

MARCH 2017

Webinar i-busTool - benefit in practice

BU EPBP GPG Building Automation

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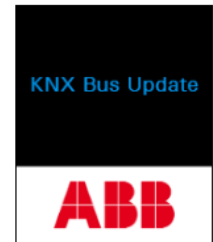
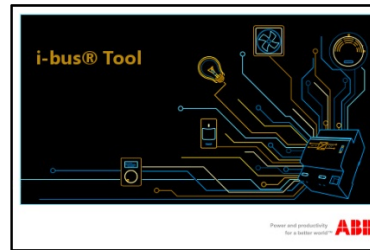
Webinar “i-bus® Tool - benefit in practice”

Agenda

A professional Service Tool for KNX System Integrators

- Actual status
- Practical demonstration with various devices
- Options for testing and diagnostic

ETS app “KNX Bus Update”



Webinar “i-bus® Tool - benefit in practice”

i-bus® Tool

www.abb.com/knx

> Services & Tools

> Engineering Tools

Benefits at a glance

Download

Link to webinar recording and presentation

...

The screenshot shows the ABB i-bus Tool website. At the top, the ABB logo is followed by navigation links: HOME, OFFERINGS, HOME AND BUILDING AUTOMATION, ENGINEERING TOOLS, and I-BUS TOOL. A 'GLOBAL SITE' dropdown is also visible. The main heading is 'ABB i-bus Tool', with a sub-heading 'A professional service tool for KNX system integrators'. Below this, there are two screenshots of the software interface. The first screenshot shows a window with a 3D model of a device. The second screenshot shows a settings or diagnostic window. To the right of the first screenshot, there is a paragraph of text describing the tool's capabilities and an important principle regarding ETS projects. Below the screenshots, there is a section titled 'Diagnostics and Commissioning Support for the Professional' with a paragraph of text. Further down, there is a section titled 'Latest Plug-In's' with four thumbnails for different plug-ins: 'Analogue Actuators AAX x.1.2', 'IP-Router IPR/S 3.1.1 and IP-Gateway IPS/S 3.1.1', 'S-Bus Calculator for KNX Security Panel GM/A 8.1', and 'Analogue Input AE/S'. At the bottom, there is a section titled 'Information and Download' with four buttons: 'Supported Devices', 'Version Info', 'Free download Latest Version of ABB i-bus Tool' (which is highlighted with a red box), and 'Youtube Webinar on ABB i-bus Tool'. To the right of the 'Free download' button, there is a 'Download (pdf, 8.2 MB) Webinar Presentation (Basics, installation, Use)' button.

Webinar “i-bus® Tool - benefit in practice”

i-bus® Tool

Webinar from March 2014

- Innovative software concept
- Software features
- Discovery of IP devices
- Connection to a device
- Addressing of a DALI device
- ...

Video and slides are available on
Training & Qualification Database
> Application “Installation and
Commissioning”

The screenshot shows the ABB Training & Qualification Database interface. At the top, there is a navigation bar with the ABB logo and links for HOME, OFFERINGS, HOME AND BUILDING AUTOMATION, TRAINING AND QUALIFICATION, and TRAINING & QUALIFICATION DATABASE. A search icon and a 'GLOBAL SITE' dropdown are also present.

The main heading is 'Training & Qualification Database'. Below it is a large image of a man in a white shirt holding a tablet. To the right, there is a smaller image of a building at night with the text 'ABB STOTZ-KONTAKT GmbH ABB i-bus® KNX Webinar “i-bus® Tool”' and 'March 2014'.

The text below the images states: 'In this database you can find the complete online training portfolio for ABB Home and Building Automation. The database includes the following types of training content:'

- **Application Manuals:** Give a general description of the correct implementation of individual technical functions
- **E-Learnings:** Learning modules to specific topics
- **Presentations:** Pdf files with learning content
- **Videotutorials:** Short instructional videos to specific topics
- **Webinar slides:** Slides of webinar sessions in pdf format
- **Webinar Videos:** Recording of webinar sessions

Below this, it says: 'To search the database, select the required search criteria. To make multiple selections press [Ctrl].'

The search filters are:

- System:** All, Door Entry Systems, Fire Alarm Systems, Fire@home, **i-bus KNX**
- Application:** Safety and Security, Automation, Logic and Time Control, Room Automation / Management, User Operation, **Installation and Commissioning**
- Training type:** E-Learning, Presentation, Video Tutorial, Webinar Slides, Webinar Video
- Language:** All, Dutch, English, French, German

The search results table is as follows:

Training content	System	Training type	Language
ABB i-bus Tool	i-bus KNX	Webinar Video	English
ABB i-bus Tool	i-bus KNX	Webinar Slides	English

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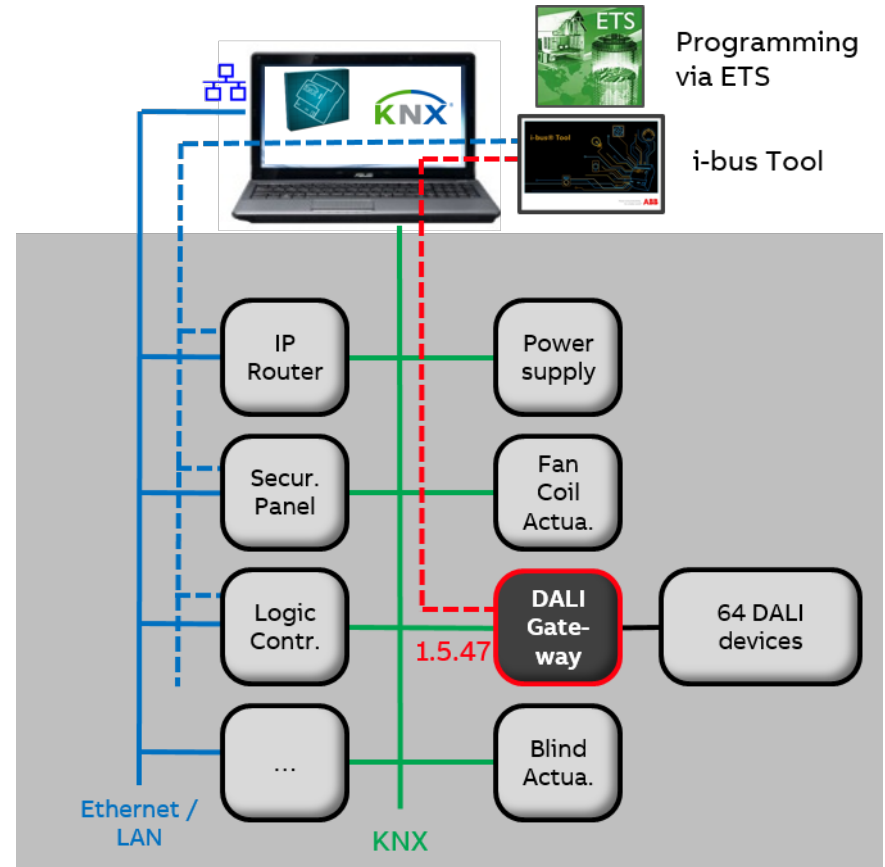
Overview

