

HEIDELBERG, JANUARY 2020

Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Webinar – Competence Center Europe – Smart Buildings

Thorsten Reibel, Jürgen Schilder, Stefan Grosse, Martin Wichary & Ilija Zivadinovic

Agenda

Device overview

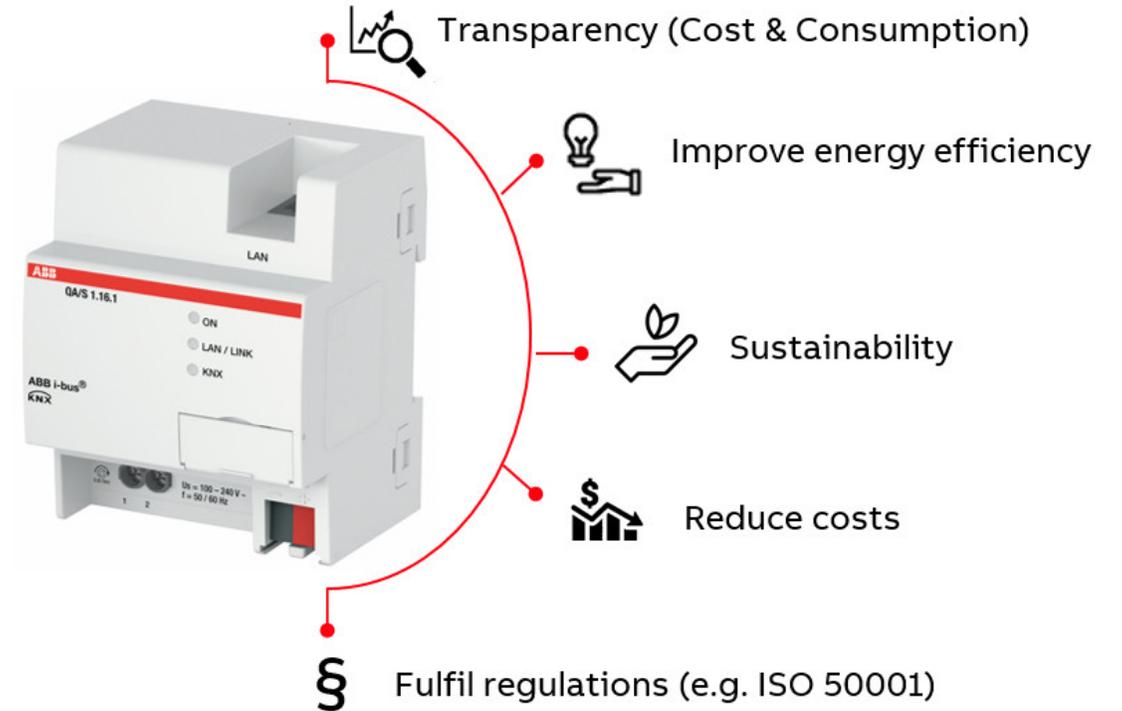
Commissioning with ETS

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX

New software features

- Alarm functions (e.g. measured value is exceeded)
- Load Control function for improved energy efficiency
- Monitoring and tracking of environmental sensor data

Demonstration in practice





Introduction

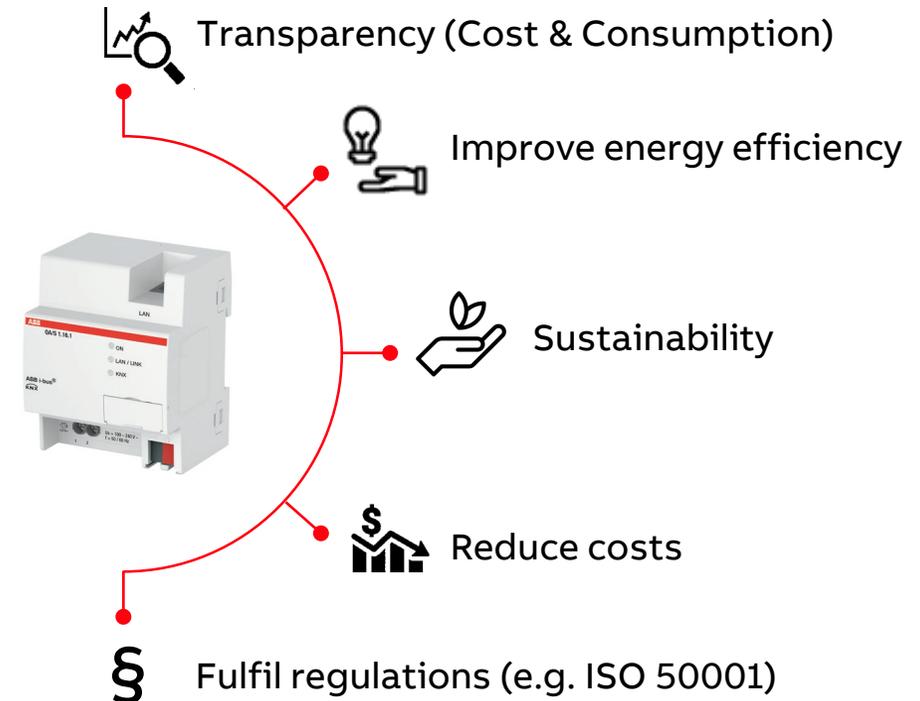
Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Overview

What is ABB EQmatic?

ABB EQmatic

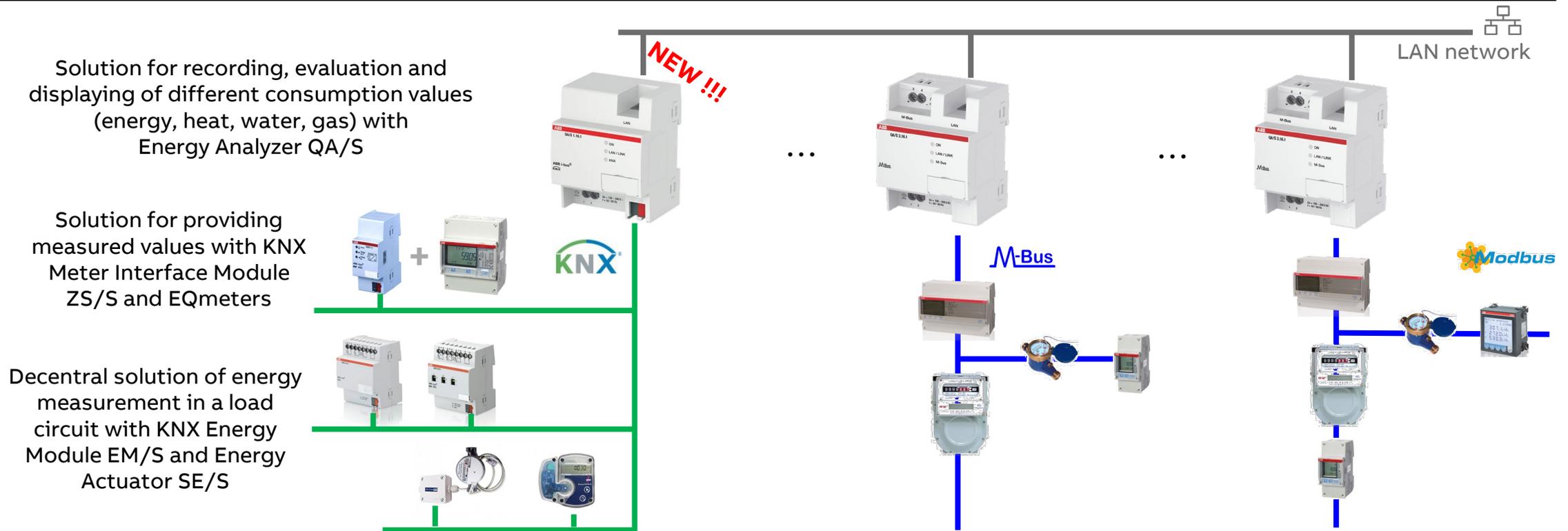
- is a compact and web-based solution offering for applications in the segment of energy management/-efficiency
- enables customers to record, visualize and process sub-metering data
- is a simple, **ready-to-use solution** for recording, visualizing and analyzing energy and consumption data
- **closes the gap** between field devices (meters) and high-level software applications
- is designed for **Energy-/Facility Manager** or any other operator in **small and mid size commercial buildings**



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Overview

ABB EQmatic – ABB offers various solutions



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Overview

Device technology

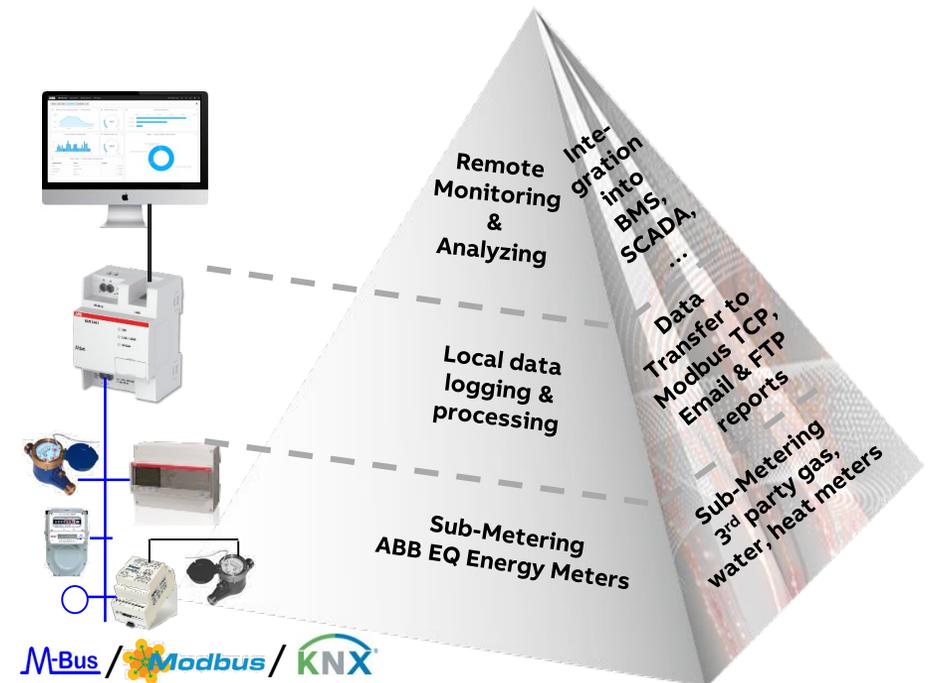
ABB EQmatic Energy Analyzer QA/S collects data from

- ABB i-bus® KNX meters and sensors
- M-Bus meters
- Modbus RTU meters

The collected data can be

- Saved locally in the device database
- Sent as reports via E-Mail
- Uploaded via FTP
- Shared with other systems via Modbus TCP (IP)
e.g. Building Automation Controller BAC/S (PLC Controller AC500 with integrated KNX interface)

Note: Some functions in QA/S require the latest software version



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Overview

Device technology

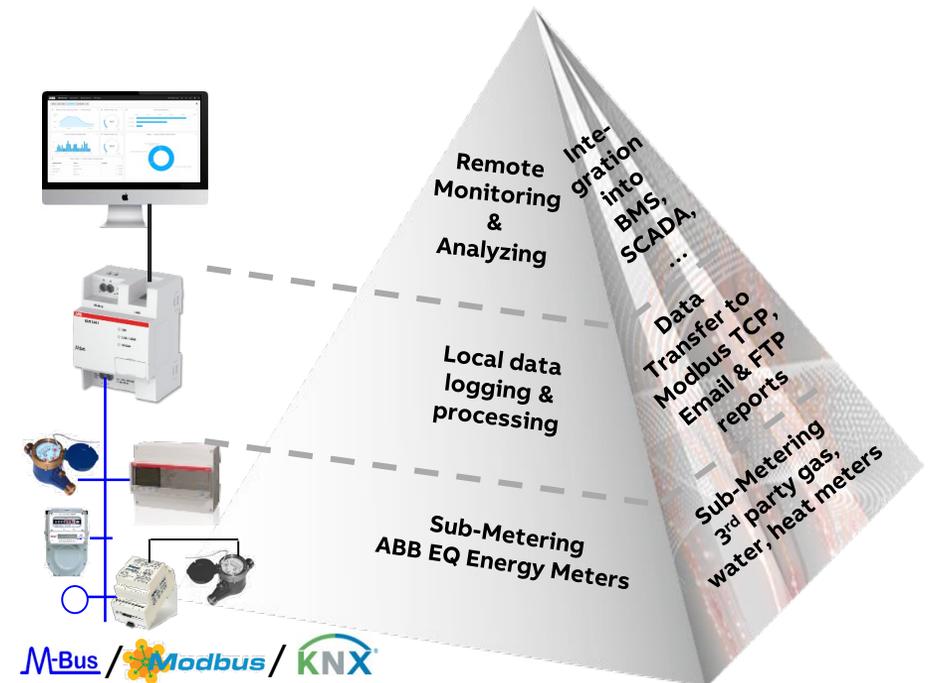
ABB EQmatic Energy Analyzer are compact, web-based standalone devices for energy management applications

They log, store, display and analyze consumption data for up to 16 or 64 electricity, gas, water or heat meters

Device access is via web browser (integrated web server)

They automatically detect ABB A and B Series Energy Meters and M2M Modbus Network Analyzer during commissioning

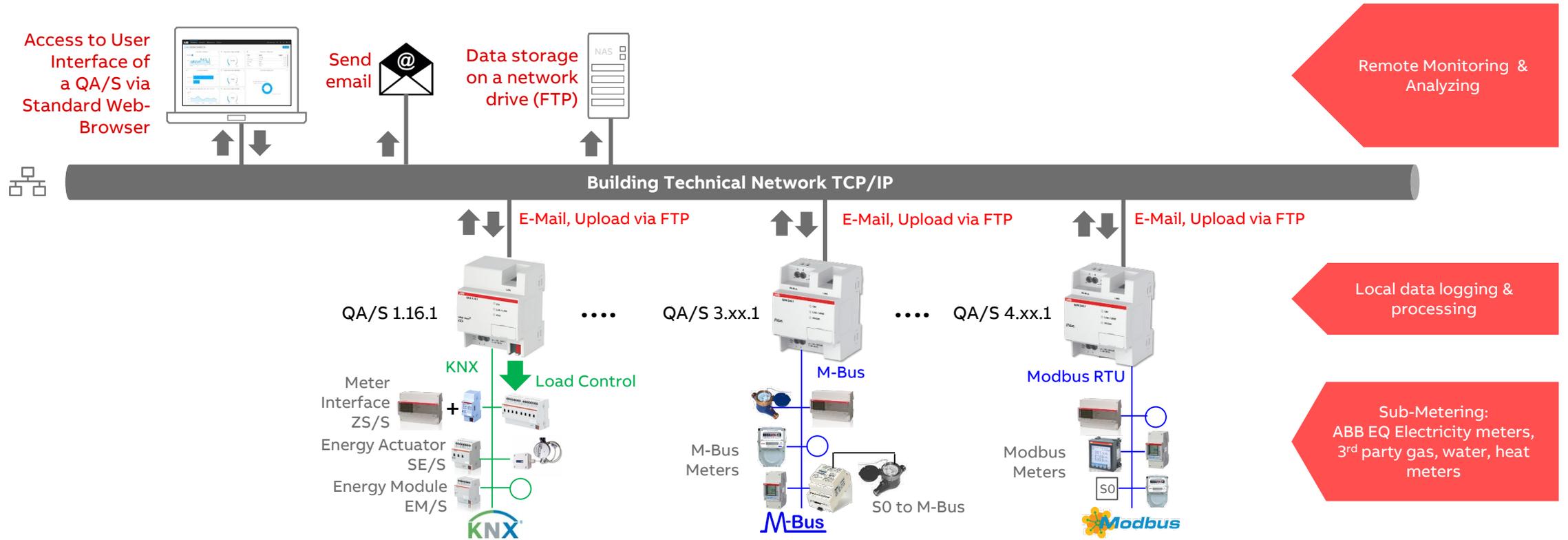
Other meters (water, gas,...) or pulse adapters must be manually configured and added to the system



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Overview

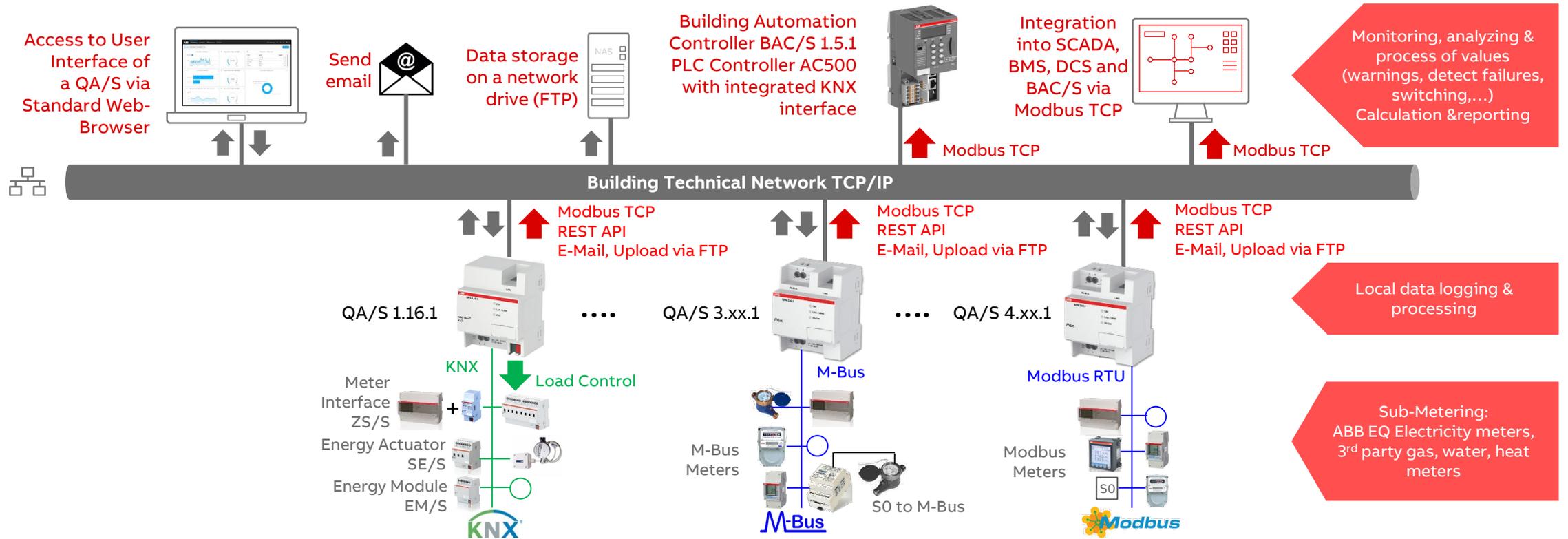
Device technology



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Overview

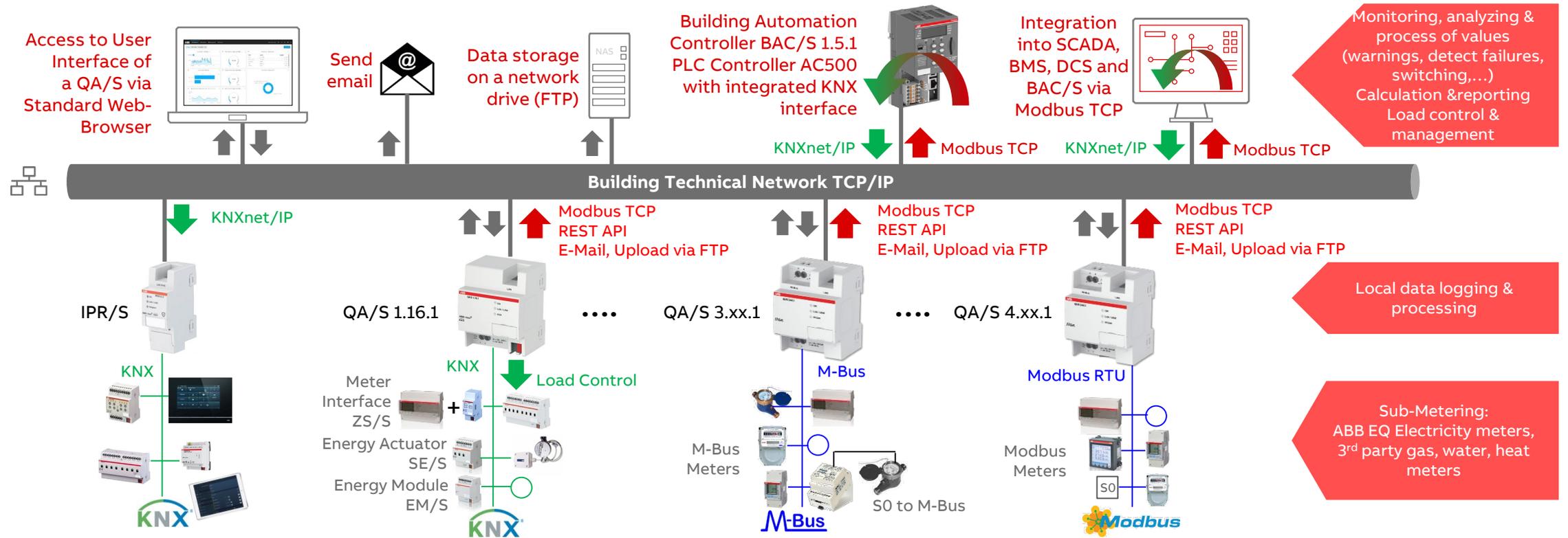
Device technology – Data sharing via Modbus TCP and REST API



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Overview

Device technology – Data sharing via Modbus TCP to KNX



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Overview

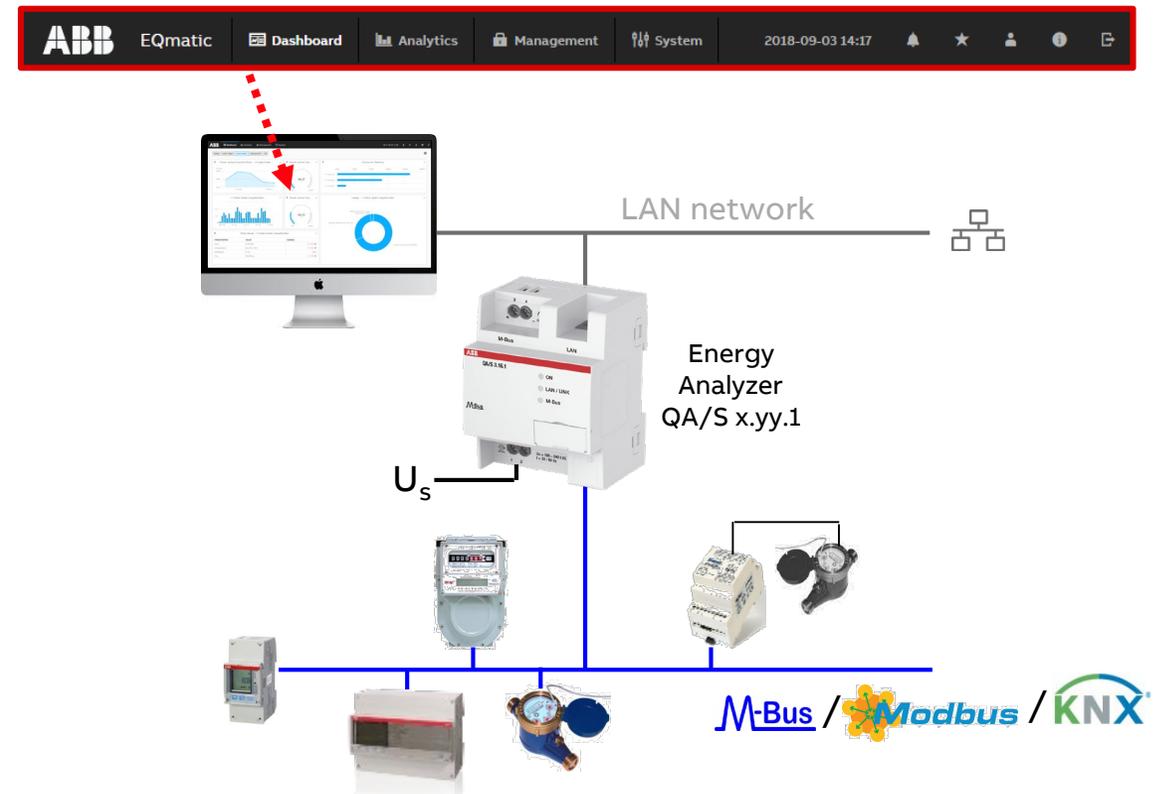
User interface: Main menu

The device has a user interface for commissioning and operating purposes

To access the user interface there must be an IP connection to the device

The user interface offers

- A configurable dashboard
- Graphical analysis functions (historical data, benchmark - time interval, instantaneous values, ...)
- Management
- System settings
- Load control (only for KNX)



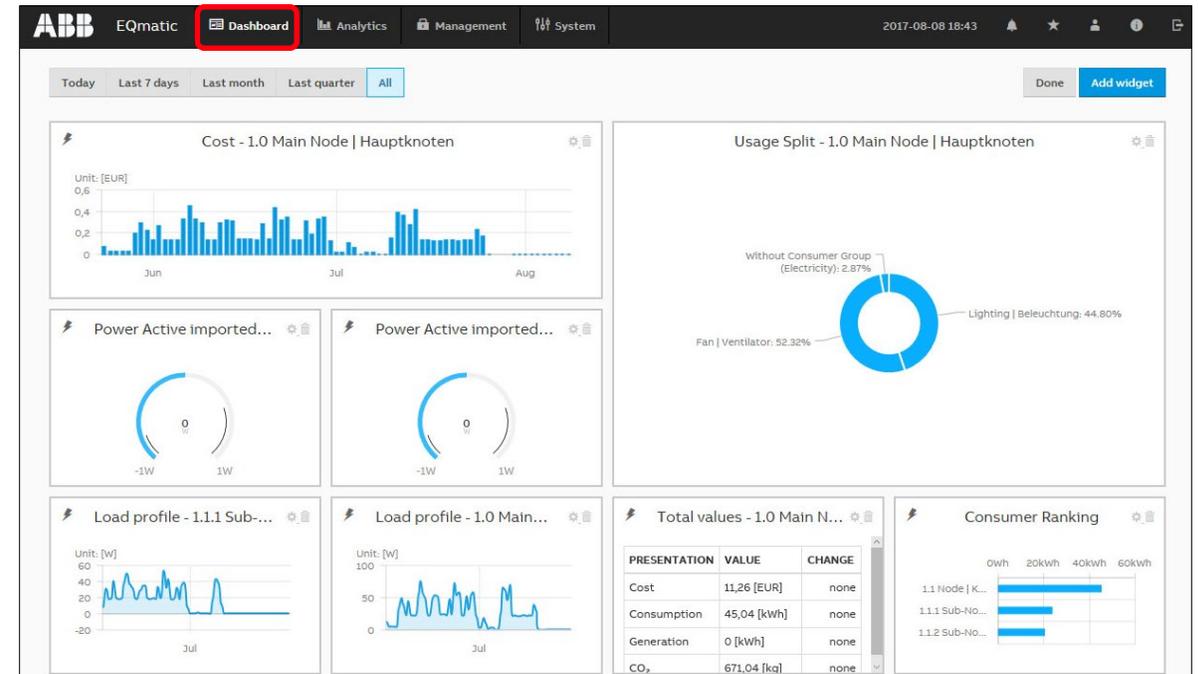
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Overview

Main menu: Dashboard

The dashboard provides a rapid overview of costs and consumers in the building

In the dashboard you can configure user-defined views using widgets (graphical display elements) and alarms (e.g. measured value is exceeded)

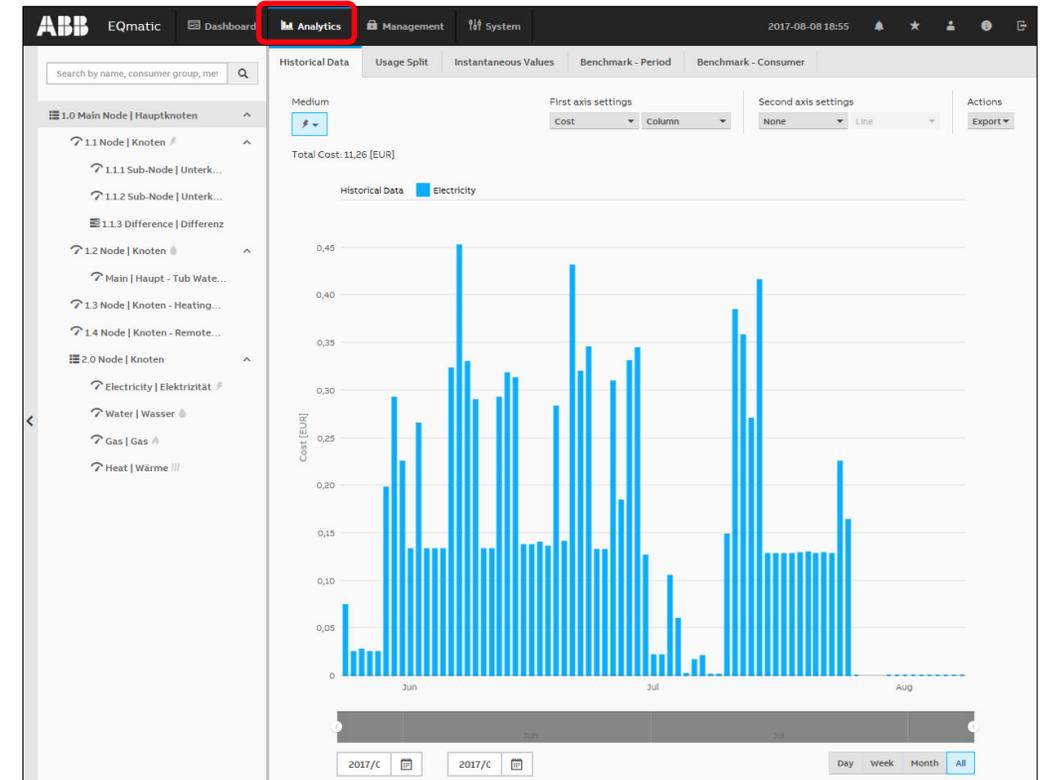


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Overview

Main menu: Analytics – Historical Data

For analysis and display of historical measured data



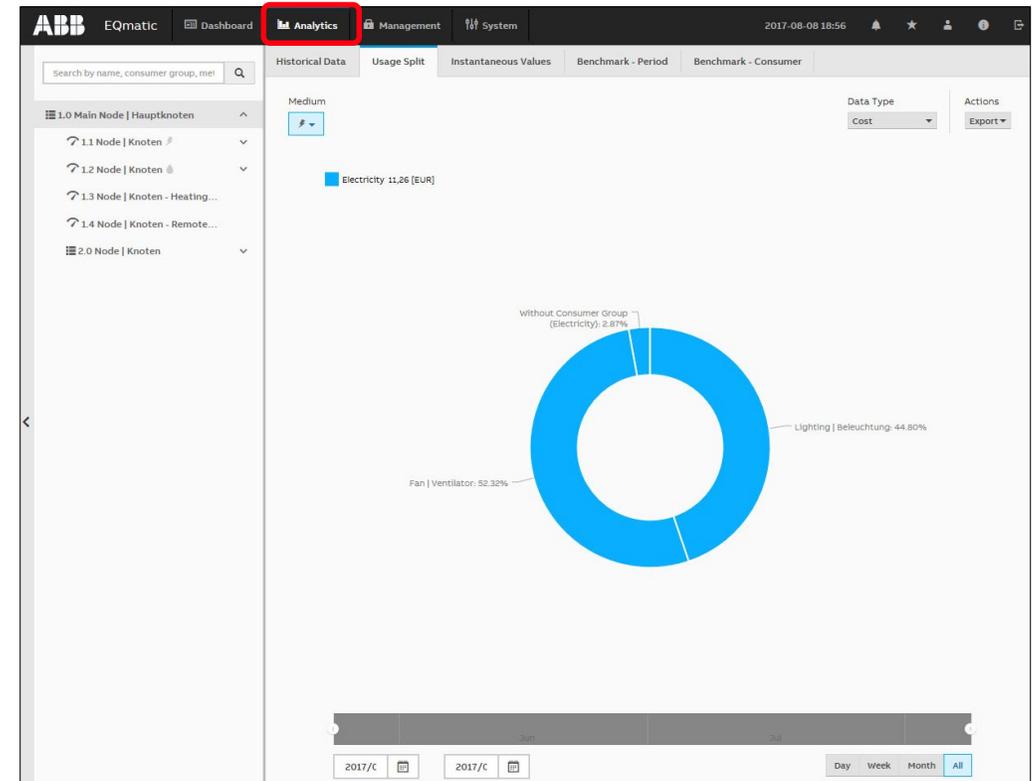
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Overview

Main menu: Analytics – Usage

For analysis and display of

- Cost
 - Consumption
 - Generation
 - Income
 - ...
- per medium or consumer group
- Lighting
 - Cooling
 - Ventilation
 - ...



