BUSCH-JAEGER

KNXperience, September 2021

# ABB i-bus® Tool

## A professional Service Tool for KNX System Integrators and Installers

Thorsten Reibel, Training & Qualification, ABB

Busch-Jaeger

# Agenda

—

- General Features, Functions and Advantages
- Supported Devices
- Main Functions for the involved KNX Components
- Where to get the ABB i-bus® Tool?

BUSCH-JAEGER

# ABB i-bus® Tool

## General Features, Functions and Advantages



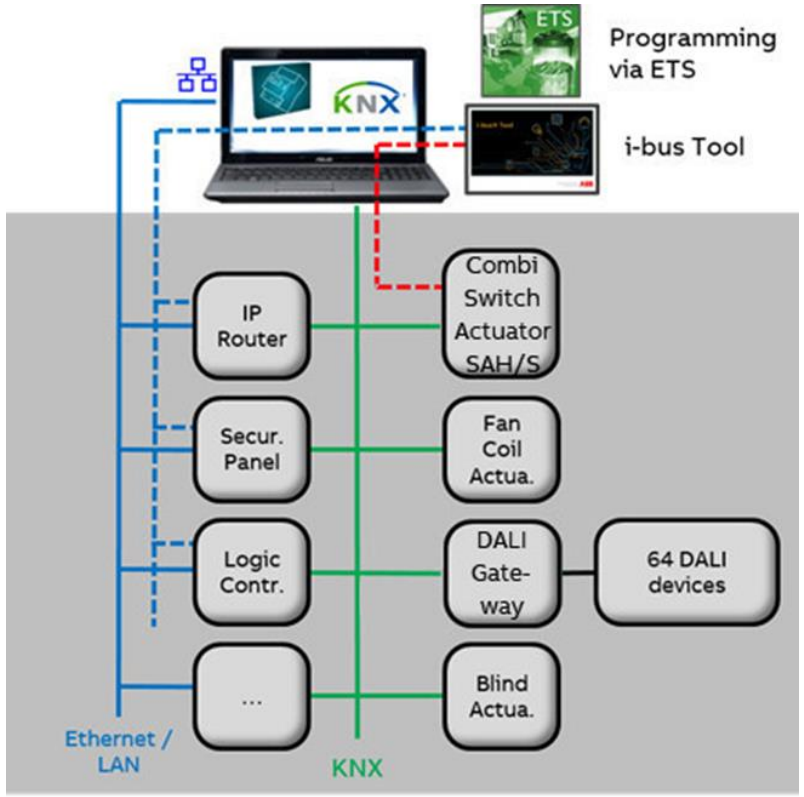
BUSCH-JAEGER

# ABB i-bus® Tool

## A professional Service Tool for KNX System Integrators and Installers

### General Features

- ABB i-bus® Tool is an additional software tool to make life easier when working with Busch-Jaeger/ABB KNX devices
- It supports system integrators and installers during commissioning and service
- Internal information and states of the device hardware and software applications are available in a transparent manner
- Functions per channel are carried out directly from the tool
- The i-bus® Tool is optional, i.e. the 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 ABB i-bus® Tool
- Most of the KNX products from Busch-Jaeger/ABB are supported by the ABB i-bus® Tool
- Devices e.g. with webserver or powerful DCA (Device Configuration App) in ETS with preview like displays need no support by this tool





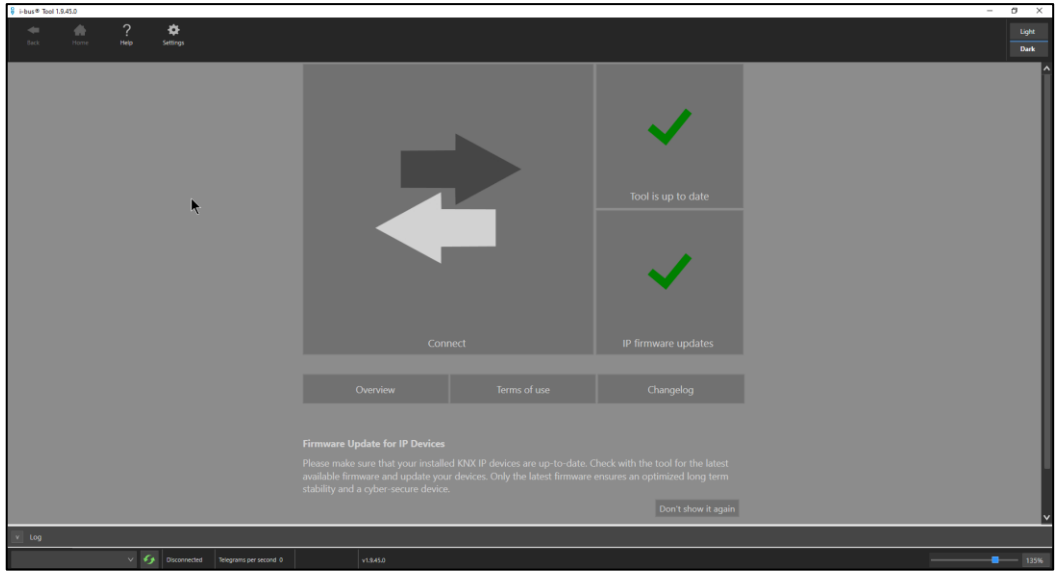

BUSCH-JAEGER

# ABB i-bus® Tool

## A professional Service Tool for KNX System Integrators and Installers

### General Features

- The ABB i-bus® Tool accesses a KNX device via a standard KNX interface (USB, IP) with the assistance of the individual address
- Only one device can be connected at a time, then the device-specific plug-in displays the functions that are possible for this device type depending on ETS programming with individual pages per channel
- The user can trigger the desired functions, read values, simulate states, make settings for the connected device, e.g. scenes
- Functions are only available if they have been enabled in the ETS, disabled functions are greyed out or not visible
- Selection between display and configuration mode
- A comprehensive help file is integrated in the tool
- Access to a device via the tool can be restricted in the ETS application at the product
  Options: Full access, read only or blocked





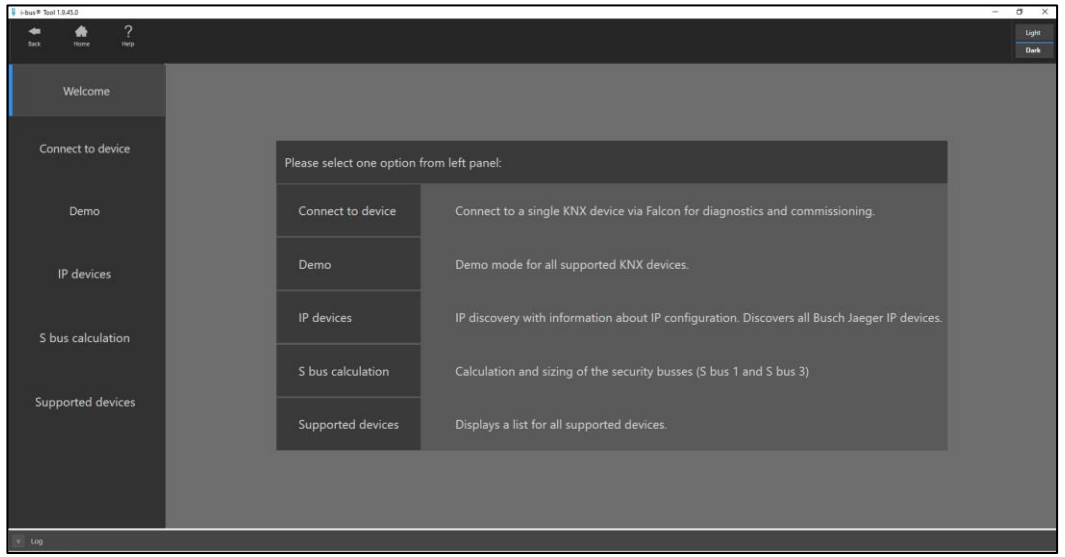

BUSCH-JAEGER

# ABB i-bus® Tool

## A professional Service Tool for KNX System Integrators and Installers

### General Features

- The presentation language can be changed
- Dutch, English, French, German, Italian, Polish, Russian, Spanish
- Software will be continuously updated with new products and new functions for existing ones
- Update directly in the tool, information appears on the starting page and changelog
  Status September 2021 Version 1.9.45.0
- Firmware update for IP-Router, IP Interface and Logic Controller, other devices now via App “Bus update” in ETS
- Demo Mode for each device: see how it works and looks like without connected hardware
- IP Device: Detection of KNX IP device and ABB EQmatic QA/S components with name, type, IP address, individual address and status information