It supports system integrators during commissioning and service

Internal information and states of the device hardware and software applications are now available in a transparent manner

The i-bus® Tool is optional, i.e. the ABB i-bus® KNX devices must still be commissioned using just the ETS

An important principle is that no divergences to the ETS project can result through the i-bus® Tool



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Overview

The i-bus® Tool accesses an ABB i-bus® KNX device via a standard KNX interface (USB, IP) with the assistance of the physical address

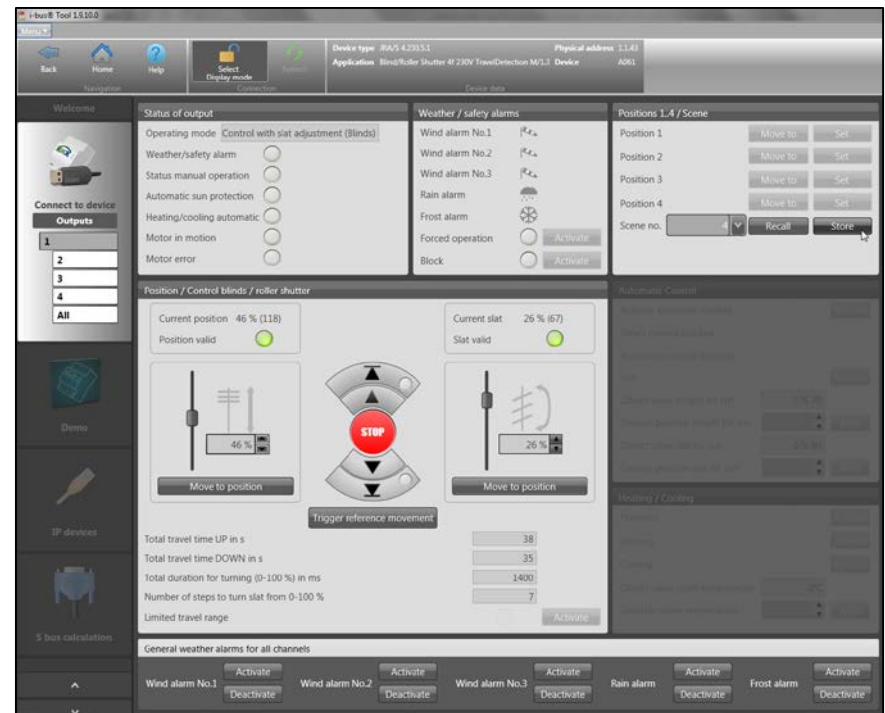
When the i-bus Tool is connected to a KNX device, the device-specific plug-in displays the functions that are possible for this device type

The system integrator can trigger the desired functions, read values, simulate states, make settings for the connected device (e.g. scenes) and update the IP firmware

Functions are only available if they have been enabled in the ETS

Disabled functions are greyed out or not visible

Help function



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Check ETS parameter settings

KNX devices provide numerous options of parameter settings

After parametrization and downloading, the behavior of the devices have to be checked and tested

- Send group telegrams with the group monitor (cumbersome)
- Use the i-bus Tool !!!

For example Blind/Shutter Actuator JRA/S

- Wind: Shutter UP
- Rain: Shutter DOWN
- Frost: Shutter height 20%
- Forced Operation: Shutter height 50%
- ? Order of priority
→ Wind, rain, frost and forced operation at the same time

1.1.3 JRA/S4.230.5.1 Blind/RollerShutterAct,TD,M,4f,230V > A: Safety/Weather

General	Parameter settings	<input type="radio"/> Standard <input checked="" type="radio"/> User defined
Manual operation	Output reacts on communication object for wind alarm no.	1
Weather alarms	Position on wind alarm	Activated - up
A: General	Position on rain alarm	Activated - down
A: Safety/Weather	Position for frost alarm	Deactivated
A: Drive	Block	<input checked="" type="radio"/> Deactivated <input type="radio"/> Activated
A: Blinds/Shutter	Forced operation (1 bit/2 bit)	Deactivated
A: Functions	Position on reset of weather alarm, blocking and forced operation	No reaction
A: Positions/Presets	Position will only be carried out with inactive autom. sun protection	<-- Note
A: Automatic Sun Pr...	Disable automatic sun protection on reset of safety function	<input type="radio"/> Yes <input checked="" type="radio"/> No
	Order of priority for safety alarm functions	1.Weather alarm - 2.Block - 3.Forced operation

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First steps

- Download and install i-bus® Tool
- Adjust the settings (e.g. language)
- Select the KNX interface
- Check for updates
- Connect to a KNX device via the individual address
- Test the ETS parameters, functions, read values, simulate states and make settings (e.g. scene values)
- If necessary change ETS parameter, download the application and check again via the i-bus® Tool



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Supported devices V1.9.11.0 (TP)

Analogue Actuators	AA/x
Logic Controller	ABA/S
Analogue Inputs	AE/S
DALI Gateways	DG/S, DGN/S, DLR/x
Energy Module	EM/S
EnOcean Gateway	EG/A
Fan Coil Actuators	FCA/S
Blind/Roller Shutter Act.	JRA/S
Line Coupler	LK/S
Light Controller	LR/S
Energy Actuator	SE/S
Power Supplies	SV/S
Weather Station	WS/S
Weather Unit	WZ/S

... and new devices are added continuously



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Demo mode

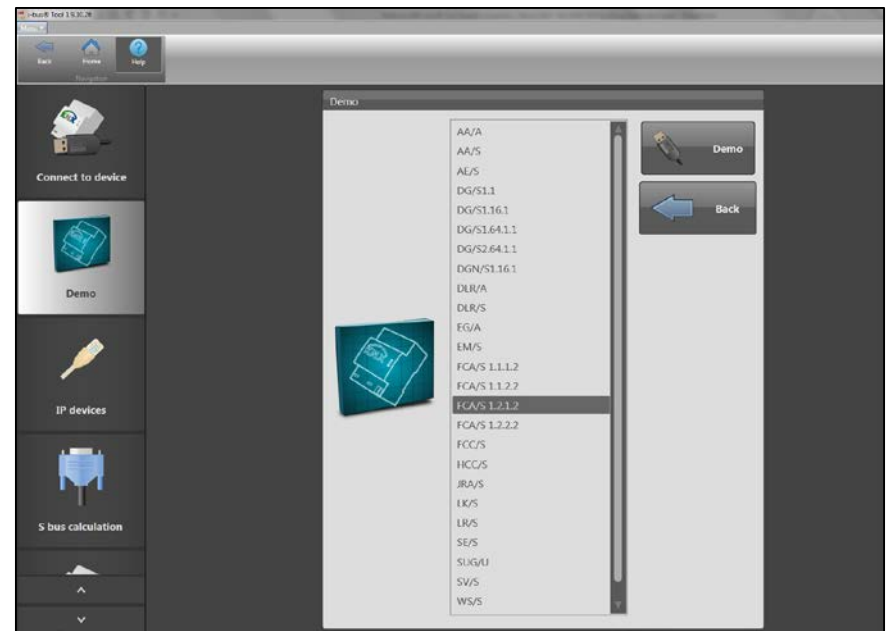
The demo mode is intended to demonstrate the possible functions without a connection to the KNX bus

All the available devices are displayed

The desired device must be selected and the user interface is opened via Demo mode

The display is intended solely for demonstration purposes

No functions are available and there is no connection to the bus.



