SIEMENS

Building automation and control systems

System Catalog 2014

Answers for infrastructure and cities.

Content

Can old buildings be just as energy-efficient as new ones?

Intelligent and energy-efficient building technologies from Siemens reduce emissions and costs, in any building.

Higher energy efficiency and enhanced comfort in rooms

Dear Customers and Partners,

With innovative and environmentally friendly technologies, Siemens Ltd has been promoting environmental protection and the efficient use of energy in buildings and rooms for years. Many satisfied customers from around the world who have a wide range of needs demonstrate that this approach does not fall short of user-friendliness and comfort.

The successful establishment of Desigo™ Total Room Automation (TRA) in recent months has set new standards on the market when it comes to room automation and the energy-efficient control of all disciplines in the room. Flexibility where user and building requirements are concerned as well as the smooth interaction between HVAC, lighting and shading have already won over many customers.

Support for the most recent and future industry and IT standards has been significantly improved in the latest Desigo system update. Desigo remains compatible with the BACnet standard and provides support for BACnet IPv6. As another new feature, Desigo now also meets the AMEV guideline, which is becoming more and more important, particularly in German-speaking countries. This means that your investment in the future is secure even today.

Desigo Touch and Web is the new product generation for easy and innovative operation of HVAC systems. An intuitive user interface on high-end touch panels or mobile operator units and a Web server allow users to control and operate one or multiple systems. The new room operator units and sensors will win you over with their new design, combined with innovative energy efficiency functions.

The new building management station Desigo CC is the next major innovation ready for launch. Desigo CC permits the ergonomic operation and evaluation of all building requirements for HVAC, lighting, security and fire safety.

As a Solution Partner, you continue to have access to the latest versions of our documentation and communication materials as well as our innovative tools for calculating energy efficiency and preparing bids.

You will benefit from our extensive and reliable range of systems and products developed for maximum energy efficiency, user-friendliness and comfort.

BACS efficiency classes – EN 15232

High energy performance
BACS and TBM

A

Advanced
BACS and TBM

B

Standard
BACS

C

Non-energy-efficient
BACS

D

BACS   Building Automation and Control System
TBM   Technical Building Management System

Cutting costs through energy efficiency

The best way to lower operating costs is to consume less energy. Intelligent building automation technology from Siemens helps reduce the energy use by as much as 30 percent.

Achieving energy efficiency without sacrificing comfort
Rising energy costs and government regulations are not the only reasons why people are rethinking their energy consumption. Growing awareness of climate change and dwindling resources are other factors why energy efficiency is becoming more and more important in everyday life.

Buildings account for roughly 40 percent of global energy consumption. Examples include residential buildings, office and commercial buildings as well as hotels, shopping centers and industrial buildings.

Lowering energy consumption using intelligent building automation is particularly effective. Improvements to existing building automation systems often require little investments and help save a significant amount of energy, reduce CO_2 emissions and shorten payback periods.

The building automation systems from Siemens make it possible to reach efficiency class A under the European Standard EN 15232. As a leading specialist in energy efficiency in buildings, with more than 30 years of experience and an extensive and harmonized portfolio of products, systems and solutions, Siemens is the ideal partner for optimizing efficiency.
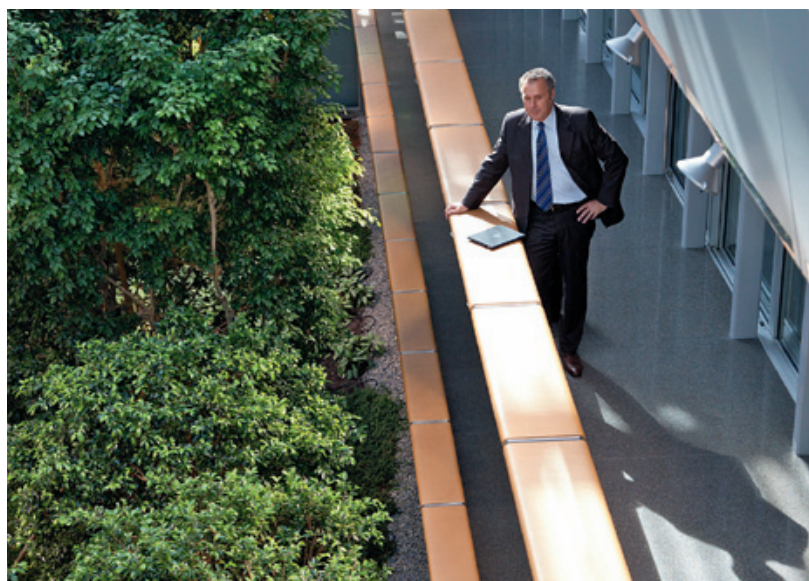
Energy-efficient applications

Measurable and sustainable energy savings can be achieved only through control strategies developed on the basis of proven applications. Systems from Siemens are based on an extensive set of innovative functions.

For example, the Desigo AirOptiControl application not only ensures good air quality and optimum room temperature but also reduces the required energy demand by as much as 50 percent.

Focus on the room user

With its room automation technology, Siemens not only provides intelligent control but also involves the room users. Actively inviting the participation of users makes it possible to save even more energy. With the Desigo Green Leaf display, users can check at any time whether energy consumption has exceeded the limit values. At the press of a button, users can return the system to optimized operation at any time, thereby contributing to energy efficiency.

Highlights

- Reduction in energy consumption by as much as 30 percent
- Sustainable, efficient control strategies based on established applications
- Additional cost savings by involving room users

Desigo – flexible and energy-efficient

Efficient savings without sacrifices – with the Desigo building automation system, you can save a great deal of energy while maintaining a pleasant room climate and optimizing comfort.

Desigo helps lower operating costs and cut energy consumption while maintaining optimum room conditions. You can respond quickly and flexibly to changes in building usage, and your investments are protected over the building's entire life cycle, thanks to features such as centralized, intelligent energy management, highly efficient energy saving functions, and the effective interaction of all system components and processes.

Innovative system operation
The new Desigo Touch and Web, whose innovative operating concept makes it easy and intuitive to operate, simplifies the operation and monitoring of HVAC systems. A touch panel mounted on the control cabinet door allows you to access multiple systems at the same time. You can use the Web browser to control and operate systems from a laptop, tablet or smart phone – anytime and anywhere. The user interface has been standardized on all devices.

Energy-efficient room automation

Desigo TRA provides a perfectly coordinated overall solution for the HVAC, lighting and shading disciplines in a room. Intelligent room control ensures energy-optimized operation.

Desigo TRA's freely programmable room automation stations are seamlessly connected to the primary system via BACnet/IP. DALI and KNX devices can be fully integrated and interact with existing and new sensors and actuators from Siemens.

New features

Desigo provides support for the latest and future industry and IT standards, including AMEV, BACnet with IPv6 communication and the B-AWS profile for Desigo Insight as well as the latest 64-bit Windows operating systems. A new, comprehensive range of room sensors and room operator units for surface and flush mounting as well as enhanced KNX integration strengthen the range of room devices. Additional improvements were made to the Desigo applications and tools.

