

JANUARY 2017

# Webinar Logic Controller ABA/S Part 2

BU EPBP GPG Building Automation

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# Webinar “Logic Controller ABA/S 1.2.1 - Part 2”

## Agenda

Overview and features

i-bus Tool

ETS

- Introduction and principle handling
- Type of function elements
  - PID Controller
  - Calendar
  - ...
- Function blocks
- Offline simulation and online monitoring
- WebUI

Video on Youtube:

<https://youtu.be/4K-fZ3ge4-c>



# Webinar “Logic Controller ABA/S 1.2.1 - Part 2”

## ABA/S 1.2.1 - Logic Controller

[www.abb.com/knx](http://www.abb.com/knx) > Highlights

Benefits at a glance

Download Function Blocks

- Single Function Block (fbxml)
- ETS XML file

### ABA/S 1.2.1 - Logic Controller

With the new ABB Logic Controller ABA/S 1.2.1 system integrators can quickly and flexibly deal with the most challenging project requirements – with a maximum of design freedom. That is because the logic controller can easily and reliably accommodate altered or extended functionality requests during construction or usage of buildings.

#### Benefits at a glance

- **Graphical programming interface**

Included in the ETS software plus a library of functions to control all building applications. The library includes solutions for all typical building applications e.g. heating, ventilation and climate control. No need for extra software.

- **Simulator function**

Using simulation the system integrator is able to make sure that the logic controller performs all commands correctly before commissioning the device on the project's site.

- **Maximum design freedom**

Adjusting the settings later – according to a possible changed building usage – is easy and cost-effective for the system integrator. Thus the Logic Controller is a reliable companion for KNX system integrators to successfully implement their projects.

- **Newly developed housing**

Mounting on a DIN rail enabling easy dismantling without the necessity for a tool.

- **Uses state-of-the-art and energy-efficient microcontroller technology.**



#### Function Blocks



Converter

##### 2 Bytes to 2x1 Byte

This function block enables you to convert 2 Bytes to 2x1 Byte

[Download ETS Function Block \(fbxml\)](#)  
[Download XML file](#)



Converter

##### 1 Byte to 8 Bits

This function block enables you to convert 1 Byte to 8 Bits

[Download ETS Function Block \(fbxml\)](#)  
[Download XML file](#)



Calculation

##### Upper Limit

The function block „Upper limit“ enables you to set a limit value for the output. In case the input exceeds this limit, the output will automatically be limited to the set limit

[Download ETS Function Block \(fbxml\)](#)  
[Download XML file](#)

# Webinar “Logic Controller ABA/S 1.2.1 - Part 2”

## ABA/S 1.2.1 - Logic Controller


Webinar part 1 from November 2016

- Introduction
- Planning
- Installation
- Commissioning

Video and slides are available on  
Training & Qualification Database

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☰ Training & Qualification 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:** Give a general description of the correct implementation of individual technical functions
- **E-Learnings:** Learning modules to specific topics
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**System**  
All  
i-bus KNX  
free@home  
Door Entry Systems

**Application**  
Room Automation  
Security and Fault Monitoring  
Shading Control  
Standard Motor Interface (SMI)  
System related content

**Training type**  
E-Learning  
Presentation  
Videotutorial  
Webinar Slides  
Webinar Video

**Language**  
All  
English  
French  
German  
Italian

Training content	System	Training type	Language
Logic Controller ABA/S 1.2.1	i-bus KNX	Webinar Video	English
Logic Controller ABA/S 1.2.1	i-bus KNX	Webinar Slides	English

# Webinar “Logic Controller ABA/S 1.2.1 - Part 2”

## Device technology - Hardware

Modular installation device (MDRC)

Width: 4 MW

Power supply

- 24 V DC or
- PoE (LAN connection, IEEE 802.3af class 2)

Bus connection terminal behind cover

LAN connection

- PoE (Power supply)
- Fast download of the ETS application
- Monitor (online)
- WebUI

