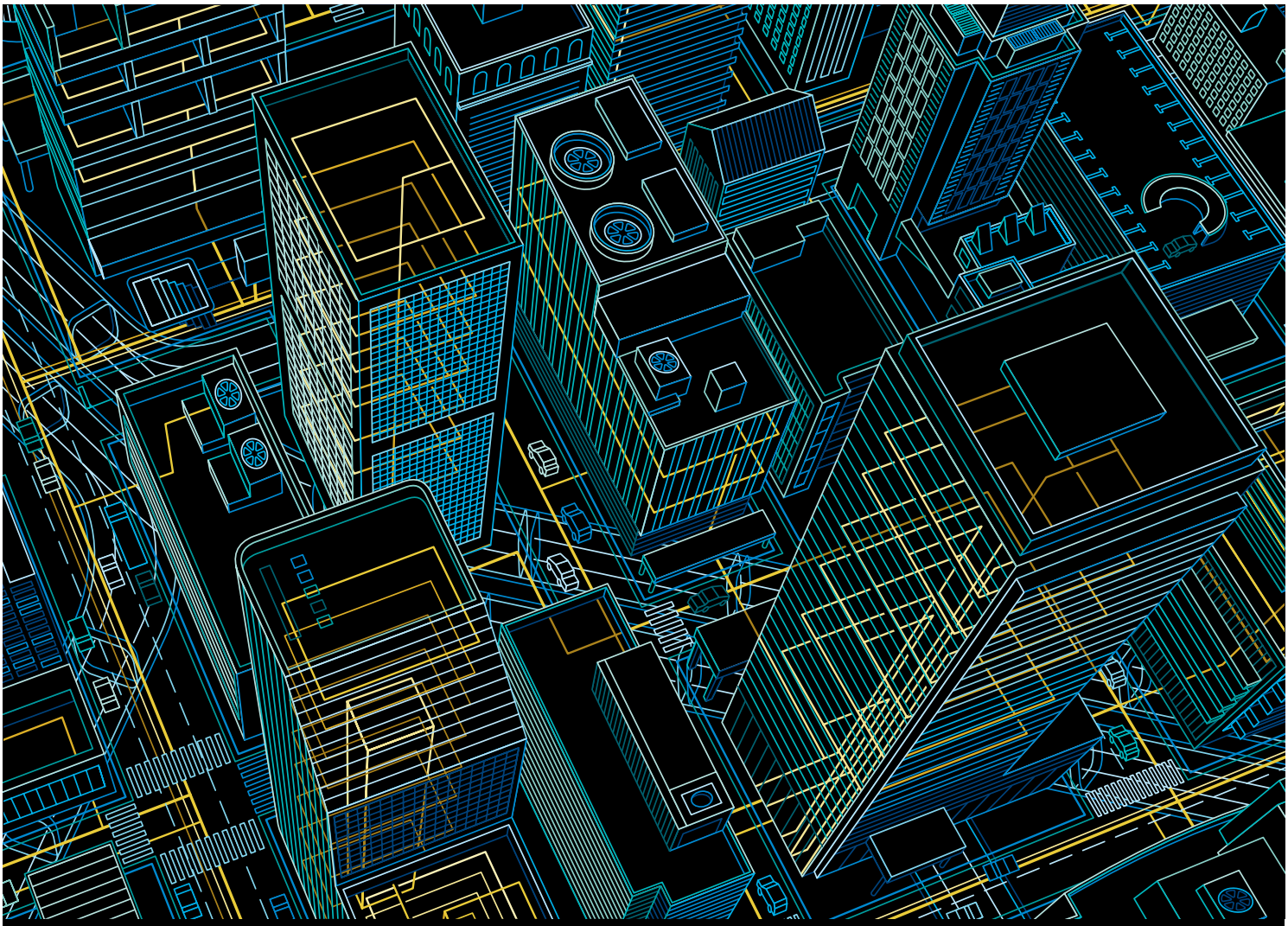


Flexible, Economical, Reliable Smart Home and Intelligent Building Control 2014

Power and productivity
for a better world™

ABB

Content

ABB i-bus® KNX
Power Supplies with diagnostics

Safe bus voltage and expanded diagnostics

The new ABB i-bus KNX Power Supplies with diagnostics feature and expanded LED display for indication of the momentary current load in the bus line and for quick diagnostics of the bus state. The state values are also provided on the KNX system by means of ETS communication objects. The ABB i-bus tool also permits detailed analysis.

Two versions for bus loads of 320 and 640 mA are available, each with integrated choke and wide range inputs for supply voltages from 85 to 265 V AC at 50/60 Hz, in MDRC housing (4 modules width). The device with 640 mA features a voltage output without choke to power another bus line in combination with an additional choke.