Highlights

- Reduces operating costs and maximizes investment protection without sacrificing comfort

- Intuitive system operation, thanks to new touch panels and Web access

- Supports the latest standards for seamless integration

- Extensive range of new KNX room units
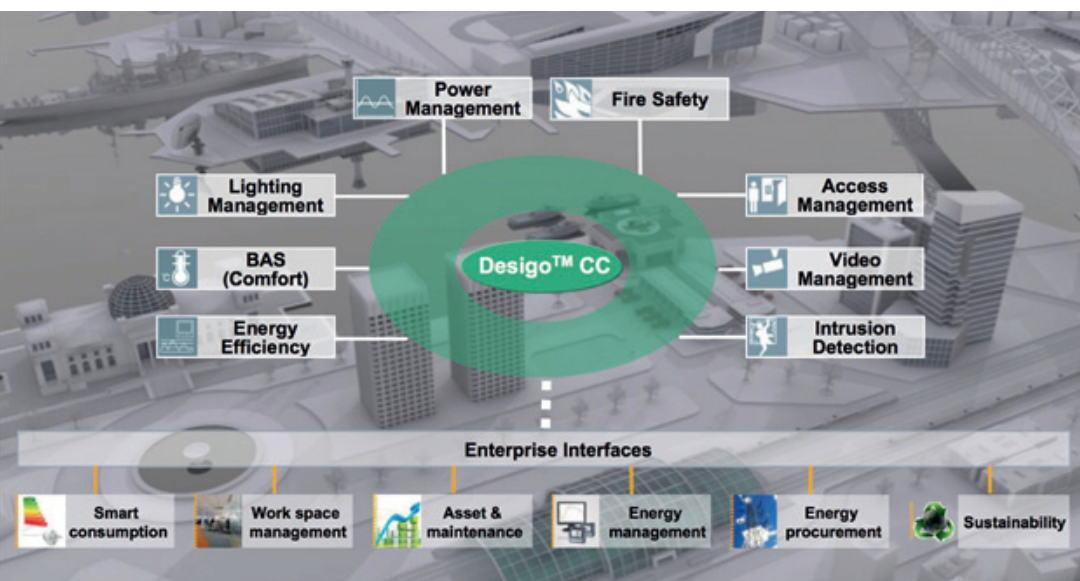
Desigo CC management station

Desigo CC, the new management station from Siemens, allows you to monitor and operate multiple disciplines in modern building systems efficiently and according to workflow.

All building disciplines, including building automation as well as fire safety and security, can be integrated into the Desigo CC building management station and linked to each other intelligently. Desigo CC is a flexible management station based on proven technologies with extensive support for communications standards such as BACnet, OPC and Modbus. In addition, the management station is certified under the BACnet B-AWS profile. The adaptive architecture and operation guarantee a high degree of scalability and maximum investment protection.

The process-oriented operating concept supports fast, intuitive and standardized control of systems as well as the ability to handle management tasks from different areas. A consistent menu guidance system minimizes training and permits flexible modifications in the event that changes are made to the building.
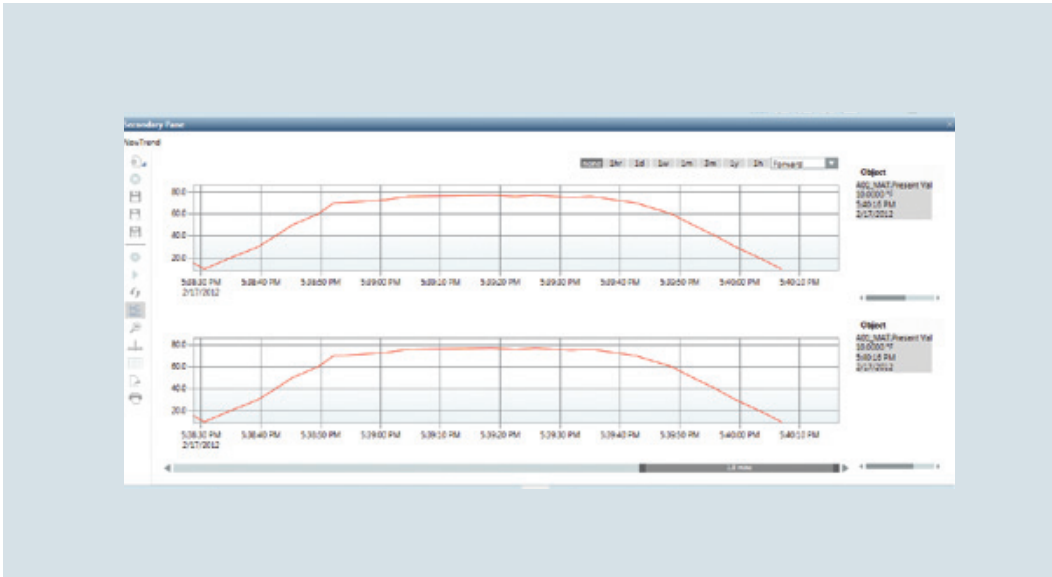
The user interface can be customized to personal preferences. The most important information is displayed first. Windows do not overlap, and all disciplines appear in the same window. Users benefit from an easy-to-understand visualization of all disciplines, and they save time since there is no need to switch applications.

Desigo CC uses vector graphics for an attractive, high-resolution display of system elements, including full zoom functions. System graphics can be displayed in either 2D or 3D.

Highlights

- All disciplines are integrated into a single management station

- Process-oriented operating concept optimizes system operation

- Can be flexibly adapted to the customer's needs and growing requirements

Synco 700 – communicating HVAC control

Synco 700 supports the entire life cycle of small to medium-size buildings. The controllers can be extended and adapted at any time, thanks to their modular design and backward compatible communication. This way, investments can also be made in steps.

Being the heart of the building automation and control system, Synco 700 is responsible for the generation of heat and refrigeration, controls and monitors plants, and communicates via KNX. Installation and commissioning are fast and efficient, thanks to integrated and proven standard applications, and there is no need for programming. Naturally, individual configurations can also be made easily, if required. The system can be extended at any time since extension modules can be attached to the controllers simply by clicking. With Synco, you save time and costs when it comes to planning, engineering and commissioning.

The preprogrammed energy saving functions ensure energy-optimized operation. Also, the Synco controllers exchange energy-related information via KNX, so that aggregates such as heating boilers, chillers or pumps are switched on only if required to maintain the desired comfort level. This way, Synco provides the preconditions to attain efficiency class A.

Monitored energy efficiency
Room users and facility managers can considerably influence energy consumption by switching the plant off during non-occupancy times or by matching the room temperature and the time schedule to the current occupancy times.

The communicating room controllers RXB and RXL as well as the communicating room thermostats RDG and RDF enable the users to straightforwardly adjust the comfort temperature in the individual rooms. This saves additional energy.

Furthermore, the Synco system supports the user with intelligent functions, such as the energy indicator, which monitors end-user settings, shows non-adherence to limit values and forwards them periodically to the users via e-mail or app.

Whatever the settings, an energy indicator shows the room's energy efficiency state: Green means that the settings made are correct from the point of view of energy usage, orange indicates unfavorable settings. This way, deviations are always visible.

Using the Web or the HomeControl app, room users can check their settings from any location at any time via PC or smart phone.