LEDs (ON, LAN/Link, KNX telegram)



# Webinar “Logic Controller ABA/S 1.2.1 - Part 2”

## Device technology - Software

Application fully integrated in ETS, no separate software required

Integration in the i-bus® Tool

User friendly graphical environment in ETS

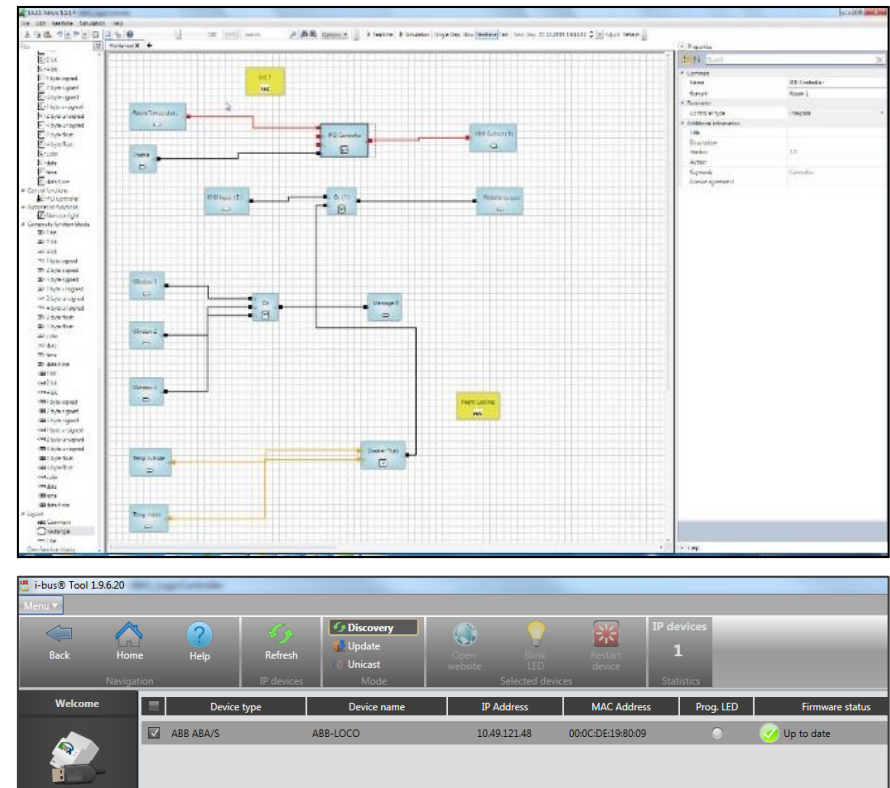
Online Manual on ABB homepage and via link in ETS application

Definition of composite function blocks own KnowHow, can be used multiple

Offline simulation and online monitoring safe commissioning and operation

LAN and WebUser Interface

Access by customer, fast download



# Webinar “Logic Controller ABA/S 1.2.1 - Part 2”

## Device technology - Software

5,000\* function elements for all requirements

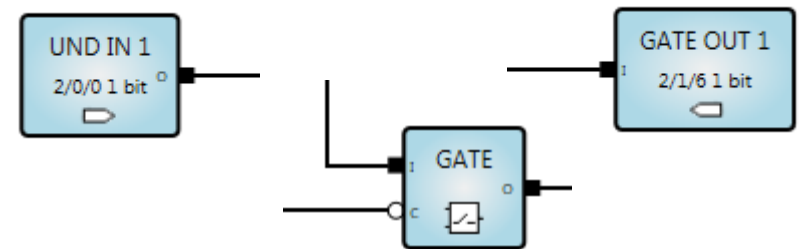
- Logic
- Mathematics
- Comparison
- Timers, Delay and Calendar
- Counters, Flip Flops
- PID Controller
- and many more

500 KNX In/Outputs (group objects)

2,000 Group Addresses

60 WebUI In/Outputs

\*Recommendation: Limitation to 3,000 (reserve for functional blocks)