Connection to the bus is performed via bus terminals. All other connections are made reliably and quickly via combination head screws.

Quick visual diagnostics and trouble shooting via LED display

The LED display on the front of the device permits quick visual diagnostics of the momentary current load in the bus line and the momentary operating state.

Overview of KNX functions

Expanded diagnostic and visualization possibilities can be realized via the ETS communication objects.
The following communication objects are available:

Communication objects	SV/S 30.320.2.1	SV/S 30.640.5.1
Bus voltage U_N	■	■
Bus current I_1	■	■
Bus current I_1 > rated current I_n	0: I_1 < 315 mA 1: I_1 for longer than 10 s > 320 mA	–
Current I_2 auxiliary voltage output	–	■
Total current I (= I_1 + I_2)	–	■
Total current I > rated current I_n	–	0: I < 630 mA 1: I for longer than 10 s > 640 mA
Overload I > I_{max}	0 = no overload (LED I > I_{max} is OFF): I = < 475 mA 1 = overload (LED I > I_{max} is ON): I = > 525 mA	0 = no overload (LED I > I_{max} is OFF): I = < 855 mA 1 = overload (LED I > I_{max} is ON): I = > 950 mA
Trigger bus reset	■	■

Analysis of device information with the ABB i-bus tool

The ABB i-bus tool permits detailed device analysis without ETS software – even remotely. The following items of status information are available here:

Screenshot of ABB i-bus tool

- Supply voltage OK
- Overload I > I_{max}
- Total current I > rated current I_n
- Bus voltage U_n
- Bus current
- Current I_2 (additional voltage output for SV/S 30.640.5.1)
- Total current I = I_1 + I_2 (for SV/S 30.640.5.1)
- Operating hours
- Operating hours since last start up
- Number of start ups

Power Supply with diagnostics, 320 mA, MDRC

Compact Power Supply with integrated choke. Quick diagnostics by LED display and ETS communication objects. Analysis of the operating state and the bus line possible by means of ABB i-bus tool.

Designation	MW	Type	Order number	Price 1 pc. €	Pkg. unit pc.	Weight 1 pc. kg
320 mA	4	SV/S 30.320.2.1	2CDG 110 145 R0011		1	0.26

Power Supply with diagnostics, 640 mA, MDRC

Compact Power Supply with integrated choke. Quick diagnostics by LED display and ETS communication objects. Analysis of the operating state and the bus line possible by means of ABB i-bus tool. Additional voltage output to supply an additional line in conjunction with an additional choke.

Designation	MW	Type	Order number	Price 1 pc. €	Pkg. unit pc.	Weight 1 pc. kg
640 mA	4	SV/S 30.640.5.1	2CDG 110 146 R0011		1	0.26

ABB i-bus® KNX
New generation of ABB i-bus® KNX Standard Power Supplies

Three versions for bus loads of 160, 320 and 640 mA are available, each with integrated choke and wide range inputs for supply voltages from 85 to 265 V AC at 50/60 Hz, in MDRC housing (4 modules width). The device with 640 mA features a voltage output without choke to power another bus line in combination with an additional choke. Connection to the bus is performed via bus terminals. All other connections are made reliably and quickly via combination head screws.

SV/S 30.160.1.1

Power Supply, 160 mA, MDRC

KNX power supplies generate and monitor the KNX system voltage (SELV). The bus line is decoupled from the power supply by an integrated choke.
The voltage output is short-circuit and overload protected.
The two-color LED indicates device output status. With two-coloured status indicator and wide range input from 85…265 V AC, 50/60 Hz.

Designation	MW	Type	Order number	Price 1 pc. €	Pkg. unit pc.	Weight 1 pc. kg
160 mA	4	SV/S 30.160.1.1	2CDG110144R0011		1	

SV/S 30.320.1.1

Power Supply, 320 mA, MDRC

KNX power supplies generate and monitor the KNX system voltage (SELV). The bus line is decoupled from the power supply by an integrated choke.
The voltage output is short-circuit and overload protected.
The two-color LED indicates device output status.
With two-coloured status indicator and wide range input from 85…265 V AC, 50/60 Hz.

Designation	MW	Type	Order number	Price 1 pc. €	Pkg. unit pc.	Weight 1 pc. kg
320 mA	4	SV/S 30.320.1.1	2CDG110166R0011		1	

SV/S 30.640.3.1

Power Supply, 640 mA, MDRC

KNX power supplies generate and monitor the KNX system voltage (SELV). The bus line is decoupled from the power supply by an integrated choke.
The voltage output is short-circuit and overload protected.
The two-color LED indicates device output status.
Device type SV/S 30.640.3.1 has an additional 30 V DC short-circuit and overload protected voltage output that can be used to power an additional bus line (in combination with a separate choke).
With two-coloured status indicator and wide range input from 85…265 V AC, 50/60 Hz.