For more detailed information, please visit www.siemens.com/synco

Highlights
■ Efficient installation thanks to extremely versatile, modular range of HVAC controllers
■ Energy efficiency thanks to energy saving functions and exchange of energy-related data
■ Enhanced comfort due to individual room climate
■ Higher energy efficiency thanks to memory function and reporting of unfavorable conditions from the point of view of energy usage

Energy **P**erformance
Classification Tool
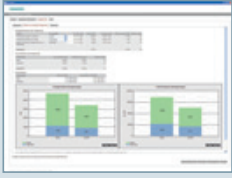
Energy **E**fficiency
Calculation Tool

HVAC
Integrated **T**ool
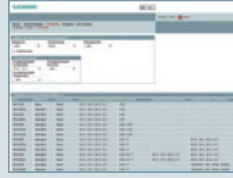
Specification
Text **S**election **T**ool
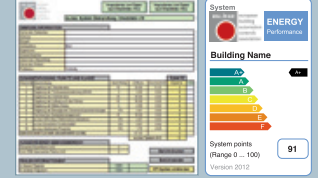
| Preliminary study | Project planning | Bidding phase | Project implementation | Operation and modernization |

Supporting tools for the sales process

Siemens offers extensive supporting tools for the entire planning and implementation process.

The European Standard EN 15232 distinguishes between four efficiency classes from A to D and defines the energy saving potential for different types of buildings resulting from building automation and control. To check adherence to the classification, the European Building Association (eu.bac) introduced a certification of systems which verifies the functions specified by the standard.

Siemens was the leading company when EN 15232 was developed and is still involved in the standard's maintenance, including certification by eu.bac. Based on this concept, Siemens developed software tools and other means for planning and specifying building automation and control systems. The tools Energy Performance Classification (EPC), Energy Efficiency Calculation (EEC), and the Specification Text Selection Tool (STST) support planning of building automation and control systems during the entire life cycle of a building (new project, extensions, modernization).

Overview of tools:

Preparation of a project
For initial customer contacts and preparatory steps, sophisticated tools and other means, such as brochures, technical documentation, guides and training courses, are available.

Energy Performance Classification (EPC)
The EPC Tool allows for a quick analysis of the existing building automation and control functions to assess the energy saving potential and the resulting payback time. The calculations are based on the building automation and control efficiency classes according to EN 15232:2012.
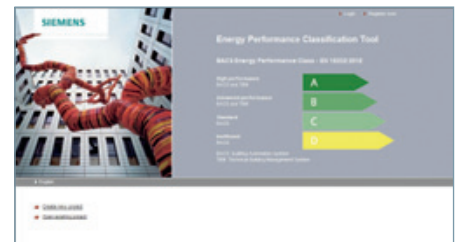
Energy Efficiency Calculation (EEC)
The EEC Tool offers an in-depth analysis of the building automation and control functions and a reliable assessment of energy savings and the payback time. The calculation is made dynamically based on customer-specific buildings. The impact of control functions is also calculated.

Specification Text Selection Tool (STST)
STST saves time when preparing functional bids. The comprehensive text database contains product-independent texts to completely describe an entire building automation system. The tool also comes with texts that describe the system requirements on the management, automation, room and field level. In addition, it supports individual descriptions of all applications for primary systems, room functions and control panels.

Tendering phase
The tools used for the classical tendering phase are the HVAC Integrated Tool (HIT) and the Desigo Configuration Module (DCM). HIT facilitates the simple selection of field devices while, among other things, DCM allows for the creation of extensive parts lists, which can also be used in the ensuing engineering process.

The Siemens Solution Partner program

The Siemens Solution Partner program offers partners added value for all phases of a project.

When talking to decision makers, considerable effort is required to persuade them of the values of your company. Siemens supports you when creating new business relations and when making efforts to stay at the top. Siemens cultivates long-term relationships with strong partners throughout the world. Working with Siemens offers you many competitive advantages and extensive support when dealing with specific customer requirements. Success-related documentation and tools are available via the Solution Partner extranet, 24 hours a day.

The Siemens Solution Partner program is based on five main pillars:
– Products and systems
– Training
– Sales support
– Marketing support
– Technical support

For more information,
as well as our tools, please visit
www.siemens.com/bt/solution-partner

Overview of our products, systems and services:

Solution Partner / Building Technologies / SIEMENS		Acquisition	Design	Implementation	Services
Products and systems The comprehensive portfolio of products and systems, together with powerful programming tools, libraries and modules, enables you to develop convincing solutions for your customers.		■	■	■	■
Training Siemens offers a large number of training courses including the accompanying material.		■	■	■	
Sales support A number of calculation tools and extensive documentation for a successful sales process are made available via the extranet. These support you when submitting offers or when there is a need to interpret data.		■	■	■	
Marketing support Solution Partners are identified by a special partner logo. Regional marketing support and a number of marketing tools are available.		■	■		
Technical support In addition to an extensive choice of supporting documentation, Siemens experts are available to support you should you encounter a technical problem.			■	■	■

Type Overview

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AP 422/13	IR wall switch, quadruple, titanium white		4-33
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AQR2531ANW	Front module with passiv temperature measurement, LG-Ni1000	N1408	4-38
AQR2532NNW	Front module for base module, temperature (active)	N1410	4-25
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NEW PRODUCT