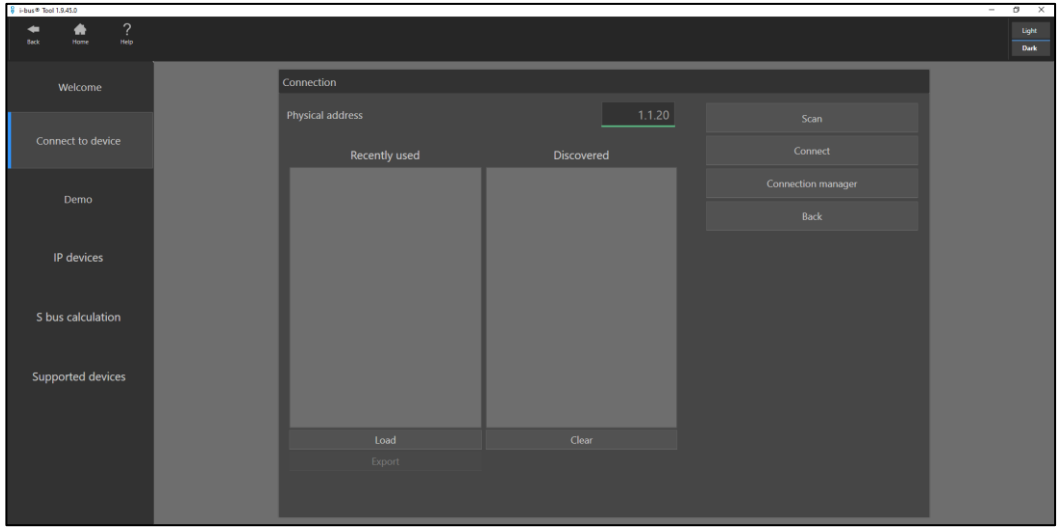

BUSCH-JAEGER

# ABB i-bus® Tool

## A professional Service Tool for KNX System Integrators and Installers

### General Features

- Connection Manager: Create USB/IP connection and test it
- S bus calculation: Support for KNX Security Panel GM/A 8.1 for internal security bus to create the correct topology
- Logfile for history and slider to adjust the size of the screen, change between light and dark mode
- Supported devices: Overview of all components accessible via ABB i-bus® Tool, contains also older components
- Please note: Connection to KNX installation increases the telegram traffic (continuous polling), telegrams per second adjustable between 2 and 20
- Disconnect a device from KNX if your work is done, it is not made for 24/7 operation. Automatic disconnection after maximum 60min (adjustable)
- It is free of charge, available on Busch-Jaeger's and ABB's homepage for download, but works only for with KNX devices from Busch-Jaeger and ABB





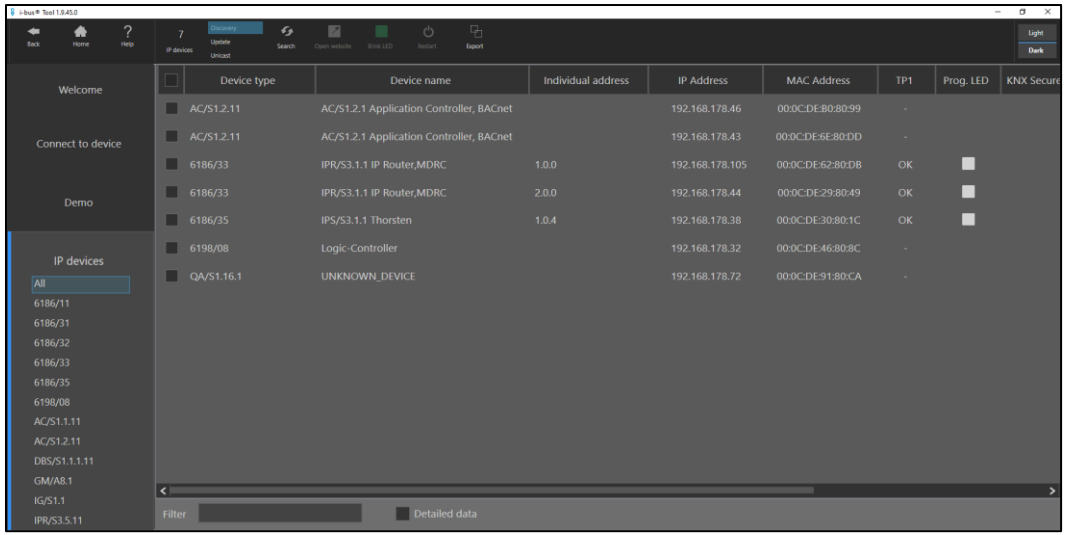

BUSCH-JAEGER

# ABB i-bus® Tool

## A professional Service Tool for KNX System Integrators and Installers

### IP Devices

- By clicking on IP devices all KNX related IP devices are found and displayed with different data
- If individual devices or all of them are highlighted (set checkmarks), then actions can be performed using the buttons in the upper toolbar:
- Open website: If the selected device has a web server, it is opened in a browser. Only one device may be selected for this
- Blink LED: The "ON" LED of the selected device flashes for 5 seconds (identify device)
- Restart: The selected devices restart
- Search: Search again for IP devices
- Export: IP address and MAC address exported in text file





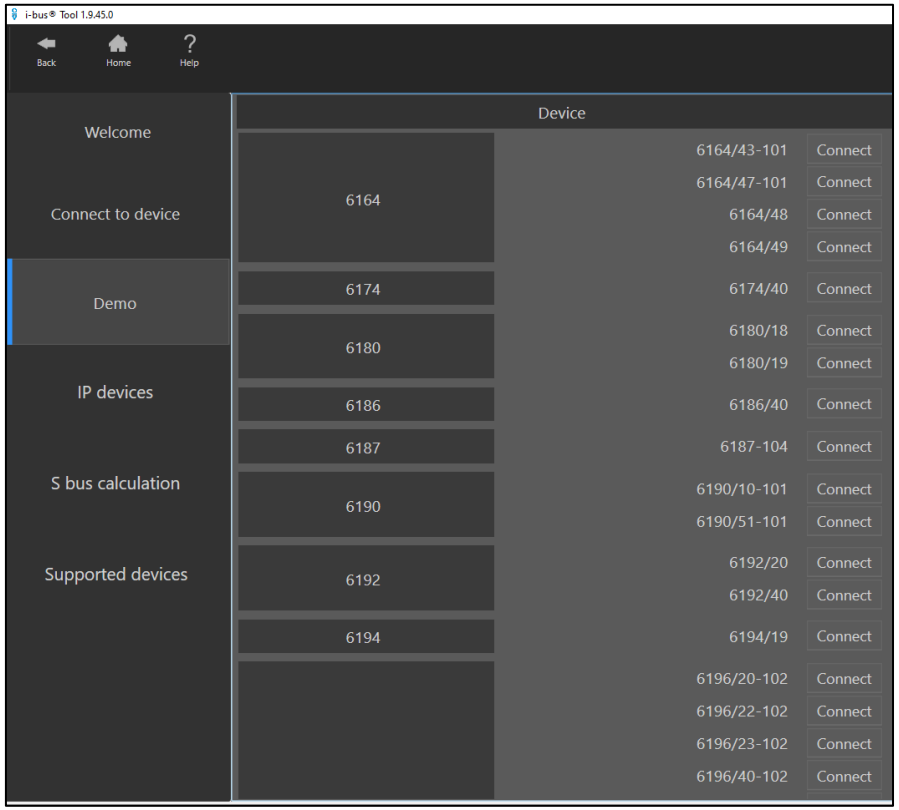

BUSCH-JAEGER

# ABB i-bus® Tool

## A professional Service Tool for KNX System Integrators and Installers

### Demo Mode

- The demo mode is intended to demonstrate the possible functions without a connection to the KNX product
- All the available devices are displayed
- The desired device must be selected by clicking on the connect button and the user interface is opened in demo mode, it looks like a real connected component
- The display is intended only for demonstration purposes
- No functions are available and there is no connection to the bus