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IP devices

The list displays all the IP devices found. If individual devices or all of them are highlighted (set checkmarks), then actions can be performed using the buttons in the upper toolbar:

- Open web browser: If the selected device has a web server, it is opened. Only a device may be selected for this
- Flash LED: The LED of the selected device flashes for 5 seconds
- Restart device: The selected devices restart
- Firmware update



The screenshot shows the i-bus Tool software interface. On the left, there is a sidebar with a search icon and a list of device types: All, ABA/S 1.2.1, GM/A 8.1, IG/S 1.1, IPR/S 2.1, IPR/S 3.1.1, IPS/S 2.1, IPS/S 3.1.1, and TG/S 3.2. The main area displays a table of IP devices with columns for Device type, Device name, Individual address, IP Address, and MAC Address. The table contains 16 rows of data.

Device type	Device name	Individual address	IP Address	MAC Address
<input type="checkbox"/> ABB IG/S 1.1		2.8.250	169.254.100.100	00:0C:DE:00:40:E3
<input type="checkbox"/> ABB IG/S 1.1		3.0.100	169.254.100.100	00:0C:DE:00:41:F9
<input type="checkbox"/> ABB GM/A 8.1	ABB STOTZ-KONTAKT	1.1.1	10.49.200.005	3A:1F:37:08:54:55
<input type="checkbox"/> ABB GM/A 8.1	ET	15.1.3	10.49.200.005	00:0C:DE:01:80:51
<input type="checkbox"/> ABB ABA/S 1.2.1	Logic-Controller		10.49.200.005	00:0C:DE:39:80:72
<input type="checkbox"/> ABB GM/A 8.1	Ralf	15.15.255	10.49.200.005	00:0C:DE:00:80:84
<input type="checkbox"/> ABB IPS/S 3.1.1	IPS/S3.1.1 Koffer DALI	1.1.251	10.49.200.005	00:0C:DE:25:80:58
<input type="checkbox"/> ABB GM/A 8.1	Ralf	15.15.255	10.49.200.005	00:0C:DE:00:80:84
<input type="checkbox"/> ABB IPS/S 3.1.1	IPS/S3.1.1 Koffer DALI	1.1.251	10.49.200.005	00:0C:DE:25:80:58
<input type="checkbox"/> ABB IPS/S 2.1	IP Interface	5.5.255	10.49.200.005	00:0C:DE:61:50:9E
<input type="checkbox"/> ABB IPS/S 2.1	ABB IPS/S2.1	1.1.35	10.49.200.005	00:0C:DE:61:50:98
<input type="checkbox"/> ABB IPR/S 3.1.1	ABB IP Router IPR/S 3.1.1	11.1.0	10.49.200.005	00:0C:DE:00:80:C7
<input type="checkbox"/> ABB IPR/S 3.1.1		1.1.0	10.49.200.005	00:0C:DE:03:80:42
<input type="checkbox"/> ABB IPS/S 2.1	ABB IPS/S2.1	1.1.25	10.49.200.005	00:0C:DE:15:50:8D
<input type="checkbox"/> ABB IPR/S 3.1.1	IP Router	15.15.0	10.49.200.005	00:0C:DE:01:80:41

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Supported IP devices

IP Router	IPR/S
IP Interfaces	IPS/S
Telephone Gateway	TG/S
IP Gateway	IG/S
Security Panel	GM/A
Logic Controller	ABA/S

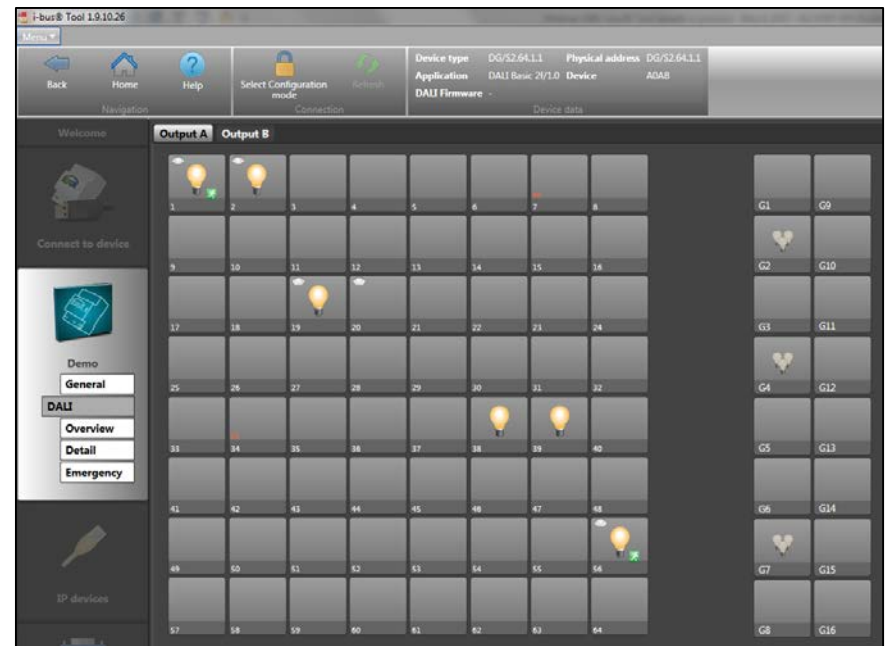


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DALI-Software-Tool inside

The DALI Tool is mandatory for setting up the KNX DALI devices

- Addressing DALI devices, e.g. ballasts, dimmers
- Assignment of the DALI devices into DALI groups
- Display of all lamp and ballast faults
- Commissioning of constant light control (DALI Light Controller)