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NEW PRODUCT

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RMB795B-3	Central control unit RMB795B-3 with languages da, fi, no, sv	N3122	6-23
RMB795B-4	Central control unit RMB795B-4 with languages cs, sk, pl, hu, ru, bg	N3122	6-23
RMB795B-5	Central control unit RMB795B-5 with languages ro, sl, sr, hr, el, tr	N3122	6-23
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RMH760B-3	Heating controller with languages da, fi, sv, no	N3133	5-10
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RMS705B-3	Switching and monitoring device with languages da, fi, no, sv	N3124	5-34
RMS705B-4	Switching and monitoring device with languages pl, cs, hu, ru, sk, bg	N3124	5-34
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RMU710B-3	Universal controller, 1 control loop, with languages da, fi, sv, no	N3150	5-23
RMU710B-4	Universal controller, 1 control loop, with languages cs, hu, pl, sk, ru, bg	N3150	5-23
RMU710B-5	Universal controller, 1 control loop, with languages sr, hr, sl, ro, el, tr	N3150	5-23
RMU710B-6	Universal controller, 1 control loop, with language zh	N3150	5-23
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RMU720B-3	Universal controller, 2 control loops, with languages da, fi, sv, no	N3150	5-23
RMU720B-4	Universal controller, 2 control loops, with languages cs, hu, pl, sk, ru, bg	N3150	5-23
RMU720B-5	Universal controller, 2 control loops, with languages sr, hr, sl, ro, el, tr	N3150	5-23
RMU720B-6	Universal controller, 2 control loops, with language zh	N3150	5-23
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RMU730B-4	Universal controller, 3 control loops, with languages cs, hu, pl, sk, ru, bg	N3150	5-23
RMU730B-5	Universal controller, 3 control loops, with languages sr, hr, sl, ro, el, tr	N3150	5-23
RMU730B-6	Universal controller, 3 control loops, with language zh	N3150	5-23
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RXB24.1/CC-02	Room controller for chilled ceilings and radiators	N3874	4-40
RXB39.1/FC-13	Room controller for fan-coil applications with KNX communication	N3875	4-41
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RXC20.5/00020	Room controller for fan coils with 1-speed fan or chilled ceiling/radiator with basic application OOO20	N3834	4-45
RXC21.5/00021	Room controller for fan coils with 3-speed fan and/or outside air damper with basic application OOO21	N3834	4-45
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RXL39.1/FC-13	Communicating room controller for fan-coil applications with proprietary communication	N3876	4-37
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SSB81	Electromotoric actuator, 200 N, 5.5 mm, AC 24 V, 1.5 m, 3P	N4891	4-38
SSP81	Electromotoric actuator, 160 N, 2.5 mm, 1.5 m, AC 24 V, 3P	N4864	4-38
STA73PR/00	Electrothermal actuator, AC/DC 24 V, NC, 2P, PDM, PR	N4884	4-38
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TXA1.5K120	Address key 5, 10 ... 120 + 2 reset keys	N8170	3-27
TXA1.IBE	Island bus expansion module for decentralized sub-islands with TX-I/O-modules	N8184	3-26
TXA1.K-120	Address keys 97-120 + 2 reset keys	N8170	3-27
TXA1.K-48	Address keys 25-48 + 2 reset keys	N8170	3-27
TXA1.K-72	Address keys 49-72 + 2 reset keys	N8170	3-27
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TXM1.8D	8 Digital Input Module	N8172	3-21
TXM1.8P	8 Resistance measuring input module	N8176	3-23
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UP 221/13	Pushbutton, single, with status LED, titanium white		4-29
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UP 222/13	Pushbutton, double, with status LED, titanium white		4-29
UP 222/32	Pushbutton, double, without status LED, aluminum metallic		4-29
UP 222/33	Pushbutton, double, with status LED, aluminum metallic		4-29
UP 223/12	Pushbutton, triple, without status LED, titanium white		4-29
UP 223/15	Pushbutton, triple, with status LED, with scene controller, with IR receiver decoder, titanium white		4-30
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UP 285/13	Pushbutton, single, with status LED, titanium white		4-31
UP 285/42	Pushbutton, single, without status LED, platinum metallic		4-31
UP 285/43	Pushbutton, single, with status LED, platinum metallic		4-31
UP 286/12	Pushbutton, double, without status LED, titanium white		4-31
UP 286/13	Pushbutton, double, with status LED, titanium white		4-31
UP 286/42	Pushbutton, double, without status LED, platinum metallic		4-31

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UP 287/12	Pushbutton, quadruple, without status LED, titanium white		4-31
UP 287/13	Pushbutton, quadruple, with status LED, titanium white		4-31
UP 287/15	Pushbutton, quadruple, with status LED, with scene controller, with IR receiver decoder, titanium white		4-31
UP 287/42	Pushbutton, quadruple, without status LED, platinum metallic		4-31
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System functions

Desigo – the energy-efficient and flexible building automation and control system

Desigo™ is a modern building automation and control system (BACS) for the entire field of building systems. With system functions such as alarm management, time scheduling and trend logging, combined with advanced control functions, Desigo is a highly versatile asset in a building. Innovative Web technology, powerful databases and open communication make Desigo a financially wise investment in the future. Scalable from small to large projects with the highest degree of energy efficiency, transparency and optimum operational management as well as applications for infrastructure and industry.

Desigo is consistent in its support of open communication, making it easy to connect a wide variety of building services systems on the basis of standard open data interfaces:

*   BACnet™ from room automation to the management level
*   KNX®, DALI, EnOcean® and LᴏɴWᴏʀᴋs® to network room automation and secondary processes
*   M-bus, Modbus, OPC, MS/TP and other interfaces for universal connection of third-party devices and systems
*   Ethernet TCP/IP network protocol
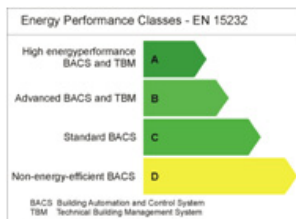
Highest degree of energy efficiency

The tested Desigo plant applications comply with European standard EN 15232 in the highest energy performance classes. Their use, for example, can reduce energy costs for volume flow control of ventilation plants up to 30% compared to constant air volume control. In addition, a number of Desigo room applications are already eu.bac-certified.

The high level of overall Desigo system functionality is the prerequisite for eu.bacsystem certification. Also, a number of Desigo room automation products have eu.bac product certification. The combination of both certifications ensures the highest level of energy efficiency in the building.

Desigo offers monitoring functions for room users and facility managers by means of comprehensive indication of the efficiency status in a building. The Green Leaf symbol indicates unnecessary energy consumption in the building to room users. Indication of building efficiency is indicated in the same way to facility managers on the Desigo management station. Both room users and facility managers can ensure interactively the highest possible building efficiency.

Investment protection over the building's entire life-cycle

With its flexible range of automation stations and operator units, Desigo is ideally suited for projects of all sizes and for all types of buildings.
Consistent compatibility protects investment over decades and throughout the entire building life-cycle. Desigo integrates existing automation systems Visonik, Unigyr or Integral seamlessly and carries them forward into the future. Changes in use, system extension and retrofit projects can all be handled in gradual stages.

The Desigo system can be subdivided into two levels:

- Management level
- Automation level

The automation level forms the interface to the field level and includes room automation as well. By virtue of distributed intelligence, each of these levels operates both autonomously and in a network.

The principal Desigo system components

- The Desigo management station for superimposed operation and monitoring, graphics-based display of the process, automatic alarm distribution and a wide range of different data analysis options using standardized protocols

- Desigo PX automation range for control, operation and monitoring of primary plants. Desigo Touch and Web can operate the plant via touch panel or Web client

- Desigo TX-I/O modules, which provide the interface to the devices at the field level, the sensors and actuators

- Desigo Total Room Automation (TRA) is an open and programmable room automation product range covering lighting, shading, and HVAC and allowing for individually tailored room solutions at a high level of energy efficiency

- Compact and proven Desigo room automation system RX for autonomous comfort control in individual rooms