Designation	MW	Type	Order number	Price 1 pc. €	Pkg. unit pc.	Weight 1 pc. kg
640 mA	4	SV/S 30.640.3.1	2CDG110167R0011		1	

ABB i-bus® KNX
New version of ABB i-bus® KNX Blower Actuators

The new FCL/S 1.6.1.1 and FCL/S 2.6.1.1 Blower Actuators are modular installation devices 4- and 6-module widths for installation in a distribution board. Connection to KNX is established via the front bus connection terminal. The devices require no auxiliary voltage. The assignment of physical addresses as well as the parameterization is carried out with ETS software.

The FCL/S 1.6.1.1 1-fold actuator controls a single-phase fan with up to three fan speeds via a step or changeover control. The FCL/S 2.6.1.1 2-fold actuator can control two independent fans. The actuators ensure that no two fan speeds can be switched on simultaneously.
The outputs on the 2-fold actuator that are not used for the fan can be used to switch electrical loads.

The device receives its control value via the KNX network, e.g. from a room thermostat or an air quality sensor.

The following controls are feasible:
FCL/S 1.6.1.1:
– One 3-speed fan plus one switching output

FCL/S 2.6.1.1:
– Two 3-speed fans plus two switching outputs
– One 3-speed fan plus five switching outputs

FCL/S 1.6.1.1

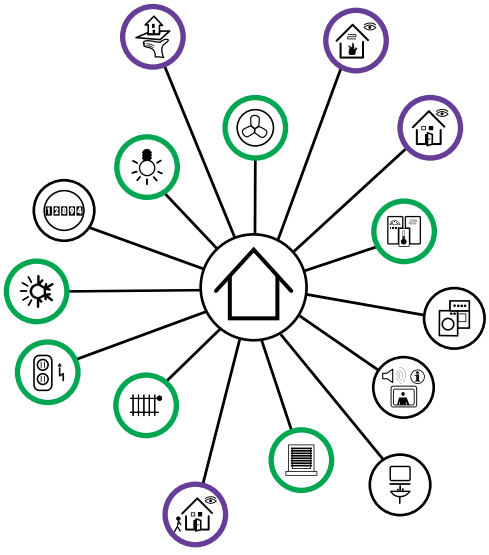
FCL/S 2.6.1.1

Blower Actuator, 6 A, MDRC

to control blowers or fans with up to three fan speeds via step or changeover control. The FCL/S 1.6.1.1 have one fan output and one additional floating switch output. The FCL/S 2.6.1.1 feature two fan outputs plus two floating switch outputs. Alternatively the second fan output can be used as three switch outputs.
The fan speed can be directly choosen, increased and decreased as well as controlled by the control value of a closed-loop controller.

Designation	MW	Type	Order number	Price 1 pc. €	Pkg. unit pc.	Weight 1 pc. kg
1fold	4	FCL/S 1.6.1.1	2CDG110163R0011		1	
2fold	6	FCL/S 2.6.1.1	2CDG110164R0011		1	