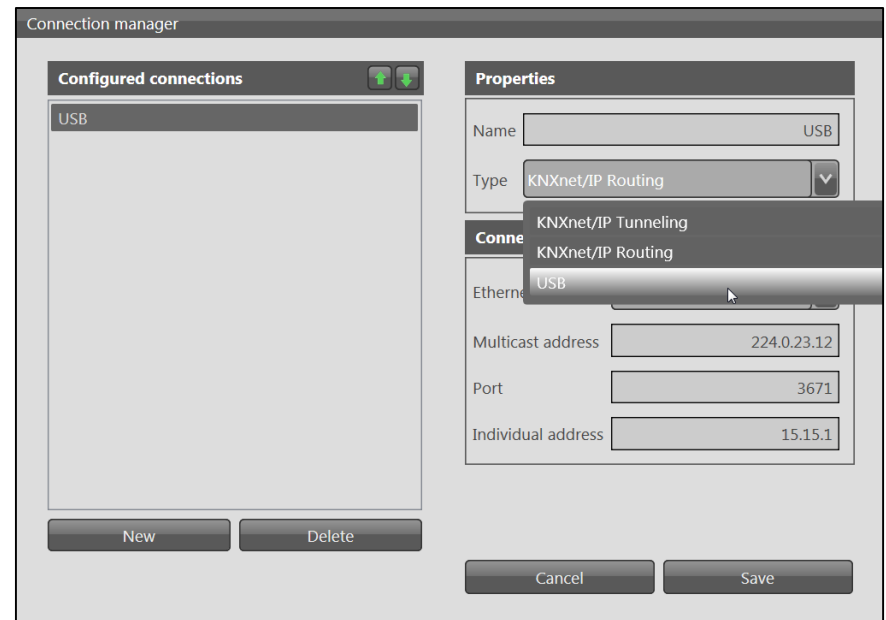
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Connection

Configuration of a KNX interface

- USB interface
- KNXnet/IP Tunneling
- KNXnet/IP Routing

Previously configured interfaces are displayed



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Connection to a device (TP)

Recently connected physical addresses are displayed

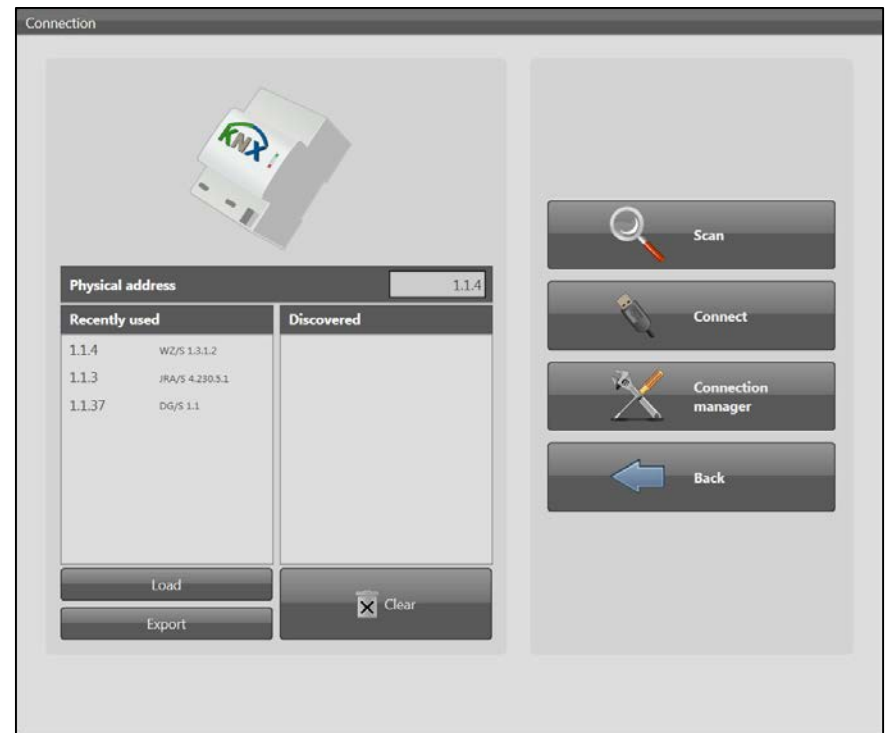
The required physical address can be read out directly using the “Search” button

For this purpose, the programming button of the KNX device must be pressed

Alternatively, the physical address can also be entered directly

“Connect” sets up the connection to the device

Important: When the connection with a device has been established, Display mode is active



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Read out data of KNX devices

Program version of application

→ “1.3”

Name of application

→ “Blind/RollerShutterAct, 4f 230V Travel det.”

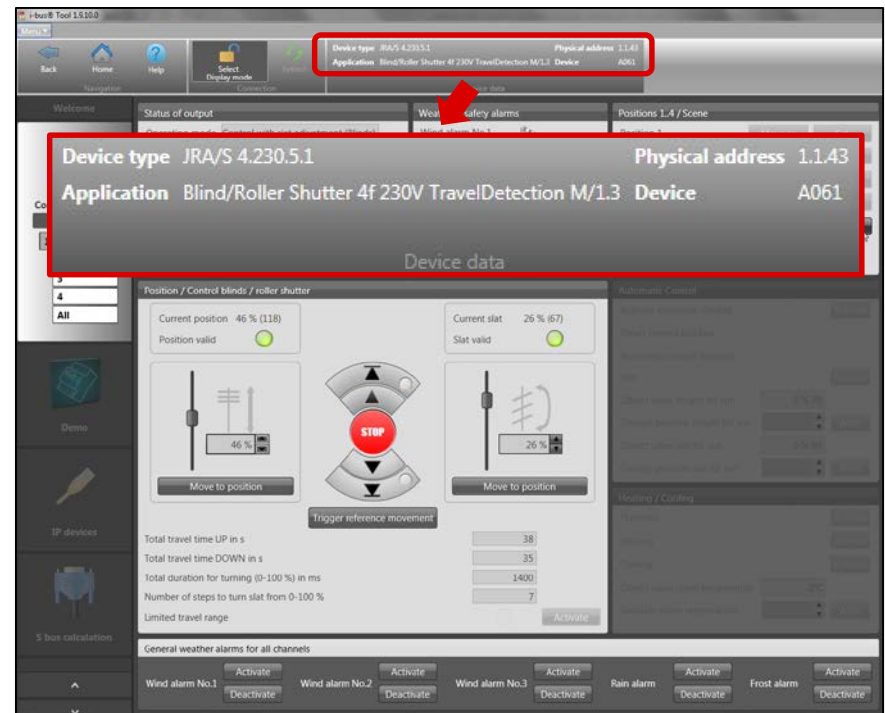
Device type

→ “\$A061”

Device name

→ “JRA/S4.230.5.1 Blind/RollerShutter ...”