- Desigo Open for the integration of a wide variety of plants and protocols at all system levels
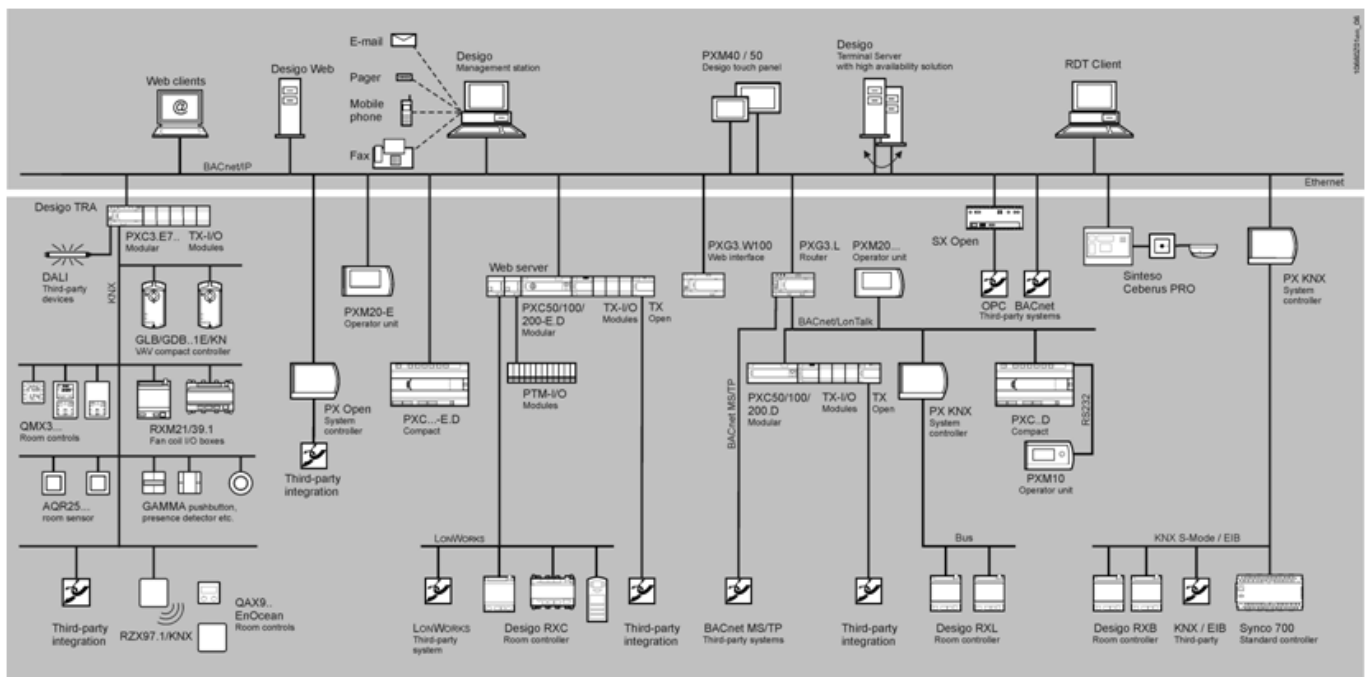
Desigo system topology

One of the key benefits of Desigo is its scope for gradual extensions, from the smallest systems to large, geographically distributed systems.

Facility managers and room users of the Desigo system have a versatile range of tools at their disposal, offering convenient access to the system and the plant.

Operation and monitoring

Operator station

- The Desigo management station is a powerful and user-friendly interface for monitoring the overall system. Access and alarm management can be matched to the user's level of responsibility in the building. For example, alarms can be assigned based on the user. Desigo Web and Desigo Terminal Server allow access to the management level using Web technology
- Desigo Touch and Web operate and monitor the Desigo PX automation level using a standard Web browser (HTML5 technology) on various hardware platforms (e.g. tablets, notebooks/PCs, smartphones)

Room operator unit

- The QMX3 room operator unit with KNX PL-Link communication and optional Green Leaf symbol offers users functionality precisely matched to need
- QAX.. with or without display and operating element offers functionality matched to the specific needs of the user and the elegant QAX devices support both KNX and LONWORKS communications as well as wireless EnOcean technology

Plant operation

- The Desigo touch panels PXM40 (10 inch) and PXM50 (15 inch) to operate and monitor the Desigo PX automation level with graphical display, optimized to intuitive finger operation
- The user-friendly, graphics-based PXM10 operator unit facilitates full local operation of the Desigo PX automation stations
- The PXM20 network-compatible graphics-based operator unit presents Desigo PX plant and system information in an easy-to-understand format with a clear-text commentary

Manual operation

- The Desigo TX-I/O modules include facilities for manual/emergency operation of plants and for the display of operating states

Desigo operating levels

Fully integrated trend data processing allows effortless evaluation and analysis of real-time (online) data and (offline) historical data. The trend feature facilitates the monitoring and fine-tuning of the plant. In the Desigo system, this feature is implemented in the form of Trendlog and TrendlogMultiple objects, in compliance with the BACnet standard.

Trend logging options

- Continuous logging
- Single run
- Logging over a specified period

Sampling options

- Polling
- COV polling (Change of Value)
- Event-driven polling

Trend graphs can be displayed on the management station. In addition, the touch panels PXM40/PXM50 and operator units PXM20 as well as PX-Web can display Desigo PX trend graphs. The management station also allows displays in color and in 2D or 3D.
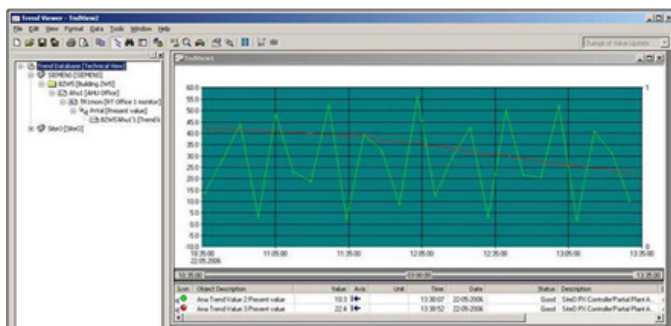
Trend display for example on the Desigo Insight management station and on the touch panels PXM40/PXM50

Online trend features

- Real-time display of process data

- Based on changes in the value of a data point (COVs) or on periodic sampling by Trend Viewer (times can be configured)

Offline trend features

- Offline data display – no permanent connection required
- Longer periods of time (days, months)
- Data acquisition in the automation system
- Data are uploaded to the management level at regular intervals or as needed

One of the most important functions of a BACS is automatic alarming in the event of faults in building services plants. The management of alarms (generation, display and handling) must be simple, efficient and consistent at all levels of the system. Desigo uses the BACnet alarm functions and supports the following three types of alarms with up to 256 alarm priority levels:

*   Basic alarm (for alarms not requiring user interaction)
*   Simple alarms (for alarms requiring acknowledgment)
*   Extended alarms (alarms requiring acknowledgement and reset)

Alarm messages

*   When an alarm occurs, it is automatically detected, registered and transferred to operator units such as the touch panels PXM40/ PXM50, the PXM20, or to the Desigo management station. Informative alarm messages are also transmitted to remote devices such as mobile phones, fax machines, printers or PCs and web browsers, via SMS and e-mail. The management station further separates alarms in a customized manner so that each user receives only those alarms that correspond to his/her level of responsibility. Alarm lists provide a view of all pending and time-stamped alarms at a glance and permit straightforward processing. Operators are alerted to incoming and pending alarms with pop-up windows and audible and visual signals.
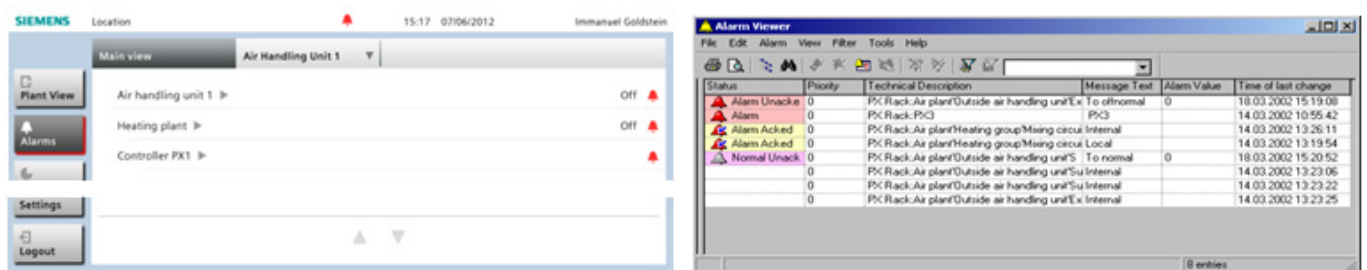
Alarms for example on touch panels PXM40/PXM50 and on the Desigo Insight management station

Alarm routing

*   Alarms are transferred on the basis of time of day, priority and/or plant type, using a truly powerful alarm routing system at the management station. This ensures the uninterrupted routing of alarms, irrespective of whether or not there is an operator sitting at the management station. Users are supported in their work by various overview options which help ensure a fast and correct response even in critical alarm situations.