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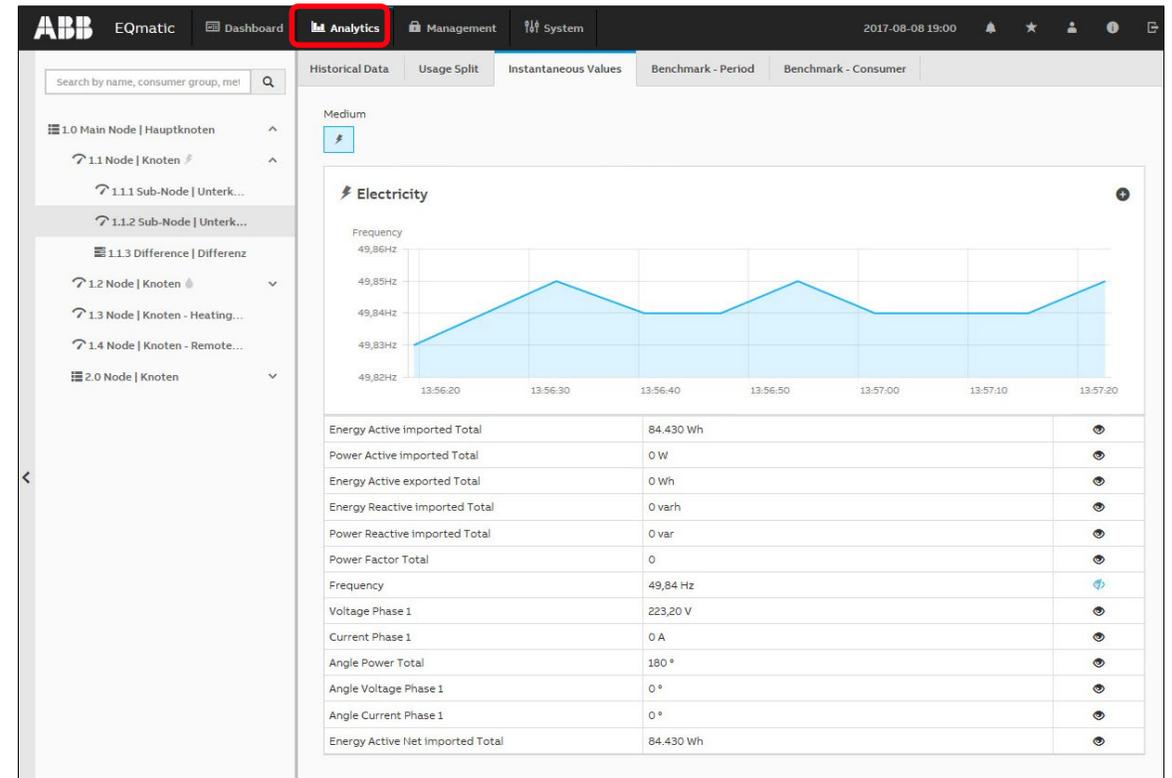
Overview

Main menu: Analytics – Instantaneous Values

This function displays the instantaneous value of a single data point in real time

The desired metering point or meter must first be selected in the metering structure

Depending on the meter’s scope of functions, various data points are available for display

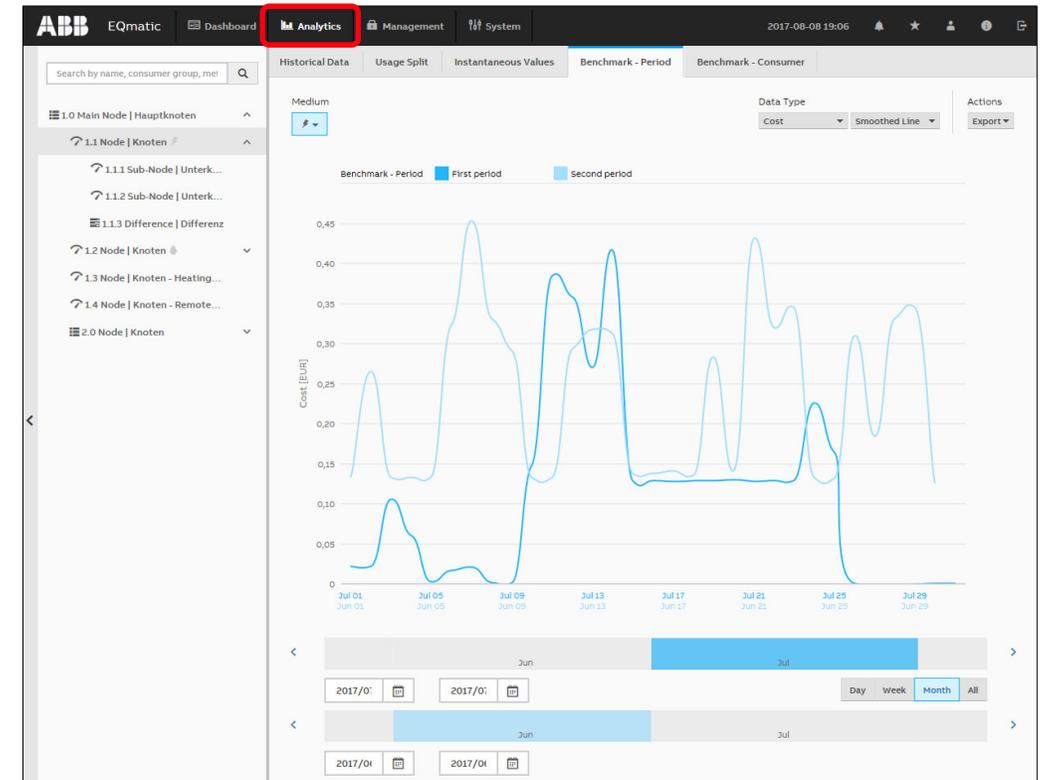


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Overview

Main menu: Analytics – Benchmark Period

To compare a consumer or node referred to two time intervals (e.g. current month and previous month)

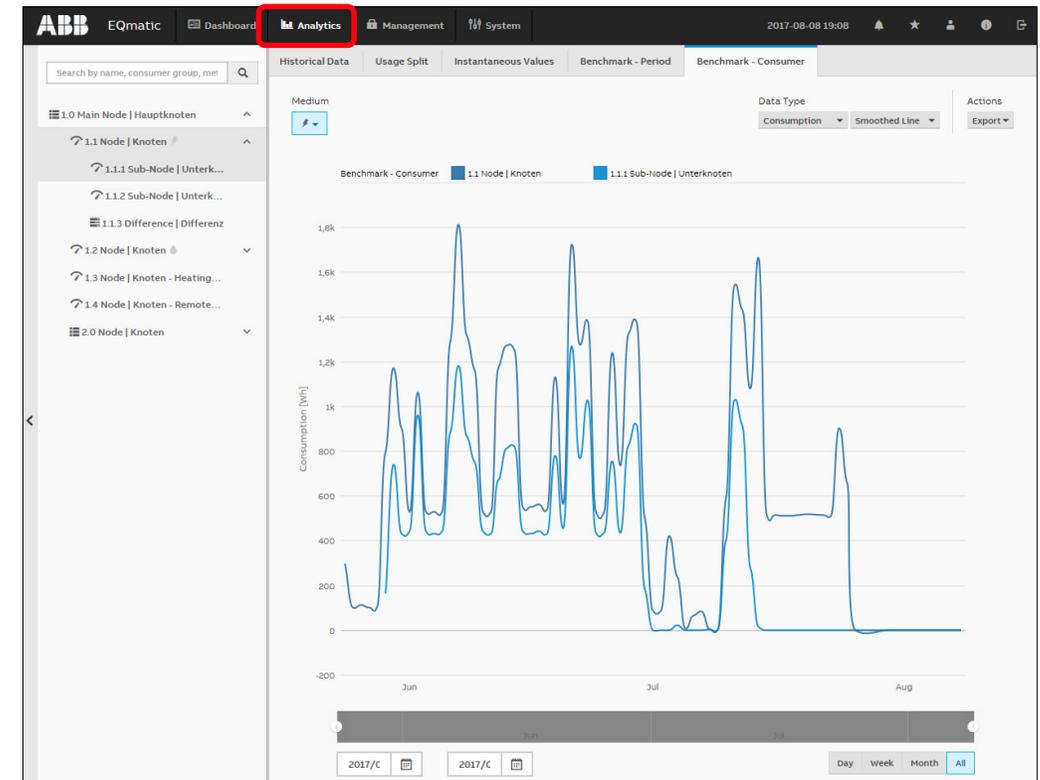


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Overview

Main menu: Analytics – Benchmark Consumer

To compare up to five consumers or nodes referred to a time interval



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Overview

Main menu: Analytics – Reports

This function automatically sends analyzes and evaluations to different recipients

The data can either be sent by email or to an FTP server

Example: Send saved consumption figures or costs for a meter once a month to a recipient by email in the file format .xlsx for further evaluation and archiving

Reports configured are displayed and managed in an overview table

The screenshot shows the ABB EQmatic web interface. The top navigation bar includes 'ABB EQmatic', 'Dashboard', 'Analytics', 'Management', and 'System'. The date and time are '2018-09-05 12:21'. The 'Reports' menu item is highlighted with a red box. Below the navigation bar, there are tabs for 'Historical Data', 'Usage Split', 'Instantaneous Values', 'Benchmark - Period', 'Benchmark - Consumer', and 'Reports'. The 'Reports' tab is active. The main content area is titled 'Configuration' and shows a section for 'Report recipients'. There is a search bar, a 'Refresh' button, and an '+ Add' button. A table lists the configured reports:

RECIPIENTS	TYPE	STATUS	NEXT REPORT ON	PERIOD	RESOLUTION	MEDIUM	FORMAT	ACTION
Daily load profile: Main building								
192.168.1.12	FTP	OK	2018-09-06	a day	5 minutes	Electricity	XLSX	X
juergen.schilder@de.abb.com	EMAIL	OK	2018-09-06	a day	5 minutes	Electricity	XLSX	X

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Overview

Main menu: Analytics – Alarms

Alarm ranges can be configured for any data point via the analysis function or dashboard

If a configurable value is exceeded, notification is sent to e-mail recipients and event is written to the alarm log

The screenshot displays the ABB EQmatic web interface. The top navigation bar includes 'ABB EQmatic', 'Dashboard', 'Analytics', 'Load control', 'Management', and 'System'. The 'Alarms' tab is selected and highlighted with a red box. Below the navigation bar, there are tabs for 'Historical Data', 'Usage Split', 'Instantaneous Values', 'Benchmark - Period', 'Benchmark - Consumer', 'Reports', and 'Alarms'. The 'Alarms' section features a search bar and a table of active alarms.

NAME	VALUE TYPE	NODE	STATE	UI NOTIFICATIONS	E-MAIL NOTIFICATIONS	ACTION
Power Blower room 3-001	Active Imported Power Total	Energy Actuator 1: SE/S	Active	Disabled	Disabled	
Voltage low	Voltage L1	Meter Interface 1: B21-113-100	Active	Enabled	Disabled	

An inset window shows a detailed view of an alarm event. It includes a gauge for 'Active Imported Power' with a value of 105.622 W, ranging from 42W to 83W. The alarm details are as follows:

- Category: Error
- Severity: High
- Name: [Voltage low](#)
- Value: 233.20 [V]
- Node: [Meter Interface 1: B21-113-100](#)
- Data point: Voltage L1
- Date: 14/01/2020 17:11:46

Another alarm event is visible below:

- Category: Note
- Severity: High
- Name: [Power Blower room 3-001](#)
- Value: 38.86 [W]
- Node: [Energy Actuator 1: SE/S](#)
- Data point: Active Imported Power Total
- Date: 14/01/2020 17:11:45

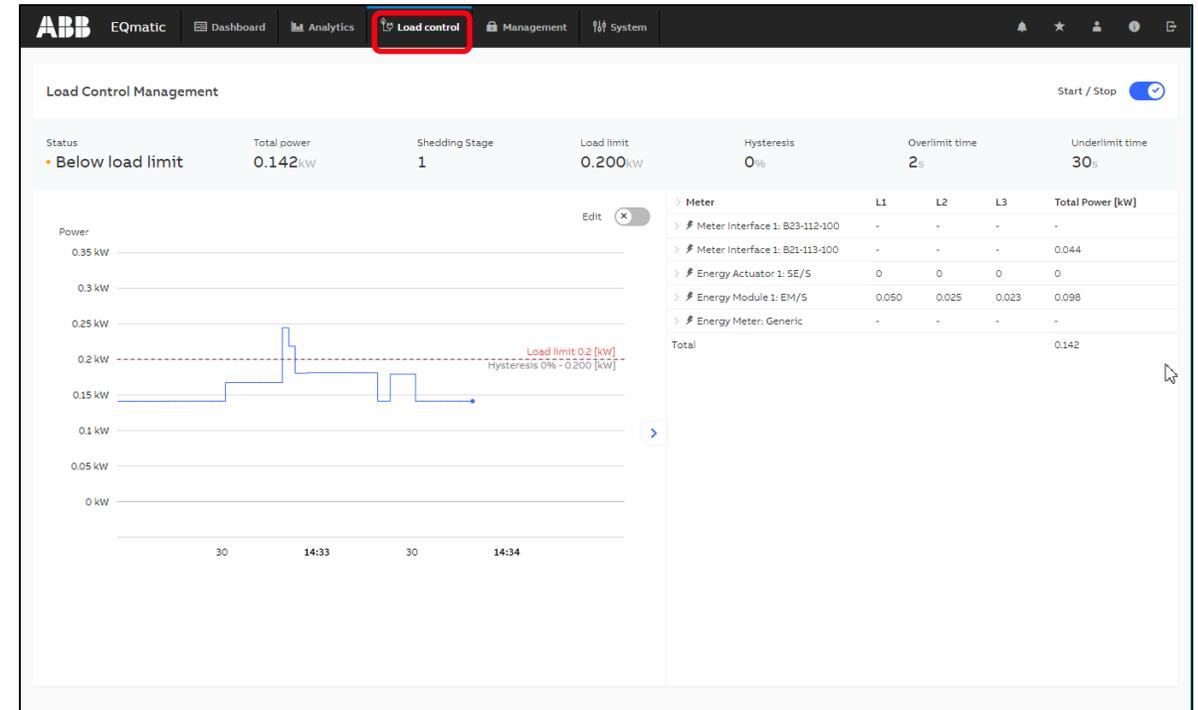
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Overview

Main menu: Load control (only for QA/S 1.16.1 KNX)

With the Load Control Management function, load shedding sequences can be prioritized based on the electrical power values received from electricity meters

The load control parameter must be activated in the ETS so that the load control can be displayed and operated via the user interface



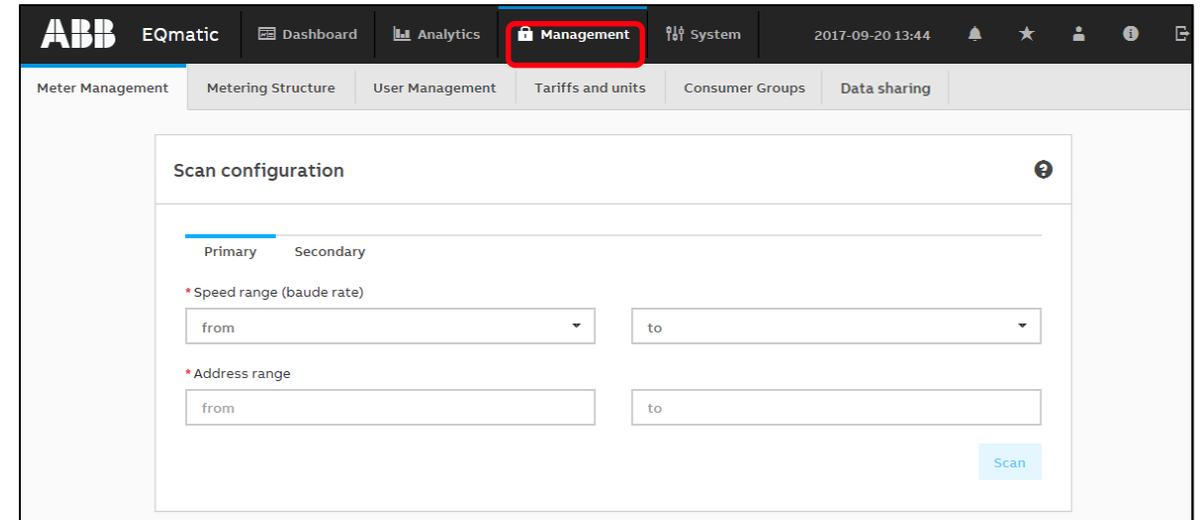
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Overview

Main menu: Management

The *Management* menu can be used to make settings (Administrator rights are required)

- Meter Management
- Metering Structure
- User Management
- Tariff and Units
- Consumer Groups
- Data Sharing



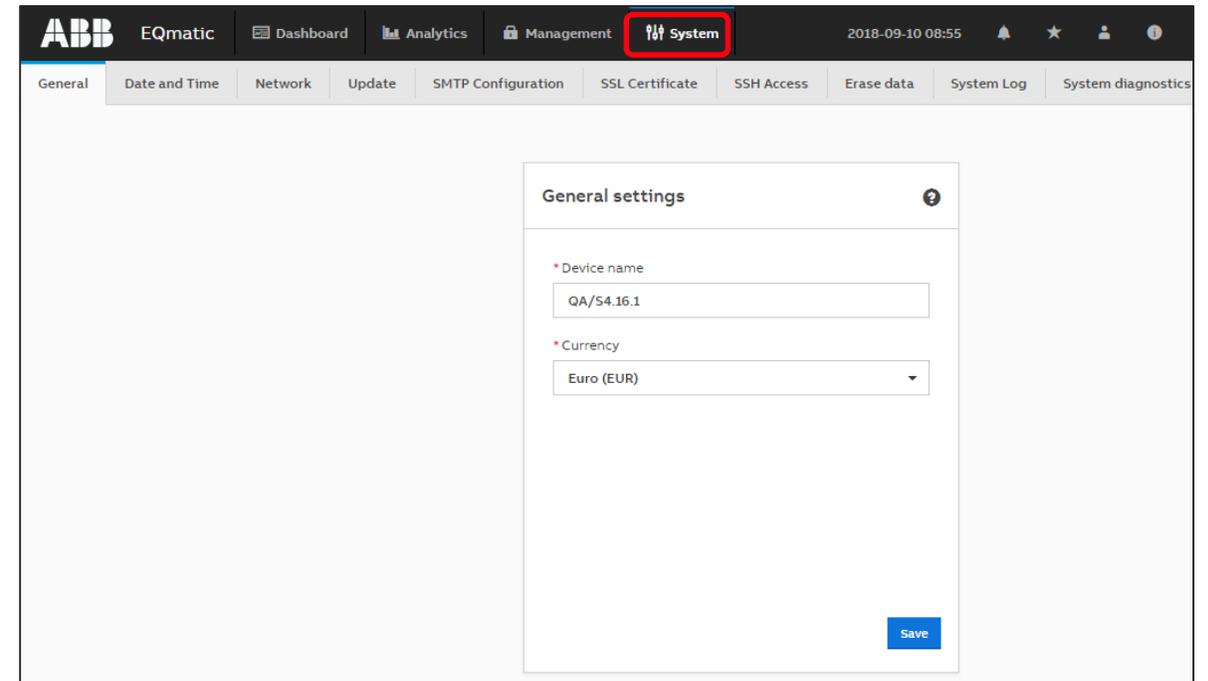
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Overview

Main menu: System Settings

Basic settings are made in the *System* menu
(Administrator rights are required)

- General
- Date and Time
- Network
- Update
- SMTP Configuration
- SSL Certificate
- SSH Access
- Erase data
- System Log
- System diagnostics





Device overview

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Device overview

Device technology – hardware

- Energy Analyzer QA/S 1.16.1 KNX **NEW !!!**
 - QA/S 1.16.1 max. 16 meters
- Energy Analyzer QA/S 3.xx.1 M-Bus
 - M-Bus master to DIN EN 13757-2
 - QA/S 3.16.1 max. 16 meters
 - QA/S 3.64.1 max. 64 meters
- Energy Analyzer QA/S 4.xx.1 Modbus
 - Modbus RTU master
 - QA/S 4.16.1 max. 16 meters
 - QA/S 4.64.1 max. 64 meters
- Modular installation device (MDRC)
- Mounting width: 4 space units
- Display elements (LEDs)
- LAN connection
- Supply voltage 100...240 V AC



QA/S 3.xx.1

M-Bus



QA/S 4.xx.1

Modbus



QA/S 1.16.1

NEW !!! KNX

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Device overview

Device overview

	QA/S 1.16.1 <i>NEW !!!</i>	QA/S 3.16.1	QA/S 3.64.1	QA/S 4.16.1	QA/S 4.64.1
Protocol	KNX	M-Bus		Modbus RTU	
Max. devices	16	16	64	16	64
Design	Modular installation device (MDRC)				
Order code	2CDG 110 224 R0011	2CDG 110 226 R0011	2CDG 110 227 R0011	2CDG 110 228 R0011	2CDG 110 229 R0011

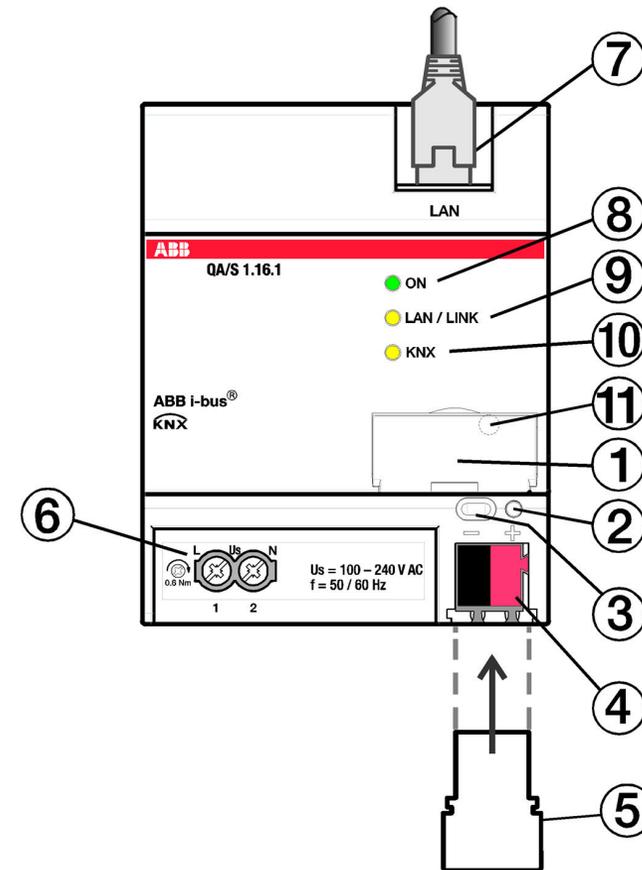
All devices have the same settings and menus (dashboard, historical data, ...)
→ Only the commissioning step for scanning the connected meters (KNX, M-Bus or Modbus) is different
→ The KNX Energy Analyzer QA/S 1.16.1 offers additional features via KNX (e.g. load control)

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Device overview

QA/S 1.16.1 KNX: Connection diagram

1	Label carrier
2	KNX programming LED (red)
3	KNX programming button
4	KNX connection
5	Cover cap
6	U _s supply voltage connection
7	Ethernet/LAN connection
8	ON LED (green)
9	LAN/LINK LED (yellow)
10	KNX telegram LED (yellow)
11	Reset button (behind label carrier)



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Device overview

Scope of delivery

- Energy Analyzer QA/S x.yy.1 with label carrier
- Installation and operating instructions
- Lettering inlay for label carrier
- IP address assignment is set to automatic addressing (DHCP/AutoIP)
- Language: Dependent on the language setting in the browser used
- Currency: EUR
- QA/S 4.xx.1 Modbus
 - Two EOL resistors 120 Ohm
- QA/S 1.16.1 KNX
 - KNX physical address 15.15.255
 - Bus connection terminal (red/black)
 - KNX connection cover cap



Montage- und Betriebsanleitung
Installation and Operating Instructions
Mode d'emploi
Instrucciones de montaje de servicio
Istruzioni per l'uso
Montage- en bedieningshandleiding
Instrukcja montażu i eksploatacji
Руководство по монтажу и эксплуатации
安装和操作手册

QA/S 3.16.1

QA/S 3.64.1

- DE Energie Analyzer, M-Bus
- EN Energy Analyzer, M-Bus
- FR Energy Analyzer, M-Bus
- ES Medidor de Energía, M-Bus
- IT Energy Analyzer, M-Bus
- NL Energy Analyzer, M-Bus
- PL Analizator Energii, M-Bus
- RU Интерфейс, M-Bus
- CN 能源信息管理器, M-Bus

2CDG941193P0001

ABB

CE

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Device overview

Technical documents

www.abb.com/KNX

→ Products and Downloads

→ Energy Management

→ QA/S x.yy.1 Energy Analyzer

- Product Manual
- Technical datasheet
- Installation and operating instructions
- Specification text
- Product information
- Presentation slides
- CE declaration of conformity
- ...

Detailed information for: QA/S3.16.1

This page contains technical data sheet, documents library and links to offering related to this product. If you require any other information, please contact us using form located at the bottom of the page. [Print...](#) [Print to Pdf...](#)

[Data Sheet](#) [Documentation](#)

QA/S3.16.1

General Information

Extended Product Type:	QA/S3.16.1
Product ID:	2CDG110226R0011
EAN:	4016779997751
Catalog Description:	QA/S3.16.1 Energy Analyzer, M-Bus
Long Description:	Energy management solution for capturing and analyzing consumption data of up to 16 electricity, gas, water or heat meters via M-Bus. Web-based user interface with graphical analysis functions such as historical data, dashboard, and more.



Downloads

You now see 10 files

- Show all (10) >
- Advertisement (1)
- CAD outline drawing (2)
- Certificate (1)
- Connection diagram (1)
- Course literature (1)

	Product Manual (.pdf) [EN] QA/S 3.xx.1 Summary: No summary available Manual - English - 2017-08-30 - 2,71 MB ↓ PDF
	Specification Text (.pdf) [EN] QA/S 3.16.1 Summary: No summary available Tender specification - English - 2017-08-28 - 0,11 MB ↓ PDF
	Technical Data (.pdf) [EN] QA/S 3.xx.1 Summary: No summary available Data sheet - English - 2017-08-28 - 0,15 MB ↓ PDF

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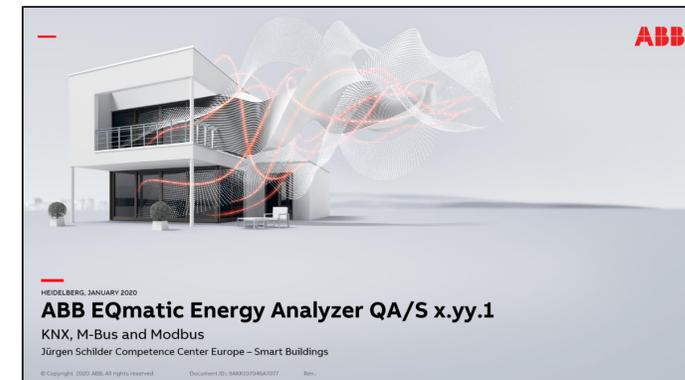
Overview

Training

Training & Qualification Database:

<https://go.abb/ba-training>

- Webinars
 - “ABB Energy Analyzer M-Bus QA/S3.xx.1” (October 2017)
 - “ABB EQmatic Energy-Analyzer QA/S (September 2018)
 - “ABB EQmatic Energy Analyzer QA/S x.yy.1” (January 2019)
- Webinar slides
- Webinar recordings (MP4 file)
- Training Presentation “ABB EQmatic Energy Analyzer QA/S x.yy.1” (9AKK107046A7077)
<http://search.abb.com/library/Download.aspx?DocumentID=9AKK107046A7077&LanguageCode=en&DocumentPartId=&Action=Launch>





Commissioning

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Commissioning

Commissioning requirements

PC/laptop with web browser for commissioning and operating
The QA/S is ready for operation and a LAN connection is established

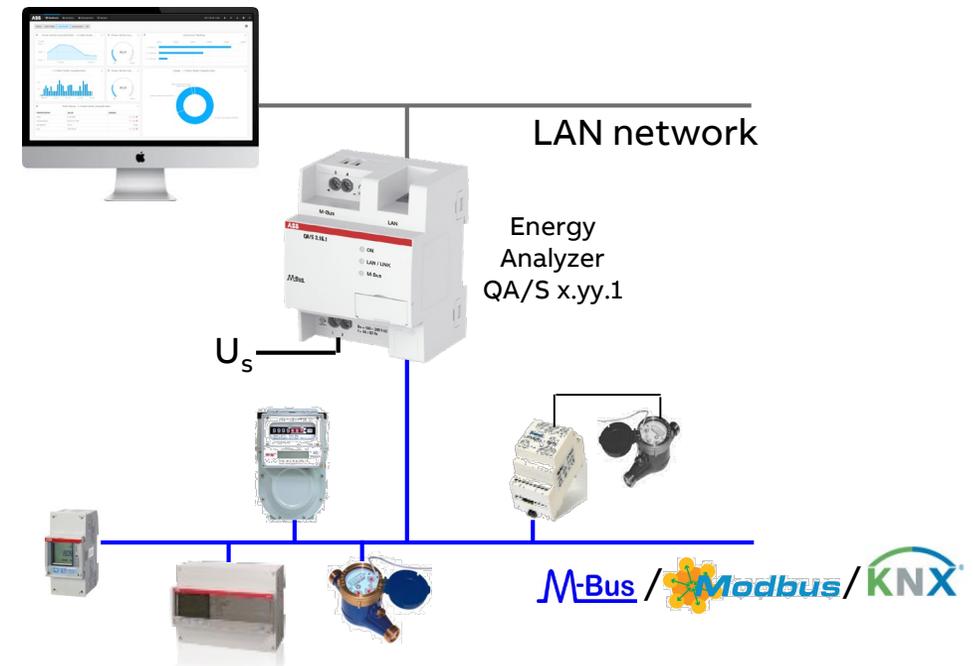
The PC/laptop and the QA/S are in the same IP network

Meters are operating and connected to M-Bus/Modbus/KNX on the QA/S

The M-Bus/Modbus/KNX devices comply with the current standard

The M-Bus and Modbus devices are connected and configured according to manufacturer's instructions (e.g. speed, primary address, transformer ratios, etc.)