BUSCH-JAEGER

# ABB i-bus® Tool

## Supported Devices



BUSCH-JAEGER

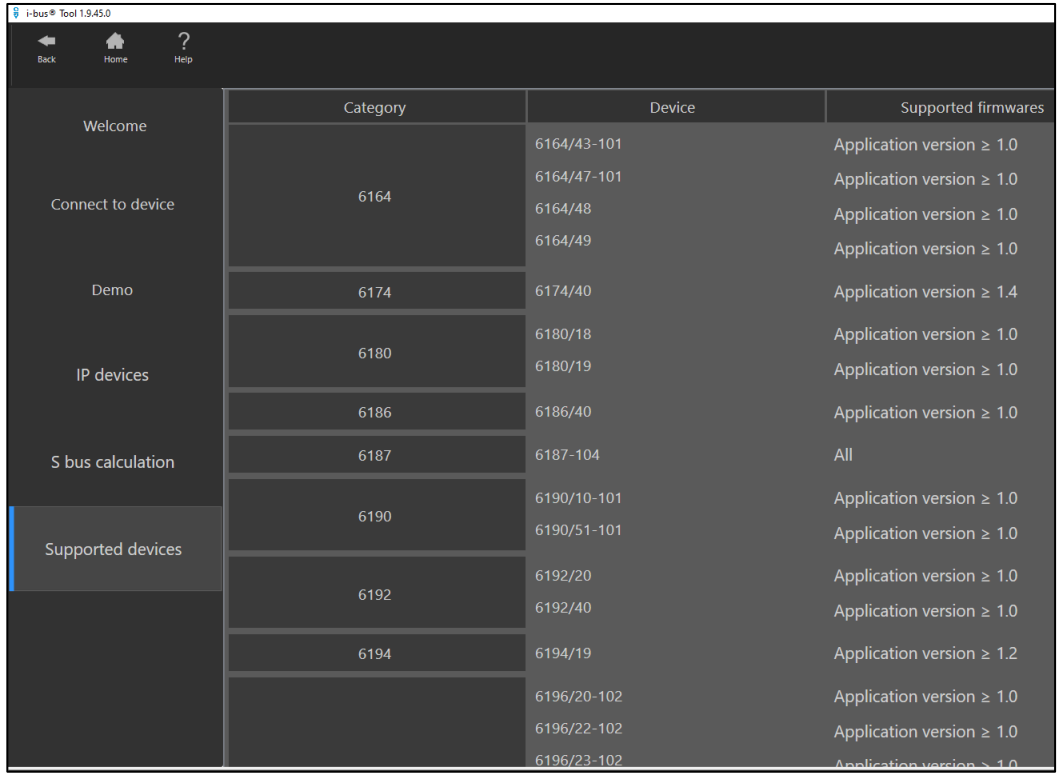
# ABB i-bus® Tool

## A professional Service Tool for KNX System Integrators and Installers

### Supported Devices

- Analogue Actuators
  Logic Controller
  Analogue Inputs
  DALI Gateways
  Energy Module
  EnOcean Gateway
  HVAC Devices
  Blind/Roller Shutter Act.
  Line Coupler
  Light Controller
  Energy Actuator
  Power Supplies
  Dim Actuators
  Weather Station/Unit
  IP Devices

- … and new devices are added continuously






BUSCH-JAEGER

# ABB i-bus® Tool

Main Functions for the integrated KNX Components



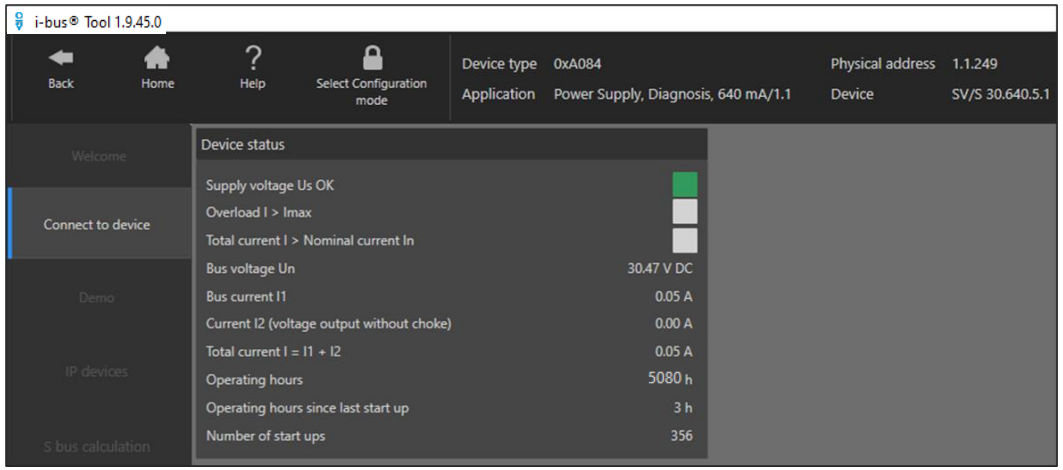
BUSCH-JAEGER

# ABB i-bus® Tool

## A professional Service Tool for KNX System Integrators and Installers

### Power Supply with Diagnostic

- KNX Power supply with integrated bus coupler for communication
- Information about bus voltage, bus current (per output), overload and overcurrent
- Operating hours
- Displays the total operating hours since first commissioning
- Operating hours since last start
- Shows the operating hours since the last time the device was started
- Number of restarts
- Indicates how often the mains and bus voltage were reconnected