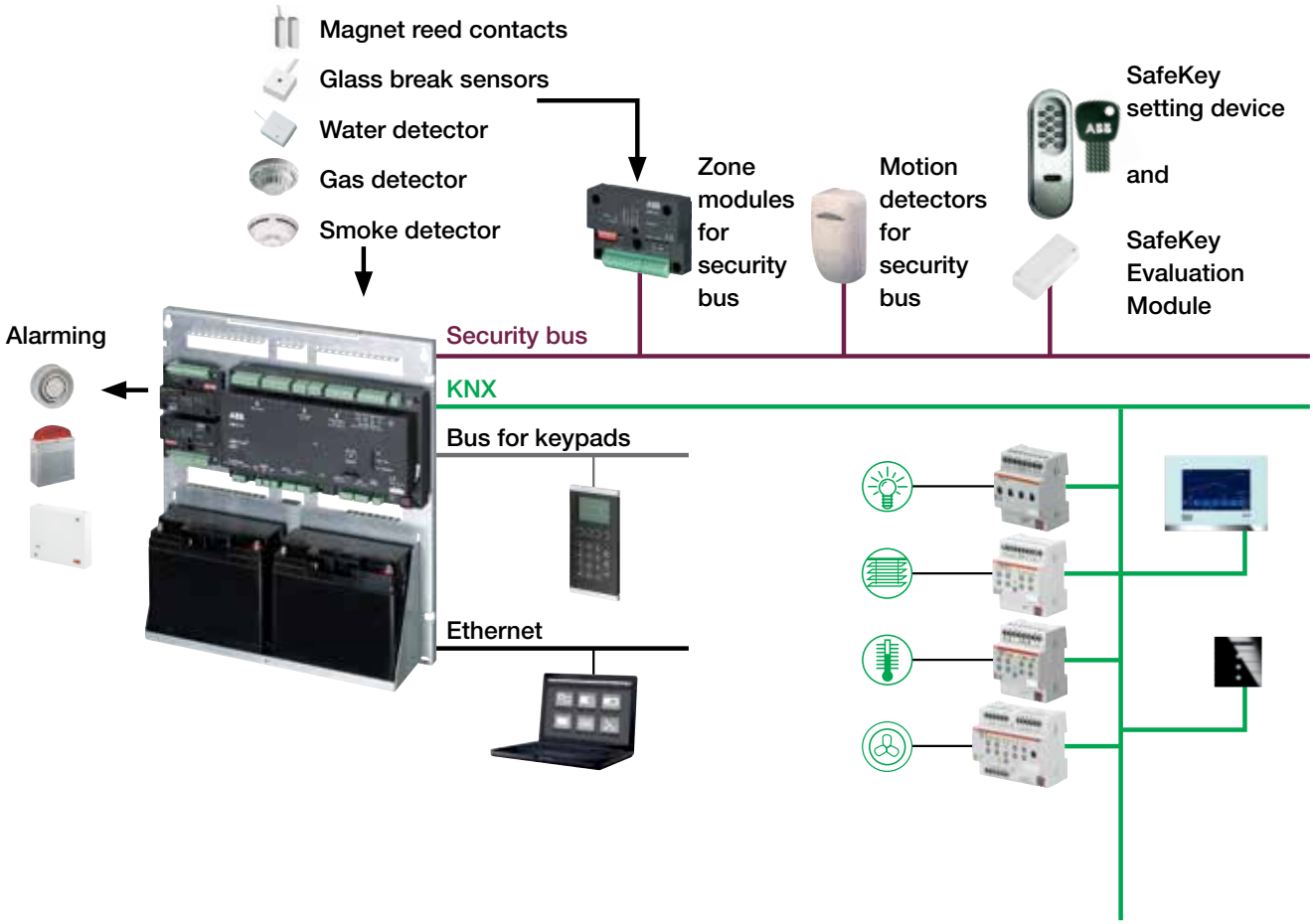
The new KNX Security Panel
A winning combination of intelligent building control and security



Professional alarm system for KNX experts

With the new KNX Security Panel GM/A 8.1 ABB presents the first security system that is compatible with both, the international KNX standard (14543-3-x ISO / IEC) and the international standard for alarm systems (ISO / IEC 62642). Therefore the KNX Security Panel GM/A 8.1 is ready for a worldwide usage and expands business opportunities of nearly 40,000 KNX partners in 124 countries. The new system is the perfect solution for projects ranging from simple to high security requirements.

This innovation is the result of more than 30 years of system and application knowledge in alarm technology and building automation at ABB.



A complete product portfolio

To fulfill the project requirements ABB provides the user besides the new panel and keypad a complete product portfolio for professional alarm technology as well as known solutions for all trades of KNX building automation.

The KNX Security Panel is for universal usage for all kinds of hazardous situations in buildings like intrusion, personal attack, smoke, gas- and water leakage.

The new KNX Alarm Panel
One system – all interfaces

KNX Alarm Panel without cover, integrated zone modules and batteries

Ethernet connection for programming, diagnostics and operation via a standard webbrowser

Direct inputs for security sensors

Keypads

Internal, external or remote alarming

Security bus for security sensors, zone modules and setting devices

KNX interface to display alarm states via displays of building automation and to control automatic building functions with support of security sensors.

The KNX Security Panel provides all needed system interfaces: An ethernet connection is used for programming, diagnostics and operation via a standard webbrowser as well as integration into the building network. The security sensors will be connected directly to the panel inputs or via the security bus, where the setting device for the system is also connected. Furthermore the panel provides interfaces for the also newly developed keypads and for internal, external or remote alarming. Finally the integrated KNX interface allows on the one hand to display alarm states via displays of building automation and on the other to control automatic building functions with support of security sensors.