Project Root							Properties		
+ Add Group Addresses   - Delete   Download   Info   Reset   Unload							Settings	IP	Comments
Buildings		Numbr	Name	Group Address	Object Function	Length	Data Type		
Dynamic Folders		502	Device clock	2/3/0	Request object	1 bit	trigger		
Trades		503	Device clock	2/2/0	Date	3 bytes	date		
Topology		504	Device clock	2/2/1	Time	3 bytes	time of day		
Dynamic Folders		505	Device clock		Date/Time	8 bytes	date time		
4 New area									
							IP Address		
							255.255.255.255		

ABA/S WebUI

Input			Output	
Communication Object Number	Name	First Group Address	Value	Unit
0	WEB IN 2	False	<input type="text" value="True"/>	1..*
0	WEB IN 1	False	<input type="text" value="True"/>	1..*
0	WEB Gate IN 1	False	<input type="text" value="null"/>	1..*



# Webinar “Logic Controller ABA/S 1.2.1 - Part 2”

## First Steps

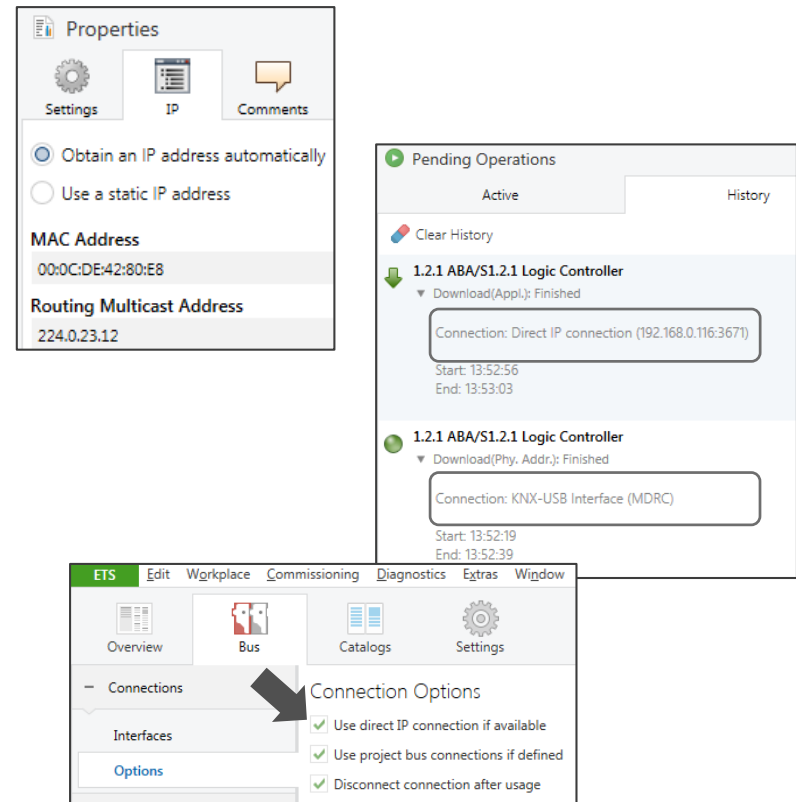
Connect the device to LAN, the KNX busline and auxiliary power (24 V DC or alternative PoE)

ETS:

- Settings of the IP address
- Parametrization
- Simulation (offline)
- Assignment of group addresses

Programming the individual address via the KNX bus line (USB Interface, IP Interface, ...)