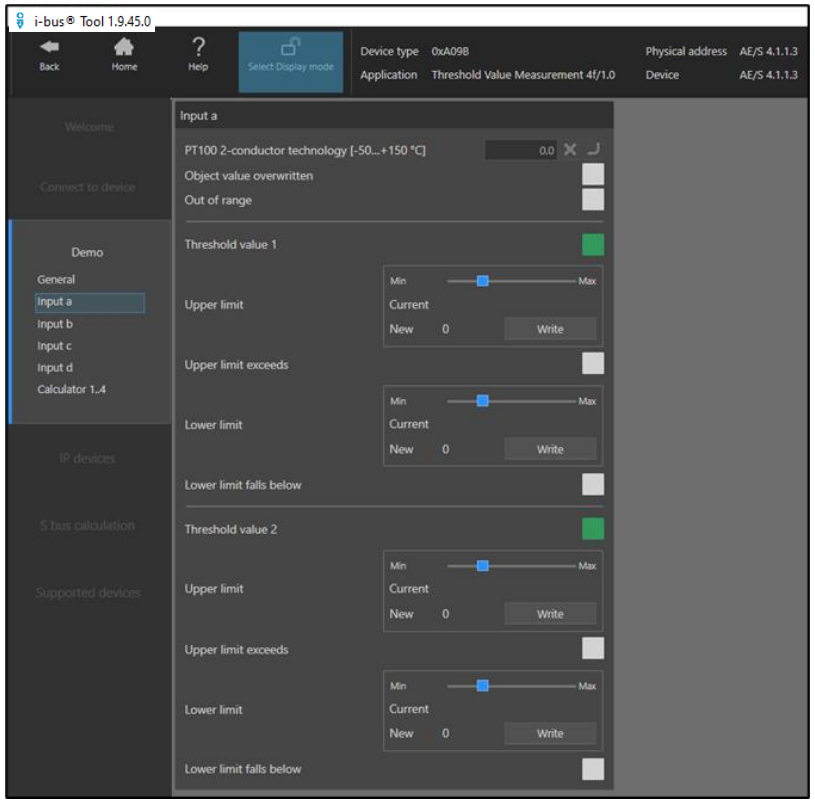

BUSCH-JAEGER

# ABB i-bus® Tool

## A professional Service Tool for KNX System Integrators and Installers

### Analogue Input

- Display of current input value per channel
- Value can be overwritten for testing
- Type of adjusted input values, e.g. 0-20mA
- Threshold values, parametrized in the ETS, are visible but can be overwritten temporary
- Status when a limit is exceeded
- Calculator: Status of calculator function, e.g. comparison of two input values or mathematical calculation, e.g. mean value of two input values





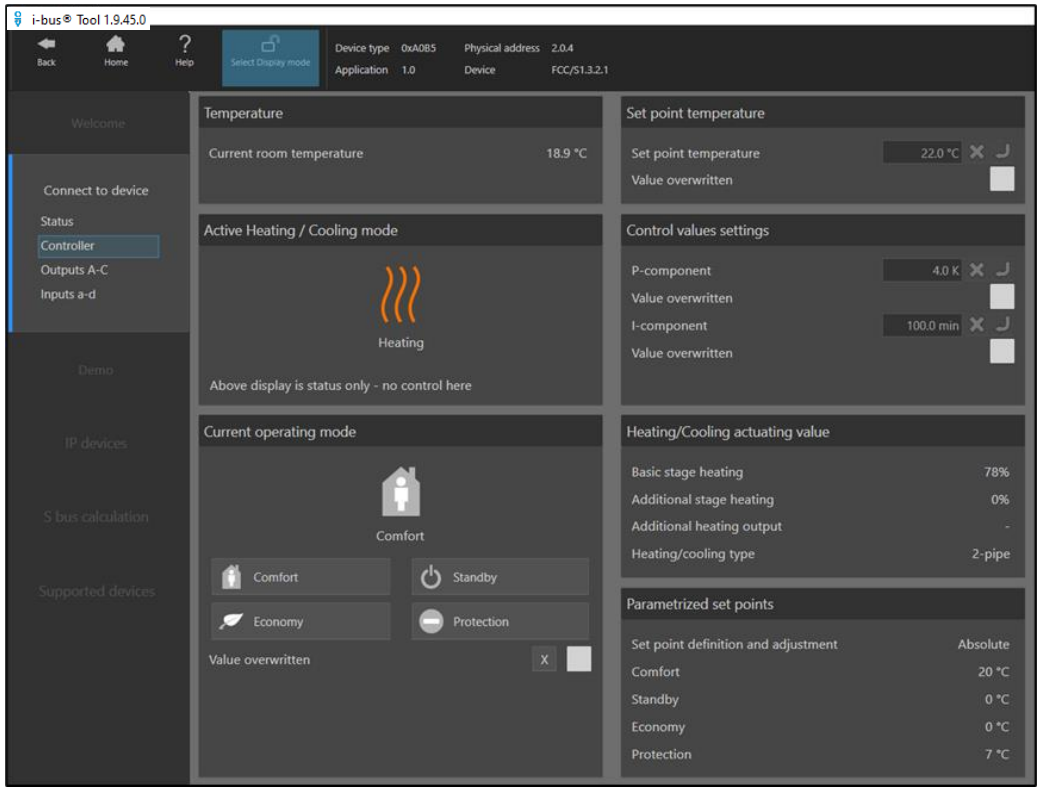

BUSCH-JAEGER

# ABB i-bus® Tool

## A professional Service Tool for KNX System Integrators and Installers

### Fan Coil Controller

- Status of device, e.g. heating or cooling mode, forced operation active and more
- Status of inputs, e.g. additional temperature sensor or window contact
- Status of outputs (fan and valve)
- Controller with alle relevant information like room temperature and setpoint, control value, operating mode
- Option to overwrite values temporary, like setpoint, fan and valve outputs or window contact as input for test purposes





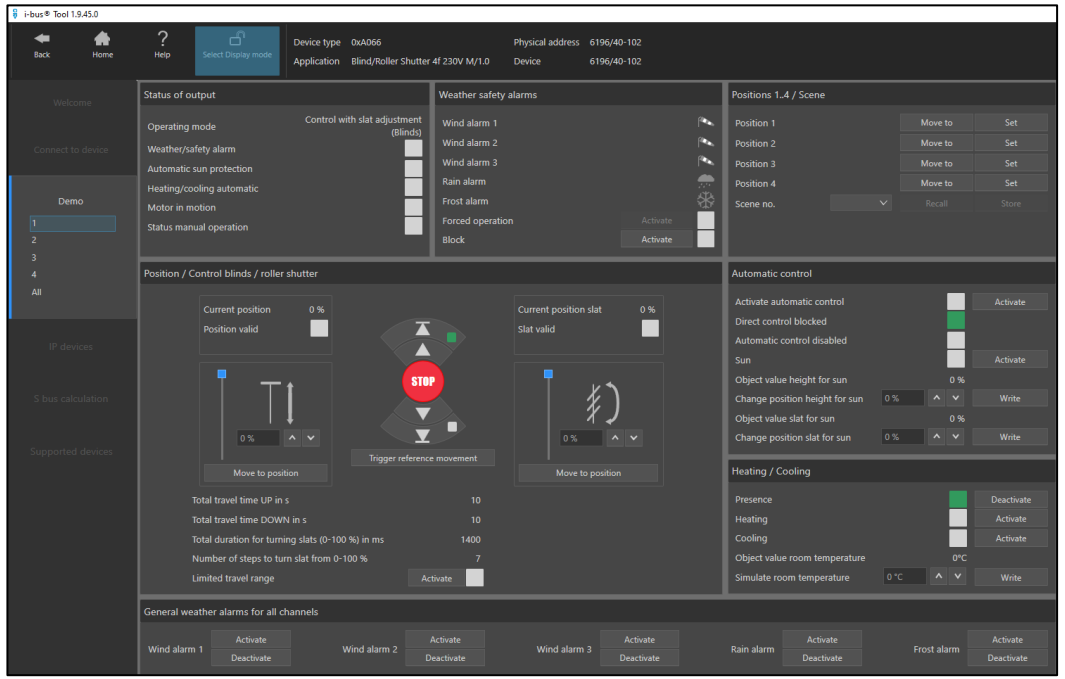

BUSCH-JAEGER

# ABB i-bus® Tool

## A professional Service Tool for KNX System Integrators and Installers

### Shutter/Blind Actuator

- Status of device, e.g. motor in motion, weather alarm, forced operation active and more
- Complete control of each drive with position information
- Simulation of functions like weather alarm and automatic control
- Activation of positions and scenes, saving of new ones
- Status overview for all channels together
- Support of 24 DC drives and outputs programmed for switching mode