One of the basic functions of a BACS is time control of procedures and processes and ensuring energy-efficient operation.

Scheduler programs ensure that the heating and lighting are switched off automatically at the end of the workday, that the temperature in the building is reduced at night, and that the plant is not kept running for longer than necessary. They can also be used to switch off the air conditioning in certain rooms during holidays.
Using standard BACnet functions, the BACnet scheduler programs can be operated system-wide from the user-friendly touch panels PXM40/PXM50, the operator units PXM20 and PX-Web as well as from the Desigo management station.
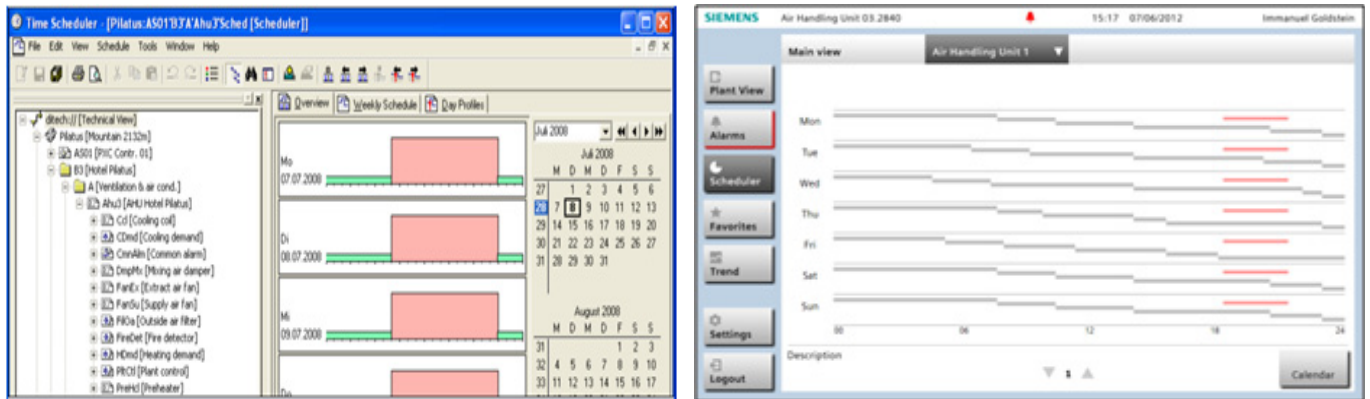
Scheduler program for example on the Desigo Insight management station and on touch panels PXM40/PXM50

For safety reasons, schedules and calendars are stored in the Desigo PX automation station, so that in the event of a network or PC failure, the automation level can continue to operate autonomously.

Access rights can be used to filter information from the plant and system based on the individual requirements of a user. The caretaker or service engineer, for example, only has access to information important to him. A distinction can also be made between read access and write access.

Freely-definable access rights

Only authorized personnel are granted access to the system via the operator units. When a user enters a user name and password, the system verifies the associated access rights and enables access to the relevant plant. Read and write access rights can be defined in detail, right down to individual information points.
The following access classes are supported in the Desigo system:

- Internal, service and standard service
- Administration and experts
- Standard and customer

Efficient plant overview
For simple and efficient plant overview, the Desigo touch panels PXM40/PXM50 can display the most important plant values on an overview page, even without logging on.

Increasing building efficiency/saving energy and extending the life of a plant

Thanks to sophisticated monitoring functions, Desigo provides comprehensive indication of the efficiency status in the building. Feedback occurs via uniform, easy-to-understand Green Leaf symbol, adjusted to knowledge and possible types of influence on the part of facility managers and room users.

The Desigo Eco Monitoring system function provides immediate feedback of the efficiency status of primary plants. Inefficient plant operation is indicated by an automatic change of color of the Green Leaf symbol from green to red. SMS, fax, or e-mail informs on uncommon events as needed. The facility manager can quickly and efficiently analyze the problem and find a solution before unnecessary energy is consumed and wear and tear occurs.

The RoomOptiControl function of Desigo TRA automatically detects unnecessary energy consumption in the room. This is indicated to the room user via a change of color of the Green Leaf symbol from green to red on the QMX3 room operator unit. When pressing the symbol, room control resumes energy-optimized operation. Then, the Green Leaf symbol will again return to green.
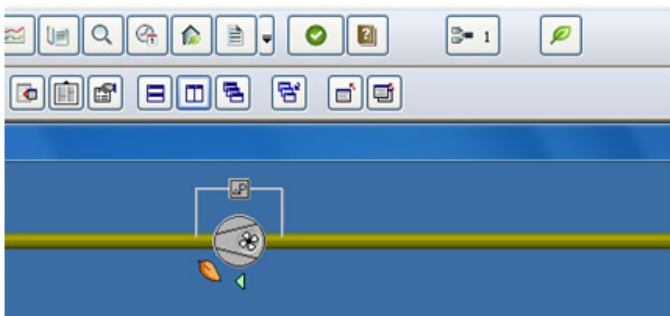
Green Leaf symbol for example on the Desigo Insight management station and on the QMX3 operator unit

Communication standards specially developed for building systems

Compliant devices can be interconnected at low cost using the BACnet (Building Automation and Control network) open communication protocol. The worldwide BACnet standard was developed specifically for the needs of building services, under the auspices of ASHRAE (the American Society of Heating, Refrigerating and Air-Conditioning Engineers). BACnet networks provide all subscribers with access to all the data and functions of the connected devices.

BACnet, KNX and LONWORKS

- For the exchange of information among its own system components, Desigo uses three standard protocols, recognized worldwide: BACnet, KNX (EIB) and LONWORKS. Desigo uses the BACnet communication protocol to exchange information between the individual Desigo PX automation stations and the Desigo TRA room automation stations on the one hand, and to the Desigo management station on the other.
  Desigo uses IP, LonTalk or PTP (point-to-point, modem or null modem) as the transport medium.
  Furthermore, Desigo supports integration of BACnet/MSTP subsystems. The PXG3 router provides transparent BACnet traffic between the MSTP and IP network (BACnet/IPv4 as well as BACnet/IPv6) and, optionally, to LonTalk as an addition.
  The integrated KNX connection on Desigo TRAs room automation station PXC3 permits direct integration of both devices with the KNX PL-Link as well as KNX S-Mode in Desigo TRA. Communication between room automation stations and field devices with KNX PL-Link is optimized within the framework of the KNX standard for available plug-and-play functionality including automatic device recognition. Desigo Tools parameterize devices with the KNX PL-Link; the KNX commissioning software (ETS) is not required. A broad selection of Siemens field devices, including room operator units, buttons, motion detectors, or VAV compact controllers support the KNX PL-Link.