Important diagnostic information for technical support



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Power Supply with diagnostics

SV/S 30.320.2.1

SV/S 30.640.5.1

- Operation hours
Displays the total operation hours since first commissioning
- Operation hours since last start
Displays the operation hours since the last time the device was started
- Number of restarts
Displays how often the mains and bus voltage were reconnected

The screenshot displays the i-bus Tool 1.9.10.26 interface. The top navigation bar includes a 'Menu' dropdown, 'Back' (Navigation), 'Home' (Navigation), and 'Select Configuration mode' (Connection) buttons. The device information shows 'Device type SV/S 30.640.5.1', 'Physical address 1.1.249', and 'Application Power Supply, Diagnosis, 640 mA/1.1 Device A084'. The main content area is titled 'Welcome' and features a 'Connect to device' section with 'Functions' and 'Status' buttons. The 'Device status' section displays the following data:

Parameter	Value	Unit
Supply voltage U_s OK		
Overload $I > I_{max}$		
Total current $I > I_{nominal}$		
Bus voltage U_n	30.43	V DC
Bus current I_1	0.23	A
Current I_2 (voltage output without choke)	0.00	A
Total current $I = I_1 + I_2$	0.23	A
Operating hours	4123	h
Operating hours since last start up	741	h
Number of start ups	37	

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KNX/ EnOcean Gateway EG/A 32.2.1

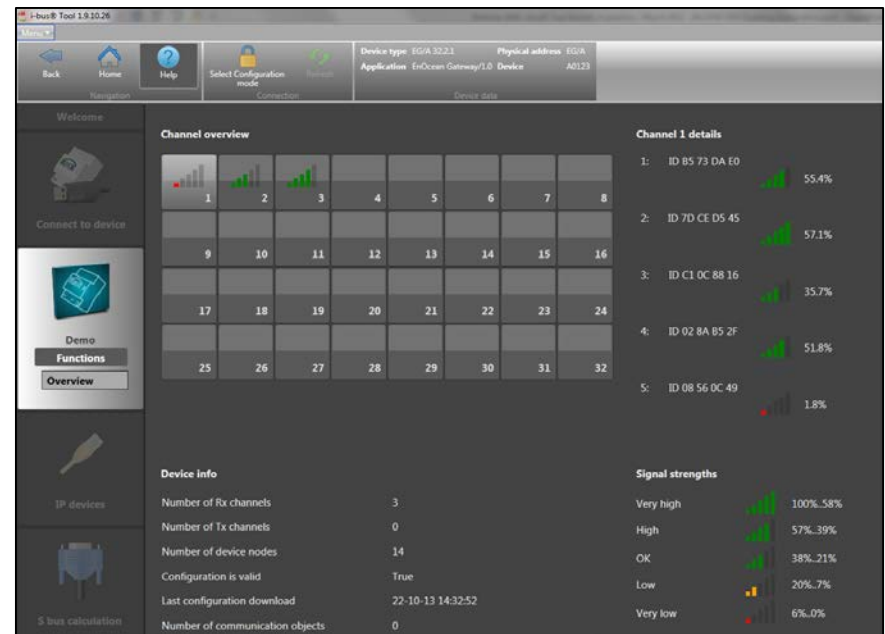
The signal strength of received EnOcean telegrams can be represented

If a new signal is received, the appropriate channel flashes yellow

In the channel overview, the most recently received signal and number of connected device nodes, is shown for each channel

Clicking on an individual channel in the channel overview displays the channel details

- Signal strengths of the devices connected to this channel
- The Chip ID, the unique identification number of the EnOcean device



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Constant Light Control with KNX

Light Controller LR/S

DALI Light Controller DLR/x

Commissioning - calibration process

- i-bus Tool or manual via ETS (group monitor)
- Set point adjustment is carried out with automatic regulation during day- and artificial light calibration

→ Webinar “Constant Light Control”
from September 2014
Video and slides are available on Training &
Qualification Database

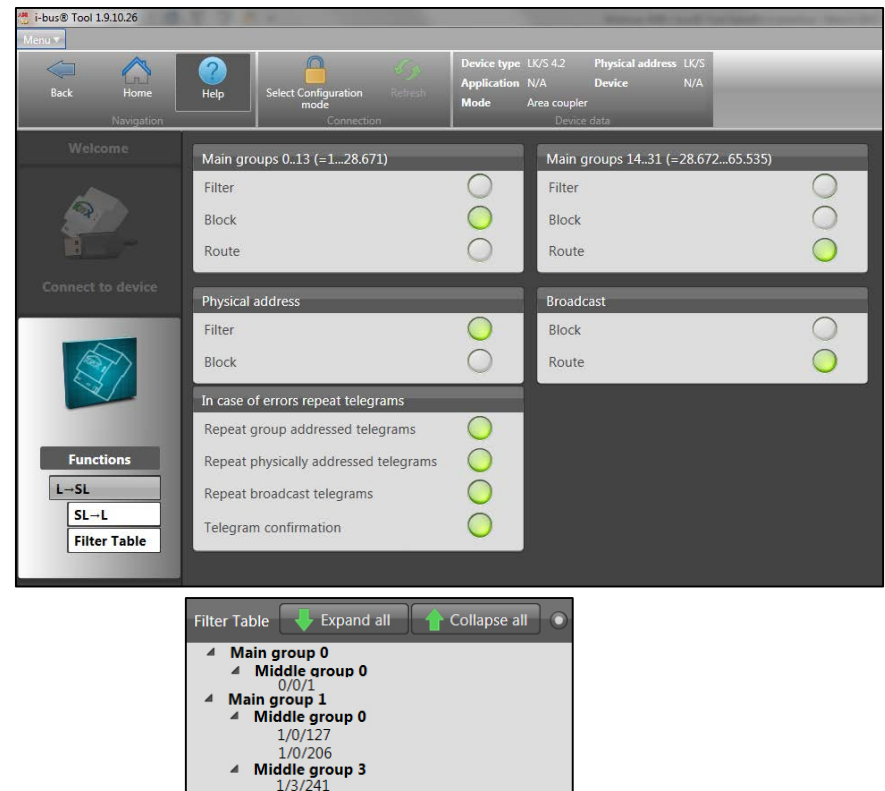


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Line Coupler LK/S 4.2

The parameterization of the line coupler in the ETS can be checked in both directions

- Group addresses
Filter/block/route
- Individual/physical addressed telegrams
(download ETS application)
- Broadcast telegram
(0/0/0 to program individual/physical address of a KNX device)
- Read out group address entries in filter table



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Blind/Roller Shutter Actuator – Scenes

Each blind/shutter can be integrated in to scene control

Thus, for example, all the roller shutters can be raised in the morning via a scene and lowered in the evenings or blinds/shutters can be integrated into lighting scenes

If a telegram “call scene no. X” is received, then the saved scene position is moved to by all the outputs assigned to the sent scene number

- e.g. ETS parameter height: 50%
- At which visible height stops the blind/shutter?

