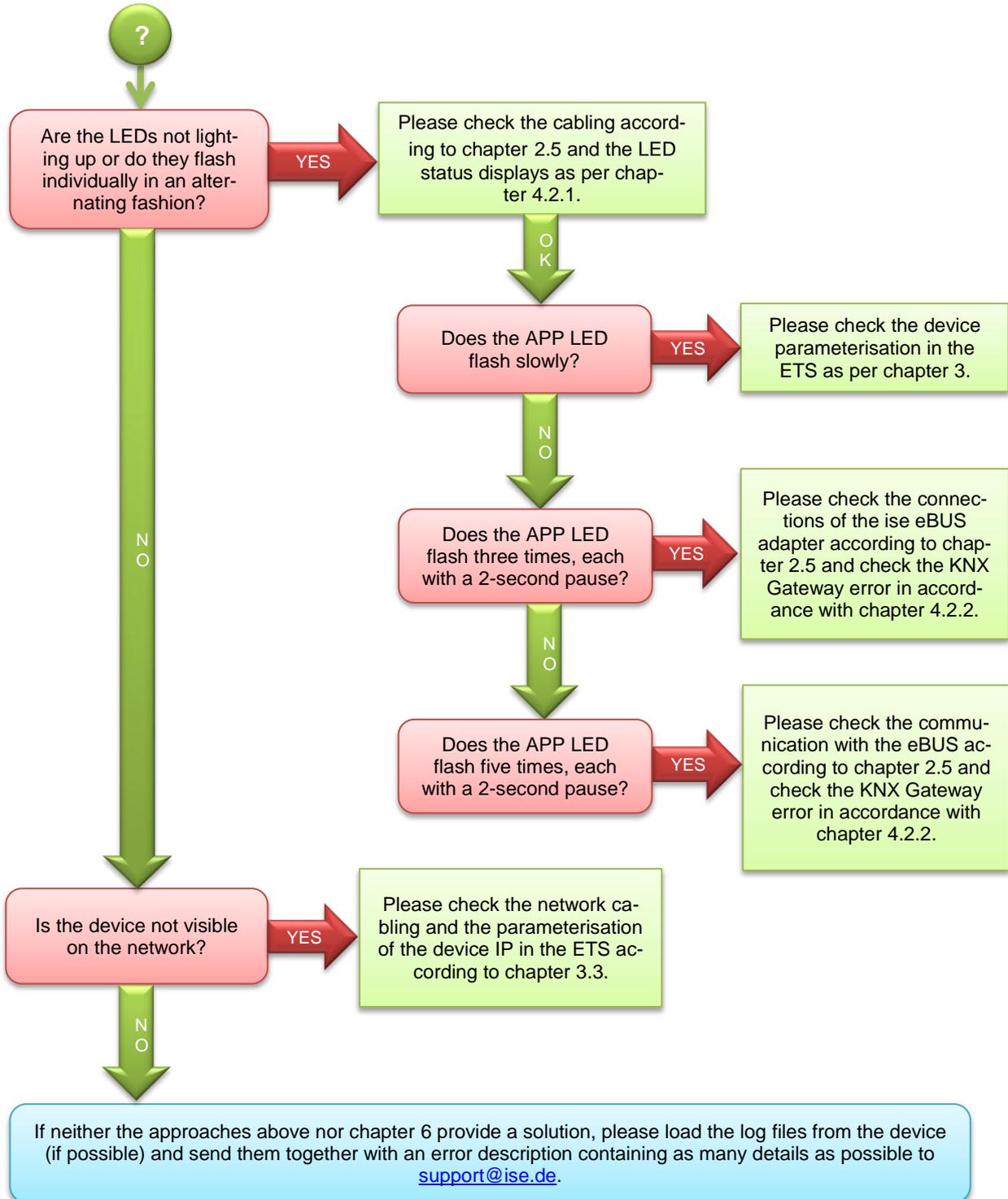
- Call up the website of the device. For this purpose, double-click the icon of the device in the *Multimedia* area in the network environment.
- Select *Device Status* in the upper menu bar on the website.
- Select *Download Log File* in the upper menu bar on the status page.
- The page which opens begins downloading the log files. If this does not occur, the provided link can be used.

7.2 Status page of the ise smart connect KNX Vaillant

You can call up the device status on the website of the ise smart connect KNX Vaillant (see chapter 4.6.2 "Factory reset using the website of the device"). Among other things, it displays the installed software version and the configuration and connection status in the ise smart connect KNX Vaillant. Should an error occur, please send us a screen shot of the status page.

7.3 The ise smart connect KNX Vaillant does not work

The following error tree is intended to solve the most common problems. Should this be unsuccessful, please contact us at support@ise.de.



8 License agreement ise smart connect KNX Vaillant software

Hereinafter are the contract terms for your use of the software as the "Licensee".

By accepting this agreement and installing the ise smart connect KNX Vaillant software or putting the ise smart connect KNX Vaillant into use, you conclude an agreement with ise Individuelle Software-Entwicklung GmbH and agree to be legally bound to the terms of this agreement.

8.1 Definitions

Licensor: ise Individuelle Software-Entwicklung GmbH in Osterstraße 15, Oldenburg, Germany

Licensee: The legal recipient of the ise smart connect KNX Vaillant software.

Firmware: Software which is embedded on the ise smart connect KNX Vaillant hardware and enables operation of the ise smart connect KNX Vaillant.

ise smart connect KNX Vaillant software: The ise smart connect KNX Vaillant software designates all of the software provided for the ise smart connect KNX Vaillant product, including the operating data. This includes, in particular, the firmware and the product database.

8.2 Object of the agreement

The object of this agreement is the ise smart connect KNX Vaillant software provided on data media or through downloads, as well as the corresponding documentation in written and electronic form.

8.3 Rights of use of the ise smart connect KNX Vaillant software

The Licensor grants the Licensee the non-exclusive, non-transferable right to use the ise smart connect KNX Vaillant software for an unlimited time in accordance with the following conditions for the purposes and applications specified in the valid version of the documentation (which shall be provided in printed form or also as online help or online documentation).

The Licensee is obliged to ensure that each person who uses the program only does so as part of this license agreement and observes this license agreement.

8.4 Restriction of rights of use

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The Licensee is not authorised to use, copy, modify or transfer the ise smart connect KNX Vaillant software in whole or in part in any way other than as described herein. Excluded from this is one (1) copy produced by the Licensee exclusively for archiving and backup purposes.

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8.4.3 Firmware and hardware

The firmware may only be installed and used on the hardware (ise smart connect KNX Vaillant) approved by the Licensor.

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