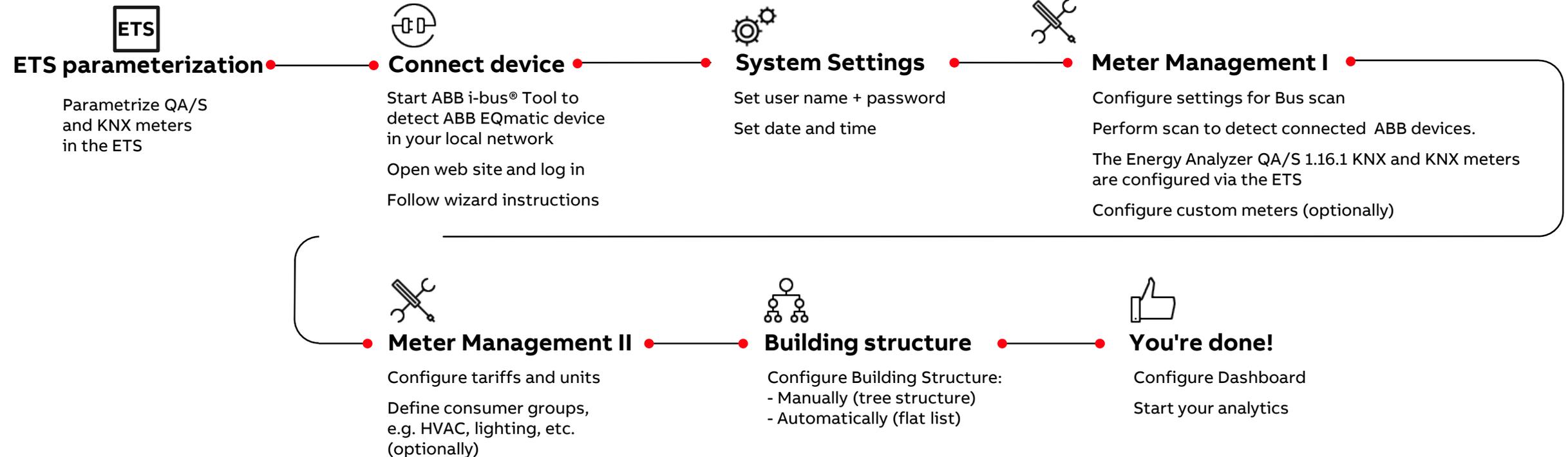
ETS (Engineering Tool Software) is used to parametrize the QA/S 1.16.1 KNX and KNX meters



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Commissioning

Commissioning steps: The steps are identical except for scanning the connected meters



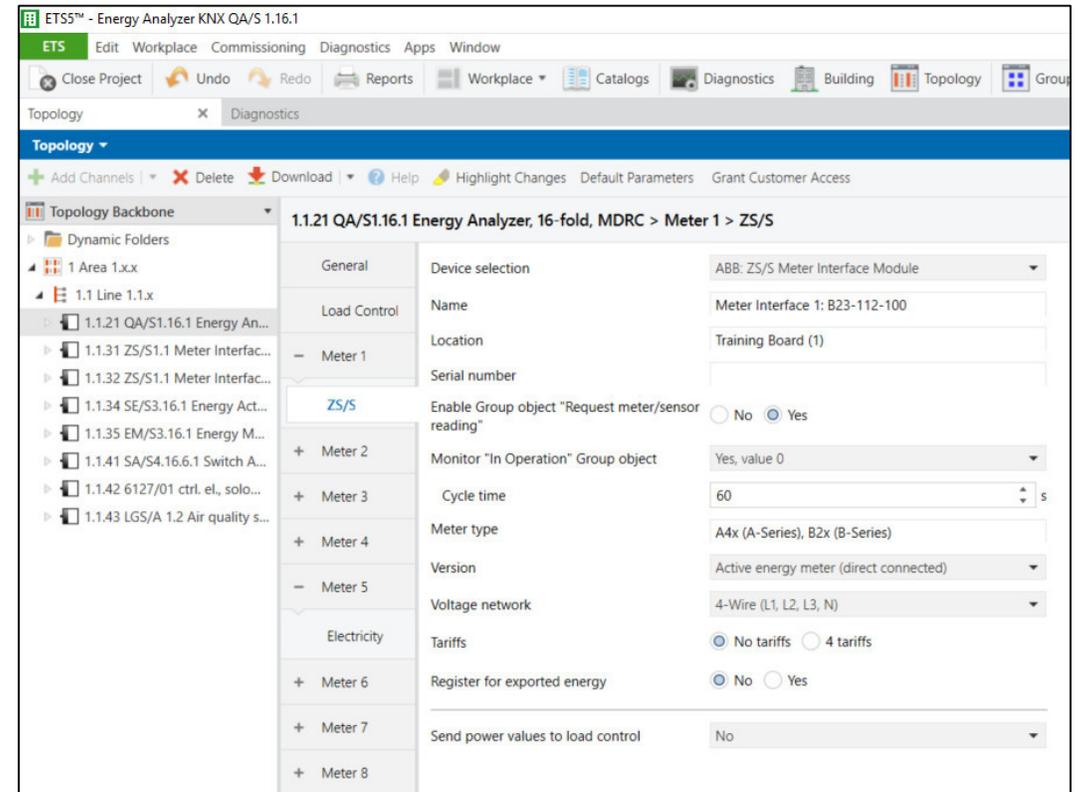
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Commissioning

Commissioning Energy Analyzer QA/S 1.16.1 KNX

To display and process the QA/S values of KNX meters, both the QA/S and the KNX meters must first be configured and parametrized in ETS

- Add the QA/S and KNX meters to the project
- Set the parameters of the QA/S and KNX meters, e.g.
 - Date and time source (KNX, User Interface or time server)
 - Meter settings: Meter Interface Module ZS/S, Energy Actuator SE/S, Energy Module EM/S, Electricity (generic), Gas (generic), Water (generic), Heat (generic)
 - Load control
- Assign group addresses
- Download individual address and application programs



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Commissioning

Access via the ABB i-bus® Tool

Start the ABB i-bus® Tool

Click:

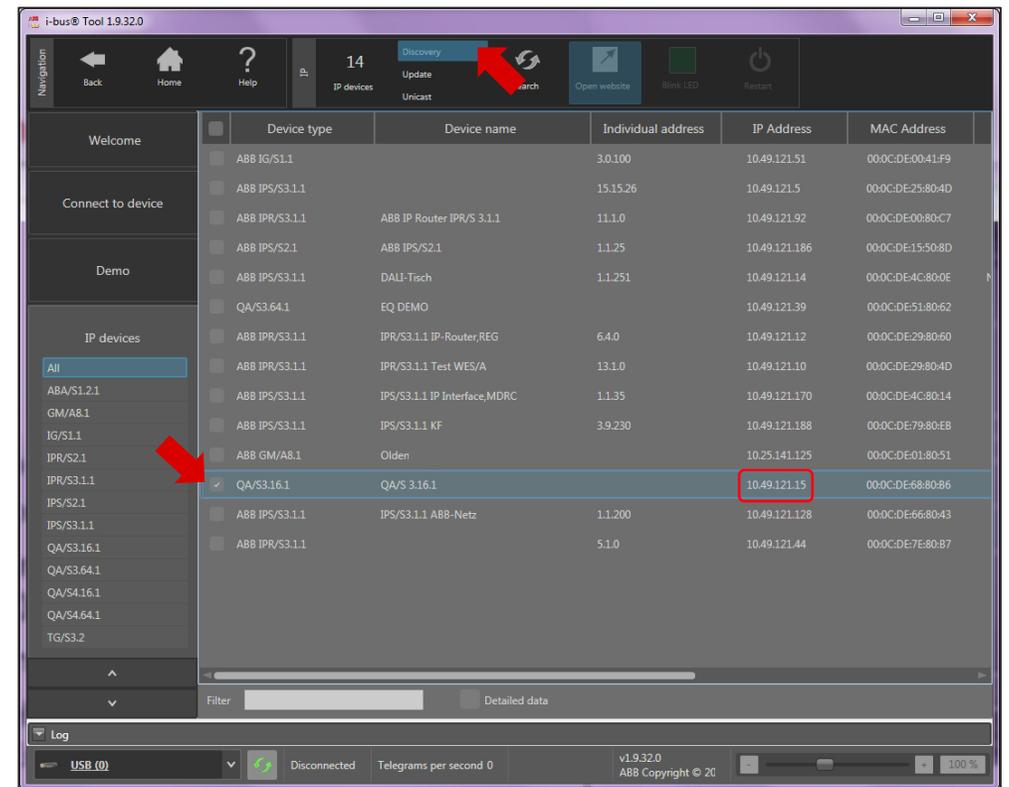
- “Connect”
- “IP devices”
- “Discovery”

The ABB i-bus® Tool automatically searches for known IP devices in the local network

Select the desired Energy Analyzer QA/S from the table (click)

Click the “Open Website” button

The default web browser opens, and the start screen of the Energy Analyzer appears



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Commissioning

User interface

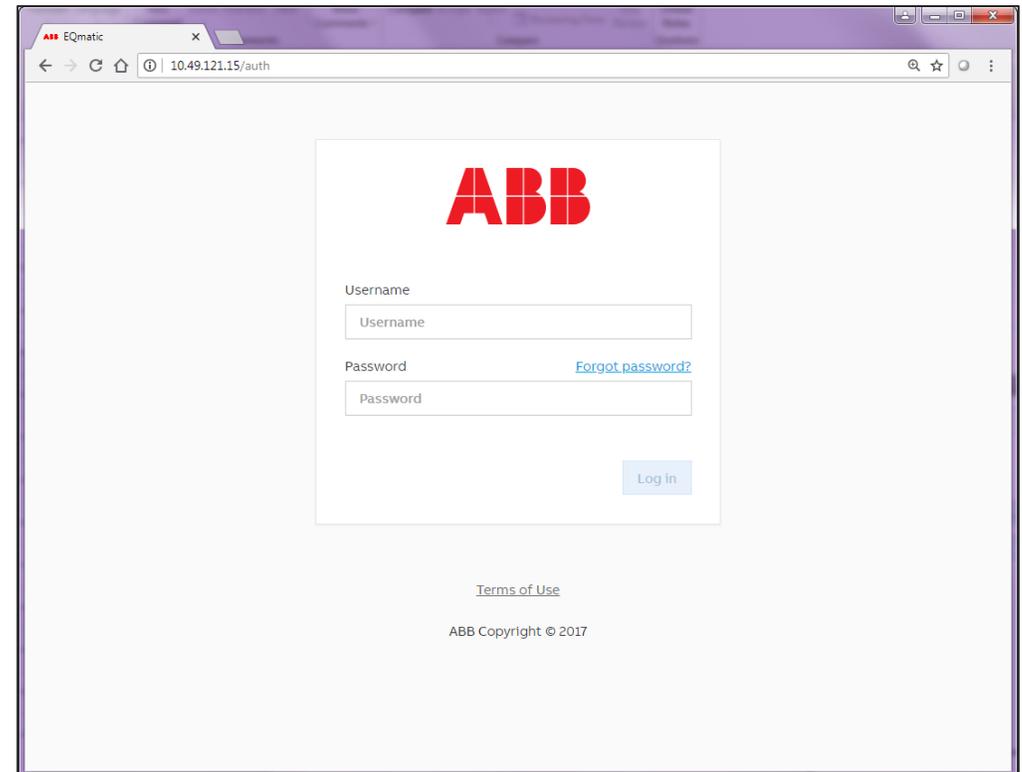
The connection to the device’s web server is established

Enter the user name and the password

Default user name and password on delivery

- Username: admin
- Password: admin

Follow the instructions in the commissioning wizard to proceed with commissioning



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Commissioning

Commissioning wizard (1)

Once a connection to the device is established, the commissioning wizard starts for the first time

The steps are identical except for scanning the connected meters (M-Bus or Modbus)

It guides the user through the steps and basic settings required for initial commissioning

- Read and confirm the terms and conditions of use
- Change the default password
 - This is important for device and data security
 - The password is expected to be at least 9 characters long and contain capital letters, small letters and non-letter (numeric or special) symbols

Introduction Completed: 0%

Welcome

In order to use the device, an initial configuration is required. Please follow the steps of the wizard to configure the device.

[Start configuration](#)

Password reset Completed: 25%

* New password ?

Confirm new password

[Next step](#)

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Commissioning

Commissioning wizard (2)

- Change the network settings if necessary
- QA/S 1.16.1 KNX: All network configuration, except from proxy configuration, is only possible via ETS

Network Completed: 38%

Automatic network configuration

Proxy URL ⓘ
type proxy server address if any...

IP Address
192.168.0.111

* Subnet
24

* Default Gateway
192.168.0.1

DNS Server ⓘ
192.168.0.1

skip Save

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Commissioning

Commissioning wizard (3)

- Configure the date and time
- QA/S 1.16.1 KNX: Date and time can also be received via KNX (3 byte and 8 byte)

Date and time Completed: 43%

Automatic date and time

* Timezone [Detect timezone](#)

Europe/Berlin (UTC+2:00)

* Time synchronization server (NTP) [Change the server](#)

pool.ntp.org

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Commissioning

Commissioning wizard (4)

- Configure the currency, costs and CO₂ factor per consumption unit

Default system settings Completed: 57%

[Edit](#)

Currency

Euro (EUR)

Medium	Unit	Cost per consumption unit [EUR]	CO ₂ per consumption unit [kg]
Electricity	kWh	0.25	0
Water	m ³	3.5	0
Gas	m ³	2.5	0
Heat	kWh	0	0

[Skip](#) [Next step](#)

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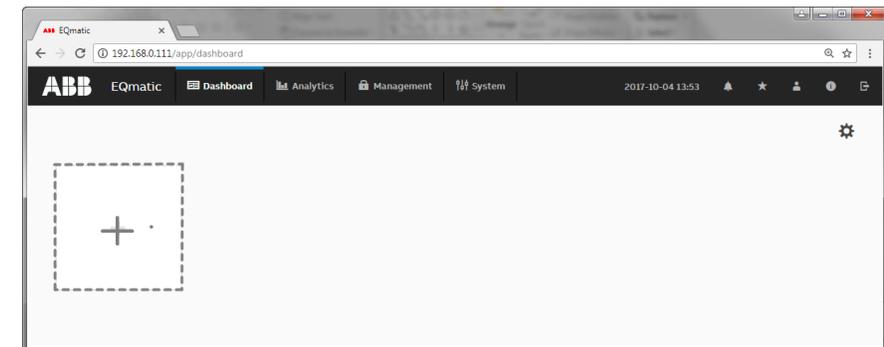
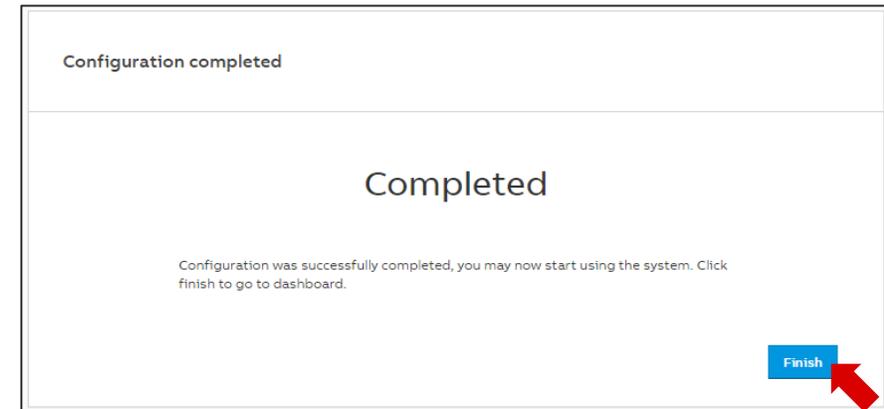
Commissioning

Commissioning wizard (6)

Configuration has been completed successfully

The device is ready for operation

The *main* menu with the individually configurable dashboard is displayed



Commissioning

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX

ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX

Commissioning

To display and process the QA/S values of KNX meters, both the QA/S and the KNX meters must first be configured and parametrized in ETS

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 - Load control
- Assign group addresses
- Download individual address and application programs

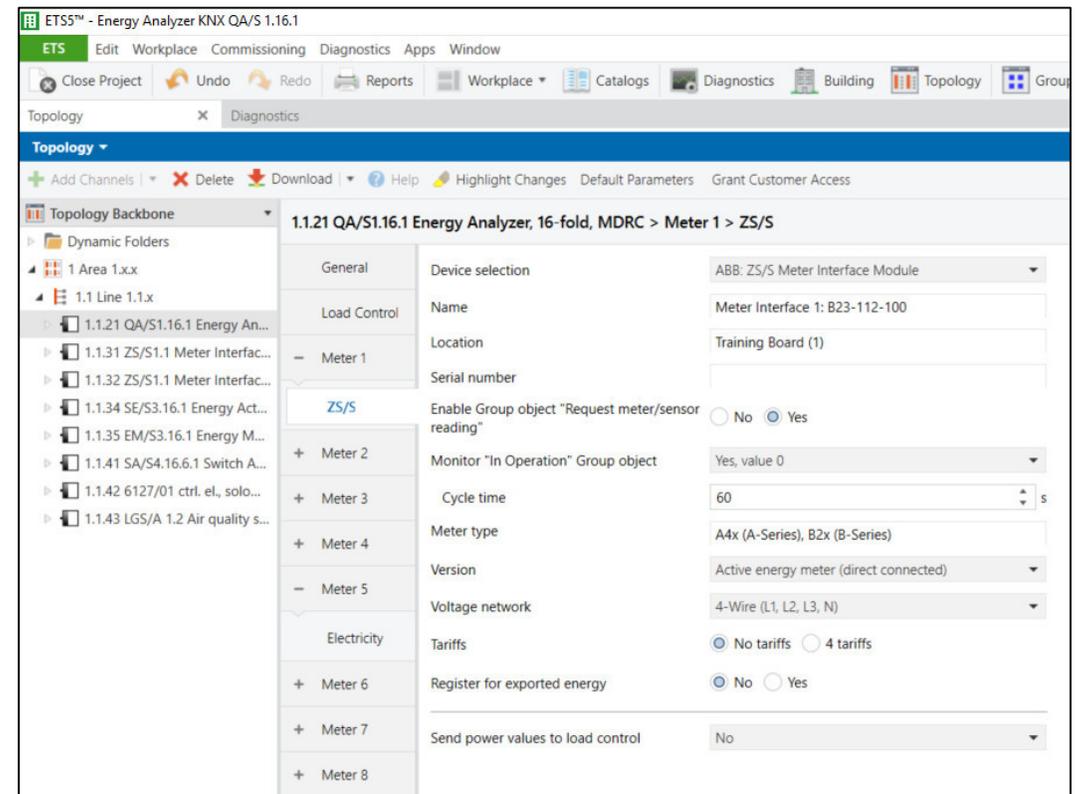


ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX

Properties window: IP parameters

All network configuration, except from proxy configuration, is only possible via ETS

The IP parameters (DHCP or static) are configured in the "IP Properties" window

- Obtain an IP address automatically: In the default setting the IP Router Secure expects the assignment of an IP address by a DHCP (dynamic host configuration protocol) server
- Use a static IP address: If no DHCP server is installed on the network or if the IP address should remain the same, it can be assigned as static

The MAC address is read from the device after a download

The MAC address is additionally labeled on the device, or it can be determined via the i-bus® Tool

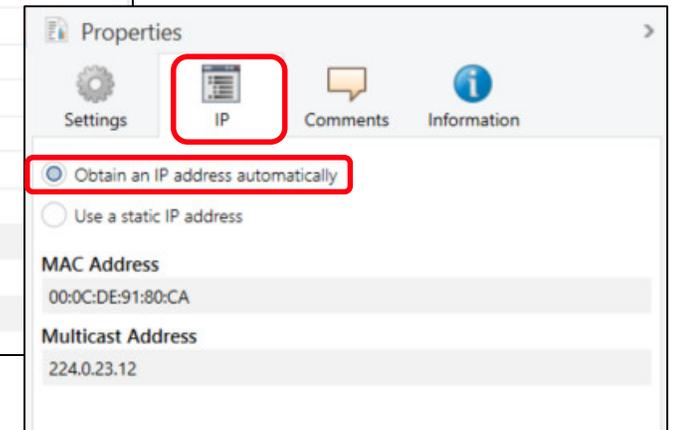
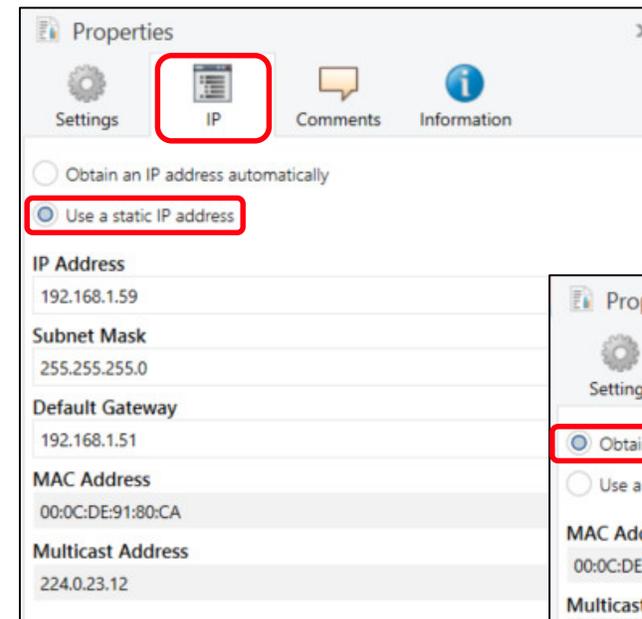


ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX

Parameter window: General

1	<u>Device name</u> In this field, you can enter a unique name for the device. It is used for identification purposes, for example, if there are several identical energy analyzers in a single installation. The name entered here appears in the i-bus® Tool and UI under System Information
2	<u>Send delay after bus voltage recovery</u> <ul style="list-style-type: none">• 2...255 s
3	<u>Enable group object "In operation"</u> <ul style="list-style-type: none">• No• Yes – send with value 0 or 1 This parameter enables the In operation group object. This group object signals the presence of the device on KNX and can be monitored by an external device.
4	<u>Cycle time</u> <ul style="list-style-type: none">• 1 ... 65535 s This parameter determines the interval at which the In operation group object sends a telegram.

1.1.20 QA/S1.16.1 Energy Analyzer, 16-fold, MDRC > General

General

1 Device name Energy Analyzer Room 224 JueSch

2 Send delay after bus voltage recovery 2 s

3 Enable Group object "In operation" Yes - send with value 0

4 Cycle time 60 s

Limit number of telegrams No Yes

Date and time source KNX User Interface

ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX

Parameter window: General

5	<u>Limit number of telegrams</u> <ul style="list-style-type: none">NoYes and max. number of sent telegrams This parameter determines whether the number of telegrams the device sends to the bus is limited (telegram rate limitation)
6	<u>Date and time source</u> <ul style="list-style-type: none">KNXUser Interface This parameter determines how the device's system time is received <ul style="list-style-type: none">KNX: The system time is received via a clock in the KNX installation.User Interface: The system time has to be set via the UI in System > Date and Time

1.1.20 QA/S1.16.1 Energy Analyzer, 16-fold, MDRC > General

General

Device name: Energy Analyzer Room 224 JueSch

Send delay after bus voltage recovery: 2 s

Enable Group object "In operation": Yes - send with value 0

Cycle time: 60 s

Limit number of telegrams: No Yes

Date and time source: KNX User Interface

The screenshot shows a software interface for configuring an energy analyzer. The 'General' tab is selected and highlighted with a red box. The interface includes a sidebar with expandable sections for 'Load Control', 'Meter 1', 'Meter 2', and 'ZS/S'. The main area contains several configuration fields: 'Device name' (text input), 'Send delay after bus voltage recovery' (numeric input with unit 's'), 'Enable Group object "In operation"' (dropdown menu), 'Cycle time' (numeric input with unit 's'), 'Limit number of telegrams' (radio buttons for 'No' and 'Yes'), and 'Date and time source' (radio buttons for 'KNX' and 'User Interface').

ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX

Parameter window: Load control

1	<p><u>Enable load control</u></p> <p>This parameter enables the Load Control function. Enabling the function shows the parameters and associated group objects.</p> <ul style="list-style-type: none">No: The Load Control function is not enabled.Yes: The Load Control function is enabled in ETS and in the UI
2	<p><u>Number of load shedding stages</u></p> <ul style="list-style-type: none">1...2...8 <p>This parameter determines how many load shedding stages are used. Each slave assigned to load control is assigned, according to priority, to a shedding stage. If the load limit is exceeded, load control sends shedding stages to the bus. Starting with stage 1, the shedding stage is increased until the load is back within the limit. If the load drops below the limit, the shedding stage is reduced again.</p>
3	<p><u>Load limit</u></p> <ul style="list-style-type: none">1....200000.000 W <p>This parameter defines the load limit for the overall system</p>
4	<p><u>Change load limit via Group object</u></p> <p>This parameter enables the Send/receive load limit group object, which changes the load limit parametrized in ETS.</p> <ul style="list-style-type: none">No: The load limit can only be changed in ETS.Yes: The Send/receive load limit group object is enabled.

1.1.20 QA/S1.16.1 Energy Analyzer, 16-fold, MDRC > Load Control

General

1 Enable load control No Yes

Load Control Note: At least one electricity meter must send power values to load control. Set parameter "Send power values to load control" in corresponding electricity meter(s).

2 Number of load shedding stages 8

3 Load limit 150 W

4 Change load limit via Group object No Yes

Reaction time when exceeding load limit 2 s

Reaction time when falling below load limit 30 s

Hysteresis at restart attempt in % of load limit 0 %

Change load limit, hysteresis and reaction times via user interface No Yes

Overwrite load limit, hysteresis and reaction times with download No Yes

Value Group object "Deactivate load control" at restart 0 = load control activated 1 = load control deactivated

ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX

Parameter window: Load control

5	<p><u>Reaction time when exceeding load limit</u></p> <ul style="list-style-type: none">Options: 2...60 s <p>This parameter determines at what point load control starts sending load shedding stages if the load limit is exceeded. If the sum of the power values exceeds the set load limit, load control sends shedding stages to the bus based on the time set here. The shedding stage increases until the power falls below the load limit. The reaction time restarts before each stage increase</p>
6	<p><u>Reaction time when falling below load limit</u></p> <ul style="list-style-type: none">30...65535 s <p>This parameter determines at what point load control starts reducing the shedding stages if the power falls below the load limit. If the power falls back below the limit (i.e. if enough slaves were switched off), load control waits for the length of time set here and then starts reducing the shedding stages in reverse order until it reaches stage 0 (i.e. all slaves are enabled) or the load limit is exceeded again.</p>
7	<p><u>Hysteresis at restart attempt in % of load limit</u></p> <ul style="list-style-type: none">Options: 0...100 % <p>This parameter determines the hysteresis for an attempted restart. If the system is often overloaded during operation, the hysteresis can prevent a shedding stage from repeatedly switching on and off. The hysteresis is subtracted from the load limit. The shedding stage is not reduced again until the system falls below the load limit minus the hysteresis</p>

1.1.20 QA/S1.16.1 Energy Analyzer, 16-fold, MDRC > Load Control

General	Enable load control	<input type="radio"/> No <input checked="" type="radio"/> Yes
Load Control	Note: At least one electricity meter must send power values to load control. Set parameter "Send power values to load control" in corresponding electricity meter(s).	
Meter 1	Number of load shedding stages	8
ZS/S	Load limit	150 W
Meter 2	Change load limit via Group object	<input type="radio"/> No <input checked="" type="radio"/> Yes
ZS/S	5 Reaction time when exceeding load limit	2 s
ZS/S	6 Reaction time when falling below load limit	30 s
Meter 3	7 Hysteresis at restart attempt in % of load limit	0 %
SE/S	Change load limit, hysteresis and reaction times via user interface	<input type="radio"/> No <input checked="" type="radio"/> Yes
Meter 4	Overwrite load limit, hysteresis and reaction times with download	<input type="radio"/> No <input checked="" type="radio"/> Yes
EM/S	Value Group object "Deactivate load control" at restart	<input type="radio"/> 0 = load control activated <input checked="" type="radio"/> 1 = load control deactivated

ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX

Parameter window: Load control

8	<p>Change load limit, hysteresis and reaction times via user interface</p> <ul style="list-style-type: none">• No• Yes <p>This parameter determines whether the load limit, hysteresis and reaction times can be changed via the UI</p>
9	<p>Overwrite load limit, hysteresis and reaction times with download</p> <ul style="list-style-type: none">• No• Yes <p>This parameter determines whether the values entered in the UI for load limit, hysteresis and reaction times are applied in ETS when there is a download.</p> <p>Value Group object "Deactivate load control" at restart</p>
10	<ul style="list-style-type: none">• 0 = Load control activated• 1 = Load control deactivated <p>This parameter determines the value written to the "Deactivate load control" group object after a device restart.</p>

1.1.20 QA/S1.16.1 Energy Analyzer, 16-fold, MDRC > Load Control

General

Enable load control No Yes

Load Control

Note: At least one electricity meter must send power values to load control.
Set parameter "Send power values to load control" in corresponding electricity meter(s).

Meter 1

Number of load shedding stages 8

ZS/S

Load limit 150 W

Change load limit via Group object No Yes

Meter 2

Reaction time when exceeding load limit 2 s

ZS/S

Reaction time when falling below load limit 30 s

Meter 3

Hysteresis at restart attempt in % of load limit 0 %

SE/S

8 Change load limit, hysteresis and reaction times via user interface No Yes

Meter 4

9 Overwrite load limit, hysteresis and reaction times with download No Yes

EM/S

10 Value Group object "Deactivate load control" at restart 0 = load control activated 1 = load control deactivated

ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX

Parameter window: Meter “ZS/S Meter Interface Module”

1	<p><u>Device selection</u></p> <ul style="list-style-type: none">• None• ABB: ZS/S Meter Interface Module• ABB: SE/S Energy Actuator• ABB: EM/S Energy Module• Electricity (generic)• Gas (generic)• Water (generic)• Heat (generic)• Measurement <p>This parameter determines which type of meter is read. It shows meter-specific parameter windows according to the option selected. These are explained in the sections that follow.</p>
2	<p><u>Name</u></p> <p>This field lets you enter a unique name for the meter interface module or the meter you wish to read. It is used for identification purposes, for example, if there are several identical meter interface modules in a single installation. The name you enter will appear in the UI in Management > Meter Management</p>
3	<p><u>Location</u></p> <p>Here you can enter the installation location for the meter interface module. It is used for location purposes, for example, if there are several identical meter interface modules in a single installation. The installation location you enter will appear in the UI in Management > Meter Management</p>

1.20 QA/S1.16.1 Energy Analyzer, 16-fold, MDRC > Meter 1 > ZS/S

General	1 Device selection	ABB: ZS/S Meter Interface Module
Load Control	2 Name	Meter Interface 1: B23-112-100
	3 Location	Training Board (1)
Meter 1	Serial number	85674123
	Enable Group object "Request meter/sensor reading"	<input type="radio"/> No <input checked="" type="radio"/> Yes
Meter 2	Monitor "In Operation" Group object	Yes, value 0
ZS/S	Cycle time	60 s
Meter 3	Meter type	A4x (A-Series), B2x (B-Series)
SE/S	Version	Active energy meter (direct connected)
Meter 4	Voltage network	4-Wire (L1, L2, L3, N)
	Tariffs	<input checked="" type="radio"/> No tariffs <input type="radio"/> 4 tariffs
EM/S	Register for exported energy	<input checked="" type="radio"/> No <input type="radio"/> Yes
Meter 5	Send power values to load control	No

ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX

Parameter window: Meter “ZS/S Meter Interface Module”

4	<p><u>Serial number</u></p> <p>This field lets you enter a serial number or ID number for the meter interface module. This is another way to identify it if there are several identical meter interface modules in a single installation. The serial number you enter will appear in the UI in Management > Meter Management</p>
5	<p><u>Enable Group object "Request meter/sensor reading"</u></p> <p>This parameter determines whether meter readings are received via a separate group object.</p> <ul style="list-style-type: none">NoYes: Shows the Request meter reading group object, which enables active reading of the present meter readings. Readings from connected meters are requested one after the other roughly every 60 seconds.
6	<p><u>Monitor "In Operation" Group object</u></p> <p>This parameter determines whether the In operation group object monitors the presence of the ZS/S on the bus.</p> <ul style="list-style-type: none">No: No monitoringYes, value 0: Shows the In operation group object and the Cycle time parameter. The group object expects a value 0 telegram from the ZS/S within the cycle time.Yes, value 1: Shows the In operation group object and the Cycle time parameter. The group object expects a value 1 telegram from the ZS/S within the cycle time.Yes, both values: Shows the In operation group object and the Cycle time parameter. The group object expects a value 0 or 1 telegram from the ZS/S within the cycle time.