If a telegram “store scene no. X” is received the current position saved as the new scene position

1.1.3 JRA/S4.230.5.1 Blind/RollerShutterAct,TD,M,4f,230V > A: Scene	
General	Use 1st assignment <input checked="" type="radio"/> Yes <input type="radio"/> No
Manual operation	Assignment to scene number 1...64 Scene No. 4
A: Functions	Position Height in % [0...100] (0% = top; 100% = bottom) 50
A: Scene	Position Slat in % [0...100] (0% = open; 100% = closed) 80
A: Status messages	Use 2nd assignment <input type="radio"/> Yes <input checked="" type="radio"/> No

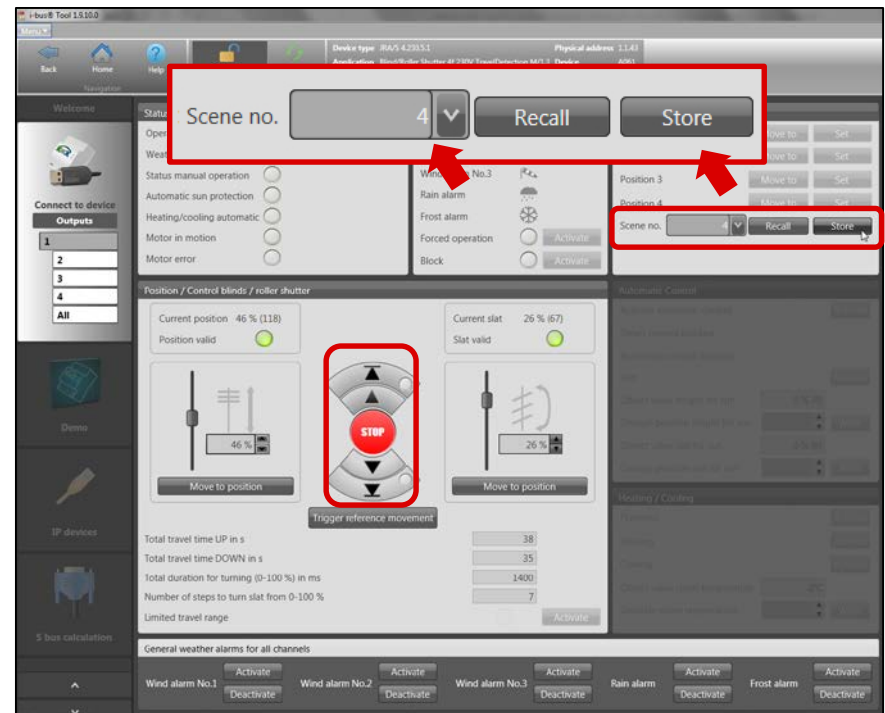


??? 50% height as seen

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Blind/Roller Shutter Actuator – Scenes

1. Set ETS parameter “Overwrite scenes on download” to NO
2. Activate scene function and pre-define default values for height and slat position
3. Move blind/shutter to the desired visible height of e.g. 50% and angle of slats (up/down/stop button)
4. Select number of scene
5. Store this position in the actuator → press “Store” button
6. Test scene position: Move blind/shutter up and recall this scene (i-busTool or KNX sensor)



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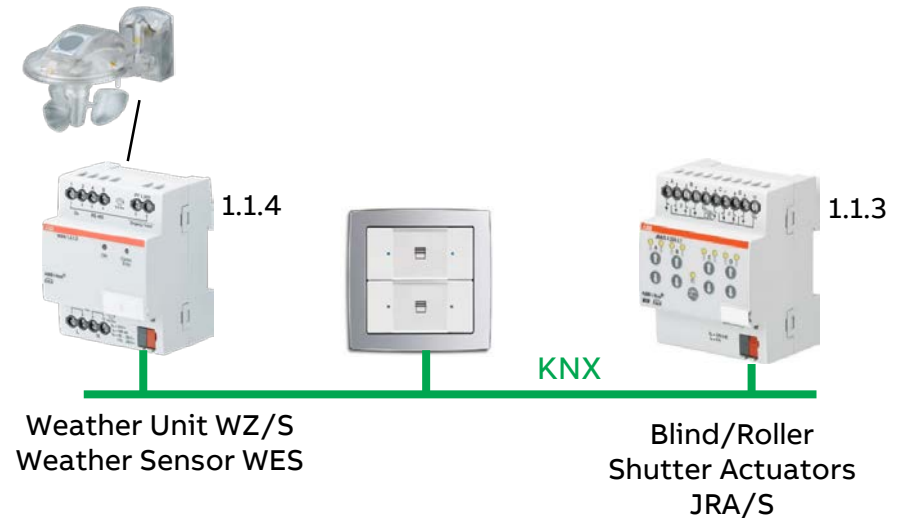
Safety and weather alarm

To protect the blind/shutter against wind, rain and frost, the JRA/S can receive different alarm telegrams send by a weather unit

If a wind alarm occurs, then the blind/shutter is moved to the parameterized wind alarm position and cannot be operated until the wind alarm is deactivated again

ETS parameter settings

- Wind alarm UP
- Rain alarm DOWN
- Order of priority: 1. Wind and 2. rain
- Position on reset of weather alarm
- Cyclically monitoring of the alarm status



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Automatic control – sun protection

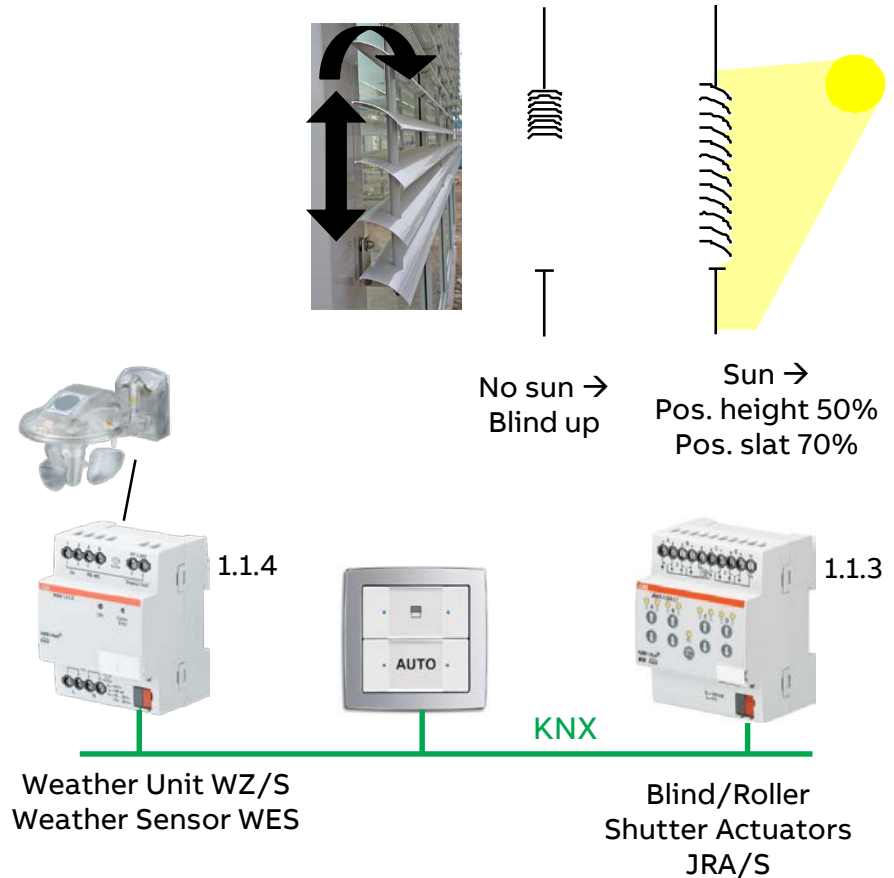
The automatic control can be activated by a time switch, user (switch sensor), ...