Download of application via the KNX bus line or faster via direct IP connection (recommended)





# Webinar “Logic Controller ABA/S 1.2.1 - Part 2”

## ETS: Current interface

USB Interface – IP Router IPR/S – IP Interface IPS/S

Programming of the individual address via the KNX bus line  
USB Interface, IP Interface or IP Router

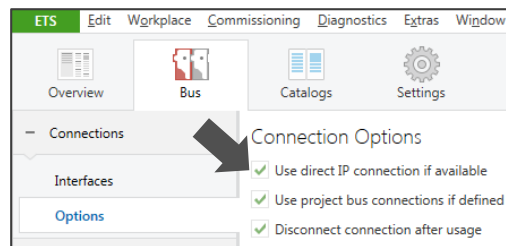
Download of application via the KNX bus line

Disable

Bus parameter “Use direct IP connection if available”

Enable and  
ABA/S is  
connected to IP

Download of application  
via the KNX bus line (USB  
Interface, IP Interface or  
IP Router)



Download of application  
via **faster** direct IP  
connection  
(recommended)

# Webinar “Logic Controller ABA/S 1.2.1 - Part 2”

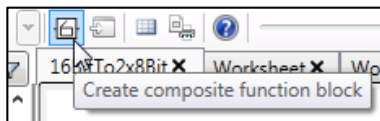
## Definition of a function block

A function block consists of

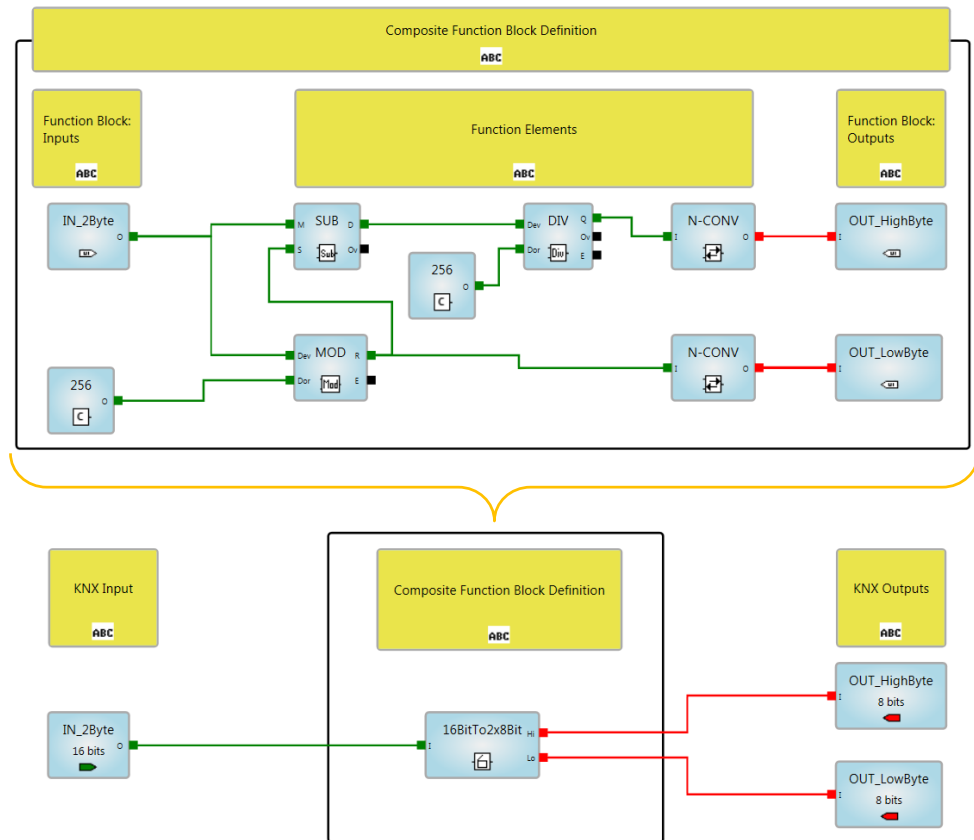
- FB Inputs
- Function elements
- FB Outputs

Test FB via “simulation mode”

Click on button “create a function block”