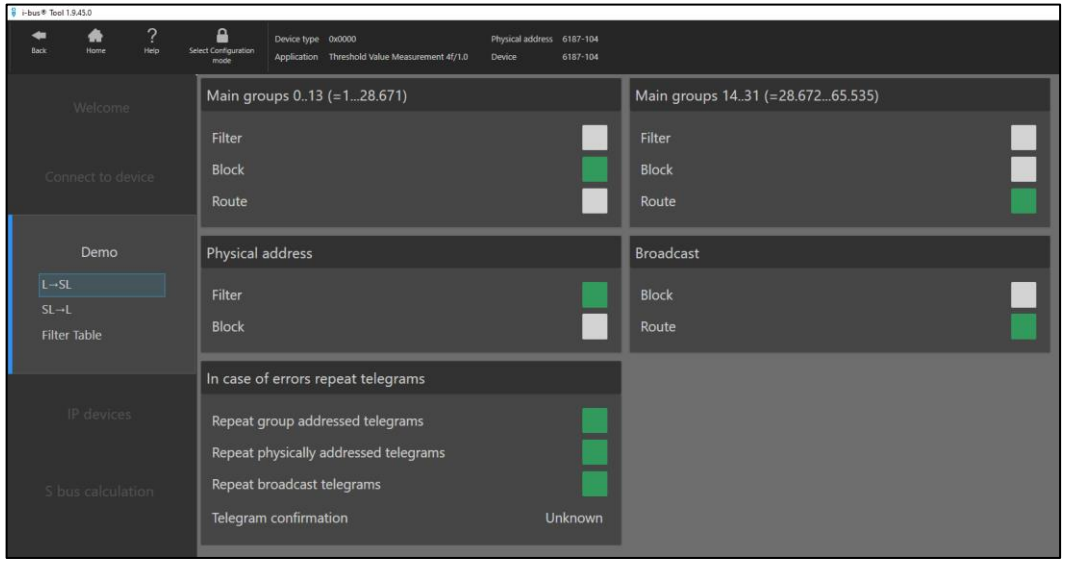

BUSCH-JAEGER

# ABB i-bus® Tool

## A professional Service Tool for KNX System Integrators and Installers

### Line Coupler

- The parameterization of the line coupler in the ETS can be checked in both directions
  Line → Subline and Subline → Line
- Status of group addresses separately for main group 0…13 and 14…31
  Filter/block/route
- Individual addressed telegrams filter/block (for download ETS application)
- Broadcast telegram block/route
  (0/0/0 to program individual address of a KNX device or for diagnostics)
- Read out group address entries in filter table without ETS





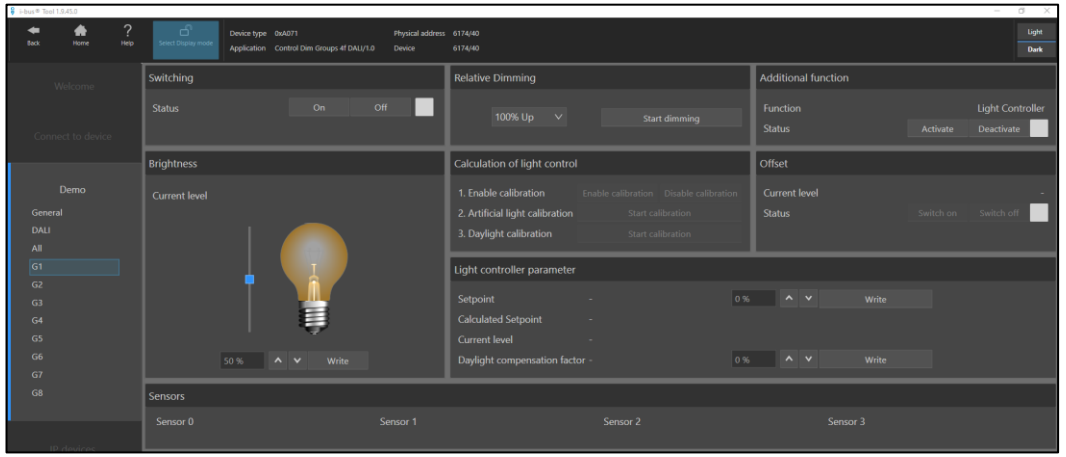

BUSCH-JAEGER

# ABB i-bus® Tool

## A professional Service Tool for KNX System Integrators and Installers

### Constant Light Controller

- Light Controller (1-10V)
- DALI Light Controller 6174/40
- Task: user friendly and easy to do constant light control adjustment instead of manual procedure in the ETS with group monitor
- Set point adjustment is carried out with automatic regulation during day- and artificial light calibration
- All needed values and information are shown during this process to monitor the success





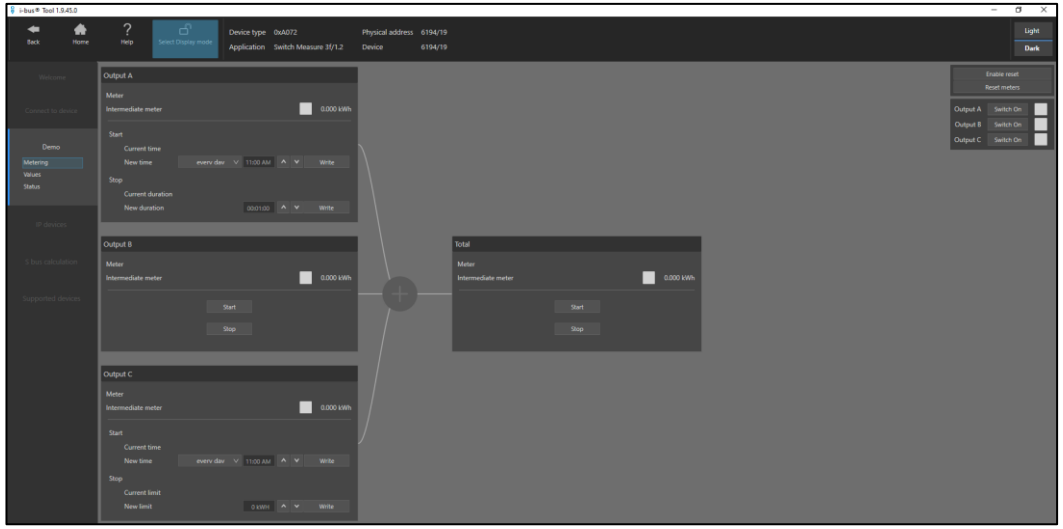

BUSCH-JAEGER

# ABB i-bus® Tool

## A professional Service Tool for KNX System Integrators and Installers

### Energy Actuator

- Device for switching and metering with three channels
- Switching of each channel
- Display of all meter values per channel and in total: Power, current, voltage, frequency, power and crest factor
- Display of meter values continuous and intermediate meter, start/stop of intermediate meter
- Reset of both meters possible
- Status information, e.g. time function active or power negative
- Same functionality (except switching) exists for Energy Module