1.1.20 QA/S1.16.1 Energy Analyzer, 16-fold, MDRC > Meter 1 > ZS/S

General	Device selection	ABB: ZS/S Meter Interface Module
Load Control	Name	Meter Interface 1: B23-112-100
	Location	Training Board (1)
Meter 1	Serial number	85674123
ZS/S	Enable Group object "Request meter/sensor reading"	<input type="radio"/> No <input checked="" type="radio"/> Yes
Meter 2	Monitor "In Operation" Group object	Yes, value 0
ZS/S	Cycle time	60 s
Meter 3	Meter type	A4x (A-Series), B2x (B-Series)
SE/S	Version	Active energy meter (direct connected)
Meter 4	Voltage network	4-Wire (L1, L2, L3, N)
EM/S	Tariffs	<input checked="" type="radio"/> No tariffs <input type="radio"/> 4 tariffs
Meter 5	Register for exported energy	<input checked="" type="radio"/> No <input type="radio"/> Yes
	Send power values to load control	No

ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX

Parameter window: Meter “ZS/S Meter Interface Module”

7	<u>Meter type</u> A4x (A-series), B2x (B-series) The Energy Analyzer QA/S can only be used in conjunction with type A4x (A-Series) and B2x (B-Series) meters. The meters must be parametrized in the ZS/S.
8	<u>Version</u> <ul style="list-style-type: none">• Active energy meter (direct connected)• Active energy meter (transformer rated)• Combination meter (direct connected)• Combination meter (transformer rated)
9	<u>Voltage network</u> <ul style="list-style-type: none">• 2-Wire (L, N)• 3-Wire (L1, L2, L3)• 4-Wire (L1, L2, L3, N)

1.1.20 QA/S1.16.1 Energy Analyzer, 16-fold, MDRC > Meter 1 > ZS/S

General	Device selection	ABB: ZS/S Meter Interface Module
Load Control	Name	Meter Interface 1: B23-112-100
	Location	Training Board (1)
	Serial number	85674123
	Enable Group object "Request meter/sensor reading"	<input type="radio"/> No <input checked="" type="radio"/> Yes
	Monitor "In Operation" Group object	Yes, value 0
	Cycle time	60 s
	Meter type	A4x (A-Series), B2x (B-Series)
	Version	Active energy meter (direct connected)
	Voltage network	4-Wire (L1, L2, L3, N)
	Tariffs	<input checked="" type="radio"/> No tariffs <input type="radio"/> 4 tariffs
	Register for exported energy	<input checked="" type="radio"/> No <input type="radio"/> Yes
	Send power values to load control	No

Note: The parameter settings here must match those in the ZS/S.

ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX

Parameter window: Meter “ZS/S Meter Interface Module”

10	<u>Tariffs</u> <ul style="list-style-type: none">No tariffs4 tariffs
11	<u>Register for exported energy</u> <ul style="list-style-type: none">NoYes
12	<u>Send power values to load control</u> <p>This parameter determines which power value from the connected meter is sent to load control and taken into account in the calculation.</p> <ul style="list-style-type: none">NoSum of all phasesPhase 1Phase 2Phase 3Phase 1, 2Phase 1, 3Phase 2, 3

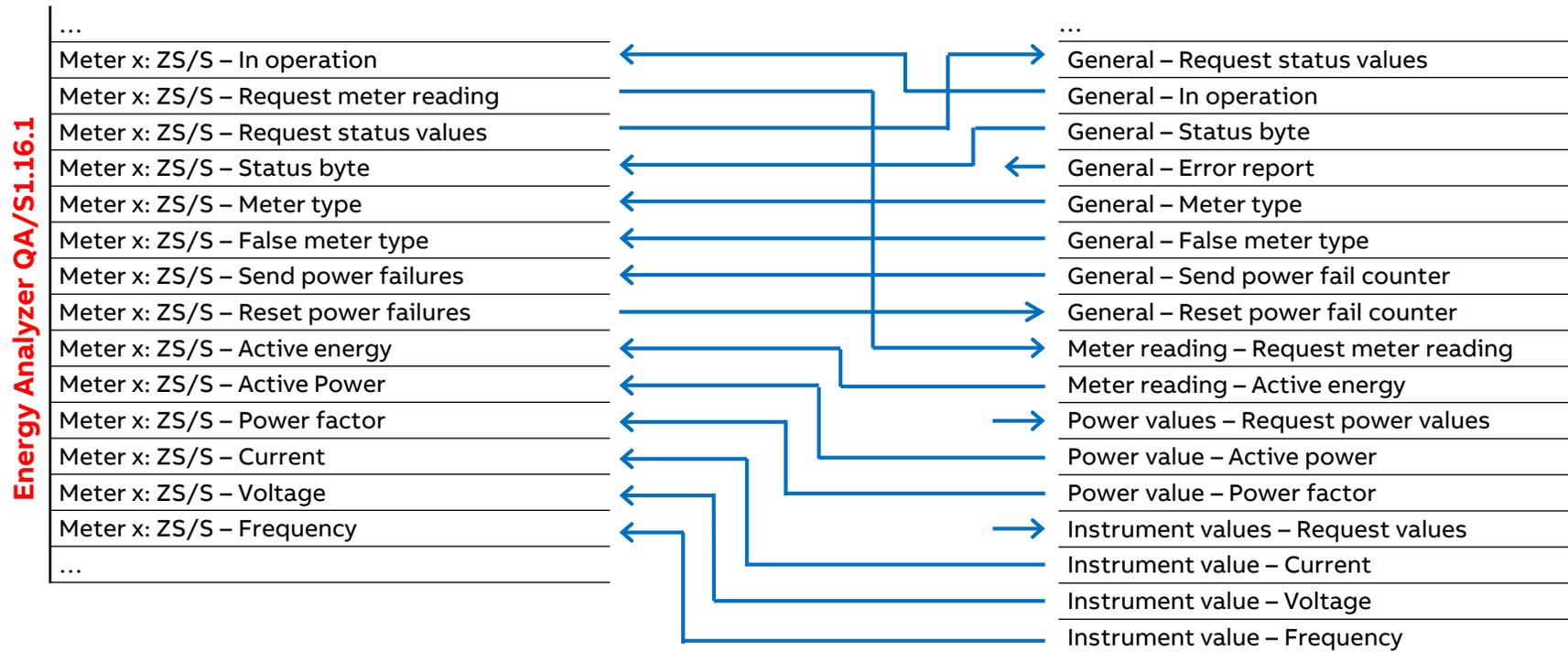
The screenshot shows the configuration window for '1.1.20 QA/S1.16.1 Energy Analyzer, 16-fold, MDRC > Meter 1 > ZS/S'. The interface is divided into two columns: a left sidebar with expandable sections for 'General', 'Load Control', and five 'Meter' entries (Meter 1 to Meter 5), and a right column for parameter settings. The 'Meter 1' section is expanded, and the 'ZS/S' option is highlighted with a red box. The settings for 'Meter 1' are as follows:

Section	Parameter	Value
General	Device selection	ABB: ZS/S Meter Interface Module
	Name	Meter Interface 1: B23-112-100
Load Control	Location	Training Board (1)
	Serial number	85674123
ZS/S	Enable Group object "Request meter/sensor reading"	<input checked="" type="radio"/> Yes <input type="radio"/> No
	Monitor "In Operation" Group object	Yes, value 0
Meter 1	Cycle time	60 s
	Meter type	A4x (A-Series), B2x (B-Series)
Meter 1	Version	Active energy meter (direct connected)
	Voltage network	4-Wire (L1, L2, L3, N)
Meter 4	10 Tariffs	<input checked="" type="radio"/> No tariffs <input type="radio"/> 4 tariffs
	11 Register for exported energy	<input checked="" type="radio"/> No <input type="radio"/> Yes
Meter 5	12 Send power values to load control	No

Note: The parameter settings here must match those in the ZS/S.

ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX – Assignment of group addresses



Meter Interface ZS/S 1.1

Example of a ZS/S parameterization:
 EQmeter “B21 113 100”
 Meter type “A/B-series”
 Active energy meter (direct)
 Voltage network 2-wire (N,L), No tariffs
 Send object “In operation” cyclically
 Send values (meter, power and instrument) on request

ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX

Parameter window: SE/S Energy Act. – EM/S Energy Mod.

1	<p><u>Name</u> This field lets you enter a unique name for the SE/S Energy Actuator or EM/S Energy Module. It is used for identification purposes, for example, if there are several identical energy actuators or modules in a single installation. The name you enter will appear in the UI in Management > Meter Management</p>
2	<p><u>Location</u> Here you can enter the installation location for the SE/S Energy Actuator or EM/S Energy Module. It is used for location purposes, for example, if there are several identical energy actuators or modules in a single installation. The installation location you enter will appear in the UI in Management > Meter Management</p>
3	<p><u>Serial number</u> This field lets you enter a serial or ID number for the SE/S Energy Actuator or EM/S Energy Module. This is another way to identify it if there are several identical energy actuators or modules in a single installation. The serial number you enter will appear in the UI in Management > Meter Management</p>
4	<p><u>Enable Group object "Request meter/sensor reading"</u> This parameter determines whether meter readings are received via a separate group object.</p> <ul style="list-style-type: none">• No• Yes: Shows the Request meter reading group object, which enables active reading of the present meter readings. Readings from connected meters are requested one after the other roughly every 60 seconds.

The screenshot shows the configuration interface for '1.1.20 QA/S1.16.1 Energy Analyzer, 16-fold, MDRC > Meter 3 > SE/S'. The interface is divided into a left sidebar and a main configuration area. The sidebar lists meters from Meter 3 to Meter 6, with 'SE/S' selected under Meter 3. The main area is titled 'General' and contains the following settings:

- Device selection:** ABB: SE/S Energy Actuator
- Name:** Energy Actuator 1: SE/S
- Location:** Training Board (3)
- Serial number:** 1978563
- Enable Group object "Request meter/sensor reading":** Yes (selected)
- Monitor "In Operation" Group object:** Yes, value 0
- Cycle time:** 60 s
- Send power values to load control:** Total

ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX

Parameter window: SE/S Energy Act. – EM/S Energy Mod.

5

Monitor "In Operation" Group object

This parameter determines whether the In operation group object monitors the presence of the SE/S or EM/S on the bus.

- No: No monitoring
- Yes, value 0: Shows the In operation group object and the Cycle time parameter. The group object expects a value 0 telegram from the SE/S or EM/S within the cycle time.
- Yes, value 1: Shows the In operation group object and the Cycle time parameter. The group object expects a value 1 telegram from the SE/S or EM/S within the cycle time.
- Yes, both values: Shows the In operation group object and the Cycle time parameter. The group object expects a value 0 or 1 telegram from the SE/S or EM/S within the cycle time.

6

Send power values to load control

This parameter determines which power value from the connected meter is sent to load control and taken into account in the calculation.

- No: No power value is sent; the meter is not taken into account in the load control
- Total: Sends the total power/sum of all channels
- Channel A: Sends the channel A power value
- Channel B: Sends the channel B power value
- Channel C: Sends the channel C power value
- Channel A, B: Sends the (sum of the) channel A and B power values
- Channel A, C: Sends the (sum of the) channel A and C power values
- Channel B, C: Sends the (sum of the) channel B and C power values

1.1.20 QA/S1.16.1 Energy Analyzer, 16-fold, MDRC > Meter 3 > SE/S

General	Device selection	ABB: SE/S Energy Actuator
Load Control	Name	Energy Actuator 1: SE/S
Meter 3	Location	Training Board (3)
SE/S	Serial number	1978563
Meter 4	Enable Group object "Request meter/sensor reading"	<input type="radio"/> No <input checked="" type="radio"/> Yes
EM/S	Monitor "In Operation" Group object	Yes, value 0
Meter 5	Cycle time	60 s
Electricity	Send power values to load control	Total
Meter 6		

ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX – Assignment of group addresses

Energy Analyzer QA/S1.16.1	Meter x: SE/S – In operation	←	System – In operation	Energy Actuator SE/S3.16.1
	Meter x: SE/S – Request meter reading	→	General – Request status values	
	Meter x: SE/S – Request status values	→	General – Request meter readings	
	Meter x: SE/S – Measurement circuit active	←	Diagnostics – Measurement circuit active	
	Meter x: SE/S – Meter reading	←	Meter total – Meter reading	
	Meter x: SE/S – Active power	←	Active power total – Active power	
	Meter x: SE/S – Frequency	←	Frequency – Frequency	
	Meter x: SE/S – A: Meter reading	←	A: Meter – Meter reading	
	Meter x: SE/S – A: Active power	←	A: Active power – Active power	
	Meter x: SE/S – A: Current	←	A: Current – Current value	
	Meter x: SE/S – A: Voltage	←	A: Voltage – Voltage	
	Meter x: SE/S – A: Apparent power	←	A: Apparent power – Apparent power	
	Meter x: SE/S – A: Power factor	←	A: Power factor – Power factor	
	Meter x: SE/S – B: Meter reading	←	B: Meter – Meter reading	
	Meter x: SE/S – B: Active power	←	B: Active power – Active power	
	Meter x: SE/S – B: Current	←	B: Current – Current value	
	Meter x: SE/S – B: Voltage	←	B: Voltage – Voltage	
	Meter x: SE/S – B: Apparent power	←	B: Apparent power – Apparent power	
	Meter x: SE/S – B: Power factor	←	B: Power factor – Power factor	
	Meter x: SE/S – C: Meter reading	←	C: Meter – Meter reading	
Meter x: SE/S – C: Active power	←	C: Active power – Active power		
Meter x: SE/S – C: Current	←	C: Current – Current value		
Meter x: SE/S – C: Voltage	←	C: Voltage – Voltage		
Meter x: SE/S – C: Apparent power	←	C: Apparent power – Apparent power		
Meter x: SE/S – C: Power factor	←	C: Power factor – Power factor		

ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX

Parameter window: Electricity (generic)

1	Name In this field, you can enter a unique name for the meter. It is used for identification purposes, for example, if there are several identical meters in a single installation. The name you enter will appear in the UI in Management > Meter Management
2	Location Here you can enter the installation location for the meter. It is used for location purposes, for example, if there are several identical meters in a single installation. The installation location you enter will appear in the UI in Management > Meter Management
3	Serial number This field lets you enter a serial number or ID number for the meter. This is another way to identify it if there are several identical meters in a single installation. The serial number you enter will appear in the UI in Management > Meter Management
4	Enable Group object "Request meter/sensor reading" This parameter determines whether meter readings are received via a separate group object. <ul style="list-style-type: none">• No• Yes: Shows the Request meter reading group object, which enables active reading of the present meter readings. Readings from connected meters are requested one after the other roughly every 60 seconds.

1.1.20 QA/S1.16.1 Energy Analyzer, 16-fold, MDRC > Meter 5 > Electricity

General	Device selection	Electricity (generic)
Load Control	1 Name	Energy Meter: Generic
	2 Location	Training Board (5)
Meter 5	3 Serial number	4419782
	4 Enable Group object "Request meter/sensor reading"	<input type="radio"/> No <input checked="" type="radio"/> Yes
Meter 6	Note: Connected device must support this function	
Gas	Communication monitoring	No
	Voltage network	4-Wire (L1, L2, L3, N)
Meter 7	Tariffs	No tariffs
Water	Register for exported Energy	<input checked="" type="radio"/> No <input type="radio"/> Yes
Meter 8	Data point type for active energy	13.010 Active Energy (Wh) 4 Byte
	Data point type for reactive energy	13.012 Reactive Energy (varh) 4 Byte
Heat	Data point type for apparent energy	13.011 Apparent Energy (VAh) 4 Byte
Meter 9		
Sensor	Send power values to load control	No

ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX

Parameter window: Electricity (generic)

5

Communication monitoring

This parameter determines whether the In operation group object monitors the presence of the meter on the bus.

- No: No monitoring
- Yes, value 0: Shows the In operation group object and the Cycle time parameter. The group object expects a value 0 telegram from the meter within the cycle time.
- Yes, value 1: Shows the In operation group object and the Cycle time parameter. The group object expects a value 1 telegram from the meter within the cycle time.
- Yes, both values: Shows the In operation group object and the Cycle time parameter. The group object expects a value 0 or 1 telegram from the meter within the cycle time.
- General monitoring: If any telegram fails to reach an Energy Analyzer group object within the set cycle time, the meter will be flagged as "disconnected" in the meter management overview.
- Therefore the meter's group object must be linked with the corresponding KNX Energy Analyzer group object.

6

Voltage network

This parameter determines whether the meter has a 2-, 3- or 4-wire connection and provides a corresponding tab. To use the tab, select the relevant option.

- 2-Wire (L, N): The meter is a 2-wire. The group objects for a 2-wire meter appear.
- 3-Wire (L1, L2, L3): The meter is a 3-wire. The group objects for a 3-wire meter appear.
- 4-Wire (L1, L2, L3, N): The meter is a 4-wire. The group objects for a 4-wire meter appear.

1.1.20 QA/S1.16.1 Energy Analyzer, 16-fold, MDRC > Meter 5 > Electricity

General	Device selection	Electricity (generic)
Load Control	Name	Energy Meter: Generic
	Location	Training Board (5)
	Serial number	4419782
	Enable Group object "Request meter/sensor reading"	<input type="radio"/> No <input checked="" type="radio"/> Yes
	Note: Connected device must support this function	
Meter 5	5 Communication monitoring	No
	6 Voltage network	4-Wire (L1, L2, L3, N)
Meter 6	Tariffs	No tariffs
Gas	Register for exported Energy	<input checked="" type="radio"/> No <input type="radio"/> Yes
Meter 7	Data point type for active energy	13.010 Active Energy (Wh) 4 Byte
Water	Data point type for reactive energy	13.012 Reactive Energy (varh) 4 Byte
Meter 8	Data point type for apparent energy	13.011 Apparent Energy (VAh) 4 Byte
Heat		
Meter 9	Send power values to load control	No
Sensor		

ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX

Parameter window: Electricity (generic)

7	<p><u>Tariffs</u> This parameter determines whether the meter has a tariff tab. To use the tab, select the relevant option.</p> <ul style="list-style-type: none">• No tariffs: The meter has no tariffs.• 2 tariffs: The meter has 2 tariffs. The group objects for 2 tariffs appear.• 4 tariffs: The meter has 4 tariffs. The group objects for 4 tariffs appear.
8	<p><u>Register for exported energy</u> This parameter determines whether the meter has an exported energy tab. To use the tab, select Yes.</p> <ul style="list-style-type: none">• No• Yes: The group objects for exported energy appear.
9	<p><u>Data point type for active energy</u> This parameter determines the data type used to receive active energy. The corresponding group object appears when you make a selection.</p> <ul style="list-style-type: none">• 13.010 Active Energy (Wh) 4 Byte• 13.013 Active Energy (kWh) 4 Byte• 29.010 Active Energy (Wh) 8 Byte

1.1.20 QA/S1.16.1 Energy Analyzer, 16-fold, MDRC > Meter 5 > Electricity

General	Device selection	Electricity (generic)
Load Control	Name	Energy Meter: Generic
	Location	Training Board (5)
Meter 5	Serial number	4419782
Electricity	Enable Group object "Request meter/sensor reading"	<input type="radio"/> No <input checked="" type="radio"/> Yes
Meter 6	Note: Connected device must support this function	
Gas	Communication monitoring	No
	Voltage network	4-Wire (L1, L2, L3, N)
Meter 7	7 Tariffs	No tariffs
Water	8 Register for exported Energy	<input checked="" type="radio"/> No <input type="radio"/> Yes
Meter 8	9 Data point type for active energy	13.010 Active Energy (Wh) 4 Byte
Heat	Data point type for reactive energy	13.012 Reactive Energy (varh) 4 Byte
	Data point type for apparent energy	13.011 Apparent Energy (VAh) 4 Byte
Meter 9		
Sensor	Send power values to load control	No

ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX

Parameter window: Electricity (generic)

10	<p><u>Data point type for reactive energy</u> This parameter determines the data type used to receive reactive energy. The corresponding group object appears when you make a selection.</p> <ul style="list-style-type: none">• None• 13.012 Reactive Energy (varh) 4 Byte• 13.015 Reactive Energy (kvarh) 4 Byte• 29.012 Reactive Energy (varh) 8 Byte
11	<p><u>Data point type for apparent energy</u> This parameter determines the data type used to receive apparent energy. The corresponding group object appears when you make a selection.</p> <ul style="list-style-type: none">• None• 13.011 Apparent Energy (VAh) 4 Byte• 13.014 Apparent Energy (kVAh) 4 Byte• 29.011 Apparent Energy (VAh) 8 Byte
12	<p><u>Send power values to load control</u> This parameter determines which power value from the connected meter is sent to load control and taken into account in the calculation.</p> <ul style="list-style-type: none">• No: No power value is sent; the meter is not taken into account in the load control.• Sum of all phases: Sends the total power/sum of all phases• Phase 1: Sends the phase L1 power value• Phase 2: Sends the phase L2 power value• Phase 3: Sends the phase L3 power value• ...

1.1.20 QA/S1.16.1 Energy Analyzer, 16-fold, MDRC > Meter 5 > Electricity

General	Device selection	Electricity (generic) ▼
Load Control	Name	Energy Meter: Generic
	Location	Training Board (5)
Meter 5	Serial number	4419782
	Enable Group object "Request meter/sensor reading"	<input type="radio"/> No <input checked="" type="radio"/> Yes
	Note: Connected device must support this function	
Meter 6	Communication monitoring	No ▼
Gas	Voltage network	4-Wire (L1, L2, L3, N) ▼
Meter 7	Tariffs	No tariffs ▼
Water	Register for exported Energy	<input checked="" type="radio"/> No <input type="radio"/> Yes
Meter 8	Data point type for active energy	13.010 Active Energy (Wh) 4 Byte ▼
	10 Data point type for reactive energy	13.012 Reactive Energy (varh) 4 Byte ▼
Heat	11 Data point type for apparent energy	13.011 Apparent Energy (VAh) 4 Byte ▼
Meter 9	12 Send power values to load control	No ▼
Sensor		

ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX

Parameter window: Gas (generic)

1	<u>Name</u> In this field, you can enter a unique name for the meter. It is used for identification purposes, for example, if there are several identical meters in a single installation. The name you enter will appear in the UI in Management > Meter Management
2	<u>Location</u> Here you can enter the installation location for the meter. It is used for location purposes, for example, if there are several identical meters in a single installation. The installation location you enter will appear in the UI in Management > Meter Management
3	<u>Serial number</u> This field lets you enter a serial number or ID number for the meter. This is another way to identify it if there are several identical meters in a single installation. The serial number you enter will appear in the UI in Management > Meter Management
4	<u>Enable Group object "Request meter/sensor reading"</u> This parameter determines whether meter readings are received via a separate group object. <ul style="list-style-type: none">• No• Yes: Shows the Request meter reading group object, which enables active reading of the present meter readings. Readings from connected meters are requested one after the other roughly every 60 seconds.

1.1.20 QA/S1.16.1 Energy Analyzer, 16-fold, MDRC > Meter 6 > Gas

General	Device selection	Gas (generic)
Load Control	1 Name	Gas Meter: Generic
Meter 6	2 Location	Training Board (6)
Gas	3 Serial number	10978314
Meter 7	4 Enable Group object "Request meter/sensor reading"	<input checked="" type="radio"/> No <input type="radio"/> Yes
Water	Communication monitoring	No
Meter 8	Receive consumption	14.076 (F32) Volume (m ³)
	Receive flow rate	13.002 (S32) Flow rate (m ³ /h)

ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX

Parameter window: Gas (generic)

5	<u>Communication monitoring</u> See parameter window “Electricity (generic)”
6	<u>Receive consumption</u> This parameter determines the data type used to receive gas consumption. The corresponding group object appears when you make a selection. <ul style="list-style-type: none">• No• 14.076 (F32) Volume (m³)• 12.xxx (U32) Volume (m³)• 12.xxx (U32) Volume (l)
7	<u>Receive flow rate</u> This parameter determines the data type used to receive flow rate. The corresponding group object appears when you make a selection. <ul style="list-style-type: none">• No• 14.077 (F32) Flow rate (m³/s)• 12.xxx (U32) Flow rate (m³/h)• 12.xxx (U32) Flow rate (l/h)• 13.002 (S32) Flow rate (m³/h)

1.1.20 QA/S1.16.1 Energy Analyzer, 16-fold, MDRC > Meter 6 > Gas

General	Device selection	Gas (generic)
Load Control	Name	Gas Meter: Generic
	Location	Training Board (6)
	Serial number	10978314
	Enable Group object "Request meter/sensor reading"	<input checked="" type="radio"/> No <input type="radio"/> Yes
Meter 6	5 Communication monitoring	No
	6 Receive consumption	14.076 (F32) Volume (m ³)
	7 Receive flow rate	13.002 (S32) Flow rate (m ³ /h)
Meter 7		
Water		
Meter 8		

ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX

Parameter window: Water (generic)

1	<p><u>Name</u> In this field, you can enter a unique name for the meter. It is used for identification purposes, for example, if there are several identical meters in a single installation. The name you enter will appear in the UI in Management > Meter Management</p>
2	<p><u>Location</u> Here you can enter the installation location for the meter. It is used for location purposes, for example, if there are several identical meters in a single installation. The installation location you enter will appear in the UI in Management > Meter Management</p>
3	<p><u>Serial number</u> This field lets you enter a serial number or ID number for the meter. This is another way to identify it if there are several identical meters in a single installation. The serial number you enter will appear in the UI in Management > Meter Management</p>
4	<p><u>Enable Group object "Request meter/sensor reading"</u> This parameter determines whether meter readings are received via a separate group object.</p> <ul style="list-style-type: none">• No• Yes: Shows the Request meter reading group object, which enables active reading of the present meter readings. Readings from connected meters are requested one after the other roughly every 60 seconds.

1.1.20 QA/S1.16.1 Energy Analyzer, 16-fold, MDRC > Meter 7 > Water

General	Device selection	Water (generic)
Load Control	1 Name	Water Meter: Generic
Meter 7	2 Location	Training Board (7)
Water	3 Serial number	90294256
Meter 8	4 Enable Group object "Request meter/sensor reading"	<input checked="" type="radio"/> No <input type="radio"/> Yes
Heat	Communication monitoring	No
Meter 9	Receive consumption	14.076 (F32) Volume (m³)
	Receive flow rate	13.002 (S32) Flow rate (m³/h)

ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX

Parameter window: Water (generic)

5	<u>Communication monitoring</u> See parameter window "Electricity (generic)"
6	<u>Receive consumption</u> This parameter determines the data type used to receive water consumption. The corresponding group object appears when you make a selection. <ul style="list-style-type: none">• No• 14.076 (F32) Volume (m3)• 12.xxx (U32) Volume (m3)• 12.xxx (U32) Volume (l)
7	<u>Receive flow rate</u> This parameter determines the data type used to receive flow rate. The corresponding group object appears when you make a selection. <ul style="list-style-type: none">• No• 14.077 (F32) Flow rate (m³/s)• 12.xxx (U32) Flow rate (m³/h)• 12.xxx (U32) Flow rate (l/h)• 13.002 (S32) Flow rate (m³/h)

1.1.20 QA/S1.16.1 Energy Analyzer, 16-fold, MDRC > Meter 7 > Water

General	Device selection	Water (generic)
Load Control	Name	Water Meter: Generic
Meter 7	Location	Training Board (7)
	Serial number	90294256
	Enable Group object "Request meter/sensor reading"	<input checked="" type="radio"/> No <input type="radio"/> Yes
- Meter 8	5 Communication monitoring	No
Heat	6 Receive consumption	14.076 (F32) Volume (m ³)
- Meter 9	7 Receive flow rate	13.002 (S32) Flow rate (m ³ /h)

ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX

Parameter window: Heat (generic)

1	<p><u>Name</u> In this field, you can enter a unique name for the meter. It is used for identification purposes, for example, if there are several identical meters in a single installation. The name you enter will appear in the UI in Management > Meter Management</p>
2	<p><u>Location</u> Here you can enter the installation location for the meter. It is used for location purposes, for example, if there are several identical meters in a single installation. The installation location you enter will appear in the UI in Management > Meter Management</p>
3	<p><u>Serial number</u> This field lets you enter a serial number or ID number for the meter. This is another way to identify it if there are several identical meters in a single installation. The serial number you enter will appear in the UI in Management > Meter Management</p>
4	<p><u>Enable Group object "Request meter/sensor reading"</u> This parameter determines whether meter readings are received via a separate group object.</p> <ul style="list-style-type: none">• No• Yes: Shows the Request meter reading group object, which enables active reading of the present meter readings. Readings from connected meters are requested one after the other roughly every 60 seconds.

1.1.20 QA/S1.16.1 Energy Analyzer, 16-fold, MDRC > Meter 8 > Heat

General	Device selection	Heat (generic) ▼
Load Control	1 Name	Heat Meter: Generic
	2 Location	Training Board (8)
	3 Serial number	1178965
	4 Enable Group object "Request meter/sensor reading"	<input type="radio"/> No <input checked="" type="radio"/> Yes
– Meter 9	Note: Connected device must support this function	
ZS/S	Communication monitoring	No ▼
– Meter 3	Data point type for heating energy	13.010 (V32) Active Energy (Wh) ▼
SE/S	Data point type for cooling energy	No ▼
– Meter 4	Receive volume consumption	14.076 (F32) Volume (m³) ▼
EM/S	Receive active energy	<input checked="" type="radio"/> No <input type="radio"/> Yes
	Receive flow rate	No ▼

ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX

Parameter window: Heat (generic)

5	<u>Communication monitoring</u> See parameter window "Electricity (generic)"
6	<u>Data point type for heating energy</u> This parameter determines the data type used to receive heating energy meter readings. The corresponding group object appears when you make a selection. <ul style="list-style-type: none">• 13.010 (V32) Active Energy (Wh)• 13.013 (V32) Active Energy (kWh)• 112.xxx (U32) Active Energy (kWh)• 12.xxx (U32) Active Energy (MWh)
7	<u>Data point type for cooling energy</u> This parameter determines the data type used to receive cooling energy meter readings. The corresponding group object appears when you make a selection. No <ul style="list-style-type: none">• 13.010 (V32) Active Energy (Wh)• 13.013 (V32) Active Energy (kWh)• 12.xxx (U32) Active Energy (kWh)• 12.xxx (U32) Active Energy (MWh)

1.1.20 QA/S1.16.1 Energy Analyzer, 16-fold, MDRC > Meter 8 > Heat

General	Device selection	Heat (generic)
Load Control	Name	Heat Meter: Generic
Meter 1	Location	Training Board (8)
Heat	Serial number	1178965
	Enable Group object "Request meter/sensor reading"	<input type="radio"/> No <input checked="" type="radio"/> Yes
Meter 9	Note: Connected device must support this function	
ZS/S	5 Communication monitoring	No
Meter 3	6 Data point type for heating energy	13.010 (V32) Active Energy (Wh)
SE/S	7 Data point type for cooling energy	No
Meter 4	Receive volume consumption	14.076 (F32) Volume (m³)
EM/S	Receive active energy	<input checked="" type="radio"/> No <input type="radio"/> Yes
	Receive flow rate	No

ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX

Parameter window: Heat (generic)

8	<p><u>Receive volume consumption</u> This parameter determines the data type used to receive accumulated volume. The corresponding group object appears when you make a selection</p> <ul style="list-style-type: none">No14.076 (F32) Volume (m³)12.xxx (U32) Volume (m³)12.xxx (U32) Volume (l)
9	<p><u>Receive active energy</u> This parameter determines the data type used to receive active energy. The corresponding group object appears when you make a selection.</p> <ul style="list-style-type: none">No: No actionYes: The group object for receiving heating energy appears.
10	<p><u>Receive flow rate</u> This parameter determines the data type used to receive flow rate. The corresponding group object appears when you make a selection.</p> <ul style="list-style-type: none">No14.077 (F32) Flow rate (m³/s)12.xxx (U32) Flow rate (m³/h)12.xxx (U32) Flow rate (l/h)13.002 (S32) Flow rate (m³/h)

The screenshot shows the configuration window for '1.1.20 QA/S1.16.1 Energy Analyzer, 16-fold, MDRC > Meter 8 > Heat'. The 'Heat' parameter is highlighted with a red box. The configuration includes:

- General:** Device selection: Heat (generic)
- Load Control:** Name: Heat Meter: Generic; Location: Training Board (8); Serial number: 1178965
- Meter 1:** Heat (highlighted)
- Meter 9:** Note: Connected device must support this function
- ZS/S:** Communication monitoring: No
- Meter 3:** Data point type for heating energy: 13.010 (V32) Active Energy (Wh); Data point type for cooling energy: No
- SE/S:** 8 Receive volume consumption: 14.076 (F32) Volume (m³)
- Meter 4:** 9 Receive active energy: No (selected), Yes
- EM/S:** 10 Receive flow rate: No

ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX – Assignment of group addresses

Energy Analyzer QA/S1.16.1	...	
	Meter x: Gen. El. – In operation	←
	Meter x: Gen. El. – Request meter reading	→
	Meter x: Gen. El. – Active energy	←
	Meter x: Gen. El. – Reactive energy	←
	Meter x: Gen. El. – Apparent energy	←
	Meter x: Gen. El. – Active power	←
	Meter x: Gen. El. – Reactive power	←
	Meter x: Gen. El. – Apparent power	←
	Meter x: Gen. El. – Phase angle power	←
	Meter x: Gen. El. – Power factor	←
	Meter x: Gen. El. – Current	←
	Meter x: Gen. El. – Voltage	←
	Meter x: Gen. El. – Frequency	←
	Meter x: Gen. El. – Phase angle current	←
	Meter x: Gen. El. – Phase angle voltage	←
Meter x: Gen. El. – Quadrant	←	

Example of a QA/S parameterization:

Meter type “Electricity” (generic)

- Voltage network 2-wire (N,L)
- No tariffs
- Communication monitoring via object “In operation” cyclically

Energy Analyzer QA/S1.16.1	...	
	Meter x: Water – In operation	←
	Meter x: Water – Request meter reading	→
	Meter x: Water – Volume (m3)	←
	Meter x: Water – Flow rate (m3/s)	←
	...	