The Blind/Roller Shutter Actuator receives the information via the brightness sensor /weather sensor there is direct sunlight on the window

Once the adjustable delay period has elapsed, the Blind/Roller Shutter Actuator positions the shutter/blind according to the set position for sun or position for no sun

ETS parameter

- Enable “Automatic sun protection”
- Position for sun (e.g. height 50%) and no sun



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Blind/Roller Shutter Actuators

The screenshot displays the i-bus tool interface for Blind/Roller Shutter Actuators, organized into several functional panels:

- Status of output:** Includes controls for Operating mode (Control with slat adjustment (Blinds)), Weather/safety alarm, Status manual operation, Automatic sun protection, Heating/cooling automatic, Motor in motion, and Motor error.
- Weather / safety alarms:** Features indicators and controls for Wind alarm No.1, 2, and 3; Rain alarm; Frost alarm; Forced operation; and Block.
- Positions 1..4 / Scene:** Allows setting and moving to Position 1, 2, 3, and 4, as well as a Scene number.
- Position / Control blinds / roller shutter:** Shows current position (100% (255)) and slat (100% (255)) with validity indicators. It includes a central STOP button and a Trigger reference movement button.
- Automatic Control:** Contains controls for Activate automatic control, Direct control blocked, Automatic control disabled, Sun, and Object value settings for height and slat for sun.
- General weather alarms for all channels:** Provides Activate and Deactivate buttons for Wind alarm No.1, 2, 3, Rain alarm, and Frost alarm.

Weather Unit and Weather Sensor

The screenshot displays the i-bus tool interface for Weather Unit and Weather Sensor, featuring the following elements:

- Wind speed sensor (m/s):** Shows a current value of 6.0 with a Write button.
- Object value overwritten:** Indicated by a yellow light.
- Sensor error:** Indicated by a grey light.
- Threshold value 1:** Indicated by a green light.
- Upper limit in m/s:** Includes a slider between Min and Max, a Current value of 5, and a New value of 0 with a Write button.
- Upper limit exceeds:** Indicated by a red light.
- Lower limit in m/s:** Includes a slider between Min and Max, a Current value of 2, and a New value of 0 with a Write button.
- Lower limit falls below:** Indicated by a grey light.
- Threshold value 2:** Indicated by a grey light.

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Update of KNX devices

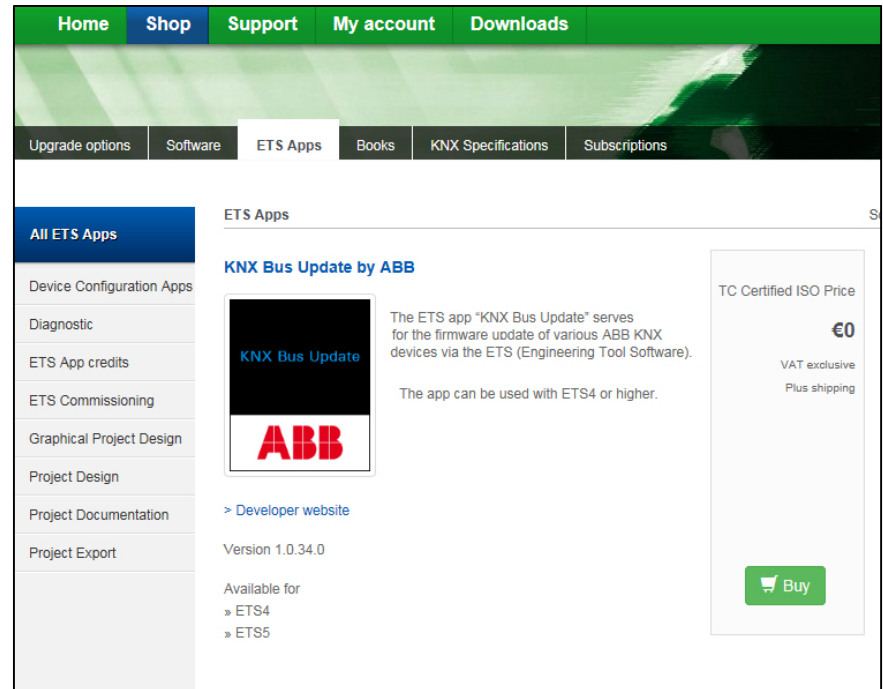
The ETS app “KNX Bus Update” serves for the firmware update of various ABB KNX devices via the ETS (Engineering Tool Software)

The app can be used with ETS4 or ETS5

Free of charge!

Download the app (<https://my.knx.org>) and install the product license on your ETS dongle

Download the current firmware files of the KNX devices (*.fwupd)



The screenshot displays the ABB website's 'ETS Apps' section. The navigation bar includes 'Home', 'Shop', 'Support', 'My account', and 'Downloads'. Below this, there are tabs for 'Upgrade options', 'Software', 'ETS Apps', 'Books', 'KNX Specifications', and 'Subscriptions'. The 'ETS Apps' page features a sidebar with categories like 'All ETS Apps', 'Device Configuration Apps', 'Diagnostic', 'ETS App credits', 'ETS Commissioning', 'Graphical Project Design', 'Project Design', 'Project Documentation', and 'Project Export'. The main content area highlights the 'KNX Bus Update by ABB' app, showing its logo and a description: 'The ETS app “KNX Bus Update” serves for the firmware update of various ABB KNX devices via the ETS (Engineering Tool Software). The app can be used with ETS4 or higher.' It also indicates the version is 1.0.34.0 and is available for ETS4 and ETS5. A 'Buy' button is visible, along with pricing information: 'TC Certified ISO Price', '€0', 'VAT exclusive', and 'Plus shipping'.

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Update of KNX devices

Start ETS and build up a communication to the KNX installation (USB or IP)

Open app (Extras → ABB → ...)

Import update files (*.fwupd)

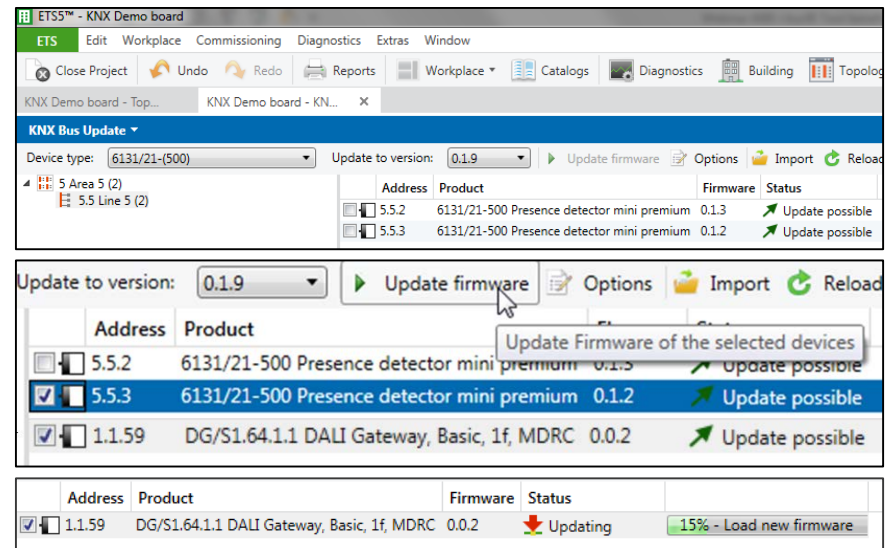
Select device type (e.g. 6131/21) and press “Reload” button

Possible updates of devices will be displayed

Choose the latest version of the update file

Select device(s) and start firmware update

All parameters and group addresses will not be deleted from the device while updating the firmware!!!