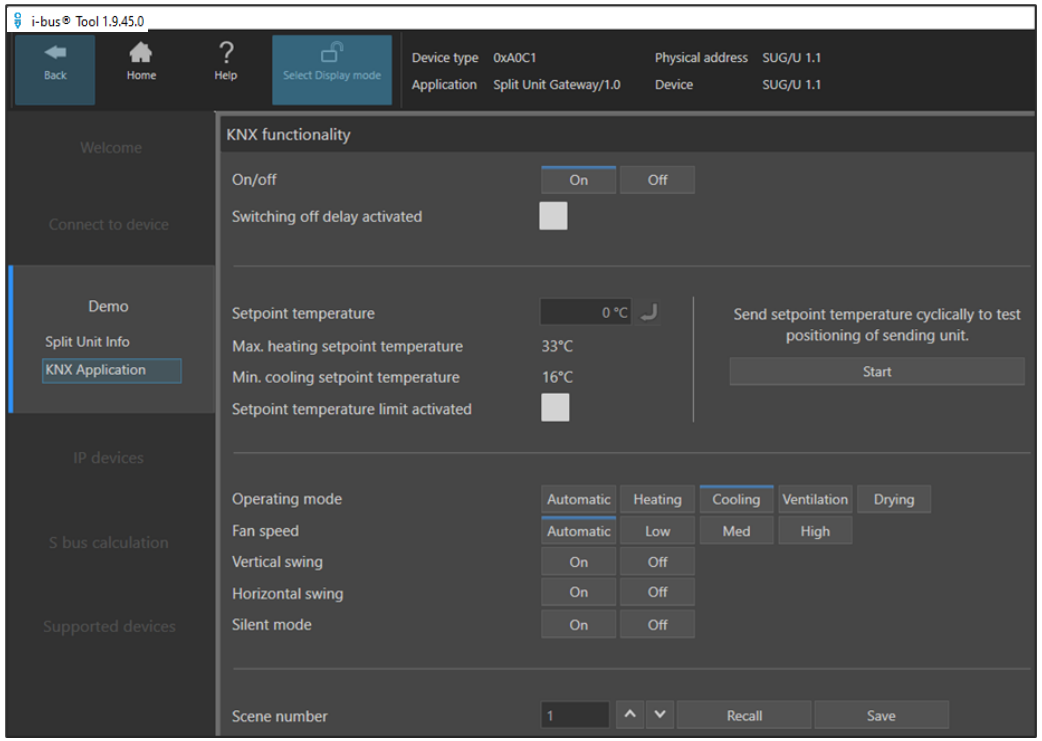

BUSCH-JAEGER

# ABB i-bus® Tool

## A professional Service Tool for KNX System Integrators and Installers

### Split Unit Gateway

- Supported functions of the Split Unit selected in the ETS visible
- Operation of all functions like on/off, change setpoint, operating mode, fan speed, recall of scenes and more
- Status information for forced operation, window contact or presence
- Send setpoint temperature cyclically to test positioning of sending unit (IR sensor) → Split unit confirms with beep when correct





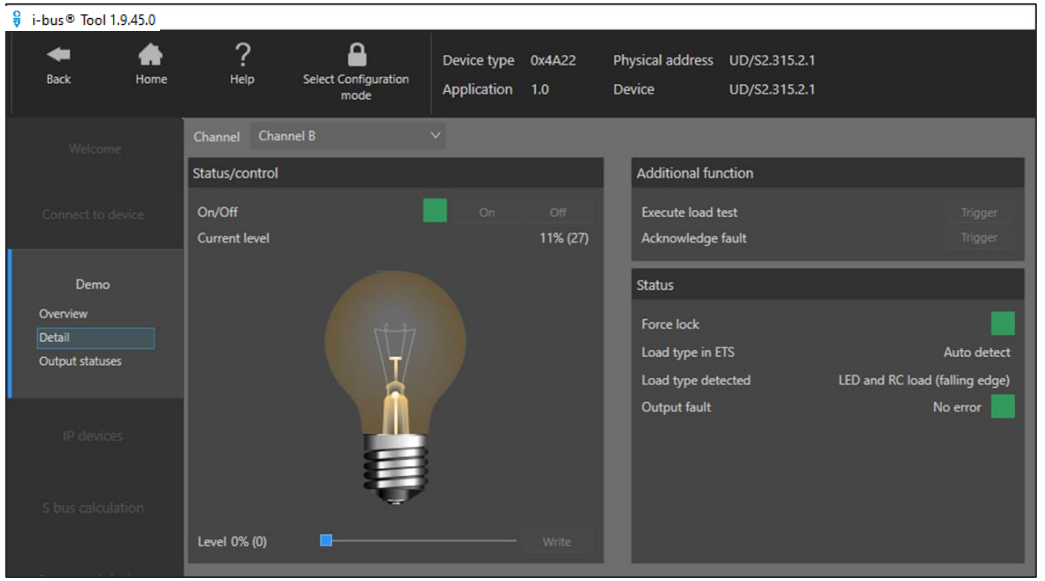

BUSCH-JAEGER

# ABB i-bus® Tool

## A professional Service Tool for KNX System Integrators and Installers

### LED Dimmer

- Information about detected load type, brightness value, faults like mains or overtemperature
- Operation of each channel with dimming and trigger of load test





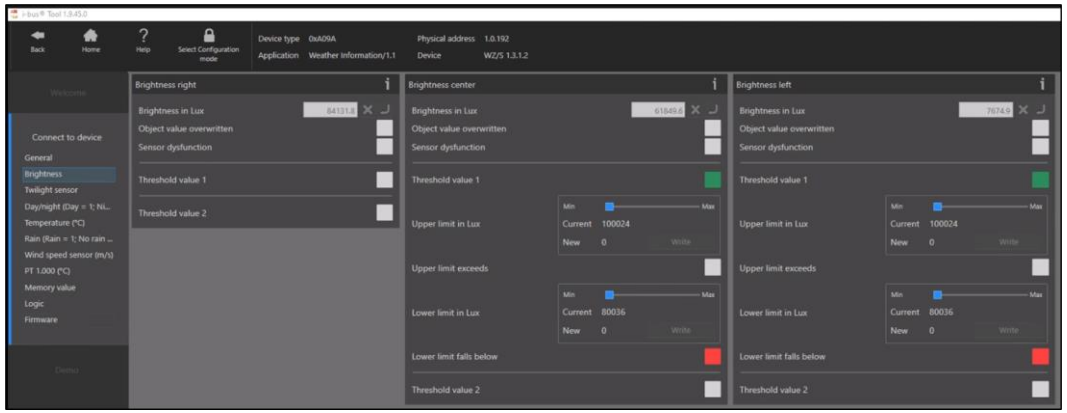

BUSCH-JAEGER

# ABB i-bus® Tool

## A professional Service Tool for KNX System Integrators and Installers

### Weather Unit

- Status information like sensor communication ok, firmware version with update, GPS data, time and date
- For each weather sensor in the connected multi sensor one page with related data and operating functions exist
- Example brightness sensor: current value with option to overwrite, info threshold value exceeded or sensor malfunction