Example of a QA/S parameterization:

Meter type “Water” (generic)

- Receive consumption m³ (DPT 14.076)
- Receive flow rate m³/s (DPT 14.077)
- Communication monitoring via object “In operation” cyclically

ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX – Assignment of group addresses

Energy Analyzer QA/S1.16.1	...	
	Meter x: Heat – In operation	←
	Meter x: Heat – Request meter reading	→
	Meter x: Heat – Consumption heat (Wh)	←
	Meter x: Heat – Volume (m3)	←
	Meter x: Heat – Power	←
	Meter x: Heat – Flow rate (m3/s)	←
	Meter x: Heat – Flow temperature	←
	Meter x: Heat – Return temperature	←
	Meter x: Heat – Temperature difference	←
	...	

Example of a QA/S parameterization:

Meter type “Heat” (generic)

- Receive energy consumption heating “Active energy” (DPT 13.010)
- Receive volume consumption “Volume” m³ (DPT 14.076)
- Receive volume flow rate “Flow rate” m³/s (DPT 14.0767)
- Communication monitoring via object “In operation” cyclically

Energy Analyzer QA/S1.16.1	...	
	Meter x: Gas – In operation	←
	Meter x: Gas – Request meter reading	→
	Meter x: Gas – Volume (m ³)	←
	Meter x: Gas – Flow rate (m ³ /s)	←
	...	

Example of a QA/S parameterization:

Meter type “Gas” (generic)

- Receive consumption “Volume” m³ (DPT 14.076)
- Receive flow rate m³/s (DPT 14.077)
- Communication monitoring via object “In operation” cyclically

ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX

Measurement

As an additional function, the Energy Analyzer offers the possibility to record further measured values in addition to the energy values

Up to ten different measured values or environmental parameters can be recorded for each configured sensor and displayed in the user interface

In combination with the alarm function, a notification can be sent by email if a limit value is exceeded

- Temperature (°C/°F)
- Rel. Humidity % (1-byte/2-bytes-value)
- CO₂/Air Quality ppm
- PM2.5: particulate matter
- PM10: particulate matter
- Wind Speed m/s
- Brightness lux

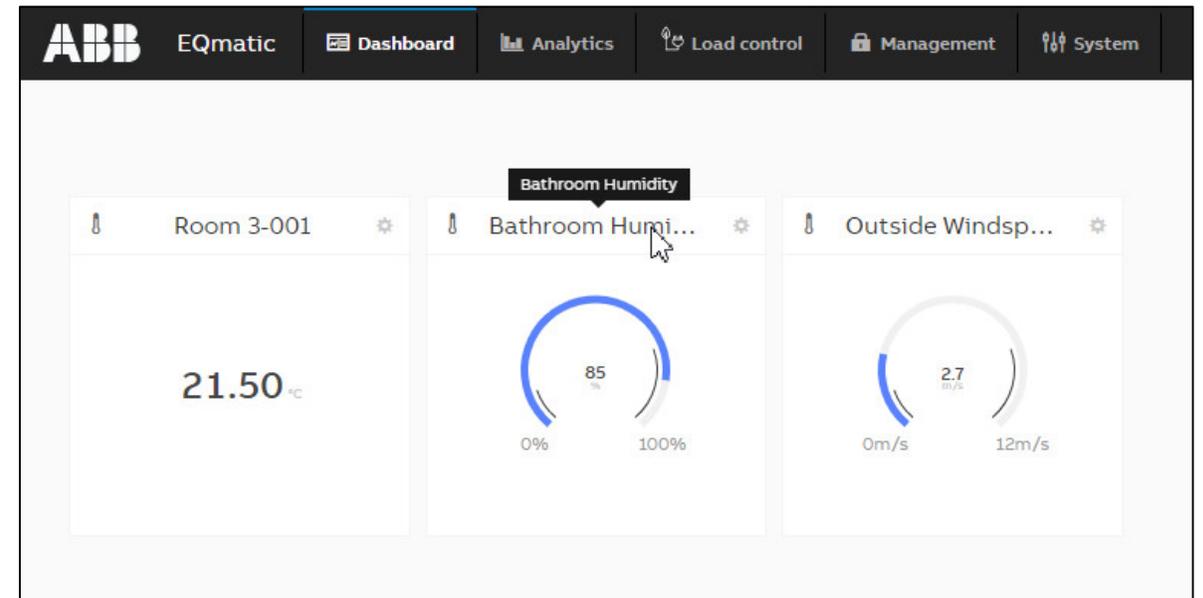


ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX

Parameter window: Measurement

1	<p><u>Name</u> In this field, you can enter a unique name for the sensor. It is used for identification purposes, for example, if there are several identical sensors in a single installation. The name you enter will appear in the UI in Management > Meter Management</p>
2	<p><u>Location</u> Here you can enter the installation location for the sensor. It is used for location purposes, for example, if there are several identical sensors in a single installation. The installation location you enter will appear in the UI in Management > Meter Management</p>
3	<p><u>Serial number</u> This field lets you enter a serial number or ID number for the sensor. This is another way to identify it if there are several identical sensors in a single installation. The serial number you enter will appear in the UI in Management > Meter Management</p>
4	<p><u>Enable Group object "Request meter/sensor reading"</u> This parameter determines whether meter readings/measured values are received via a separate group object.</p> <ul style="list-style-type: none">• No• Yes: Shows the Request meter/sensor reading group object. This group object enables active reading of the present meter readings/measured values. Readings/measured values from connected meters/sensors are requested one after the other roughly every 60 seconds.

1.1.20 QA/S1.16.1 Energy Analyzer, 16-fold, MDRC > Meter 9 > Sensor

General	1 Device selection	Measurement
Load Control	2 Name	Sensor: Measurement
Meter 9	3 Location	Training Board (9)
Sensor	4 Serial number	
Meter 2	4 Enable Group object "Request meter/sensor reading"	<input type="radio"/> No <input checked="" type="radio"/> Yes
ZS/S	Note: Connected device must support this function	
Meter 3	Communication monitoring	No
SE/S	Value 1	9.001 (F16) Temperature (°C)
Meter 4	Value 2	5.001 (U8) Rel. Humidity
EM/S	Value 3	9.005 (F16) Wind Speed
Meter 5	Value 4	Not used
Electricity	Value 5	Not used
Meter 6	Value 6	Not used
Gas	Value 7	Not used
	Value 8	Not used
	Value 9	Not used
	Value 10	Not used

ABB EQmatic Energy Analyzer QA/S x.yy.1

ETS Parameter Energy Analyzer QA/S 1.16.1 KNX

Parameter window: Measurement

5	Communication monitoring See parameter window “Electricity (generic)” <u>Value 1...Value 10</u> This parameter defines which measured value is received. The corresponding group object appears based on your selection.
6	<ul style="list-style-type: none">• Not used: No measured values are received.• 9.001 (F16) Temperature (°C): The group object for receiving temperature in °C appears.• 9.027 (F16) Temperature (°F): The group object for receiving temperature in °F appears.• 5.001 (U8) Rel. Humidity: The group object for receiving relative humidity in % (1-byte-value) appears.• 9.007 (U8) Rel. Humidity: The group object for receiving relative humidity in % (2-bytes-value) appears.• 9.008 (F16) C CO2/Air Quality: The group object for receiving air quality in ppm appears.• 7.001 (U16) PM2.5: The group object for receiving PM2.5 particulate matter appears.• 7.001 (U16) PM10: The group object for receiving PM10 particulate matter appears.• 9.005 (F16) Wind Speed: The group object for receiving wind speed in m/s appears.• 9.004 (F16) Brightness: The group object for receiving brightness in lux appears.

1.1.20 QA/S1.16.1 Energy Analyzer, 16-fold, MDRC > Meter 9 > Sensor

General	Device selection	Measurement
Load Control	Name	Sensor: Measurement
Meter 9	Location	Training Board (9)
Sensor	Serial number	
Meter 2	Enable Group object "Request meter/sensor reading"	<input type="radio"/> No <input checked="" type="radio"/> Yes
ZS/S	Note: Connected device must support this function	
Meter 3	5 Communication monitoring	No
SE/S	6 Value 1	9.001 (F16) Temperature (°C)
Meter 4	Value 2	5.001 (U8) Rel. Humidity
EM/S	Value 3	9.005 (F16) Wind Speed
Meter 5	Value 4	Not used
Electricity	Value 5	Not used
Meter 6	Value 6	Not used
Gas	Value 7	Not used
	Value 8	Not used
	Value 9	Not used
	Value 10	Not used

Commissioning

Main menu “Management”

Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Menu “Management”

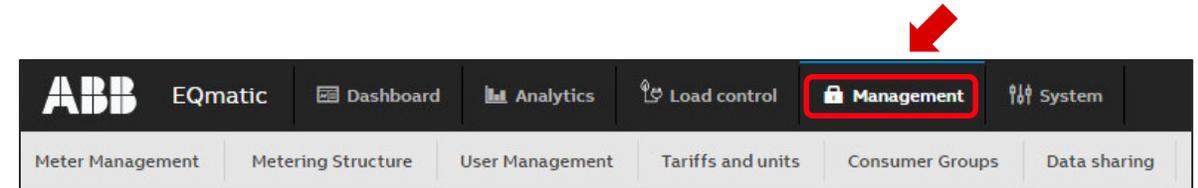
Management

The Management menu is used to make the following setting:

- Meter Management
Note: Different in the device M-Bus, Modbus and KNX device configuration
- Metering Structure
- User Management (administration)
- Tariffs and Unit
- Consumer Groups
- Data Sharing
(transfer to higher-level systems)

Note:

Access only with “administrator” authorization



Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Menu “Management”

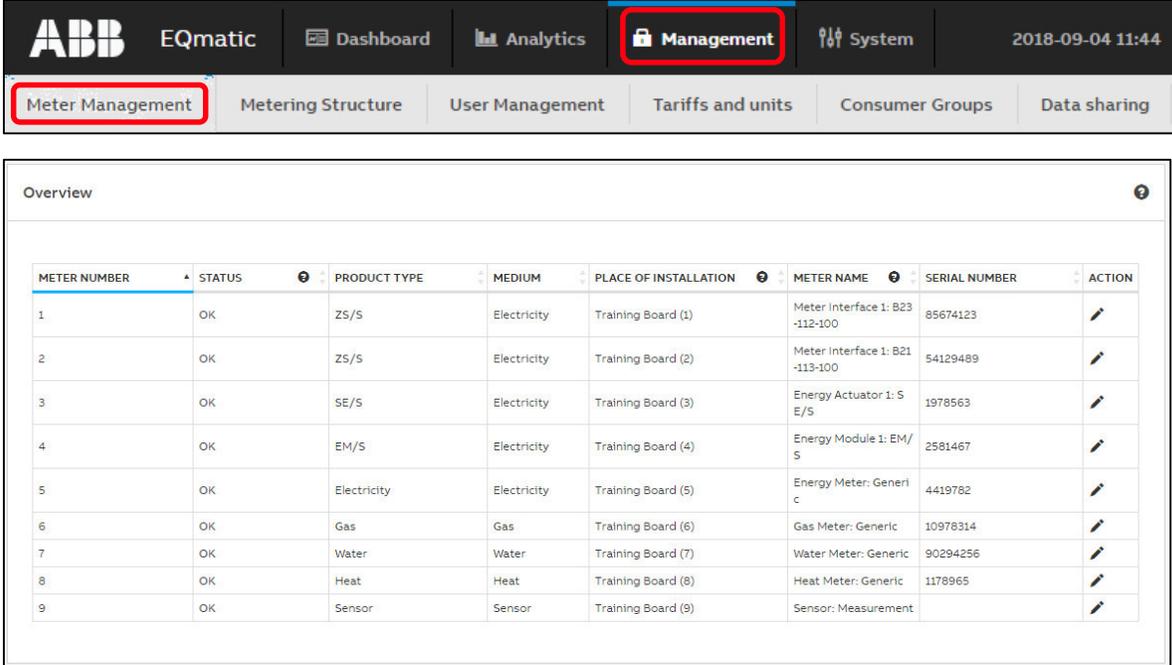
Meter Management: QA/S 1.16.1 KNX

KNX meters are displayed in the meter management overview table once they are configured in ETS , assigned group addresses and downloaded

No settings can be made in the UI

The changing of parameters has to be done in the ETS and then reloaded into the KNX devices

The changes (e.g. nodes in the metering structure) must be updated in the UI



The screenshot displays the ABB EQmatic Management interface. The top navigation bar includes 'ABB EQmatic', 'Dashboard', 'Analytics', 'Management' (highlighted with a red box), and 'System'. Below this, a secondary navigation bar shows 'Meter Management' (highlighted with a red box), 'Metering Structure', 'User Management', 'Tariffs and units', 'Consumer Groups', and 'Data sharing'. The main content area is titled 'Overview' and contains a table with the following data:

METER NUMBER	STATUS	PRODUCT TYPE	MEDIUM	PLACE OF INSTALLATION	METER NAME	SERIAL NUMBER	ACTION
1	OK	ZS/S	Electricity	Training Board (1)	Meter Interface 1: B23-112-100	85674123	
2	OK	ZS/S	Electricity	Training Board (2)	Meter Interface 1: B21-113-100	54129489	
3	OK	SE/S	Electricity	Training Board (3)	Energy Actuator 1: S E/S	1978563	
4	OK	EM/S	Electricity	Training Board (4)	Energy Module 1: EM/S	2581467	
5	OK	Electricity	Electricity	Training Board (5)	Energy Meter: Generic	4419782	
6	OK	Gas	Gas	Training Board (6)	Gas Meter: Generic	10978314	
7	OK	Water	Water	Training Board (7)	Water Meter: Generic	90294256	
8	OK	Heat	Heat	Training Board (8)	Heat Meter: Generic	1178965	
9	OK	Sensor	Sensor	Training Board (9)	Sensor: Measurement		

Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Menu “Management”

Meter Management: QA/S 1.16.1 KNX

All KNX devices are shown along with their information in the overview table below

METER NUMBER	STATUS	PRODUCT TYPE	MEDIUM	PLACE OF INSTALLATION	METER NAME	SERIAL NUMBER	ACTION
1	OK	ZS/S	Electricity	Training Board (1)	Meter Interface 1: B23 -112-100	85674123	
2	OK	ZS/S	Electricity	Training Board (2)	Meter Interface 1: B21 -113-100	54129489	
3	OK	SE/S	Electricity	Training Board (3)	Energy Actuator 1: S E/S	1978563	

Meter Number	Indicates the meter number as configured in ETS
Status	OK: Meter configured and connected. Reading enabled. ERROR, possible causes: <ul style="list-style-type: none">• Installation error (L and N transposed)• IR communication error (only with ZS/S)• Hardware fault• Reading disabled (only with SE/S and EM/S)
Product Type	DISCONNECTED: Device not connected to bus or has no power supply.
Medium	Displays the product in use (e.g. ZS/S) depending on the selection made in ETS
Place of installation	Displays the medium to be measured on the device
Meter Name	The installation location must be entered in ETS. This is recommended so that the device is easier to identify and assign when configuring the metering structure. Duplicate names are allowed.
Serial Number	The meter name must be entered in ETS. This is recommended so that the device is easier to identify and assign when configuring the metering structure. Duplicate names are allowed.
Action	The serial number must be entered in ETS. This is recommended so that the device is easier to identify and assign when configuring the metering structure.
	A view of the available data points for the meter. Opens the information and table view for the available data points. All of the meter's data points are listed in the table even if the meter is not linked with a group address via ETS, in which case the data point is shown as "0" in the table.

Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Menu “Management”

Meter Management: QA/S 1.16.1 KNX

Click the “Edit” icon in the overview table to see more information (e.g. instantaneous value) about the KNX meter

Available data points, which depend on the meter type, are listed in the data points list

METER NUMBER	STATUS	PRODUCT TYPE	MEDIUM	PLACE OF INSTALLATION	METER NAME	SERIAL NUMBER	ACTION
1	OK	Z5/S	Electricity	Training Board (1)	Meter interface 1: B23-112-100	85674123	
2	OK	Z5/S	Electricity	Training Board (2)	Meter interface 1: B21-113-100	54129489	
3	OK	SE/S	Electricity	Training Board (3)	Energy Actuator 1: S E/S	1978563	

Information

Meter number: 1
Status: OK
Product type: Z5/S
Medium: Electricity
Meter Name: Meter interface 1: B23-112-100
Place of installation: Training Board (1)
Serial number: 85674123

Meter measures generated energy:

[Back](#)

Data points

RECORD NUMBER	VALUE	UNIT	OBJECT FUNCTION
11	690	Wh	Active Imported Energy Total
31	29.709999084472656	W	Active Imported Power Total
32	29.709999084472656	W	Active Imported Power L1
33	0	W	Active Imported Power L2
34	0	W	Active Imported Power L3
47	1	-	Power Factor Total
48	No data available	-	Power Factor L1
49	No data available	-	Power Factor L2
50	No data available	-	Power Factor L3
51	0.129000081062317	A	Current L1
52	0	A	Current L2
53	0	A	Current L3
54	No data available	A	Current Neutral
55	230.90000915527344	V	Voltage L1
56	18.899999618530273	V	Voltage L2
57	19.100000381469727	V	Voltage L3
61	50.069999588012695	Hz	Frequency
68	No data available	-	Current Quadrant Total
69	No data available	-	Current Quadrant L1
70	No data available	-	Current Quadrant L2
71	No data available	-	Current Quadrant L3

Commissioning

Main menu “Analytics”

Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

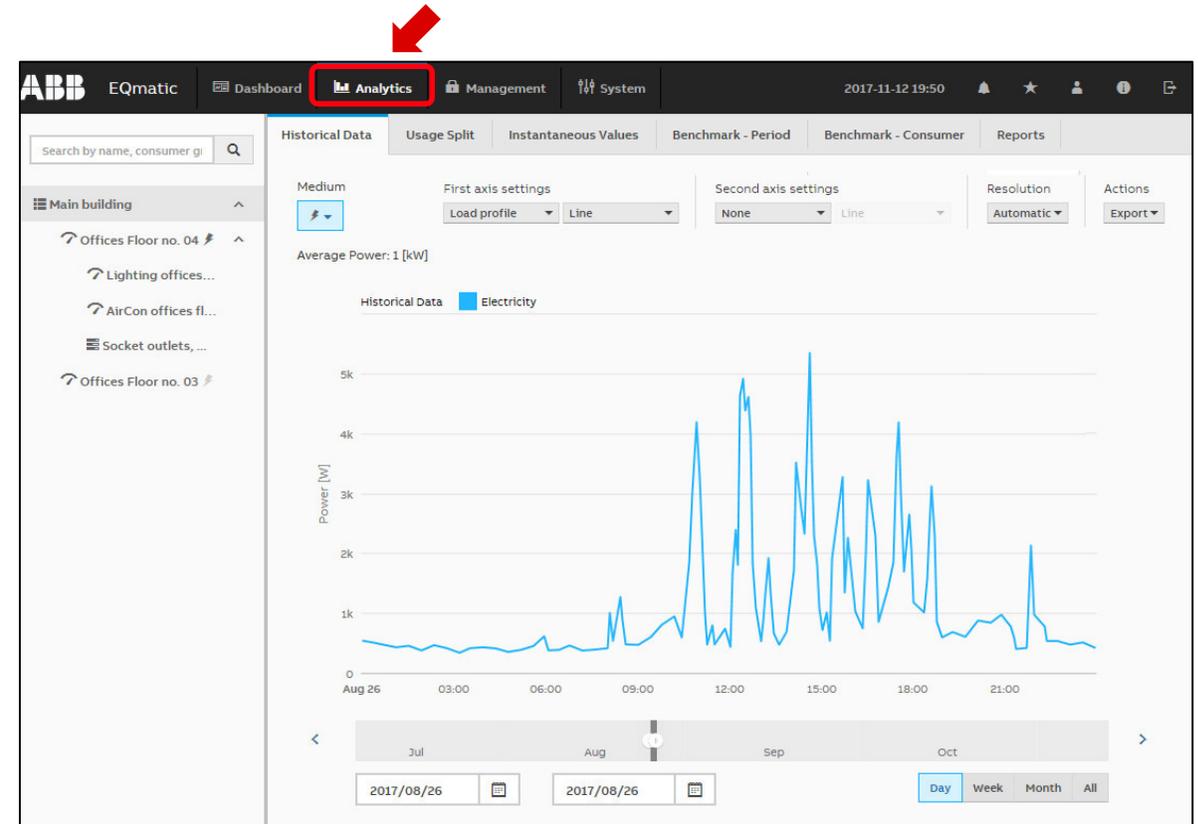
Menu “Analytics”

Analytics

The analysis functions are used for the detailed examination and representation of costs, consumption figures and other measured values

The following analyses can be performed:

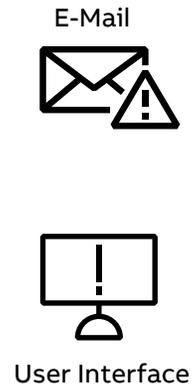
- Historical Data
- Usage Split
- Instantaneous Values
- Benchmark - Period
- Benchmark - Consumer
- Reports
- Alarms



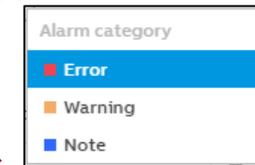
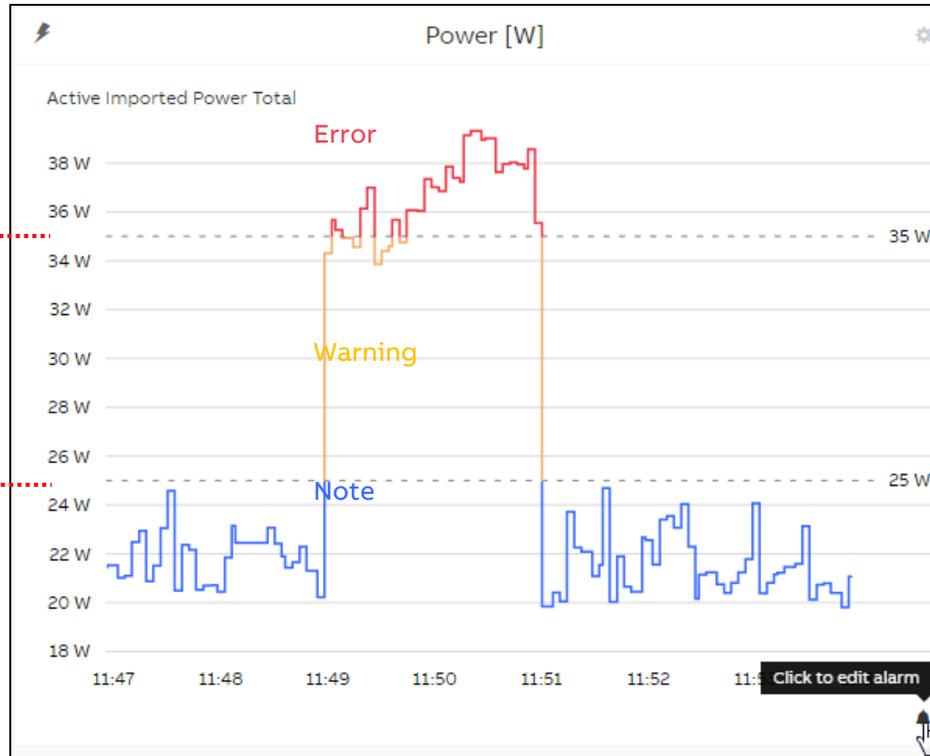
Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Menu “Analytics”

Alarms



Notification when the value is “<” or “>” than the alarm limit

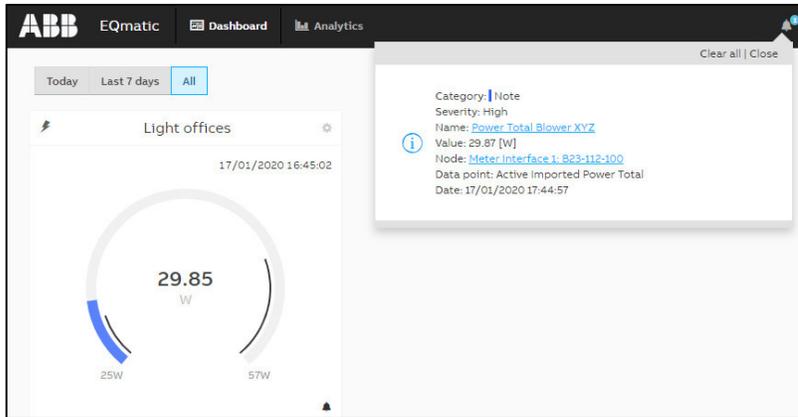


Alarm category

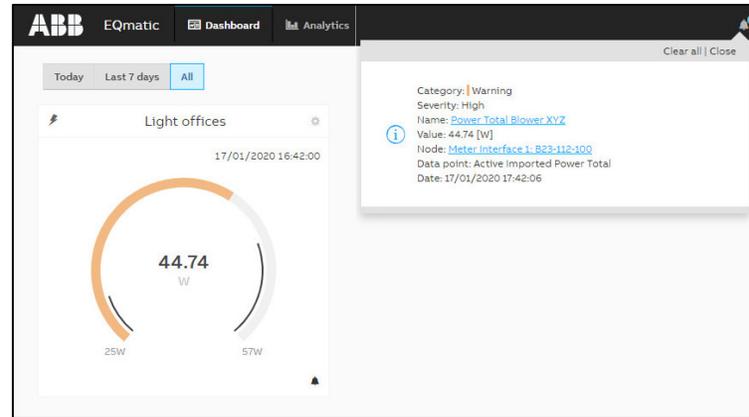
Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Menu “Analytics”

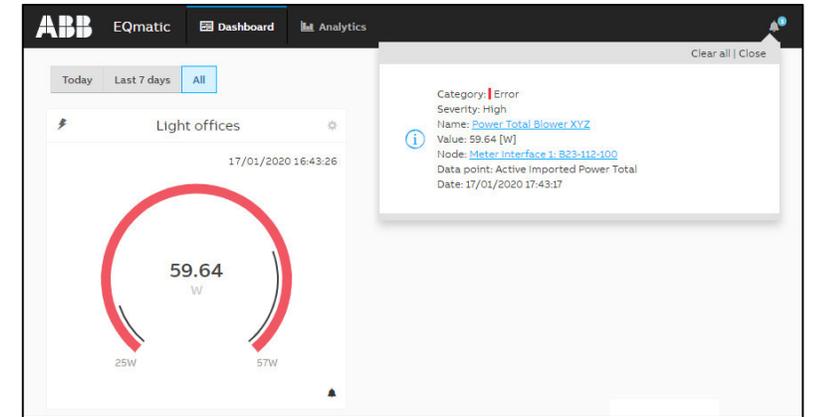
Alarms – Dashboard values and UI notifications



Alarm category “Note” (blue)

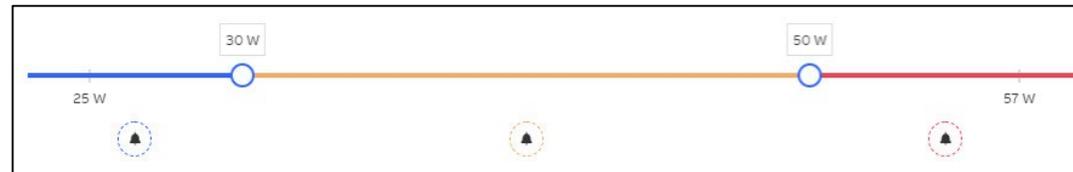


Alarm category “Warning” (orange)



Alarm category “Error” (red)

Alarm limits:



Demonstration in practice

Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Menu “Analytics”

Alarms

This function can be used to configure one or more limit values for each measured value

If the limit is exceeded, an alarm function can be configured and a choice can be made between different actions (notification in the dashboard and/or sending an email)

If an alarm occurs, the configured action is carried out and the occurrence of the alarm is written to the event log

Configured alarms are displayed and managed in an *Alarms* overview table

Any number of alarms can be configured

The occurrence of an alarm is managed in the event memory in the *Alarm Events* table

The screenshot displays the ABB EQmatic web interface. The top navigation bar includes the ABB logo, 'EQmatic', and several menu items: 'Dashboard', 'Analytics' (highlighted with a red box), 'Management', and 'System'. The date and time '2018-09-05 12:21' are shown on the right. Below the navigation bar, a secondary menu contains 'Historical Data', 'Usage Split', 'Instantaneous Values', 'Benchmark - Period', 'Benchmark - Consumer', 'Reports', and 'Alarms' (also highlighted with a red box). The main content area is titled 'Alarms' and features a sub-menu with 'Alarms' and 'Alarm Events'. A search bar is present, and below it is a table with columns: NAME, VALUE TYPE, NODE, STATE, UI NOTIFICATIONS, E-MAIL NOTIFICATIONS, and ACTION. The table currently displays 'No items to show'. An 'Actions' dropdown menu is visible on the right side of the table.

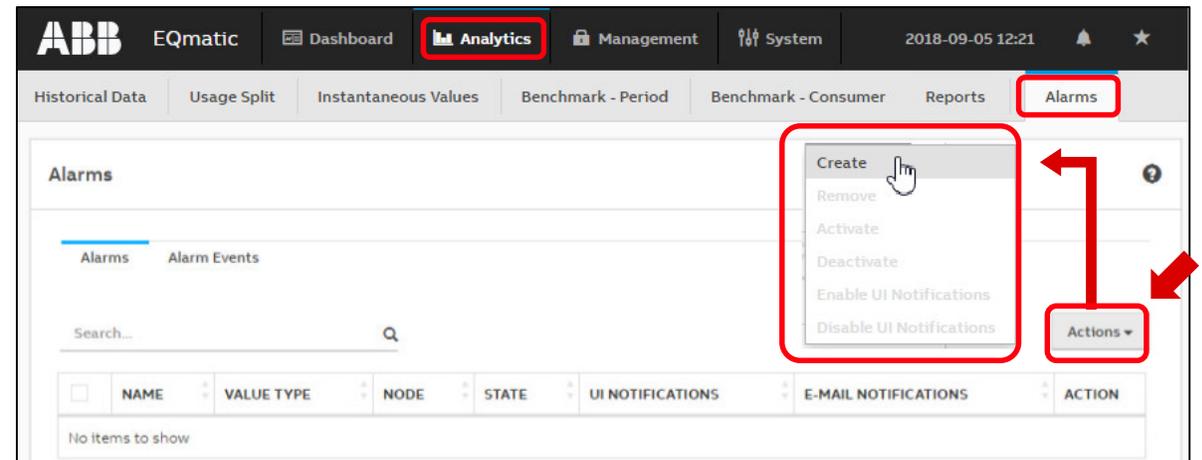
Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Menu “Analytics”

Alarms – Configuring via the analytics function

The Actions button provides the following options:

- Create: Opens the alarm configuration window
- Remove: Deletes the alarms selected using the check boxes in the overview table, removing them from the overview and the system
- Activate: Primes the alarms selected using the check boxes in the overview table
- Enable UI Notifications: Switches on UI pop-up notifications for the alarms selected using the check boxes in the overview table.
- Disable UI Notifications: Switches off UI pop-up notifications for the alarms selected using the check boxes in the overview table.



Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

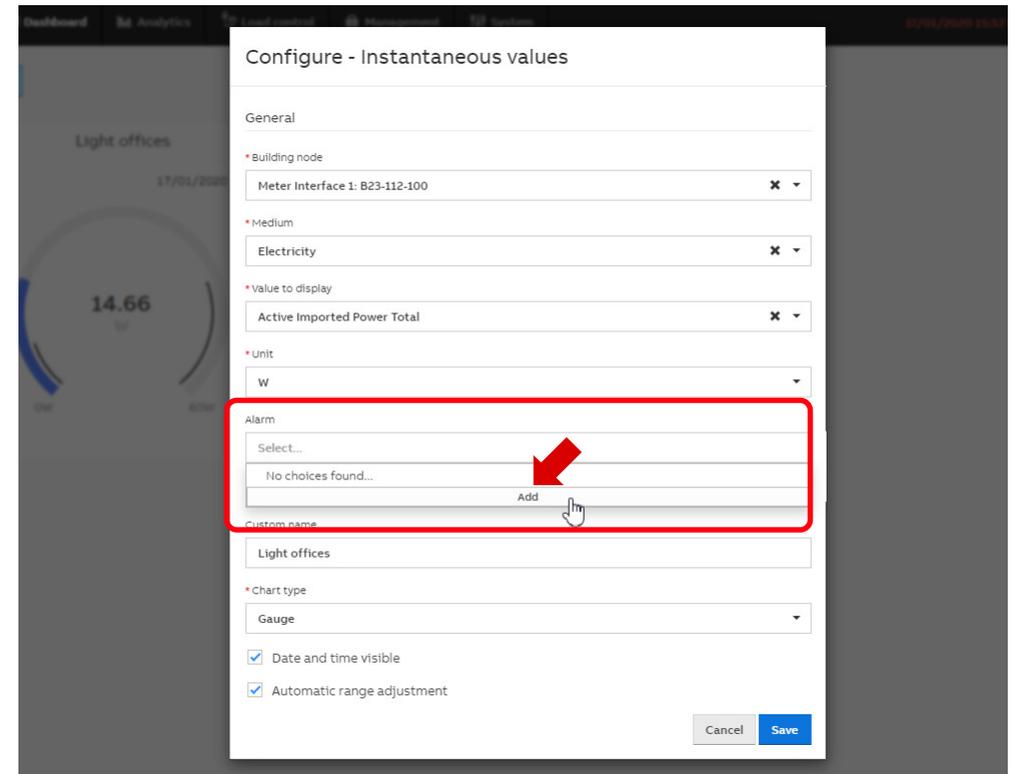
Menu “Analytics”

Alarms – Configuring via the dashboard

Activate the edit mode in the dashboard and click on the “Configure Widget” button

Go to “Alarm” and click the “Add” button

The alarm configuration window opens
(as for configuring via the analytics function)



Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Menu “Analytics”

Alarms – Configuring window

1	Name	Enter a name for the alarm.
2	Building node	Select the building node or associated meter/device.
3	Value Type	Select the data point (e.g. active power) for the alarm configuration.
4	Alarm enabled	Prime the alarm using the slider.
5	Schedule	Configure a period (start and stop dates) during which you want the alarm to be active. Leaving the stop date empty leaves the alarm enabled indefinitely.
6	Active days	Select the weekdays when you want the alarm to be active.
7	Auto Scale	Where there are several threshold values configured, clicking this distributes them evenly along the threshold line.
8	Alarm limits	<p>Clicking a point (threshold value) on the line provides additional parameters for entering the threshold value and reaction times.</p> <p>A threshold can be moved along the line using drag & drop. You can add as many thresholds as necessary by mousing over the line. A new point (threshold) appears; click to configure it.</p> <p>Each threshold value or range must be assigned an alarm category by clicking :</p> <ul style="list-style-type: none">• Error (red)• Warning (orange)• Note (blue) <p>The alarm category color codes are carried over to the widget display and Alarm Events table.</p> <p>If you choose a serial chart as a widget, the configured alarm thresholds are displayed as broken lines in the chart.</p>
...		

Alarm configuration

General

Name: Power Total Blower XYZ (1)

Building node: Meter interface 1: B23-112-100 (2)

Value Type: Active imported Power Total (3)

Alarm enabled: (4)

Schedule

Start date: 17/01/2020 (5)

Stop date: Never (6)

Active days: Mo. Tu. We. Th. Fr. Sa. Su. (7)

Alarm limits

Auto Scale: (7)

Value [w]: 700 (8), 800 (8)

Reaction time when value is above limit [s]: 1 (8), 1 (8)

Reaction time when value is below limit [s]: 1 (8), 1 (8)

Notifications

Severity: High (9)

Send UI notifications: (10)

Send E-Mail notifications: (11)

Cancel Save

Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Menu “Analytics”

Alarms – Configuring window

...		
9	Severity	Alarm priority specification. Options: <ul style="list-style-type: none">• High• Medium• Low
10	Send UI notifications Send E-mail notifications	To activate the relevant notification(s), select the check boxes. If an alarm occurs, the pop-up notification appears in the Information icon. To receive email notifications you need to enter SMTP settings. You can enter a custom message for each notification. Aside from this, the email will contain details about the alarm: <ul style="list-style-type: none">• Date/Time• Building node• Value Type• Threshold exceeded• Alarm category and severity
11	Save	Saves the current configurations. The configured alarm appears in the Alarms overview table.

The screenshot shows the 'Alarm configuration' window for an alarm named 'Power Total Blower XYZ'. The window is divided into several sections:

- General:** Contains the alarm name (1), building node (2), value type (3), and an 'Alarm enabled' toggle (4).
- Schedule:** Includes start and stop dates (5) and active days (6).
- Alarm limits:** Features a horizontal scale with two limits (7) at 700 W and 800 W, and reaction times (8) for values above and below the limits.
- Notifications:** Includes a severity dropdown (9) set to 'High' and checkboxes for 'Send UI notifications' (10) and 'Send E-Mail notifications' (11).

At the bottom right, there are 'Cancel' and 'Save' buttons.

Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Menu “Analytics”

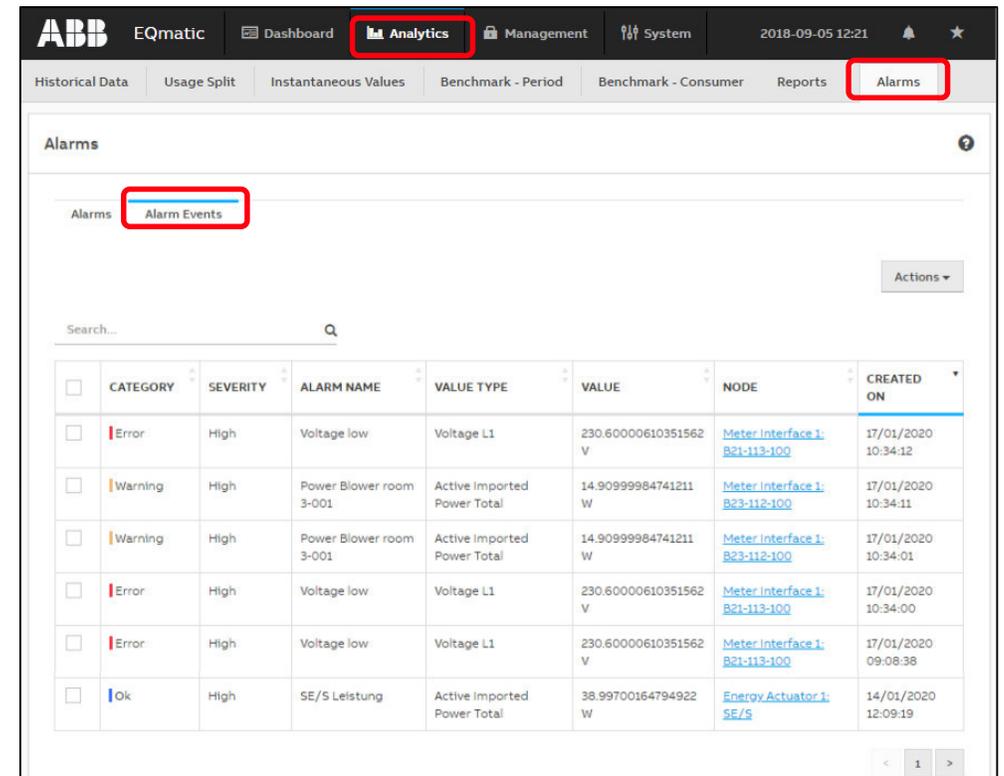
Alarm events

Alarm events are managed and displayed in an overview table showing when each alarm occurred and when it was cleared

The alarms overview can be exported in various formats

- XLSX
- CSV
- JSON

for further processing



The screenshot shows the ABB EQmatic Analytics interface. The top navigation bar includes 'Dashboard', 'Analytics' (highlighted with a red box), 'Management', and 'System'. The date is 2018-09-05 12:21. Below the navigation bar, there are tabs for 'Historical Data', 'Usage Split', 'Instantaneous Values', 'Benchmark - Period', 'Benchmark - Consumer', 'Reports', and 'Alarms' (highlighted with a red box). The 'Alarms' section has a sub-tab 'Alarm Events' (highlighted with a red box) and an 'Actions' dropdown menu. A search bar is present above the table. The table lists alarm events with columns for Category, Severity, Alarm Name, Value Type, Value, Node, and Created On.

<input type="checkbox"/>	CATEGORY	SEVERITY	ALARM NAME	VALUE TYPE	VALUE	NODE	CREATED ON
<input type="checkbox"/>	Error	High	Voltage low	Voltage L1	230.60000610351562 V	Meter Interface 1: B21-113-100	17/01/2020 10:34:12
<input type="checkbox"/>	Warning	High	Power Blower room 3-001	Active Imported Power Total	14.90999984741211 W	Meter Interface 1: B23-112-100	17/01/2020 10:34:11
<input type="checkbox"/>	Warning	High	Power Blower room 3-001	Active Imported Power Total	14.90999984741211 W	Meter Interface 1: B23-112-100	17/01/2020 10:34:01
<input type="checkbox"/>	Error	High	Voltage low	Voltage L1	230.60000610351562 V	Meter Interface 1: B21-113-100	17/01/2020 10:34:00
<input type="checkbox"/>	Error	High	Voltage low	Voltage L1	230.60000610351562 V	Meter Interface 1: B21-113-100	17/01/2020 09:08:38
<input type="checkbox"/>	Ok	High	SE/S Leistung	Active Imported Power Total	38.99700164794922 W	Energy Actuator 1: SE/S	14/01/2020 12:09:19

Commissioning

Main menu “Dashboard”

ABB EQmatic Energy Analyzer QA/S x.yy.1

Menu “Dashboard”

Dashboard

The dashboard provides a rapid overview of costs and consumption figures in the building

Users can configure customized views using widgets

A widget is a configurable graphic display element

Widgets are configured in edit mode

Each user creates his or her own dashboard with up to 24 widgets

Note:

Data for evaluation and analysis are not yet available after commissioning. This means that the dashboard is empty at that point. Make sure that connected devices are configured and that at least one meter is assigned to the metering structure.

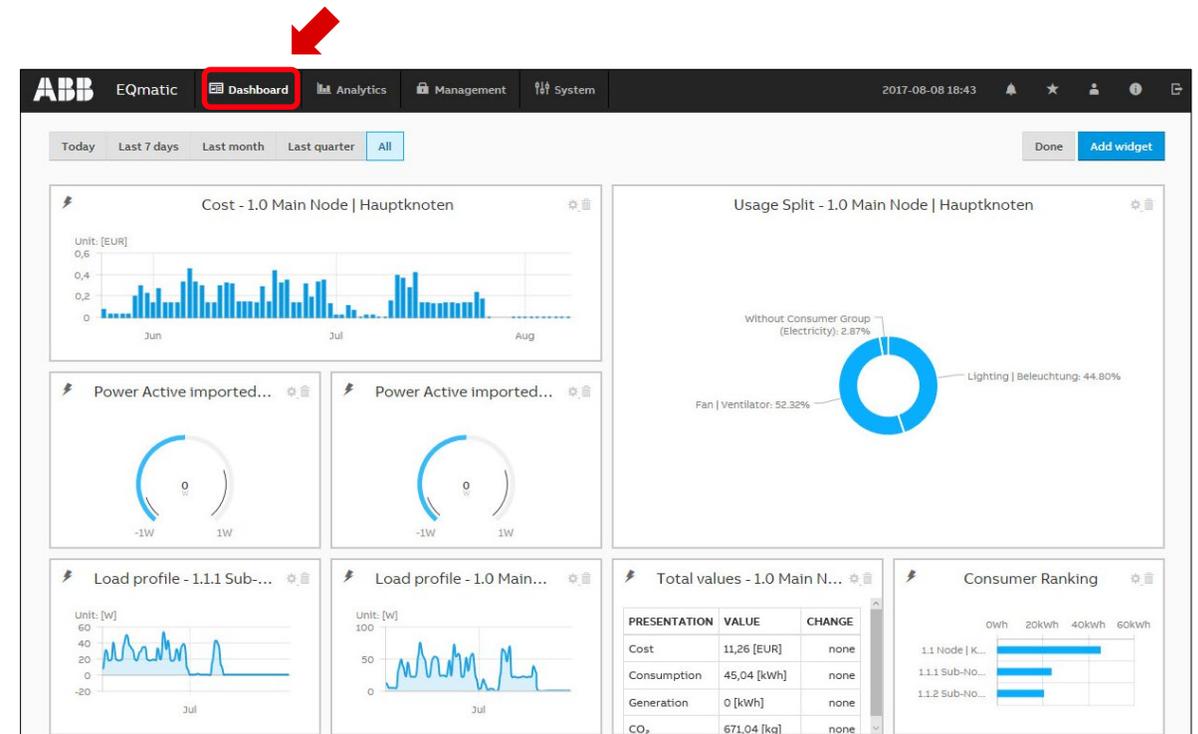


ABB EQmatic Energy Analyzer QA/S x.yy.1

Menu “Dashboard”

Widgets

1	Presets	Selects and displays current day, week, month, year, all. Presets are shown dynamically, depending on the measuring period.
2	Edit	Activates edit mode: <ul style="list-style-type: none">• Add widget• Place widget using drag & drop• Enlarge/reduce widget• Configure widget• Delete widget• Save
3	Add widget	Used to add and configure a widget. Only displayed in edit mode.

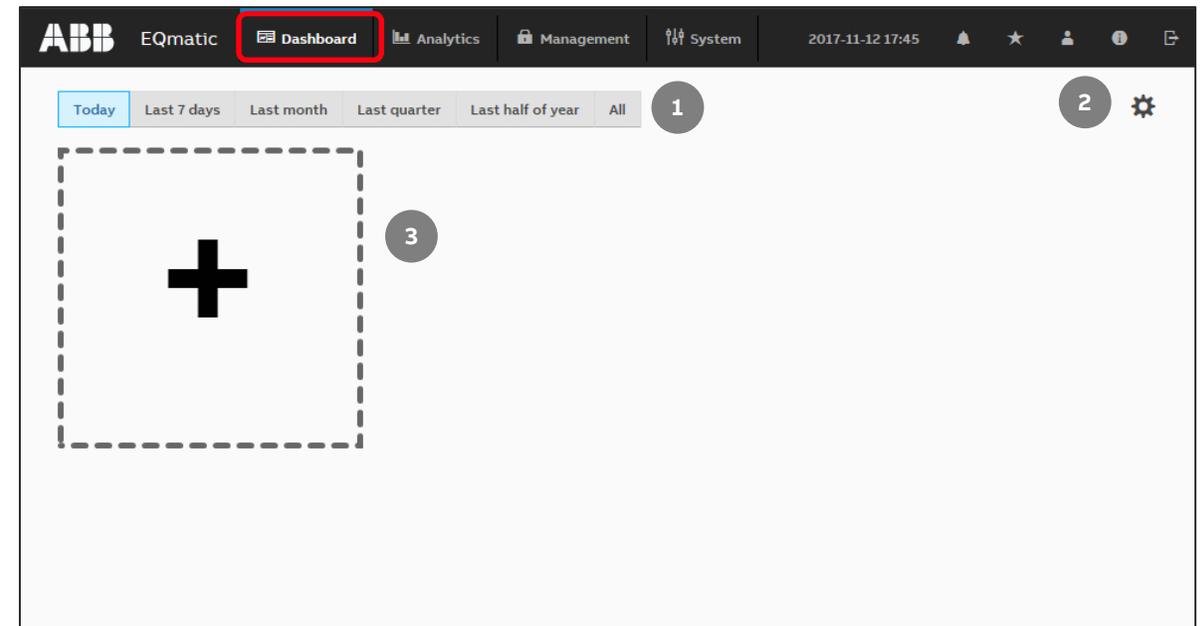


ABB EQmatic Energy Analyzer QA/S x.yy.1

Menu "Dashboard"

Widgets

Widgets are used to configure and lay out the dashboard.

The following widgets are available:

- Instantaneous Values **1**
- Usage Split **2**
- Historical Data **3**
- Consumer Ranking **4**
- Total values **5**
(performance indicators)

To add a widget to the dashboard, activate edit mode  and click the "Add widget" button

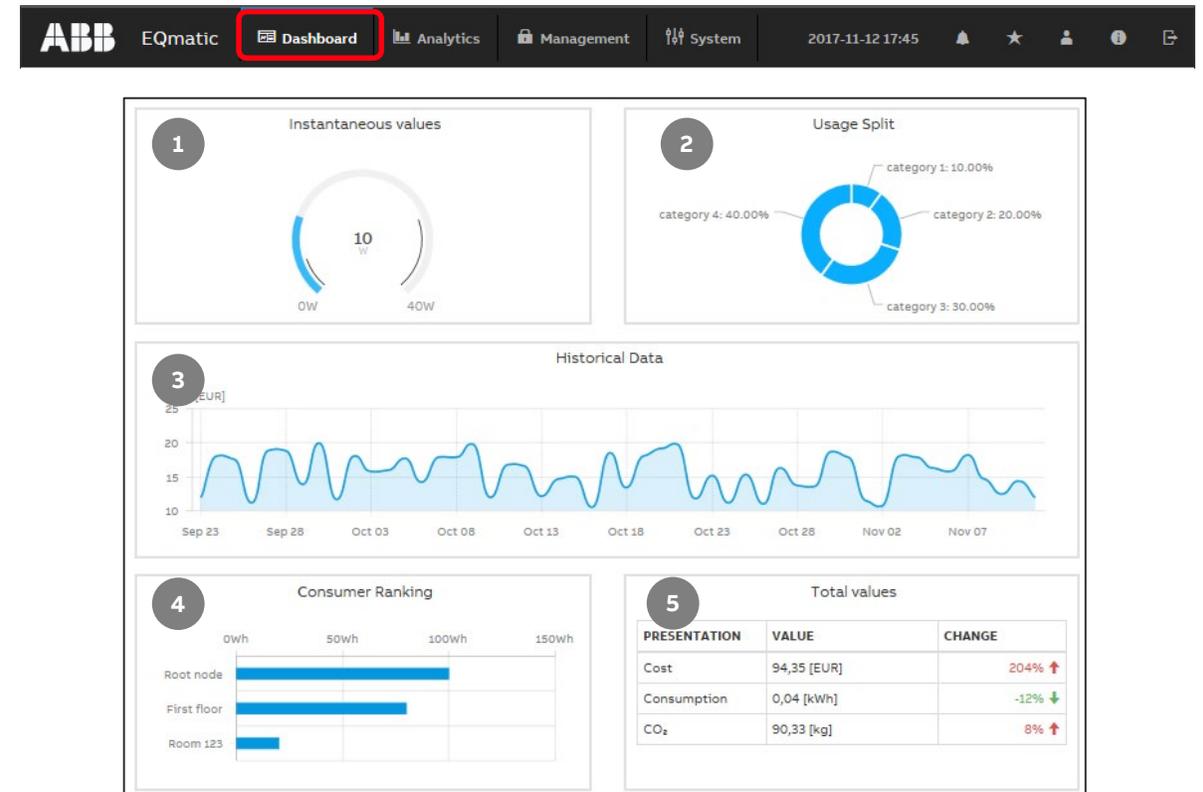


ABB EQmatic Energy Analyzer QA/S x.yy.1

Menu “Dashboard”

Widget – Instantaneous Values

Used to display measured values, e.g. power, current, voltage etc. in real time.

The following options are available to configure the widget:

- Building node (used to select the meter and/or building section depending on the metering structure configured)
- Medium (electricity, water, gas, ...)
- Value to display (selection of data points)
- Chart type (Serial Chart, Gauge, Single value)
- Custom name

The screenshot displays the ABB EQmatic dashboard interface. The top navigation bar includes the ABB logo, 'EQmatic', and menu items for 'Dashboard', 'Analytics', 'Management', and 'System'. The 'Dashboard' menu item is highlighted with a red box. The main content area shows a 'Configure - Instantaneous values' dialog box with the following settings:

- Building node: Light room 229
- Medium: Electricity
- Value to display: Active Imported Energy Total
- Chart type: Serial chart
- Custom name: Energy: Light in room 229

Below the configuration dialog, three widget views are shown for 'Energy: Light in room 229' as of 2018/09/05 08:49:08:

- The first widget is a serial chart showing 'Active imported Energy Total' over time, with a y-axis from 260Wh to 280Wh and an x-axis from 08:45:00 to 08:48:00.
- The second widget is a gauge showing a value of 270 Wh, with a scale from 0Wh to 1.08kWh.
- The third widget is a single value display showing 270 Wh.

ABB EQmatic Energy Analyzer QA/S x.yy.1

Menu “Dashboard”

Widget – Usage Split

Used to display the relative distribution of total cost, income or CO₂ emissions

The values are displayed according to the selected time interval (day, month, etc.) and available consumer groups

The following options are available to configure the widget:

- Building node (selection of the meter or building section depending on the metering structure configured)
- Value to display (costs, income, CO₂)
- Custom name

The screenshot shows the ABB EQmatic interface with the 'Dashboard' menu highlighted. The 'Configure - Usage Split' widget is displayed, showing the following configuration:

- Building node: Building
- Value to display: Cost
- Custom name: Cost overview: Floor no. 03

The widget visualization shows a donut chart titled 'Usage Split - Main building' with the subtitle 'Cost overview: Floor no. 03'. The chart displays the following data:

Category	Percentage
Without Consumer Group (Electricity)	70.13%
Air con:	25.07%
Light:	4.79%

ABB EQmatic Energy Analyzer QA/S x.yy.1

Menu “Dashboard”

Widget – Historical Data

Used to display historical total cost/ consumption data for a selected node or meter, by medium

The values are displayed according to the selected time interval (day, month, etc.).

The following options are available to configure the widget:

- Building node (selection of the meter or building section depending on the metering structure configured)
- Value to display (costs, consumption, generation, income, CO2, load profile)
- Medium (electricity, water, gas, ...)
- Chart type (line, column, smoothed line, step)
- Custom name

The screenshot displays the ABB EQmatic dashboard interface. The top navigation bar includes the ABB logo, 'EQmatic', and menu items: 'Dashboard' (highlighted with a red box), 'Analytics', 'Management', and 'System'. The date and time '2017-11-12 17:45' are shown on the right. Below the navigation bar, the 'Configure - Historical Data' widget is shown with the following settings:

- Building node: Light room 229
- Value to display: Load profile
- Medium: Select...
- Chart type: Line
- Custom name: Energy: Light in room 229

Buttons for 'Cancel' and 'Save' are visible at the bottom right of the configuration panel. Below the configuration panel, a line chart titled 'Cost - Offices Floor no. 04' is displayed. The chart shows a blue line representing cost over time, with the y-axis labeled 'Unit: [EUR]' ranging from 0 to 1.5. The x-axis shows time intervals from 03:00 to 21:00 on Nov 12. A 'Zoom out' button is located in the top right corner of the chart area.

ABB EQmatic Energy Analyzer QA/S x.yy.1

Menu “Dashboard”

Widget – Total Values

Used to display typical total values for a medium

The values and the relative changes between the current and the previous time interval are displayed

The following options are available to configure the widget:

- Building node (selection of the meter or building section depending on the metering structure configured)
- Medium (electricity, water, gas, ...)
- Value to display (cost, consumption, generation, income, CO2 emission)
- Custom name

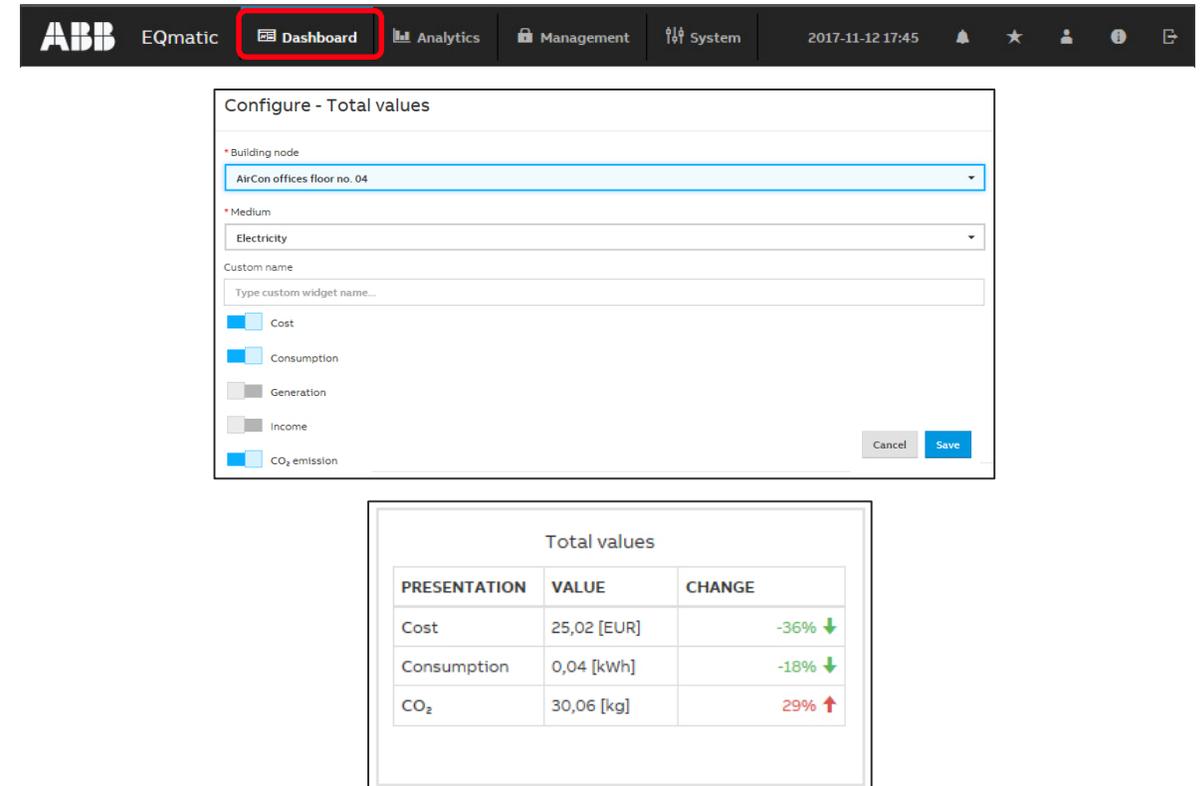


ABB EQmatic Dashboard Analytics Management System 2017-11-12 17:45

Configure - Total values

* Building node
Air Con offices floor no. 04

* Medium
Electricity

Custom name
Type custom widget name...

Cost
 Consumption
 Generation
 Income
 CO₂ emission

Cancel Save

Total values		
PRESENTATION	VALUE	CHANGE
Cost	25,02 [EUR]	-36% ↓
Consumption	0,04 [kWh]	-18% ↓
CO ₂	30,06 [kg]	29% ↑

ABB EQmatic Energy Analyzer QA/S x.yy.1

Menu “Dashboard”

Widget – Consumer Ranking

Used to display the highest consumers in an installation, by medium

A maximum of 5 consumers are displayed in the widget

The following options are available to configure the widget:

- Value to display (costs, consumption, generation, income, CO₂)
- Medium (electricity, water, gas, ...)
- Custom name

The screenshot shows the ABB EQmatic web interface. The top navigation bar includes the ABB logo, 'EQmatic', and a 'Dashboard' menu item highlighted with a red box. Other menu items are 'Analytics', 'Management', and 'System'. The top right shows the date '2017-11-12 17:45' and user icons.

The main content area displays the 'Configure - Consumer Ranking' dialog box. It has the following fields:

- * Value to display:** A dropdown menu with 'Consumption' selected.
- * Medium:** A dropdown menu with 'Electricity' selected.
- Custom name:** A text input field with the placeholder 'Type custom widget name...'. Below this field are 'Cancel' and 'Save' buttons.

Below the configuration dialog is a preview of the 'Consumer Ranking' widget. It is a horizontal bar chart with the x-axis labeled '0wh', '100kwh', and '200kwh'. The y-axis lists three categories: 'Offices Floo...', 'AirCon offic...', and 'Lighting off...'. The 'Offices Floo...' bar is the longest, extending past the 200kwh mark. The 'AirCon offic...' and 'Lighting off...' bars are significantly shorter.