ABB i-bus® KNX
Security and Survaillance

GM/A 8.1

KNX Alarm Panel, SM

for the protection of small to medium residential or commercial properties against intrusion and technical faults. The Alarm Panel is suitable for up to five logical setting zones. It has 8 integrated zones for detectors, a Security Bus for Bus-detectors, Bus-Zone Modules or Setting devices, Ethernet connection (RJ45) for programming, operating and displaying system status via Web-Browser and an integrated KNX interface. The Alarm Panel GM/A 8.1 complies with the requirements to VdS classes A, B and C, to the European Standard EN 50131, Grade 1 to 3 and to ISO/IEC 62642 Grade 1 to 3.

Designation	MW	Type	Order number	Price 1 pc. €	Pkg. unit pc.	Weight 1 pc. kg
		GM/A 8.1	2CDG110150R0011		1	

BT/A 1.1

Keypad for GM/A 8.1

to connect to Alarm Panel GM/A 8.1 via the Keypad-Bus. The Keypad allows easy operation of the Alarm Panel. System messages are displayed on a four-line LCD display. Fife Keypads can be connected to each Alarm Panel. There is no need for an external voltage supply, the keypads are supplied via the Keypad-Bus.

Designation	MW	Type	Order number	Price 1 pc. €	Pkg. unit pc.	Weight 1 pc. kg
		BT/A 1.1	2CDG280001R0011		1	

MG/E 4.4.1

Zone Module, 4fold

to connect to Alarm Panel GM/A 8.1 via the Security-Bus. For expansion of the Alarm-Panel by 4 detector zones. Used for connection to the exterior perimeter detectors such as magnetic reed contacts and passive glass break sensors. The module has 4 zones to which several detectors can be connected. The status of each zone is displayed with a status LED. The Zone Module delivers the control signals and the supply voltage for the external detectors. There is no need for an external voltage supply, the Zone Modules are supplied via the Security-Bus.

Designation	MW	Type	Order number	Price 1 pc. €	Pkg. unit pc.	Weight 1 pc. kg
to mount in the Alarm Panel housing		MG/E 4.4.1	2CDG110178R0011		1	
in a surface mounting housing for installation in the building		MG/A 4.4.1	2CDG110185R0011		1	

ABB i-bus® KNX
The new ABB i-bus® KNX/EnOcean Gateway

The new ABB i-bus KNX EnOcean Gateway allows the integration of EnOcean devices in KNX networks. The energy harvesting wireless EnOcean technology is used to integrate self-powered wireless switches, sensors and controls in wired KNX installations.

The power supply of the Gateway is realized via KNX connection. No external power supply is needed.

The data exchange between EnOcean network and KNX network is fully bidirectional. The Gateway supports up to 253 KNX communication objects.

A special feature of the KNX/EnOcean Gateway is the integration in the ABB i-bus Tool for diagnosis and commissioning support. With the help of the i-bus Tool the signal level of all received EnOcean telegrams can be easily displayed. Thus it is easy to analyse, if the sensor signals reach the Gateway with sufficient signal level. An additional metering device is not necessary.