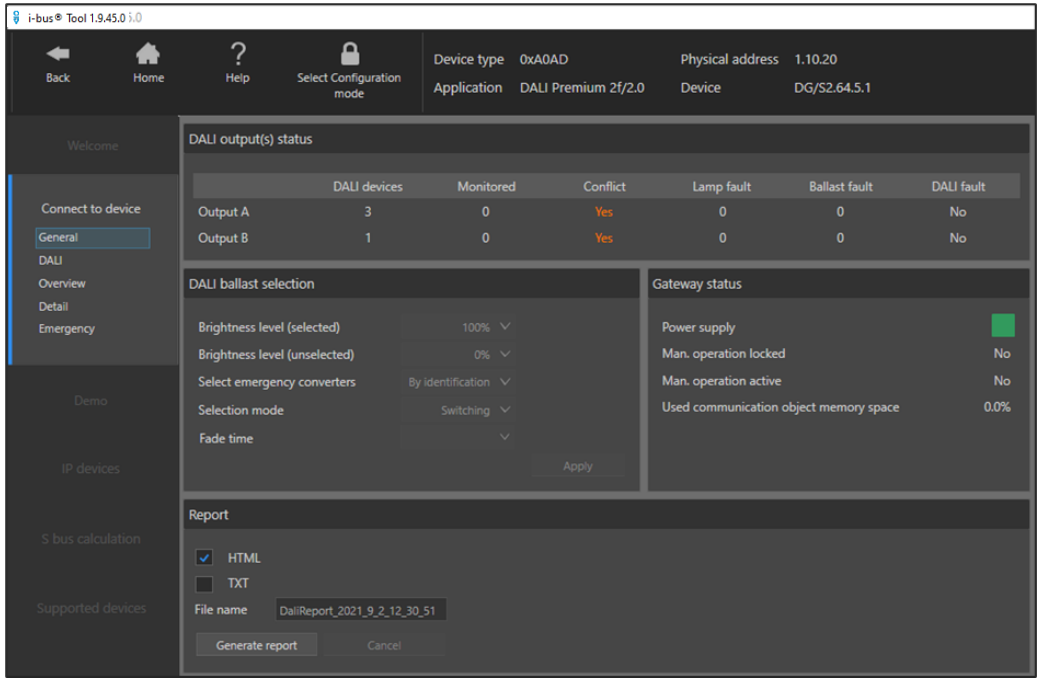

BUSCH-JAEGER

# ABB i-bus® Tool

## A professional Service Tool for KNX System Integrators and Installers

### DALI Gateways

- Needed to parametrize the DALI part of Busch-Jaeger's/ ABB's KNX DALI Gateways
- Unique way to approach the DALI parametrization independent of the ETS in a user-friendly way
- Main features:
- Addressing DALI devices / ballasts
- Assignment of the DALI devices into DALI groups
- Display of all lamp and ballast faults
- Status information and control of individual ballasts or DALI groups
- Tests and monitoring of DALI emergency light
- Commissioning of constant light control (DALI Light Controller)





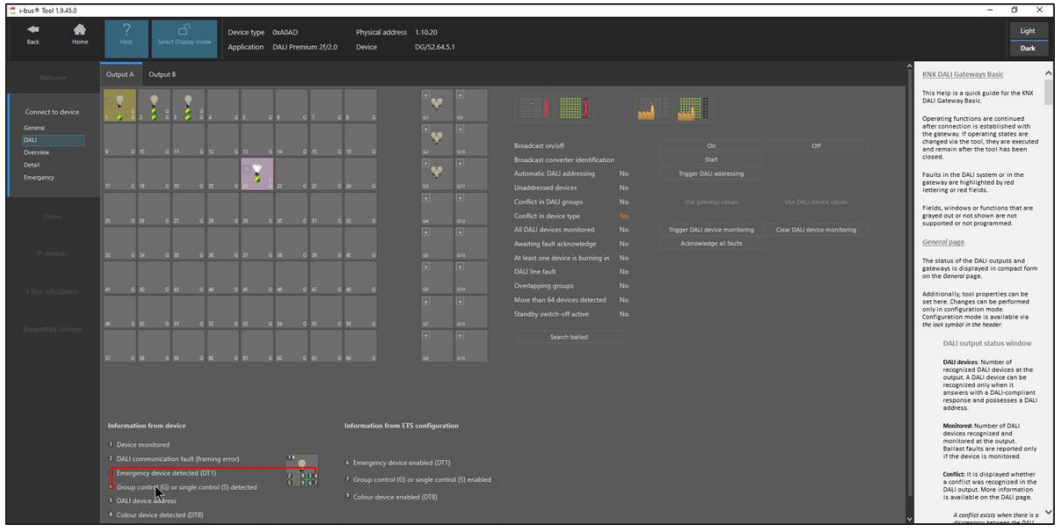

BUSCH-JAEGER

# ABB i-bus® Tool

## A professional Service Tool for KNX System Integrators and Installers

### DALI Gateways

- Example page DALI:
- Overview of all detected DALI ballasts with status information, explained in the legend
- Change DALI address via drag and drop
- By clicking on a ballast light is turned on and therefore identified
- Allocation of DALI addresses to one of the 16 DALI groups
- Reset of all or individual ballasts and trigger of new addressing
- Various information like DALI line fault, unaddressed or more than 64 devices detected
- Search menu for ballasts with unknown address





BUSCH-JAEGER

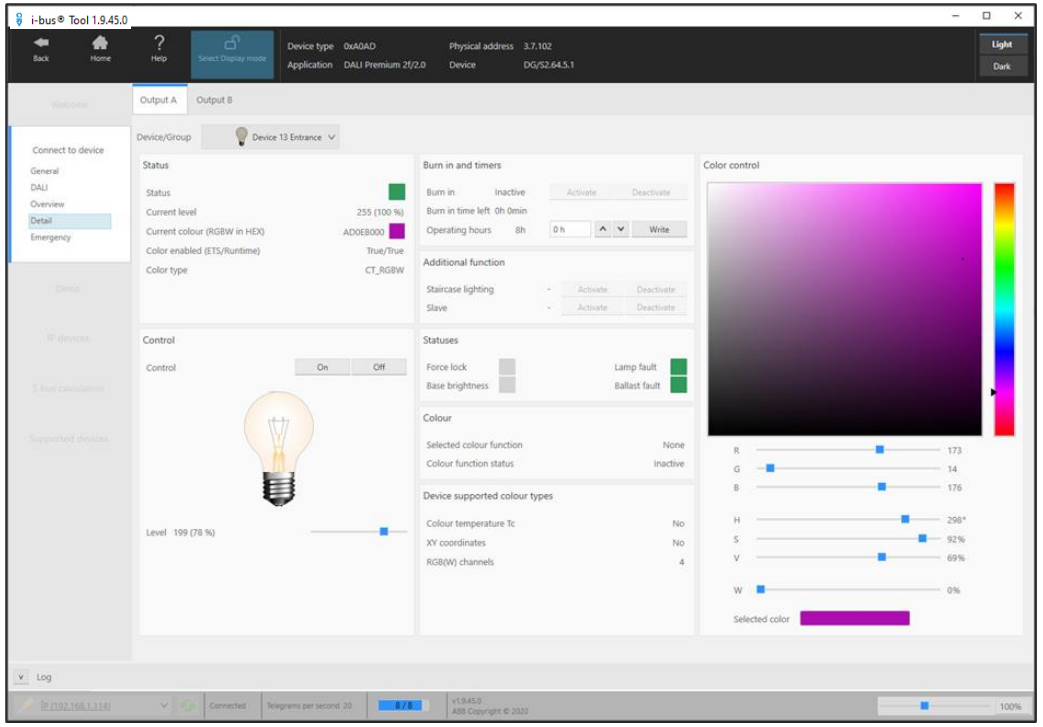
# ABB i-bus® Tool

## A professional Service Tool for KNX System Integrators and Installers

### DALI Gateways

- Example page Detail
  (DALI Gateway Premium with color functions, for DALI group or individual ballast):
- RGB(W) and HSV(W) color picker analog to the ETS
- Status of current color RGBW and brightness , color enabled in ETS and device (True/True), Color type (CT_RGBW)
- Switching, dimming, color control
- Activation of burn in and staircase lighting
- Operating time status

See also our other presentation KNX DALI Gateway Premium during KNXperience





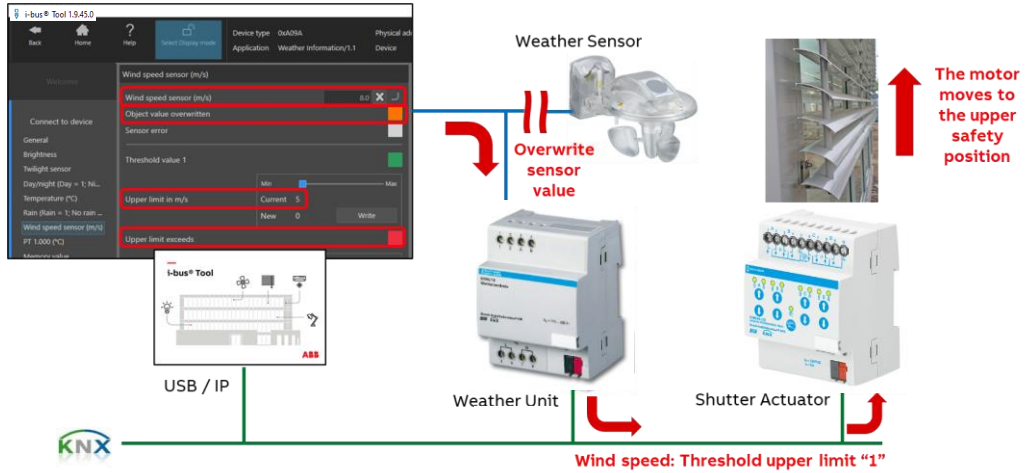

BUSCH-JAEGER

# ABB i-bus® Tool

## A professional Service Tool for KNX System Integrators and Installers

### Practical example

- Weather Unit:
- Value wind speed can be overwritten temporary, status information and reaction of blinds observed
- Threshold function in the Weather Unit
- Connection of the group address Weather Unit and Shutter Actuator
- Moving the blinds to the safety position
- Telegram via coupler






BUSCH-JAEGER

# ABB i-bus® Tool

Where to get the ABB i-bus® Tool?