ABB EQmatic Energy Analyzer QA/S x.yy.1

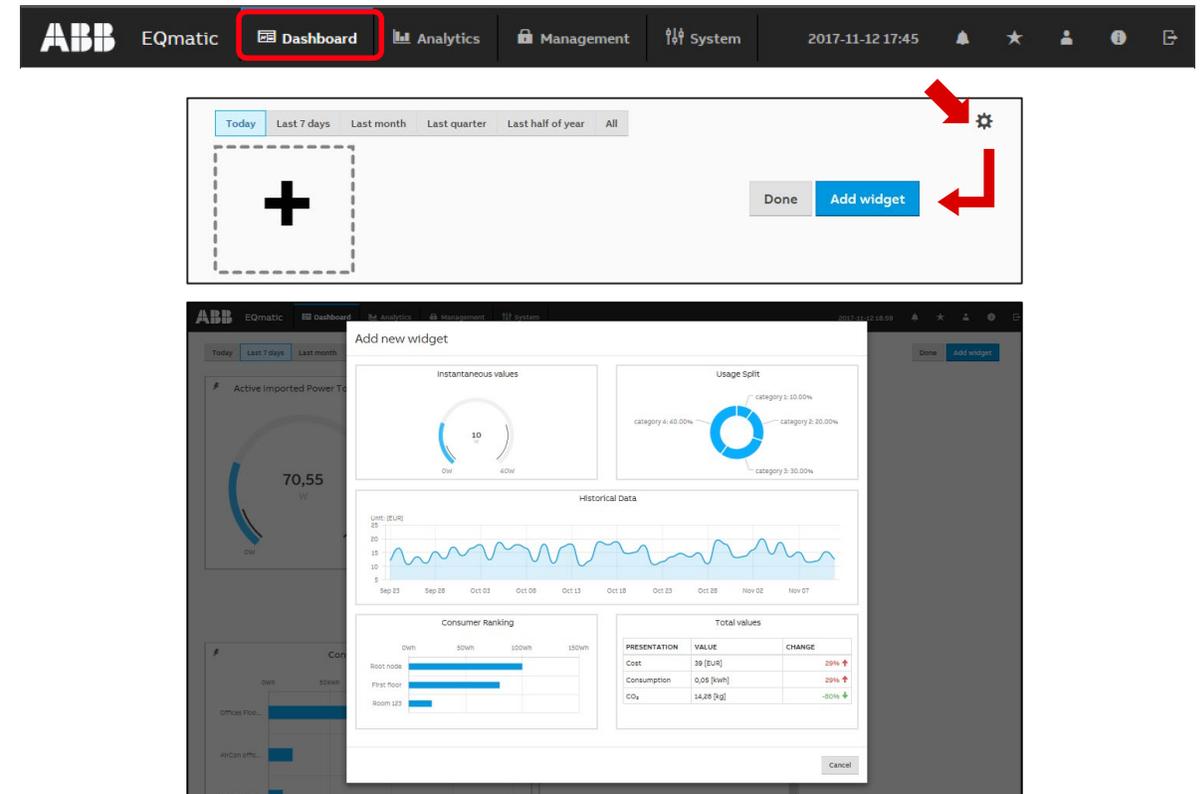
Menu “Dashboard”

Add a widget

To add a widget to the dashboard, activate the edit mode (click the  button) and click the “Add Widget” button

This opens a dialog window containing available widgets

- Instantaneous Values
- Usage Split
- Historical Data
- Total Values
- Consumer Ranking



The screenshot shows the ABB EQmatic dashboard interface. The top navigation bar includes the ABB logo, 'EQmatic', and several menu items: 'Dashboard' (highlighted with a red box), 'Analytics', 'Management', and 'System'. The date and time '2017-11-12 17:45' are displayed on the right. Below the navigation bar, there are tabs for 'Today', 'Last 7 days', 'Last month', 'Last quarter', 'Last half of year', and 'All'. A red arrow points to a gear icon in the top right corner of the dashboard area, indicating the edit mode. Another red arrow points to the 'Add widget' button in the bottom right corner of the dashboard area. The 'Add new widget' dialog box is open, showing four widget options: 'Instantaneous values' (a gauge chart), 'Usage Split' (a donut chart), 'Historical Data' (a line chart), and 'Consumer Ranking' (a bar chart). A 'Total values' table is also visible in the dialog box.

PRESENTATION	VALUE	CHANGE
Cost	39 [€-h]	23% ↑
Consumption	0,08 [kwh]	23% ↑
CO ₂	14,28 [kg]	-80% ↓

ABB EQmatic Energy Analyzer QA/S x.yy.1

Menu “Dashboard”

Add a widget

- ...
- Make the settings in the selected widget
- Save the widget or the settings using the “Save” button
- The widget will now be displayed on the dashboard

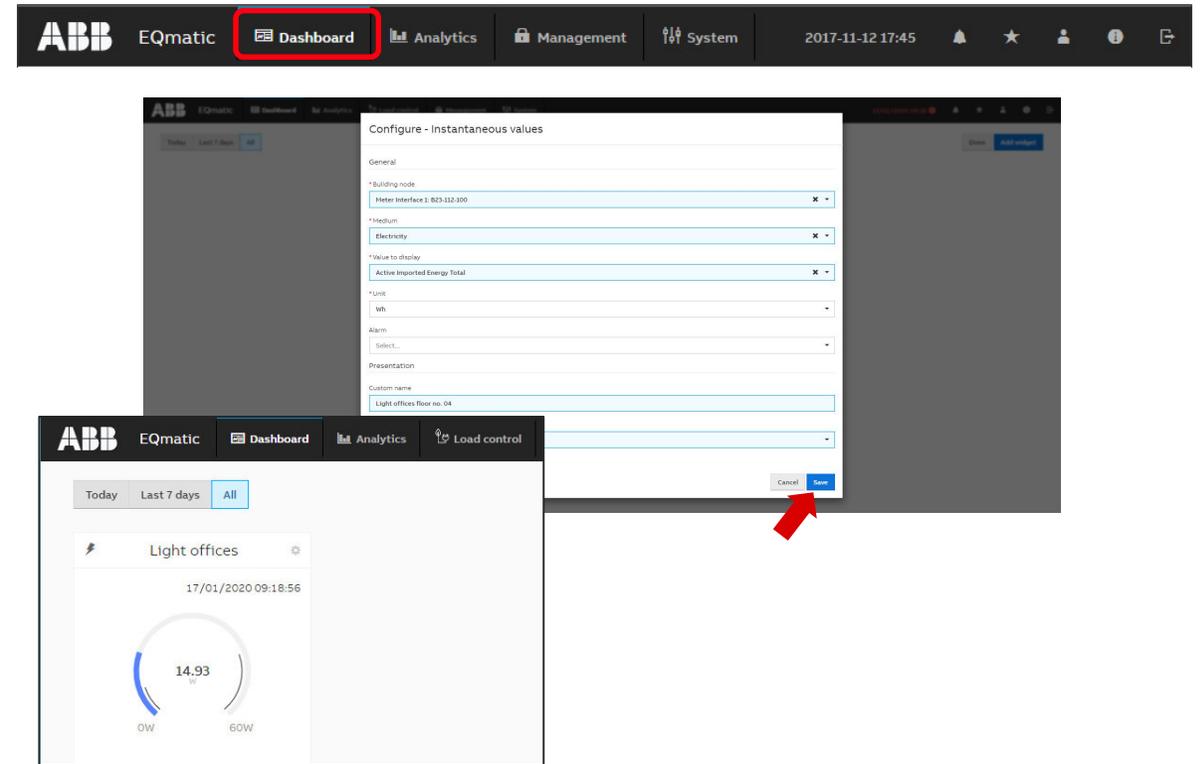


ABB EQmatic Energy Analyzer QA/S x.yy.1

Menu “Dashboard”

Configure a widget

To configure widgets, activate edit mode using the  button

Options:

- Place widget using drag & drop
- Enlarge/reduce widget
- Configure widget (opens a configuration window)
- Delete widget

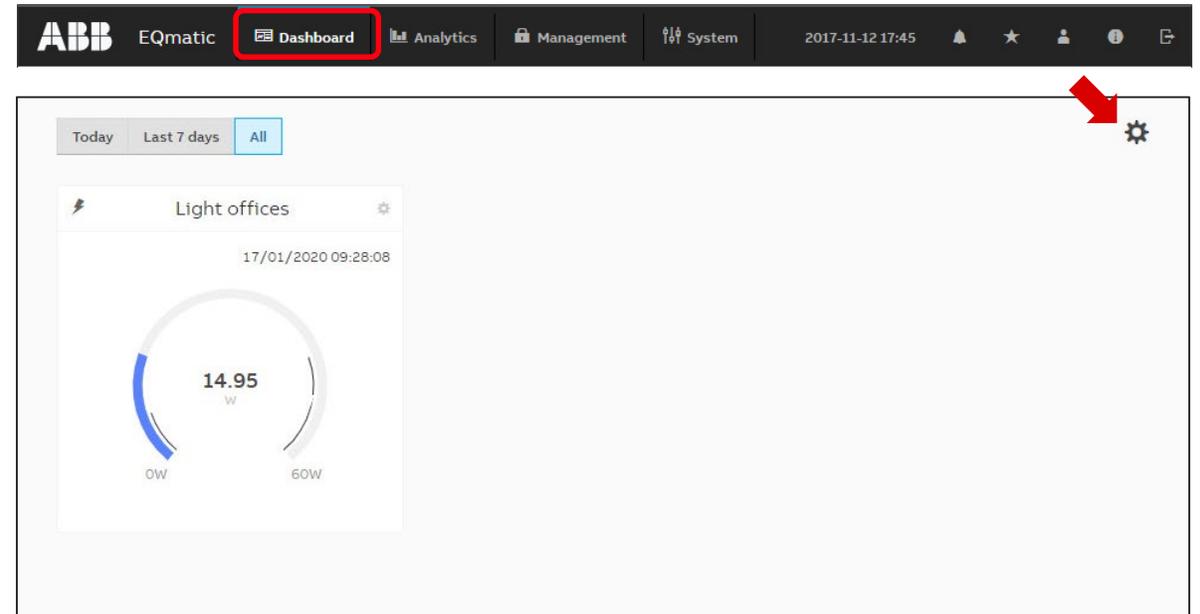
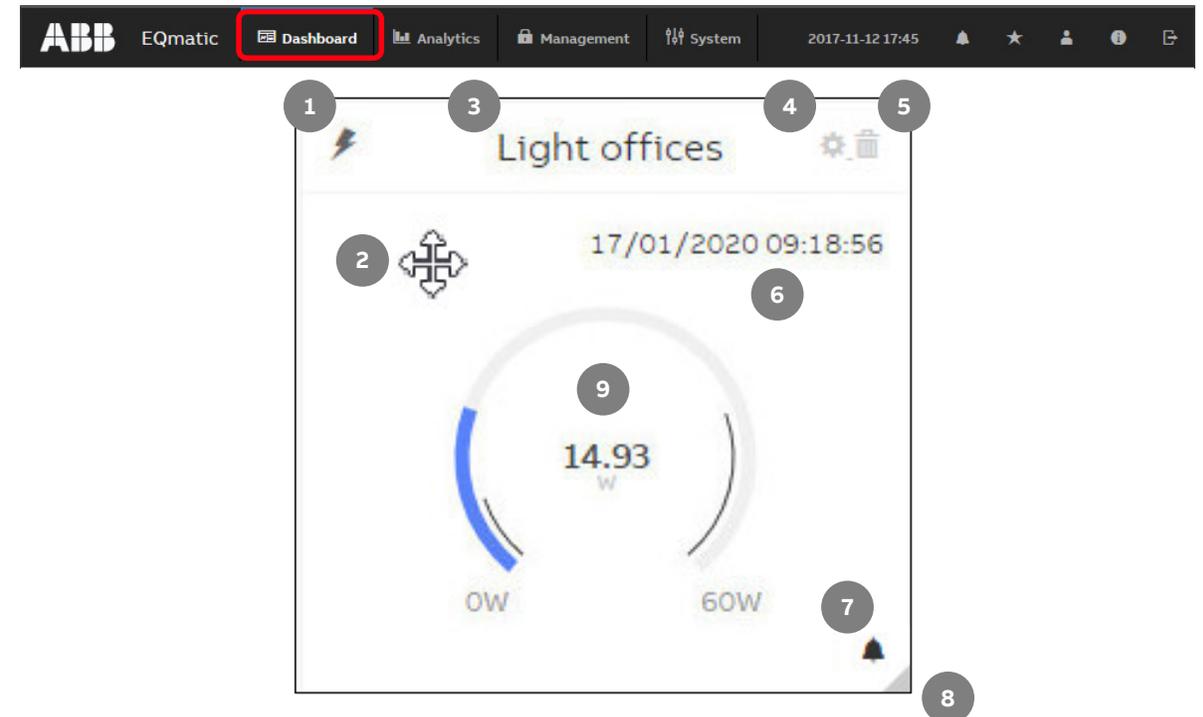


ABB EQmatic Energy Analyzer QA/S x.yy.1

Menu “Dashboard”

Configure a widget

1	Medium	This symbol indicates the selected medium in the widget.
2	Cross-hair 	Used to arrange the widget on the dashboard via drag & drop.
3	Widget Name	Using <i>Edit</i> , you can give the widget a unique name.
4	Edit	Opens a window where you can configure the widget.
5	Delete	Deletes widgets from the dashboard page.
6	Date/Time	Indicates the date and time when the widget was last updated. You can show/hide this with <i>Edit</i> .
7	Alarm	Indicates whether there is an alarm configured for the widget or measured value; this is only possible with widgets for instantaneous values. Clicking the icon opens the alarm configuration window. → More details in menu “Analytics” – “Alarms”
8	Customize 	Used to enlarge/reduce the widget via drag & drop.
9	Value display	How the measured value appears in the display depends on how the widget is configured (as a gauge chart, serial chart or value).



Commissioning

Main menu “Load control”

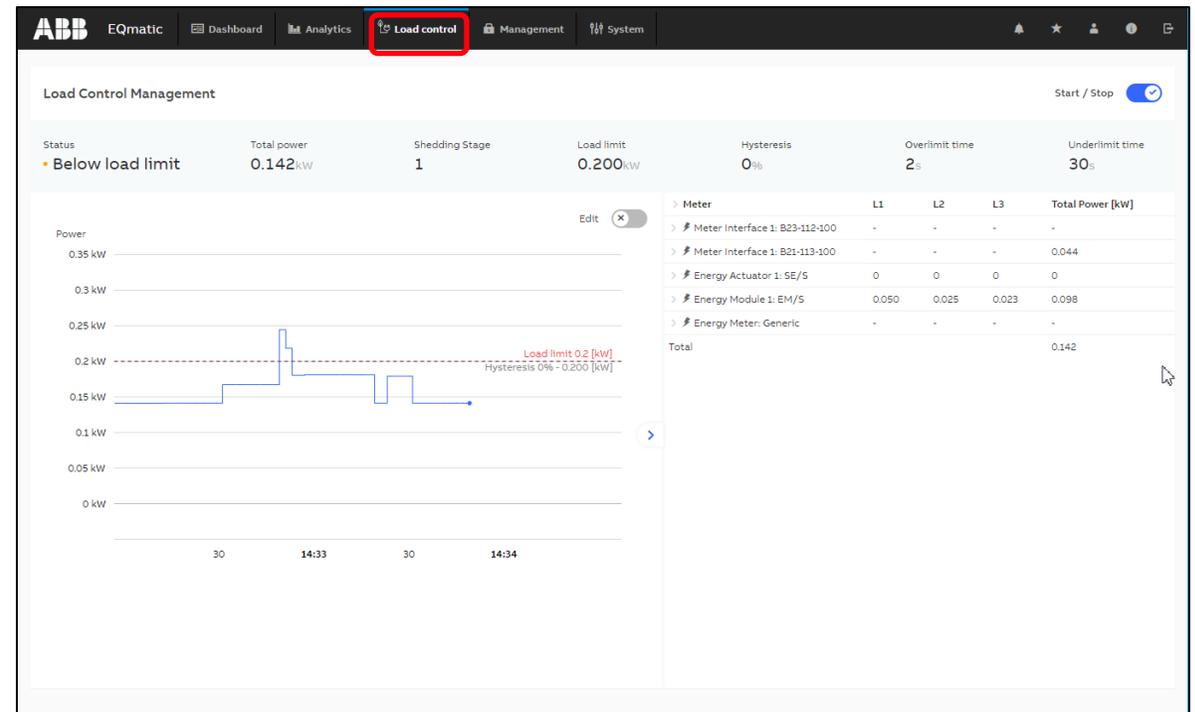
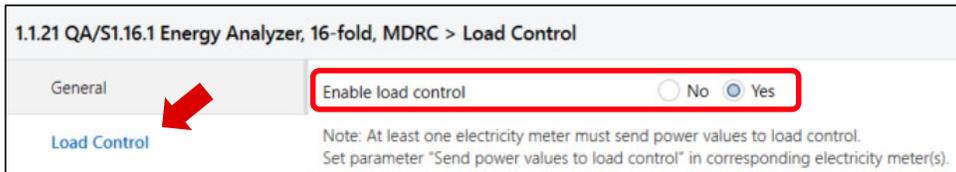
Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Menu “Load control” (only for QA/S 1.16.1 KNX)

Load control

With the Load Control Management function, load shedding sequences can be prioritized based on the electrical power values received from electricity meters

In order to be able to display and operate the load control via the user interface, it must first be activated in the ETS using the "Enable load control" parameter



Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

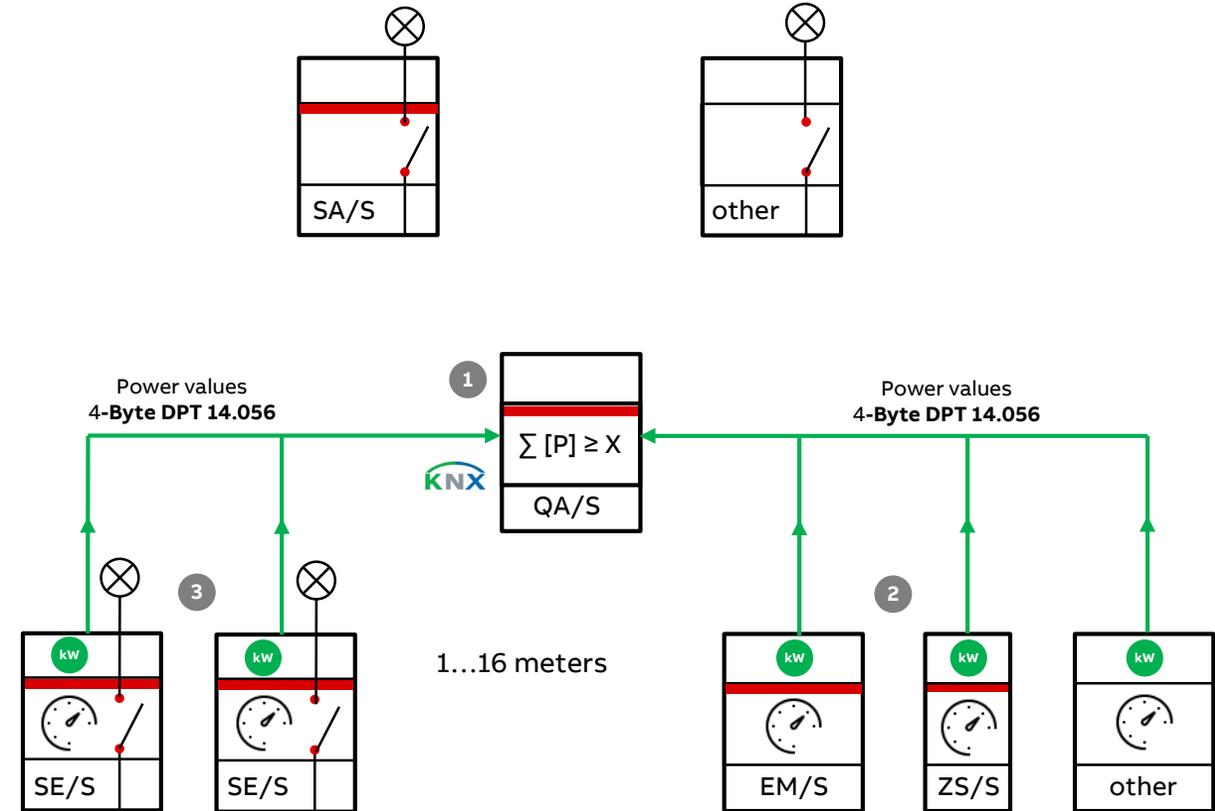
Menu “Load control” (only for QA/S 1.16.1 KNX)

Load control

Load control is a function that enables an Energy Analyzer QA/S 1.16.1 KNX to manage an electrical installation energy-efficiently based on an adjustable load limit, by sending switching commands to KNX

The Energy Analyzer (master) ① receives power values from up to 16 energy meters ② ③ (slaves, e.g. SE/S, EM/S, ZS/S and third party)

The values are then internally added to the total power value



Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Menu “Load control” (only for QA/S 1.16.1 KNX)

Load control

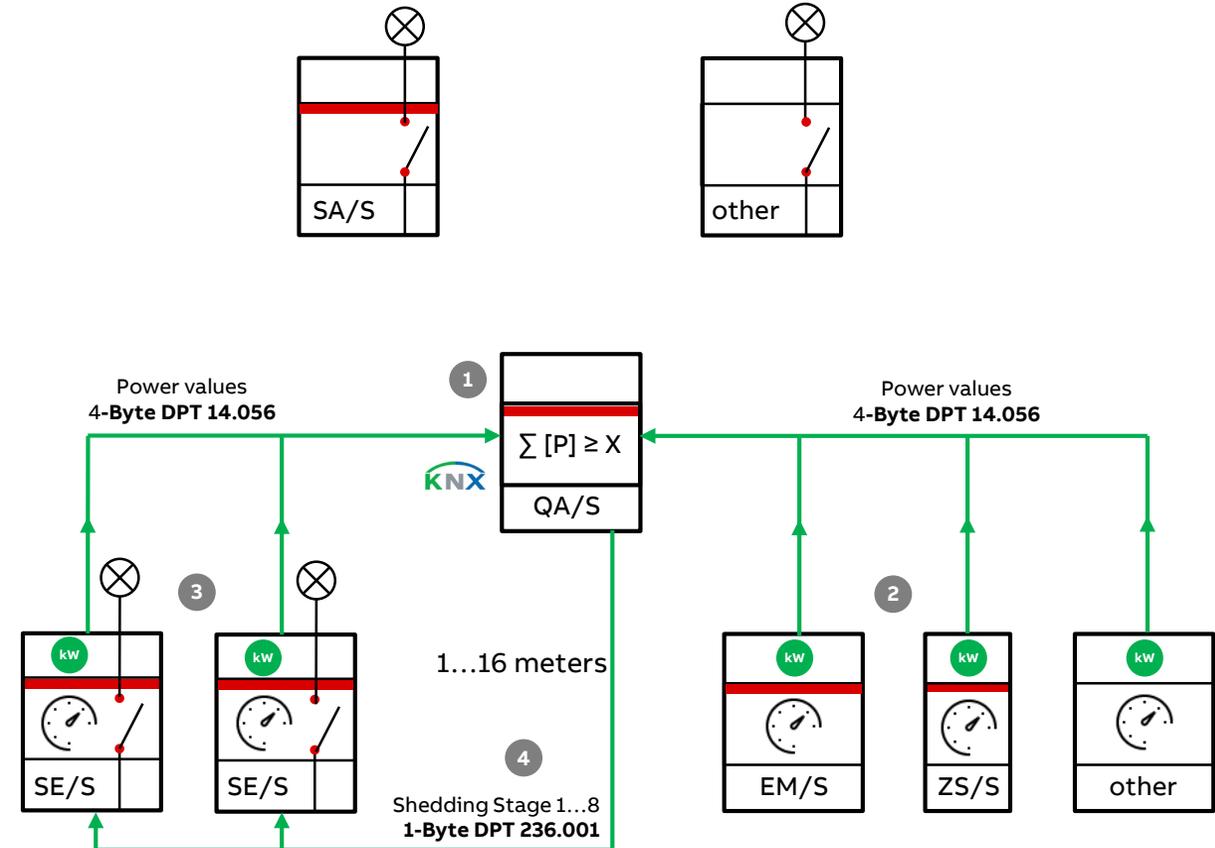
Load control is a function that enables an Energy Analyzer QA/S 1.16.1 KNX to manage an electrical installation energy-efficiently based on an adjustable load limit, by sending switching commands to KNX

The Energy Analyzer (master) ① receives power values from up to 16 energy meters ② ③ (slaves, e.g. SE/S, EM/S, ZS/S and third party)

The values are then internally added to the total power value

If the sum of the power values exceeds the user-defined load limit setting, the device sends shedding stages ④ to KNX

All ABB devices (e.g. Energy Actuator SE/S 3.16.1) featuring the “Receive shedding stages” group object (DPT 236.001) are suitable for use with the load shedding function



Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Menu “Load control” (only for QA/S 1.16.1 KNX)

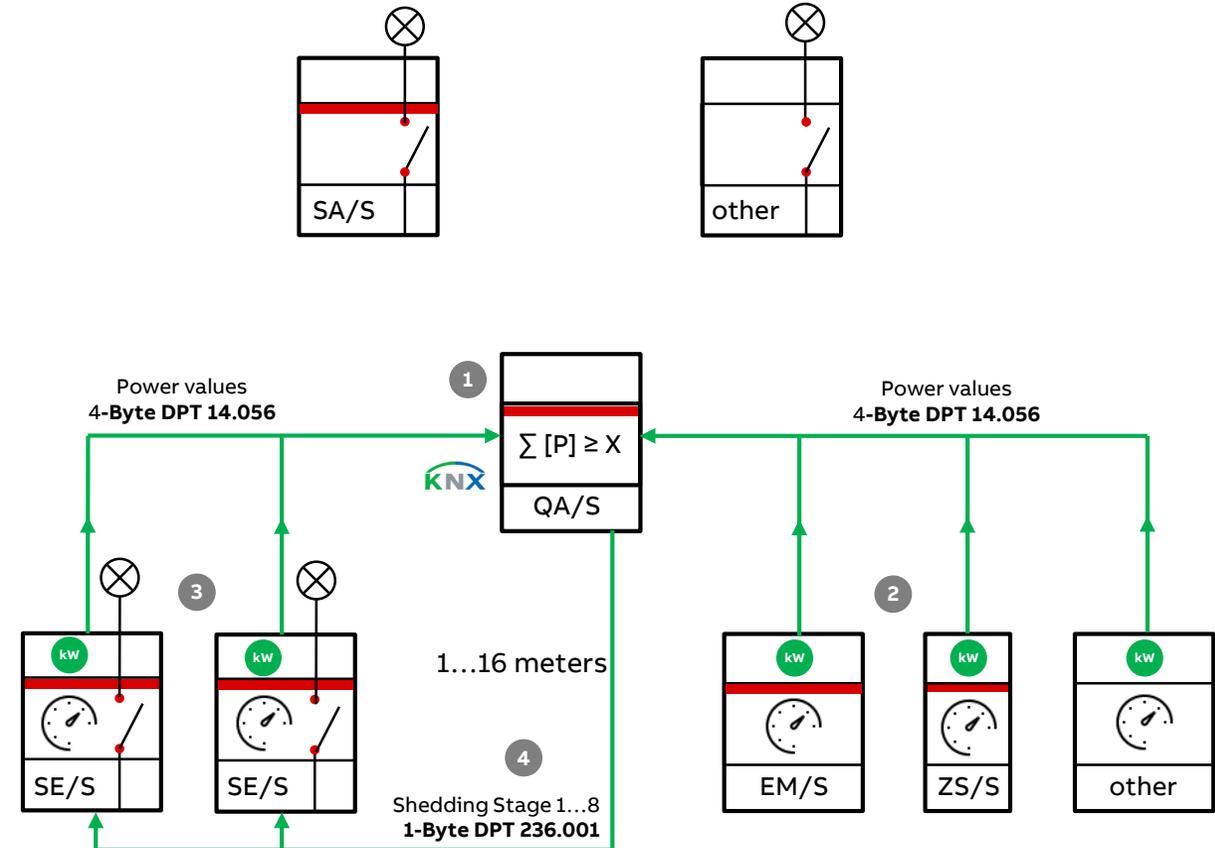
Load control

The Energy Actuator ³ features power measurement and a switch actuator function

As a result, it can send power values to the load control function and at the same time, receive shedding stages to switch connected consumers on and off

This means that a shedding stage can be set in the Energy Actuator for each output

The slave receives the shedding stage and switches all outputs set with this stage



Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Menu “Load control” (only for QA/S 1.16.1 KNX)

Load control

The Energy Actuator ③ features power measurement and a switch actuator function

As a result, it can send power values to the load control function and at the same time, receive shedding stages to switch connected consumers on and off

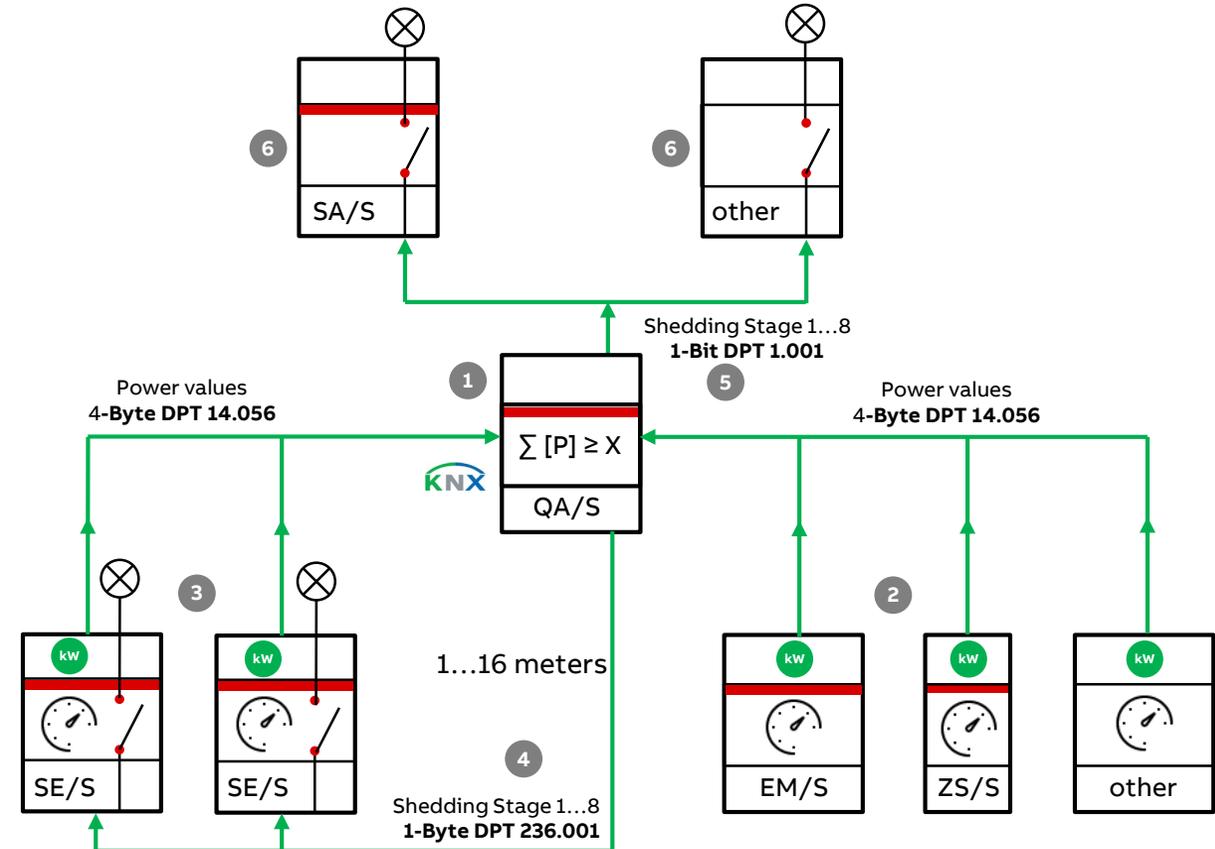
This means that a shedding stage can be set in the Energy Actuator for each output

The slave receives the shedding stage and switches all outputs set with this stage

Devices ⑥ (e.g. switch actuators) without the “*Receive shedding stages*” group object can still be integrated in load control using the 1-bit group objects “*Send load shedding stage 1...8*” ⑤

The master increases the shedding stage until “Send sum power values” falls back below the load limit

Demonstration in practice



Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Menu “Load control” (only for QA/S 1.16.1 KNX)

How load control works

The number of shedding stages that load control (the master) can send is defined based on the number of priority stages to be switched on the meters (slaves)

For instance, if a system has only two priority stages (where priority 1 is always on and priority 2 can be switched off as necessary), one load shedding stage is enough

In the master, you can set a load limit that must not be exceeded

Alternatively there is a load limit that can be changed via KNX

As a rule, the power values received from the slaves should be sent with a change

When the master then receives a new power value, the sum of the values is recalculated and if applicable, a shedding stage sent to KNX

The cyclic monitoring time can be enabled

The screenshot shows the configuration page for '1.1.21 QA/S1.16.1 Energy Analyzer, 16-fold, MDRC > Load Control'. The 'Load Control' tab is selected and highlighted with a red box. The configuration is organized into a table with columns for 'Meter' and 'Parameter'. The 'General' section includes 'Enable load control' (set to Yes) and a note: 'Note: At least one electricity meter must send power values to load control. Set parameter "Send power values to load control" in corresponding electricity meter(s)'. The 'Meter' section lists parameters for Meters 1 through 9: 'Number of load shedding stages' (2), 'Load limit' (150 W), 'Change load limit via Group object' (Yes), 'Reaction time when exceeding load limit' (2 s), 'Reaction time when falling below load limit' (30 s), 'Hysteresis at restart attempt in % of load limit' (0 %), 'Change load limit, hysteresis and reaction times via user interface' (Yes), 'Overwrite load limit, hysteresis and reaction times with download' (Yes), and 'Value Group object "Deactivate load control" at restart' (1 = load control deactivated).