EG/A 32.2.1

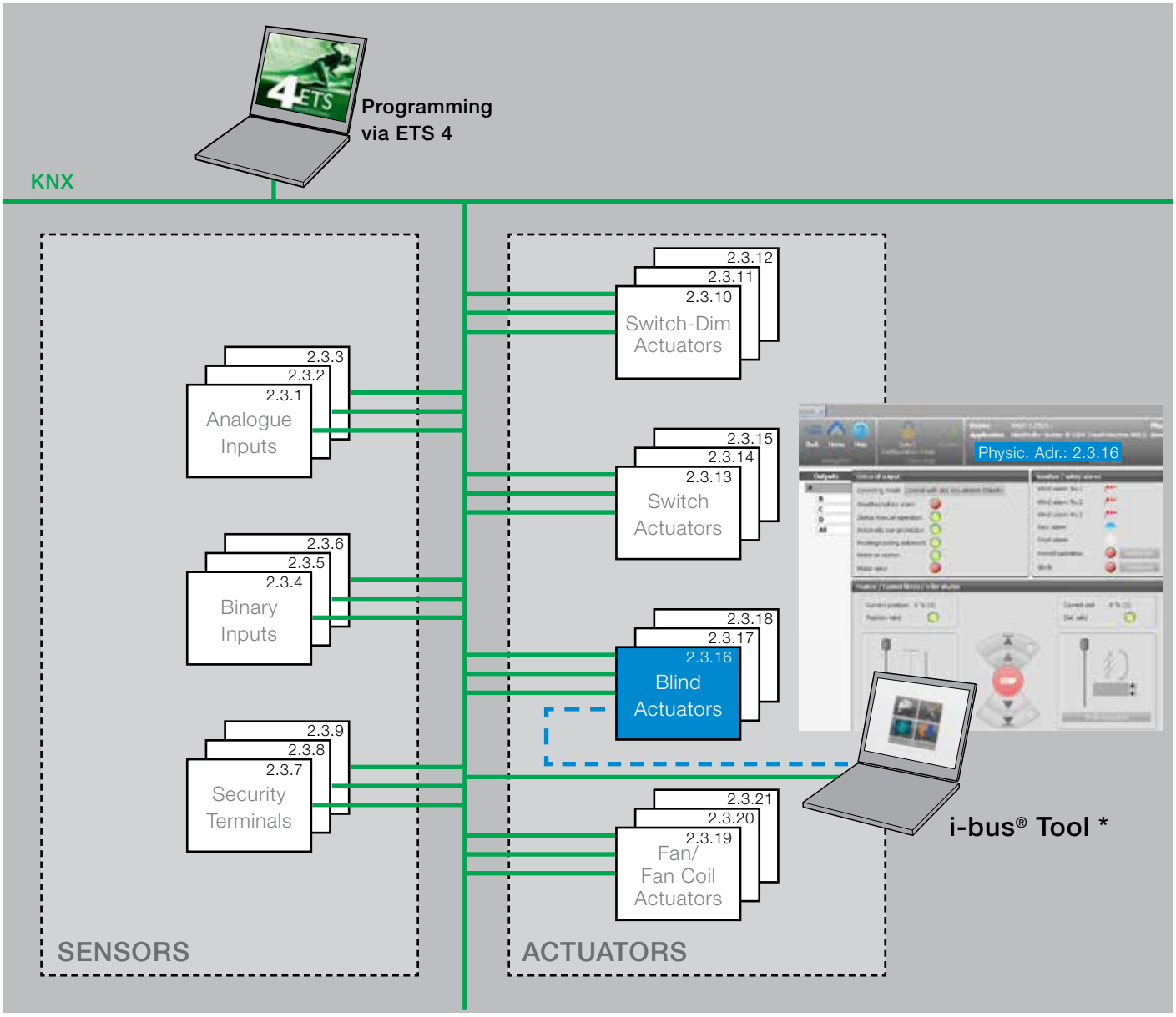
KNX/EnOcean Gateway, SM

to connect and integrate EnOcean devices into KNX networks with bidirectional data exchange.

Designation	MW	Type	Order number	Price 1 pc. €	Pkg. unit pc.	Weight 1 pc. kg
100x70x28 (LxWxH)	-	EG/A 32.2.1	2CDG120047R0011		1	0.1

ABB i-bus® Tool
A professional Service Tool for System Integrators

ABB presents a fully new and innovative software concept with the i-bus® Tool. It supports system integrators during commissioning and service. The i-bus® Tool accesses an ABB i-bus® KNX device via a standard KNX interface (RS232, USB, IP) with the assistance of the physical address. The integrator can trigger the desired functions, read values, simulate states and make settings for the connected device. Internal information and states of the device hardware and software applications, which were not available to the integrators or only available after considerable effort, are now available in a transparent manner and can be specifically retrieved and partly influenced. The information from status bytes can, for example, be represented as plain text. An important principle is that no divergences to the ETS project can result through the i-bus® Tool.



* The i-bus® Tool can be used on a common PC with the ETS or on a separate PC.

ABB i-bus® Tool
Diagnostics and Commissioning Support for the Professional

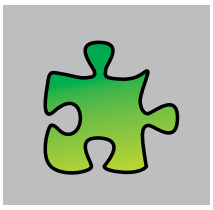


ABB provides a unique user interface within the i-bus Tool, a so-called plug-in, for every supported device. The device-specific information is displayed via this plug-in, and the required settings can be made.

The i-bus Tool is being expanded continuously with new functions and supported devices. The expansions are automatically made available by an online update and can be installed if required.
Note: The list of all devices and application versions currently supported can be found at -> Connect -> Supported devices.
The i-bus Tool is optional, i.e. the ABB i-bus KNX devices can still be commissioned using just the ETS.

The i-bus Tool is free-of-charge and can be downloaded at
http://www.abb.com/knx

If a KNX interface is already parameterized, this can be selected directly via the item Connect. Restarting ETS and i-bus Tool can prove to be helpful with connection problems.