BUSCH-JAEGER

# ABB i-bus® Tool

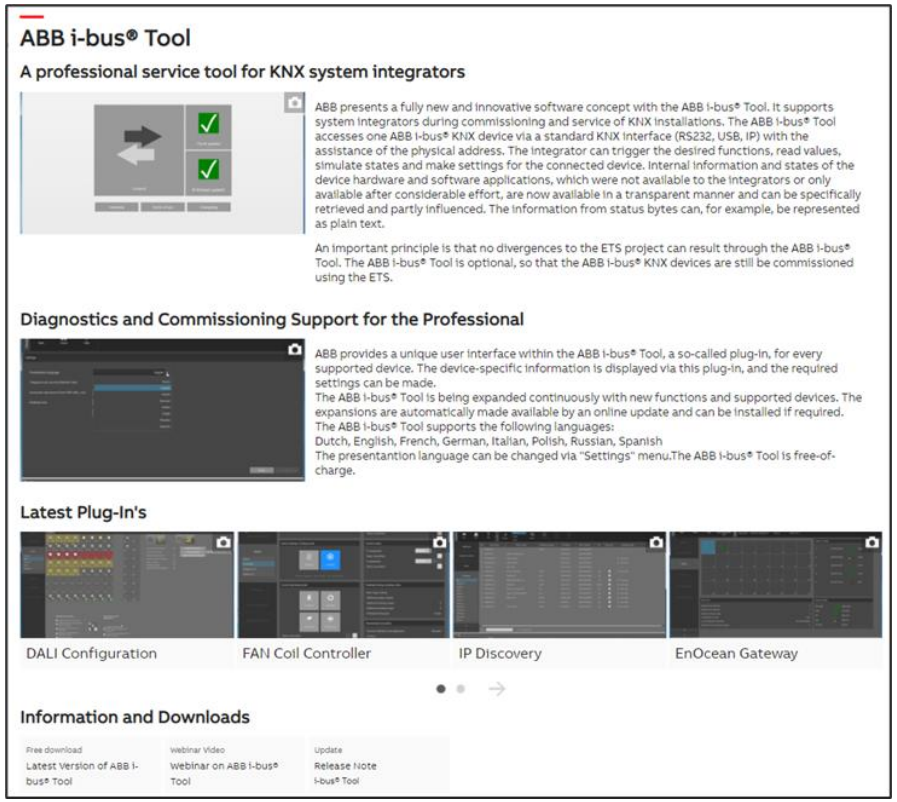
## A professional Service Tool for KNX System Integrators and Installers

### Where to get the ABB i-bus® Tool?

- www.abb.com/knx
- > Services & Tools
- > Engineering Tools

- Benefits at a glance
- Download
- Release notes

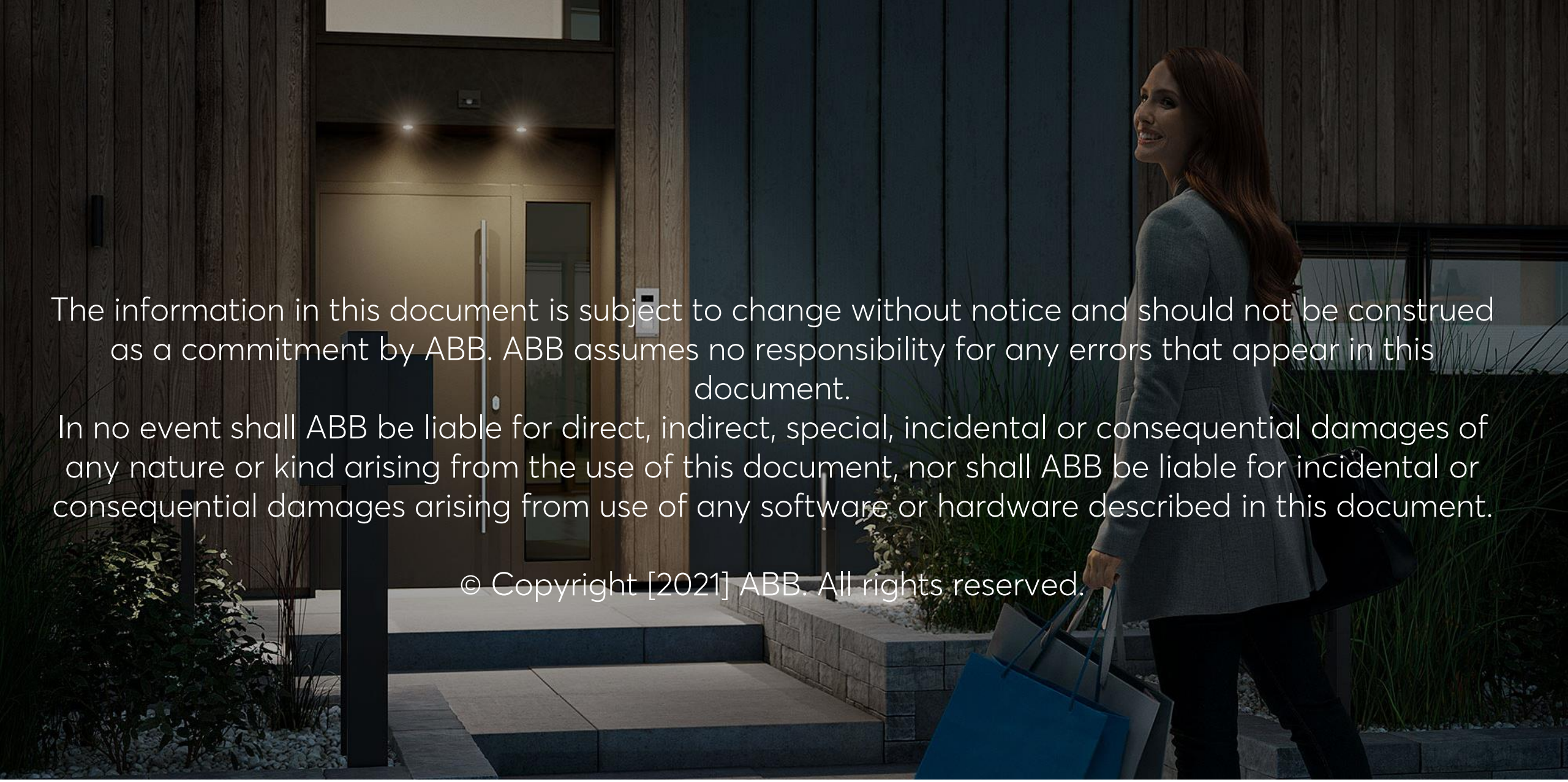
- … and it is free of charge!






BUSCH-JAEGER


Thank you for your attention







BUSCH-JAEGER