Meter	Parameter	Value
General	Enable load control	<input type="radio"/> No <input checked="" type="radio"/> Yes
	Note: At least one electricity meter must send power values to load control. Set parameter "Send power values to load control" in corresponding electricity meter(s).	
+ Meter 1	Number of load shedding stages	2
+ Meter 2	Load limit	150 W
+ Meter 3	Change load limit via Group object	<input type="radio"/> No <input checked="" type="radio"/> Yes
+ Meter 4	Reaction time when exceeding load limit	2 s
+ Meter 5	Reaction time when falling below load limit	30 s
+ Meter 6	Hysteresis at restart attempt in % of load limit	0 %
+ Meter 7	Change load limit, hysteresis and reaction times via user interface	<input type="radio"/> No <input checked="" type="radio"/> Yes
+ Meter 8	Overwrite load limit, hysteresis and reaction times with download	<input type="radio"/> No <input checked="" type="radio"/> Yes
+ Meter 9	Value Group object "Deactivate load control" at restart	<input type="radio"/> 0 = load control activated <input checked="" type="radio"/> 1 = load control deactivated

Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Menu “Load control” (only for QA/S 1.16.1 KNX)

How load control works

Set the over/under limit reaction times according to how quickly you wish the system to react

If the load limit is exceeded, shedding stage 1 is sent to KNX after the over limit reaction time

If the load then exceeds the limit again, the next shedding stage up is sent after the reaction time, and so on, until the load falls back below the limit

Once the reaction time has run after the load falls below the limit, the master reduces the shedding stage (attempted restart)

Take account of relay lifetime when setting reaction times

Set up the system so that load control is only active at peak times, or set long enough over/underlimit reaction times to prevent excessive switching

1.1.21 QA/S1.16.1 Energy Analyzer, 16-fold, MDRC > Load Control

General	Enable load control	<input type="radio"/> No <input checked="" type="radio"/> Yes
Load Control	Note: At least one electricity meter must send power values to load control. Set parameter "Send power values to load control" in corresponding electricity meter(s).	
+ Meter 1	Number of load shedding stages	2
+ Meter 2	Load limit	150 W
+ Meter 3	Change load limit via Group object	<input type="radio"/> No <input checked="" type="radio"/> Yes
+ Meter 4	Reaction time when exceeding load limit	2 s
+ Meter 5	Reaction time when falling below load limit	30 s
+ Meter 6	Hysteresis at restart attempt in % of load limit	0 %
+ Meter 7	Change load limit, hysteresis and reaction times via user interface	<input type="radio"/> No <input checked="" type="radio"/> Yes
+ Meter 8	Overwrite load limit, hysteresis and reaction times with download	<input type="radio"/> No <input checked="" type="radio"/> Yes
+ Meter 9	Value Group object "Deactivate load control" at restart	<input type="radio"/> 0 = load control activated <input checked="" type="radio"/> 1 = load control deactivated

Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

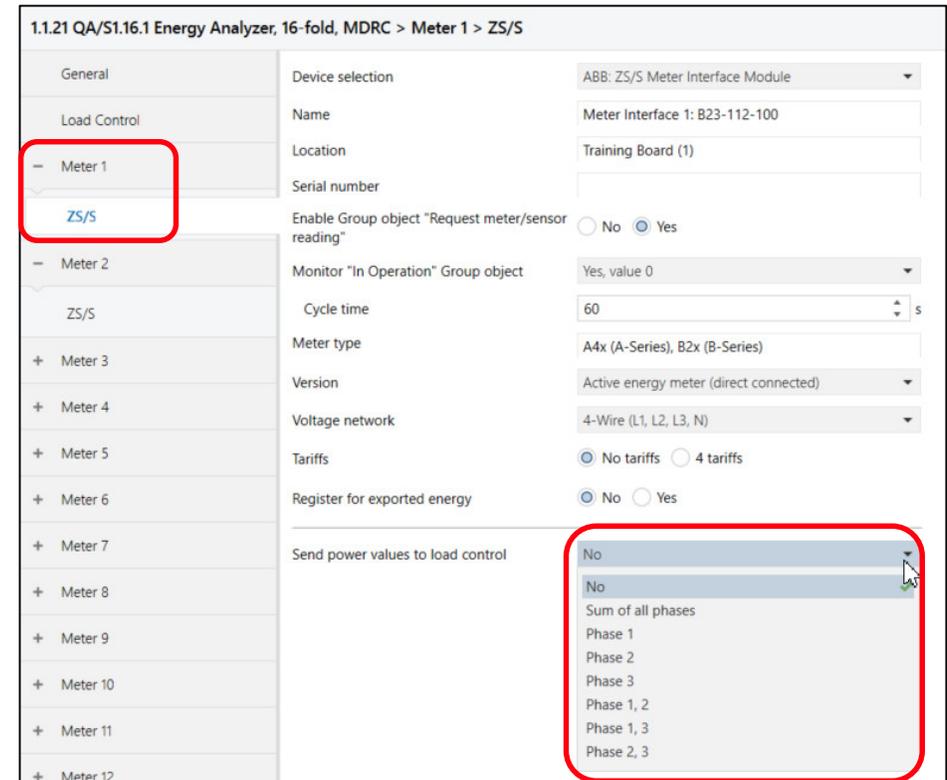
Menu “Load control” (only for QA/S 1.16.1 KNX)

How load control works – QA/S Meter settings

The meters must be set which power values should be sent internally to the load control and taken into account in the calculation

For example:

- Meter Interface ZS/S1.1: 4-wire meter (B23-112-100):
 - No, Sum of all phases, Phase 1, Phase 2, Phase 3; Phase 1&2, Phase 1&3 and Phase 2&3
- Meter Interface ZS/S1.1 : 2-wire meter (B21-113-100)
 - Yes or No
- Energy Actuator SE/S3.16.1:
 - No, Total, Channel A, Channel B, Channel C; Channel A&B, Channel A&C and Channel B&C
- Energy Module EM/S3.16.1:
 - No, Total, Channel A, Channel B, Channel C; Channel A&B, Channel A&C and Channel B&C



Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Menu “Load control” (only for QA/S 1.16.1 KNX)

How load control works – Settings Energy Actuator

The following parameters must be set in the Energy Actuator SE/S for each output

- Load shedding stage: Options: 1...8
(at which shedding stage the output is switched off)
- Shedding stage can be changed via object: No or Yes
- Slave is controlled via “external object” (send by QA/S)
- Behaviour at recovery of bus voltage

1.1.34 SE/S3.16.1 Energy Actuator,3-fold,16/20A,MDRC > A: Load control slave

A: Load control slave	Load shedding stage output [1...8]	1
B: General	Load shedding stage can be changed via object	<input checked="" type="radio"/> no <input type="radio"/> yes
B: Function	Slave is controlled via	<input checked="" type="radio"/> external object <input type="radio"/> receives load shedding stage internally
B: Metering (Wh)	Enable object "Receive load shedding stage" on "Function"	<--- NOTE
B: Instrument and power values	Object "Deactivate load control" (slave) at recovery of bus voltage	unchanged

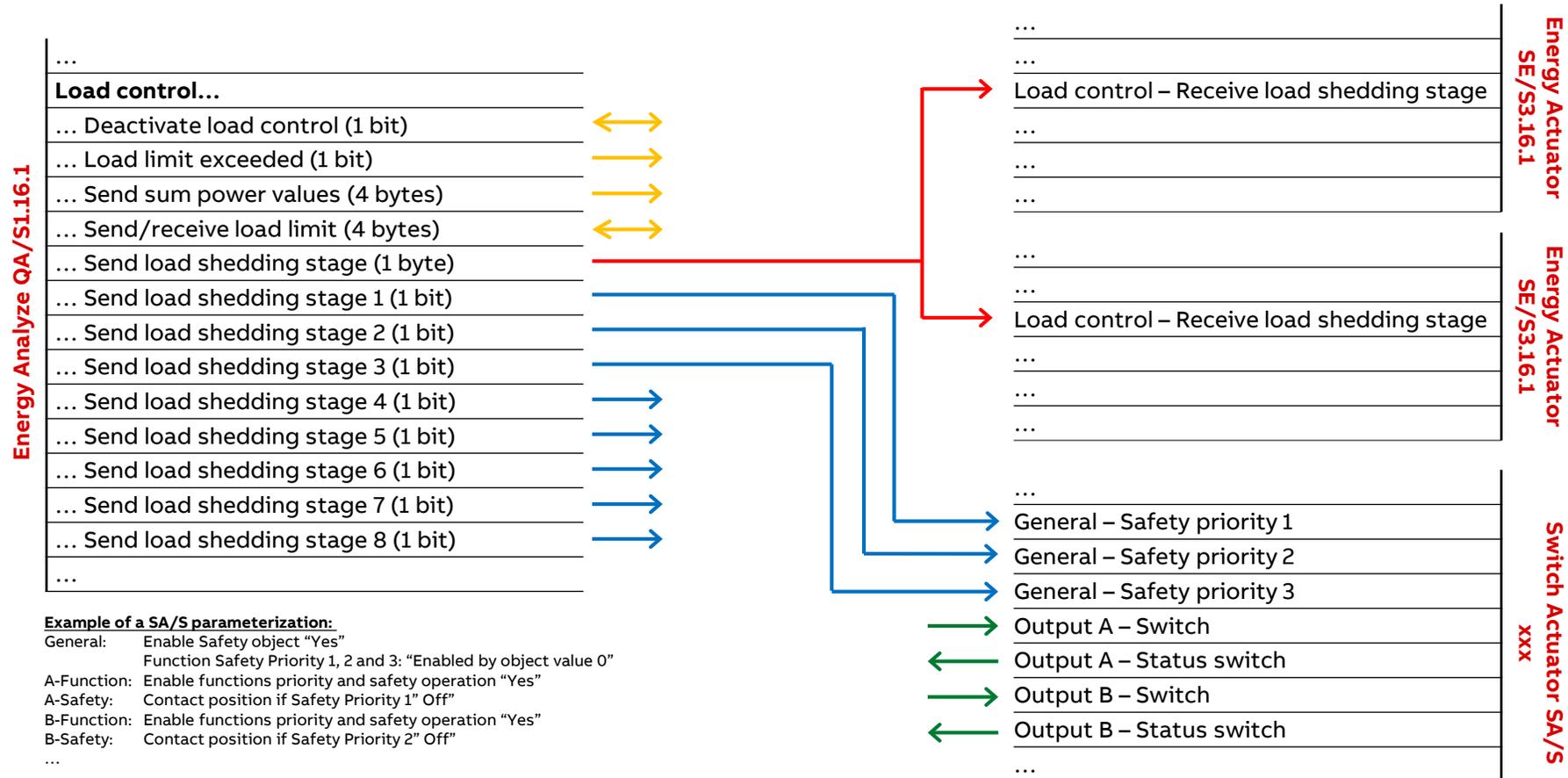
Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Menu “Load control” (only for QA/S 1.16.1 KNX) – Assignment of group addresses: Power values

Energy Analyze QA/S1.16.1	Meter 1: ZS/S – Active Power Total	←	Power value – Active power total	Meter Interface ZS/S 1.1 4-wire EQmeter “B22 113 100”
	Meter 1: ZS/S – Active Power L1	←	Power value – Active power L1	
	Meter 1: ZS/S – Active Power L2	←	Power value – Active power L2	
	Meter 1: ZS/S – Active Power L3	←	Power value – Active power L3	
	Meter 1: ZS/S – ...			Meter Interface ZS/S 1.1 2-wire EQmeter “B21 113 100”
	Meter 2: ZS/S – Active Power	←	Power value – Active power	
	Meter 2: ZS/S – ...			Energy Actuator SE/S3.16.1
	Meter 3: SE/S – Active Power	←	Active power total	
	Meter 3: SE/S – A: Active Power	←	A: Active Power	
	Meter 3: ZS/S – B: Active Power	←	B: Active Power	
	Meter 3: ZS/S – C: Active Power	←	C: Active Power	
	Meter 3: SE/S – ...			Energy Module EM/S3.16.1
	Meter 4: ES/S – Active Power	←	Active power total	
	Meter 4: ES/S – A: Active Power	←	A: Active Power	
	Meter 4: ES/S – B: Active Power	←	B: Active Power	
	Meter 4: ES/S – C: Active Power	←	C: Active Power	
Meter 4: ES/S – ...			Energy Meter: Generic 4-wire meter	
Meter 5: Gen.EL– Active Power Total	←	Power value – Active power total		
Meter 5: Gen.EL– Active Power L1	←	Power value – Active power L1		
Meter 5: Gen.EL– Active Power L2	←	Power value – Active power L2		
Meter 5: Gen.EL– Active Power L3	←	Power value – Active power L3		
Meter 5: Gen.EL– ...				

Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Menu “Load control” (only for QA/S 1.16.1 KNX) – Assignment of group addresses

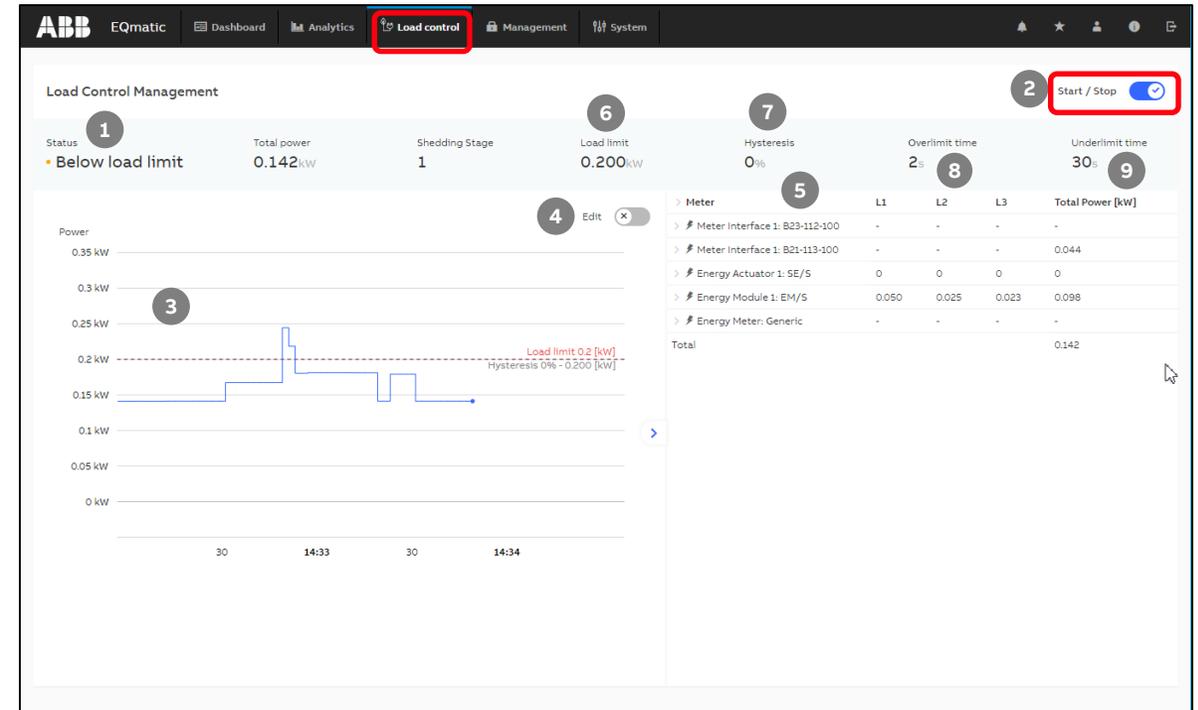


Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Menu “Load control” (only for QA/S 1.16.1 KNX)

Load control

1	Load control status overview	<p>Displays the load control status options and present measured values or settings</p> <ul style="list-style-type: none"> • Status <ul style="list-style-type: none"> • Disabled: Load control is not enabled via ETS • Stopped: Load control has been stopped (via ETS or the UI) • Ideal: Total power is within the load limit and no shedding stage is active • Over Limit: Total power is above the load limit • Under Limit: Total power is within the load limit and at least one shedding stage is active • Between: Total power is above the load limit minus the hysteresis and at least one shedding stage is active • Total power: Displays the total power (in kW) of the meters/slaves sending their values to load control • Shedding Stage: Displays the present shedding stage (0–8)
2	Start/Stop	Slider for activating load control
3	Chart of current power	<p>Blue line: current power</p> <p>Red line: load limit</p> <p>Broken gray line: hysteresis</p>
4	Edit	The values for <i>Load limit</i> , <i>Hysteresis</i> and <i>Overlimit/Underlimit time</i> can be changed with the <i>Edit</i> function. The load limit and hysteresis in the chart can be changed using drag & drop.
5	Meter/slave overview	<p>The meters listed here are sending their power values for inclusion in the total power calculation and are taken into account in load control.</p> <p>Click the “>” icon to show or hide the table.</p>
...		



Load control is enabled

Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Menu “Load control” (only for QA/S 1.16.1 KNX)

Load control

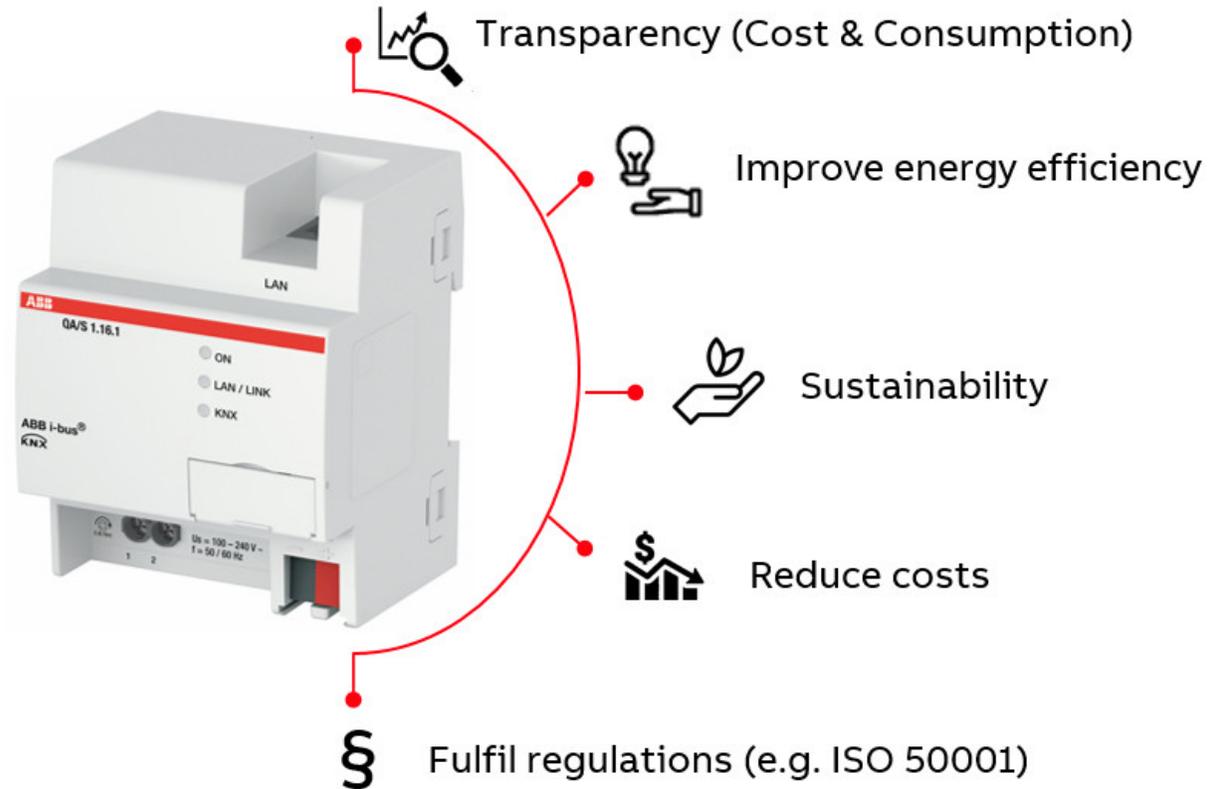
...		
6	Load limit	Enter the desired load limit here
7	Hysteresis	If the system is often overloaded during operation, the hysteresis can prevent a shedding stage from repeatedly switching on and off. The hysteresis is subtracted from the load limit. The shedding stage is not reduced again until the system falls below the load limit minus the hysteresis.
8	Overlimit time	If the sum of the power values exceeds the set load limit, load control sends shedding stages to the bus based on the time set here. The shedding stage increases until the power falls below the load limit. The reaction time restarts before each stage increase.
9	Underlimit time	If the power falls back below the limit (i.e. if enough slaves were switched off), the master waits for the length of time set here and then starts reducing the shedding stages in reverse order until it reaches stage 0 (i.e. all slaves are enabled) or the load limit is exceeded again.
	Save	Saves the settings after you edit the following parameters: <ul style="list-style-type: none">• Load limit• Hysteresis• Overlimit time• Underlimit time

Edit mode (load control is disabled)

Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

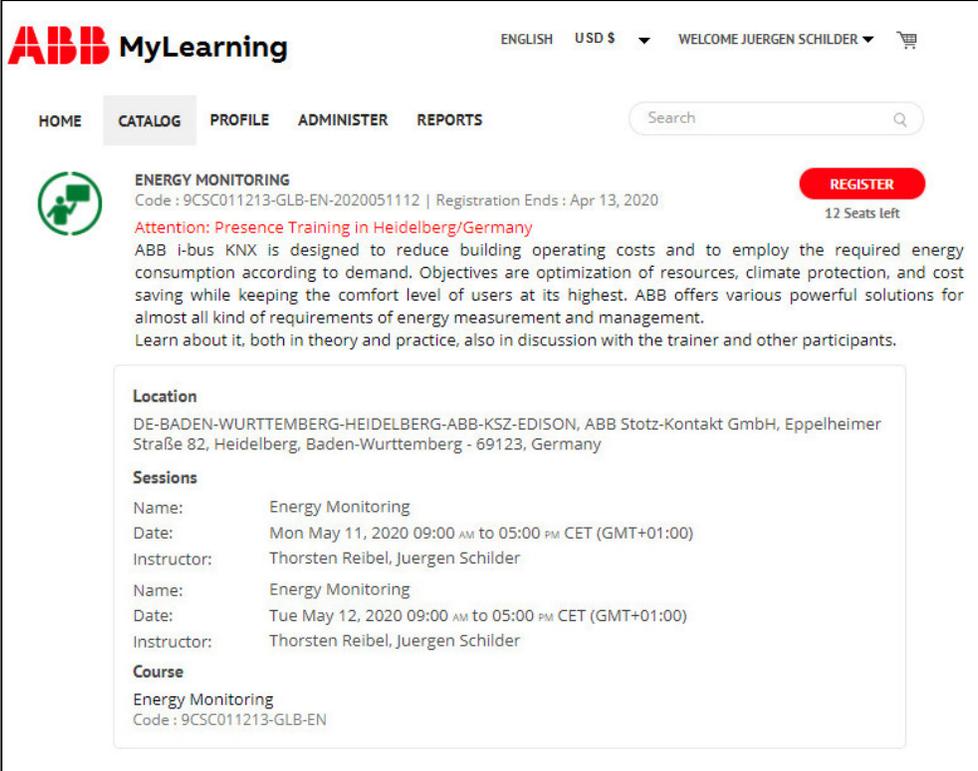
Are there any questions in the chat???



Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Training “Energy Monitoring”

- Public Presence Training in Heidelberg/Germany
 - 11th to 12th May 2020
 - 28th to 29th September 2020
 - 03rd to 04th December 2020
- Different possibilities of decentral energy measurement and recording in a load circuit on the basis of the KNX standard
 - Energy Actuator SE/S and Energy Module EM/S
- Providing current energy and consumption values measured by EQ meters on the KNX bus
 - Meter Interface Module ZS/S
- Recording, evaluation and displaying of different consumption values (electricity, water, gas) in a building
 - Energy Analyzer QA/S M-Bus, Modbus and KNX

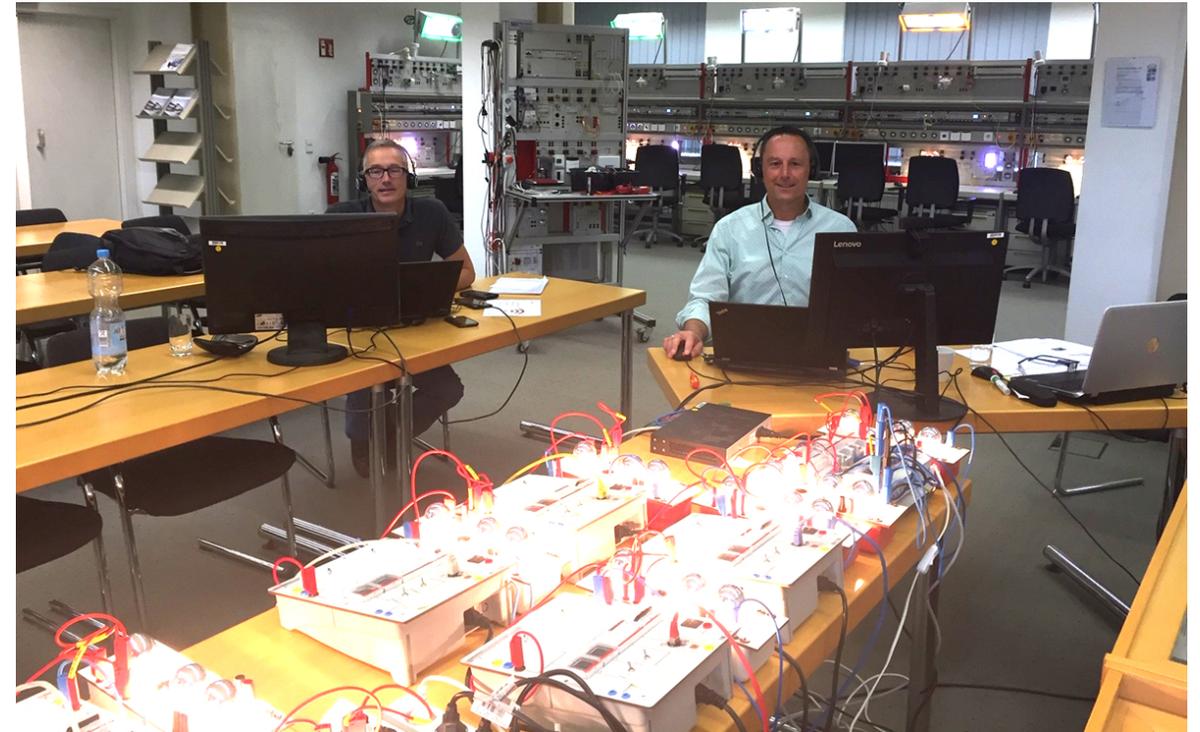


The screenshot displays the ABB MyLearning interface. At the top, there are navigation links for 'HOME', 'CATALOG', 'PROFILE', 'ADMINISTER', and 'REPORTS'. A search bar is located on the right. The main content area features a green circular icon with a person and a speech bubble, representing the 'ENERGY MONITORING' course. The course code is 9CSC011213-GLB-EN-2020051112, and registration ends on April 13, 2020. A red 'REGISTER' button indicates that 12 seats are left. The course description highlights that ABB i-bus KNX is designed to reduce building operating costs and optimize energy consumption. Below the description, there are sections for 'Location' (DE-BADEN-WURTTENBERG-HEIDELBERG-ABB-KSZ-EDISON), 'Sessions' (two sessions on May 11 and 12, 2020), and 'Course' (Energy Monitoring).

Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Training “Energy Analyzer QA/S”

- Virtual Classroom Training
 - The dates will be announced later
 - ABB internal training
 - Worldwide access to the training equipment via ABB IP network
- Initial commissioning of an Energy Analyzer QA/S
- Provide measured values for Modbus TCP
- Various practical exercises on the training boards (access via ABB IP network)
 - Commissioning of an Energy Analyzer QA/S
 - Create the metering structure of a building
 - Configure the dashboard
 - ...



Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Training & Qualification Database

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

www.abb.com/knx or <https://go.abb/ba-training>

→ Training and Qualification

→ Training Database

The screenshot displays the ABB Training & Qualification Database interface. At the top, the ABB logo and navigation links are visible. The main heading is 'Training & Qualification Database'. Below this, there is a large image of a man in a white shirt holding a tablet. The text below the image 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:'. A list of training content types is provided:

- **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
- **Video tutorials:** Short instructional videos to specific topics
- **Webinar slides:** Slides of webinar sessions in pdf format
- **Webinar Videos:** Recording of webinar sessions

Below the list, there is a search section with the text: 'To search the database, select the required search criteria. To make multiple selections, press [Ctrl]'. There are four dropdown menus: 'System' (with 'All' selected), 'Application' (with 'All' selected), 'Training type' (with 'Application Manual' selected), and 'Language' (with 'All' selected). A red arrow points from the 'Webinar Videos' section to a video player showing a webinar titled 'ClimaECO – BA-Controller KNX BAC/S Webinar – Competence Center Europe – Building Automation'.

Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

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 2020

If you are interested in a training please click the training und you will be forwarded to register in “ABB MyLearning”

www.abb.com/knx or <https://go.abb/ba-training>

→ Training and Qualification

→ Training Calendar



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Training & Qualification Calendar

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In this Training & Qualification Calendar you can find the educational events that are taking place during 2018.

If you are interested in a training please [REGISTER HERE](#).

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

System	Date	Location
All	All	Webinar
Door Entry Systems	January 2018	Heidelberg, Germany
Free@home	February 2018	Lödenscheid, Germany
Fire Alarm Systems	March 2018	S. Palomba (Rome), Italy
I-bus KNX	April 2018	Virtuone (Milan), Italy

Content	Date	Location	Language
KNX for Commercial Building	05.04.2018 - 06.04.2018	Lödenscheid, Germany	EN
Building Automation Light + Building 2018	10.04.2018	Webinar	EN
KNX in Hotels	19.04.2018 - 20.04.2018	Heidelberg, Germany	EN
HVAC Automation	23.04.2018 - 24.04.2018	Heidelberg, Germany	EN

ABB MyLearning

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CERTIFIED KNX BASIC COURSE
Code : 9CSC007151-GLB-EN-20190218_22
Certified KNX Basic Course at ABB in Heidelberg, Germany, 5 days
★★★★★ | Share

Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

KNX Certified Trainings 2020

Certified KNX Courses in Heidelberg

- Basic Course : 17th to 21st Feb.
- Advanced Course: 13th to 17th Jul.
- Tutor Course: 19th to 23rd Oct.
- Basic Course : 16th to 20th Nov.
- Followed by two day application training

And many more training courses in the calendar
“International Training Dates 2020”

www.abb.com/knx or <https://go.abb/ba-training>

Save the date!!!



Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Light + Building

The world’s leading trade fair for lighting and building services technology

– 8. – 13. March 2020 in Frankfurt/Germany

– **NEW:** ABB now in Hall 12



Webinar “ABB EQmatic Energy Analyzer QA/S KNX”

Next Webinar

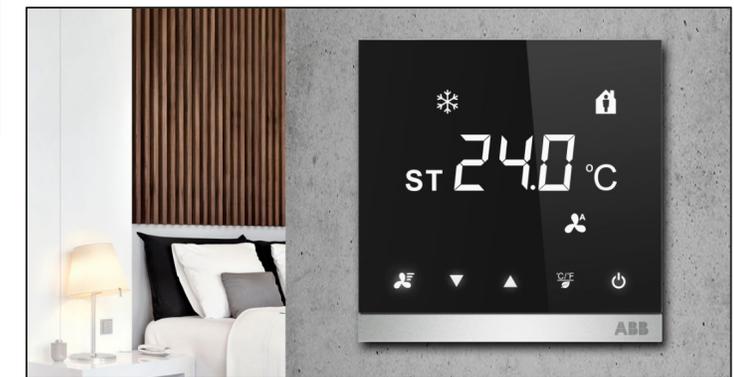
Busch ControlTouch® - Update Firmware 1.3.0

Standard and Professional Switch Actuators – Market Launch

ABB Caldion® - New Range of FanCoil Room Temperature Controller

Wednesday 05th February 2020

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



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