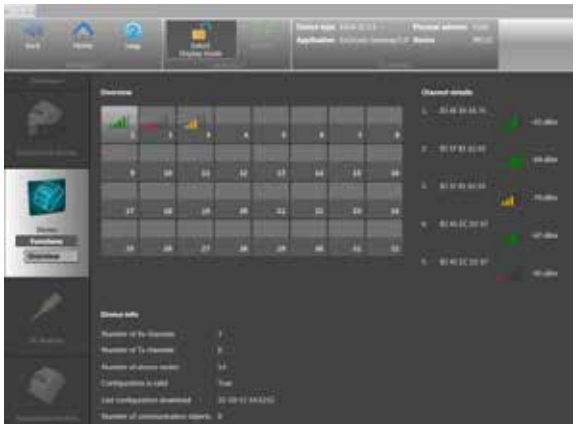
New functions

Besides the integration of the new ABB i-bus KNX power supplies with diagnostic functions there are now several new functions available:

DALI
Complete commissioning of a DALI/KNX installation.

The DALI Tool is mandatory for setting up the KNX DALI devices. Features: 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)

ABB i-bus® Tool
New functions



EnOcean
With the help of the i-bus Tool the signal level of all received EnOcean telegrams can be easily displayed. Thus it is easy to analyse, if the sensor signals reach the KNX/EnOcean Gateway EG/A 32.2.1 with sufficient signal level.

Line Coupler
Displaying the parametrization of the Coupler and analysis of the filter table.

Languages
Besides the new functions, the i-bus tool is now supporting the following languages: German, English, French, Spanish, Italian, Russian, Dutch, Polish.

Introduction
DIN rail mounted electricity meters

Modular DIN rail products offer a wide range of functions to be integrated in electrical installations with significant benefits for the user. DIN rail mounted electricity meters are designed for high level performance and are safe and fast to install. The DIN rail mounted electricity meters are available in several models: the new EQ meters C11, B21, A41 and A42 for single phase metering, the new EQ meters C13, B23, B24, A43 and A44 for three phase metering.

ABB Low Voltage Products

The Low Voltage Products division manufactures low voltage circuit breakers, switches, control products, wiring accessories, enclosures and cable systems to protect people, installations and electronic equipment from electrical overload. The division further makes KNX systems that integrate and automate a building's electrical installations, ventilation systems, and security and data communication networks. All these products help customers to save energy, improve productivity and increase safety.

Global business

The Low Voltage Products division is a global business producing mainly low-voltage electrical equipment that is sold to wholesalers, original equipment manufacturers as well as system integrators, and has moderate service requirements.

ABB's broad program of standardized products and components are the 'building blocks' of system solutions, incorporating functionalities that will allow seamless integration in real time automation and information systems. At the product level, all the low voltage products can operate together perfectly.

To create a system solution, every product is equipped with the tools necessary to install, operate and maintain it efficiently throughout the product life cycle.

The range of low voltage products is supported by technical documentation. This together with compact design makes it easier than ever to incorporate our products in your system.

Our customers can find all product related documentation such as brochures, catalogues, selection program, certificates, drawings and other information directly at

www.abb.com/lowvoltage

Selection guide

How do I select the best meter for my application?

There are many versions of EQ meters in order to meet your requests. The EQ program comprises meters with different functionalities such as tariffs, communication interfaces or advanced clock functions. Spend a little time to evaluate the functions and imagine how they could add extra value to your metering. For example, the input counter (from silver level) on an EQ meter can be used to count products produced by a machine and be read out together with the energy consumption of the same machine. In one easy go you can allocate energy to any produced product from one source. Another useful function is previous values (from gold level). If you charge users in intervals the meter can secure the data even in the event of a broken communication link. You can collect the correct interval data later and also make it visible for your counterpart immediately on the meters display in case of any discussions.

Make the meter an asset.

Take the step from passive meter reading to an active user of the data you can retrieve. The meter can be an important asset for you in order to avoid costs like penalties or extra charge for reactive energy (from bronze level). Keep track of your maximum demand and reduce them to avoid charges. EQ meters can tell you the value of the maximum demand and also when it occurred. Harmonics is the source of many problems for all sorts of equipment connected to the low voltage network. Use an EQ meter (platinum level) to measure the THD and isolate the source before you have to take the cost and consequences of poor power quality.