  Also, the Desigo RX room automation product range communicates per LONMARK standard or KNX S-Mode (EIB).
  Thanks to the support of the BACnet Life Safety objects, simple and secure connection to fire detection systems such as Sinteso FS20 or Cerberus PRO to Desigo is possible without problems.

BACnet certification

- All Desigo PX and TRA BACnet servers as well as the Desigo management station were submitted to the BACnet Interest Group Europe (BIG-EU) for compliance testing based on the BACnet standard DIN EN ISO 16484-5 and successfully certified. A well-known testing institution conducted the comprehensive testing.
  The management, automation, and room automation stations are all implemented as full BACnet nodes. BACnet is integrated directly without the need for any special data conversion.
  The Desigo PX automation stations satisfy the B-BC profile (BACnet Building Controller). The Desigo management station satisfies the B-AWS profile (BACnet advanced workstation). The Desigo TRA room automation stations support a BACnet object's scope (BACnet B-ASC profile) adjusted to room automation.

AMEV guideline

Open communication between various systems using a common automation and operating concept are key functions for energy-saving and reliable plant operation. As a consequence, Desigo meets in full the AMEV guideline „BACnet 2011" with the following profiles:

- Desigo management station: AMEV profiles MBE-A and MBE-B
- Desigo PX: AMEV profiles AS-A and AS-B

DALI, EnOcean

- DALI, EnOcean, and KNX devices turn the PXC3 room automation stations of Desigo TRA into a complete solution for the room.
  The optional DALI bus of the room automation stations allow for simple integration of different lamps and luminaires. DALI (Digital Addressable Lighting Interface) is a worldwide standard that applies specifically to lighting control at cost-efficient two-wire technology and integrated power supply.
  Self-powered EnOcean radio technology offers wireless connection of field devices based on extremely energy-saving technology. The operating energy required by the devices is taken directly from the environment. The wireless room units QAX9..4 can be used via EnOcean/LONWORKS or EnOcean/KNX gateway with Desigo TRA or RX.

Web-Technology

• The remote desktop connection and Web communication make optimum use of the advantages of modern IT technology for the benefit of building services. Properly selected and used, they have a significant influence on the ability to fine-tune the running of the building and on the comfort and satisfaction of building users. This reduces maintenance and upkeep costs.

Terminal Server

• The Terminal Server connection provides all management station functions as remote desktop connection in the network allowing users to simultaneously access the functions in independent sessions. In addition to operation and monitoring programs for the day-to-day operation of the plant, engineering tools are also provided, allowing modifi cation and extension of the system while it is running. This makes the remote desktop connection the optimum solution for professional facility managers who need unrestricted access to building data via their intranet or extranet, from any location.

Web communication

• The programs for operation of the management system are mapped in special interfaces optimized for state-of-the art Web browsers.

Desigo Touch and Web

• Desigo Touch and Web permits operation and monitoring of the Desigo PX automation level using the Desigo touch panels PXM40 and PXM50 as well as via the standard Web browser (HTML5 technology) on various hardware platforms (e.g. tablets, notebooks/PCs, smartphones). The BACnet/IP Web interface PXG3.W100 supports in a straightforward manner flexible and remote access to the BACS via LAN/W-LAN connections.

Management functions

Desigo CC
Desigo Control Center

Desigo CC is an integral component of the Desigo building automation system. As a building automation management station, Desigo CC provides a full breadth of application support for ensuring that facilities remain comfortable, productive, and achieve optimal energy and equipment performance. On top Desigo CC offers full integration of fire safety, and live IP camera systems.
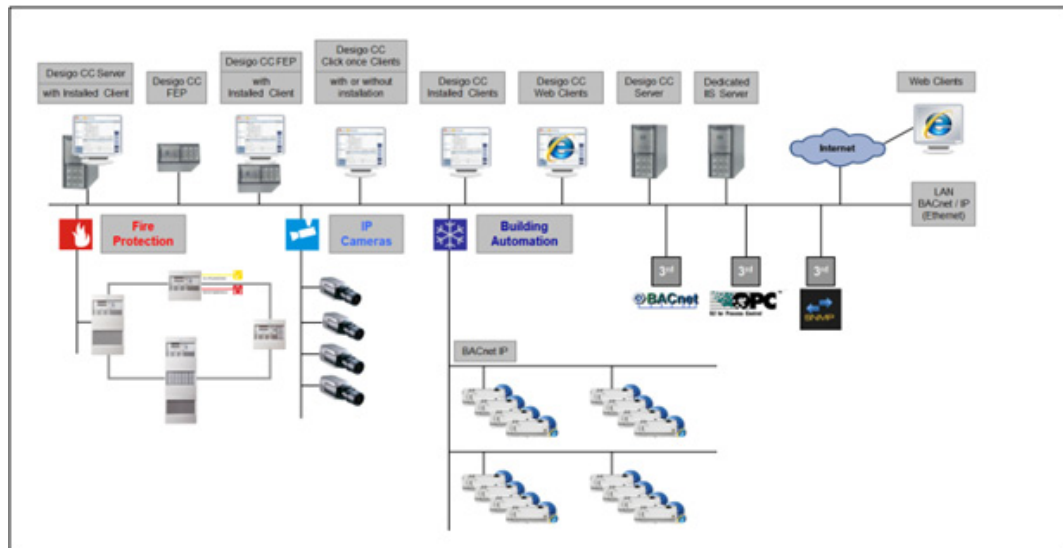
Desigo CC System Architecture

A well-defined user interface, coupled with standard protocol support, integration capabilities, and multiple client options that allow full operation and configuration from anywhere, make Desigo CC the perfect tool for maintaining facility operation.

• Graphically monitor and control the building automation infrastructure.
• Schedule and modify mechanical equipment operation and automatic report generation
• Collect, view, analyze and compare trend information
• Make management decisions with information and reporting capabilities
• Store and retrieve long-term information

The Desigo CC management station is designed to provide a single, easy-to-use point of access to the entire installation used in your facility.

Desigo CC User Interface

Whether your network is limited to a single floor, or it encompasses multiple buildings, Desigo CC allows you to monitor and control any area or device within the system from one place.
Desigo CC is a flexible full client-server architecture for building automation and fire
safety applications allowing configurations from small single-seat to large multi-user
installations. Desigo CC can be installed completely on one computer, with full server and client functionality. Additional clients (dedicated, browser, and Windows desktop application) can be also be added. Additional system connections can be made through systems installed with a Desigo CC Front End Process (FEP) configuration.

An IIS server for Browser Clients and Desktop Application downloads can be installed
on the server or on a separate installation.

Desigo CC runs on the latest 64-bit operating systems like Windows 7 64-bit or Windows Server 2008 R2.

Open Integration Platform

Desigo CC is an open system built on a proven SCADA technology and supports a variety of open system protocols and IT standards.