DALI-Gateways
DG/Sx.64.1.1



Busch-Presence
detector KNX”

...

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www.abb.com/KNX

System

Products

- Power supplies
- Outputs
- ...

Service & Tools

- Downloads
 - ETS product data (KNXPROD)
 - Product manuals
- Training and Qualification

Support

- FAQ

The screenshot shows the ABB i-bus KNX website homepage. At the top, there is a navigation menu with a hamburger icon, the text "ABB i-bus KNX", and a search icon followed by "Smart Home and Intelligent Building Control". Below the navigation is a large hero image of a modern city skyline at night. Underneath the image is a paragraph of text: "ABB i-bus KNX is the intelligent installation system that meets the highest requirements for applications in modern home and building control and is based on the simple and proven KNX technology (<http://www.knx.org>), which is accepted as the world's first open standard for the control of all types of intelligent buildings - industrial, commercial or residential." Below this text is a section titled "Our Offering" with four buttons: "System", "Products", "Service & Tools", and "Support". Each button has a small downward arrow. Below "Our Offering" is a section titled "Highlights" with four featured products, each with an image and a caption: 1. "NEW: Logic Controller ABA/S 1.2.1 available" with an image of a logic controller. 2. "New ABB i-bus KNX IP Devices" with an image of two IP devices. 3. "New ABB i-bus KNX Analogue Actuators" with an image of two analogue actuators. 4. "ABB enhances its KNX range functionality" with an image of a thermostat. At the bottom right of the highlights section, there are three dots and a right-pointing arrow.

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T&Q Database

In this database you can find the complete online training portfolio for ABB Home and Building Automation

The database includes the following types of training content:

- Application Manuals
- E-Learnings
- Presentations
- Video tutorials
- Webinar slides and videos

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FAQ-Tool

As a new support service, our new FAQ tool is now online

With this service, we are pleased to be able to offer you an additional support function for our building automation product range

- i-bus KNX
- Door Entry Systems
- free@home
- Newron Solution

The screenshot displays the FAQ-Tool interface. At the top, there are navigation links: "ADD NEW FAQ", "ADD QUESTION", "OPEN QUESTIONS", "DEUTSCH", and "LOGIN". Below these is a search bar with a "Search" input field and a "Q" button, and an "Advanced search" link. On the left, a sidebar menu lists "FAQ Home", "All categories", "Door Entry Systems", "free@home", "i-bus KNX", and "Newron Solution", with a status indicator "1 user online | 1 Guest and 0 Registered". The main content area is titled "Categories" and lists several categories with their respective FAQ counts and status icons:

- Door Entry Systems
- free@home (6 FAQs)
- i-bus KNX (1 FAQ)
- Power Supply (5 FAQs)
- System Infrastructure and Interfacing (2 FAQs)
 - IP-Router and Interfaces (14 FAQs)
- Connection and Wiring (0 FAQs)
- Multifunction Room Automation (1 FAQ)
- Standard Inputs (4 FAQs)
 - Analogue Inputs (2 FAQs)
 - Metrological and Physical Sensors (1 FAQ)
- Standard Outputs (1 FAQ)
 - Analogue Actuators (10 FAQs)
- Shading Control (7 FAQs)
 - Blind Actuators SMI (4 FAQs)
- Lighting Control (6 FAQs)
 - DALI (6 FAQs)
- Heating, Ventilation and Air Conditioning (2 FAQs)
- Automation, Logic and Time Control (15 FAQs)
- Visualisation, Display and Signalling (26 FAQs)
- User Operation - Busch-priOn (4 FAQs)
- User Operation - Busch-triton (0 FAQs)
- User Operation - Solo (0 FAQs)
- User Operation - Millenium (0 FAQs)
- User Operation - Zenit (0 FAQs)
- User Operation - Sidus (0 FAQs)
- User Operation - Mylos (0 FAQs)
- User Operation - Chiara (0 FAQs)
- User Operation - Ocean (0 FAQs)
- User Operation - Push Button Coupling Units (1 FAQ)
- User Operation - Refelex SI / Busch-Duro 2000SI for Push Button Coupling Units (0 FAQs)
- User Operation - Busch-balance SI / basic 55 for Push Button Coupling Units (0 FAQs)

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Training & Qualification Calendar


In addition to the online modules and the traditional training programs offered by your local ABB sales team, we offer a variety of on-site trainings conducted by our specialists at different ABB training facilities

In this Training & Qualification Calendar you can find the educational events that are taking place during 2017

If you are interested in a training of the calendar please contact your local ABB

ABB HOME • OFFERINGS • HOME AND BUILDING AUTOMATION • TRAINING AND QUALIFICATION • TRAINING & QUALIFICATION CALENDAR GLOBAL SITE

Training & Qualification Calendar



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Date	Course	City	Country
03.04 - 07.04	KNX Certified Basic Course	Heidelberg	Germany
10.04 - 11.04	KNX Application Training 1	Heidelberg	Germany
04.05 - 05.05	ControlTouch	Lüdenscheid	Germany
15.05 - 19.05	KNX Security Panel GM/A - Advance Training 1	Heidelberg	Germany
17.07 - 21.07	KNX Certified Advance Course	Heidelberg	Germany
24.07 - 25.07	KNX Application Training 2	Heidelberg	Germany

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KNX Certified Training

Certified KNX Courses in Heidelberg

- Basic Course 03rd to 07th April
- Advanced Course 17th to 21st July
- Tutor Course 09th to 13th October

And many more training courses in the calendar “International Training Dates 2017”



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Next Webinar

KNX DALI-Gateway, Basic DG/S x.64.1.1

Wednesday 26th April 2017

- Morning 09:00 am Europe Time (Berlin, UTC + 2h)
- Afternoon 03:00 pm Europe Time (Berlin, UTC + 2h)

All functionalities in one device:

- All Single Control
- Group Control
- Emergency Light Control

Hardware versions

i-bus Tool (DALI addressing)

....

* Topic is subjected to change

NEW !!!



Basic **1-fold**
DG/S 1.64.1.1



Basic **2-fold**
DG/S 2.64.1.1

Disclaimer

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