Function	Single phase				Three phase				
	C11	B21	A41	A42	C13	B23	B24	A43	A44
Direct connected	1	1 2 3	1 2 3 4 5		1	1 2 3		1 2 3 4 5	
Transformer connected				1 2 3 4 5			1 2 3		1 2 3 4 5
2 element metering						1 2 3	1 2 3	1 2 3 4 5	1 2 3 4 5
3 element metering					1	1 2 3	1 2 3	1 2 3 4 5	1 2 3 4 5
Accuracy 1%, Class 1, Class B	1	1 2 3	1 2 3 4 5	1 2 3 4	1	1 2 3	1 2	1 2 3 4 5	1 2 3
Accuracy 0,5%, Class 0,5 S, Class C				5			3		3 4 5
Active energy	1	1 2 3	1 2 3 4 5	1 2 3 4 5	1	1 2 3	1 2 3	1 2 3 4 5	1 2 3 4 5
Reactive energy		2 3	2 3 4 5	2 3 4 5		2 3	2 3	2 3 4 5	2 3 4 5
Apparent energy		2 3	2 3 4 5	2 3 4 5		2 3	2 3	2 3 4 5	2 3 4 5
Import/Export energy		2 3	2 3 4 5	2 3 4 5		2 3	2 3	2 3 4 5	2 3 4 5
Tariff registers, 1-4		3	3 4 5	3 4 5		3	3	3 4 5	3 4 5
Instrument values	1	1 2 3	1 2 3 4 5	1 2 3 4 5	1	1 2 3	1 2 3	1 2 3 4 5	1 2 3 4 5
Alarm function	1	1 2 3	1 2 3 4 5	1 2 3 4 5	1	1 2 3	1 2 3	1 2 3 4 5	1 2 3 4 5
Harmonics, THD and no 2-16			5	5				5	5
Previous values - day, week, month			4 5	4 5				4 5	4 5
Max and min demand			4 5	4 5				4 5	4 5
Load profiles - 8 channels			5	5				5	5
Pulse output	1	1 2	1 2	1 2	1	1 2	1 2	1 2	1 2
I/O board - 2 in, 2 out		3	3 4	3 4		3	3	3 4	3 4
Configurable I/O - 4 I/O channels			5	5				5	5
Tariffs controlled by input		3	3 4 5	3 4 5		3	3	3 4 5	3 4 5
Tariffs controlled by communication		3	3 4 5	3 4 5		3	3	3 4 5	3 4 5
Tariffs controlled by clock			4 5	4 5				4 5	4 5
MID approved, verified	optional	1 2 3	1 2 3 4 5	1 2 3 4 5	optional	1 2 3	1 2 3	1 2 3 4 5	1 2 3 4 5
IEC approved	1	1 2 3	1 2 3 4 5	1 2 3 4 5	1	1 2 3	1 2 3	1 2 3 4 5	1 2 3 4 5
Communication - Infrared (M-Bus)		1 2 3	1 2 3 4 5	1 2 3 4 5		1 2 3	1 2 3	1 2 3 4 5	1 2 3 4 5
Communication - M-Bus		optional	optional	optional		optional	optional	optional	optional
Communication - RS-485 Modbus		optional	optional	optional		optional	optional	optional	optional
Communication - RS-485 EQ bus		optional	optional	optional		optional	optional	optional	optional

1 = Steel
2 = Bronze
3 = Silver
4 = Gold
5 = Platinum
□ = Not available
Optional = Available on some order codes

Connection of EQ meters

There are both one phase and three phase meters in the program. When the current exceeds the maximum current for a direct connected meter, a meter can be used from A or B series with current transformers (CT's). If the voltage is outside the specification of the meter you can use an A series meter with voltage transformers (VT's). Please note that three phase meters in A and B series can be configured to be used in three or four wire applications.

C, B and A series

	Single phase				Three phase				
	C11	**B21**	**A41**	**A42**	**C13**	**B23**	**B24**	**A43**	**A44**
Connection	Direct	Direct	Direct	CTVT	Direct	Direct	CT	Direct	CTVT
Max Amp	40A	65A	80A	6A*)	40A	65A	6A*)	80A	6A*)
Communication	-	IR, M-Bus, RS-485	IR, M-Bus, RS-485	IR, M-Bus, RS-485	-	IR, M-Bus, RS-485	IR, M-Bus, RS-485	IR, M-Bus, RS-485	IR, M-Bus, RS-485
Functionality	1	1 2 3	1 2 3 4 5	1 2 3 4 5	1	1 2 3	1 2 3	1 2 3 4 5	1 2 3 4 5

1 = Steel
2 = Bronze
3 = Silver
4 = Gold
5 = Platinum
- = Not available
Optional = Available on some order codes

*) 6A is the secondary current of a connected current transformer used in cases with currents exceeding the max current for direct connected meters.

Contact

ABB STOTZ-KONTAKT GmbH
Eppelheimer Straße 82
69123 Heidelberg, Germany
Phone: +49 (0)6221 701 607
Fax: +49 (0)6221 701 724
E-Mail: knx.marketing@de.abb.com

Further Information and Local Contacts:
www.abb.com/knx

Note:
We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail.
ABB AG does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

Order Number 2CDC 500 104 B0201 printed in Germany (03/14-1-ZVD)

Power and productivity
for a better world™