Function block listed in “own function blocks” and can be exported



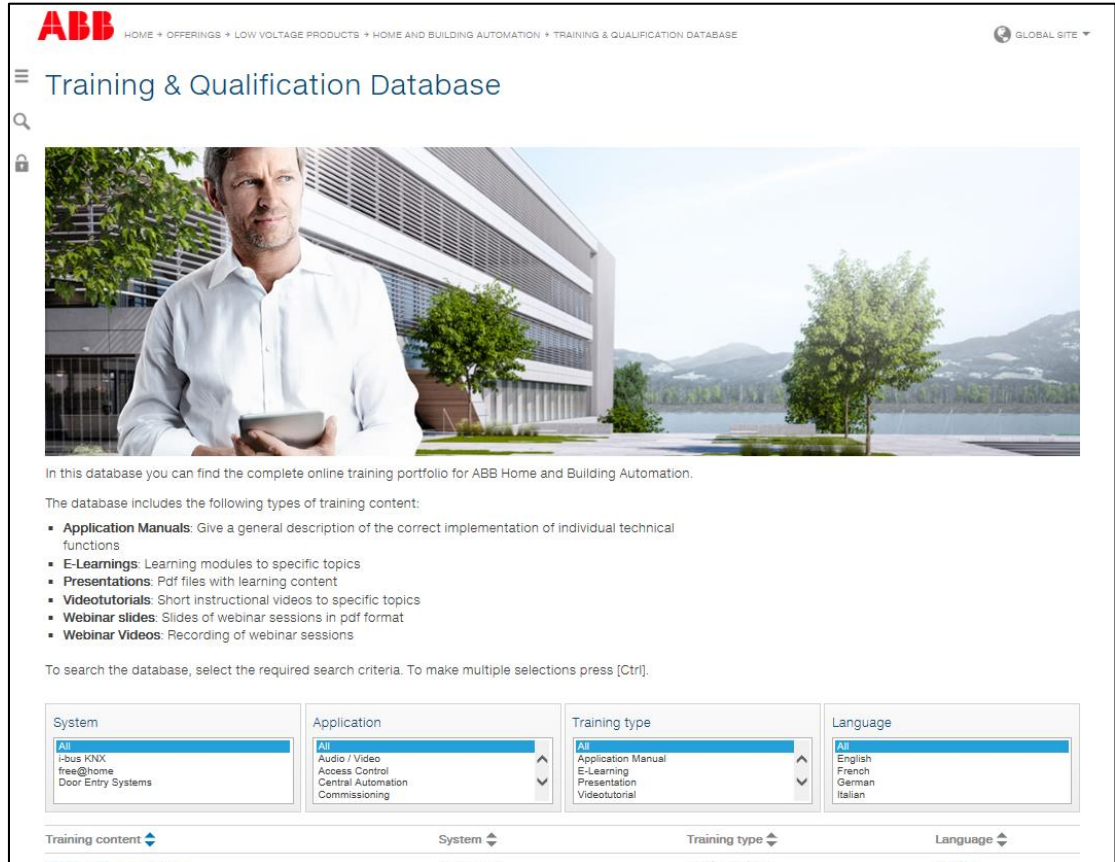
# Webinar “Logic Controller ABA/S 1.2.1 - Part 2”

## 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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To search the database, select the required search criteria. To make multiple selections press [Ctrl].

System	Application	Training type	Language
All	All	All	All
i-bus KNX	Audio / Video	Application Manual	English
free@home	Access Control	E-Learning	French
Door Entry Systems	Central Automation	Presentation	German
	Commissioning	Video tutorial	Italian

Training content System Training type Language

# Webinar “Logic Controller ABA/S 1.2.1 - Part 2”

## KNX Certified Training

Certified KNX Courses in Heidelberg

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

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



# Webinar “Logic Controller ABA/S 1.2.1 - Part 2”

Next Webinar

## Busch-Presence detector KNX

Wednesday 22<sup>nd</sup> of February 2017

- Morning 09:00 am Europe Time (Berlin, UTC + 1h)
- Afternoon 03:00 pm Europe Time (Berlin, UTC + 1h)

Range overview incl. new KNX presence detector corridor

Application and benefits

ETS parametrization

...

\* Topic is subjected to change



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