Open System Standard Protocols
- BACnet. Certified by BACnet Testing Laboratory as BACnet Advanced Workstation Software (BTL B-AWS), including support for Life Safety Points and Life Safety Zones.
- OPC DA2.0.
- ONVIF. Standard for IP video camera systems

IT Standards
- SNMP (V1 and V2). IP device monitoring
- WMI. Computer hardware monitoring
- SMTP, PO3, IMAP. For email delivery
- Microsoft SQL Server. Trend and History data storage
- HTTP(S). Client-server communication
- DWG, DXF. AutoCAD import formats

Application Support

Representative data points in Desigo CC can be created manually, imported through data exchange files, or uploaded through a selective auto-discovery mechanism depending on the type of system being connected.

A unique, extensible object modeling approach allows Desigo CC to normalize information brought in through any interface, and to provide the same look, feel and operation through a common set of applications, without concern for the source of the data. As a true integration platform, Desigo CC allows you to configure connected subsystems directly, as well as perform typical controller functions (such as scheduling, trending, and event generation) at the workstation for connected systems that do not support those functions directly. Desigo CC is designed to provide the ultimate user experience for all of your building systems. Whether they are monitoring fire safety events, ensuring optimal comfort and building performance, or modifying system configuration, the flexible user interface of Desigo CC supports just the right environment for every situation.

Event Management

Desigo CC provides a robust set of applications to ensure quick, easy, and accurate response to any events.

Client Profiles

To ensure the right level of event management support for users in any situation, workstation and/or users can be easily assigned predefined profiles supporting casual, intermediate, or dedicated event management notification and management.

Summary Bar

The Summary Bar is the anchor of Desigo CC event management. It highlights current conditions with clear indication of current event priorities, and allows you to quickly open the Event List. Depending on the client profile in use, the Summary Bar can be docked on the desktop or freely opened and closed as needed.

Event List

The Event list provides a complete and/or easily filtered list of events under control of the management station. The Event List gives clear indication of each event source, severity, and current status, as well as custom messages and suggested action steps through the use of text, color, and icon representations. Events can be acknowledged, silenced, and reset from the Event List.

Event Bar

When using profiles for critical event management, the Event List can be collapsed into a condensed list that remains docked on the desktop for easy access. This patented design keeps current situations in focus at all times.

Investigative Treatment

From the Event List or Event Bar, operators can quickly open the System Manager with focus on the source of the event, and all information (live video, recent history, schedules, trends, etc.) related to the event source.

Assisted Treatment

From the Event List or Event Bar, operators can quickly open the Assisted Treatment to guide the operator through pre-configured operating procedures. Each operating procedure is made of configurable and sortable steps in order to, for example, to see the graphic of the object in alarm, fill-in a treatmen form, automatically print on paper the information of the event.

Remote Notification

With the Remote Notification Option enabled, Desigo CC can be configured to automatically or manually send email or SMS messages to first responders. In addition to simple notification, notification can also be escalated to second level responders when necessary.

System Manager

The System Manager application is used for navigating the system to view and override current conditions, analyze historical operation, and to configure the system.

Navigation

The System Manager is built around the concept of a common workflow for all system navigation. This simple and consistent workflow allows users to select from traditional applications, or better yet, select the part of the facility they are interested in and let the system guide them to the most relevant information. From the initial starting point, user can make additional selections for more details, act on the system, or navigate further to automatically calculated Related Items based on their selection. The well-defined pane-based navigation keeps important information in front of the users with no overlapping windows. You can navigate the system through graphics or flexible Views that allow the system to be represented the way that users see their facility.

Graphics
Desigo CC graphics are built using smart objects that know how they are used and how to represent themselves graphically. The use of smart objects allows you to create graphics by simply dragging and dropping objects onto a page, without manually binding object to graphical symbols.

Text Viewer
The Text Viewer provides a quick summary of current value and status of any selected object(s) without any prior system configuration. This is a handy tool for getting an overview of system status.

Trend and System Activity Logging
Both panel-based and workstation-based Trending is provided to support control systems without embedded Trend capabilities. Trend and System Activity data is stored in a Microsoft SQL Server database. SQL Server Express is included with the Desigo CC software, and can be upgraded as required. The Trend Comparison View allows you to time shift the Trend view to compare data at different times for quick analysis of changing conditions.

Schedules
The Scheduling application allows complete configuration and monitoring of standard BACnet schedule, calendar, and command objects, as well as for workstation base schedules that can be used to support systems without built-in scheduling capabilities. Schedules are automatically associated to systems they control, so you can quickly navigate to schedules related to any selected object.

Reaction Processor
The Reaction Processor allows the engineer to programm Desigo CC in order to automatically execute given actions when some conditions are verified. Conditions can be based on time (e.g. every Monday at 7.00 am), on events (e.g. when air handling unit is in fault), on change of values (e.g. when the temperature of a room is higher than 45° Celsius) or on a combination of all of them. When the conditions are met finally the Reaction Processor executes a pre-configured list of commands (e.g. switch-on the lights).

Reports
The Desigo CC reporting tool includes standard reporting templates and allows for creating fully configurable reports, with custom logos, headers, footers, and layouts that include tabular and graphical system information. Reports can be scheduled, and saved in CSV or PDF formats for future use.

Video Camera Viewer
Desigo CC can integrate IP video cameras for displaying live video streams. Cameras associated to locations or equipment can be easily accessed through Related Items whenever live video is available. Pan, tilt, zoom capabilities are available with Axis camera equipment that supports these features. Desigo CC supports a wide variety of IP based CCTV cameras. Built on the industry proven ONVIF standard, Desigo CC enables viewing cameras from a wide variety of vendors as also and controlling Axis PTZ cameras.

2

The clearly structured, modular and object-oriented software of the Desigo Insight management station is optimized to the current operating systems including Windows 7 and Windows 8 (business versions) or Windows Server 2012 featuring 64-bit technology.
The functional scope and ease of use of the software reduces operating costs and familiarization time while maintaining operational reliability. The Desigo Insight applications are introduced below:

Applications in Desigo Insight

- **Plant Viewer:** Realistic plant graphics allowing fast, targeted monitoring and operation of the system
- **Scheduler:** Central programming of all time-controlled building services functions
- **Alarm Viewer:** Detailed overview of alarms to quickly localize and eliminate errors
- **Alarm Viewer Fire Safety:** Detailed overview to quickly assess fire detection system alarms
- **Alarm Router:** Flexible routing of alarms to printers, fax machines, mobile phones and e-mail
- **Trend Viewer:** Convenient analysis of trend data to optimize operations and increase energy efficiency
- **Report Viewer:** Snapshot queries to meet customers' needs andtheir display in reports. Reports provide information on plant operation analysis as well as evaluation and documentation purposes
- **Object Viewer:** An efficient tool for navigation through the hierarchical tree structure to all the data points in the system. These points can then be read or manipulated, depending on the access rights of the user concerned

- **Log Viewer:** Alarms, errors and user activities are logged in chronological order and can be displayed for further evaluation, as needed
- **Eco Viewer:** Fast and easy analysis of the efficiency status of primary plants
- **Database Audit Viewer:** Log unauthorized changes in databases (audit trail) guaranteeing the highest possible data integrity
- **Reaction Processor:** System-wide monitoring of plants and processes based on certain criteria (events). The reaction process triggers predefined (re) actions when one (or a combination) of the criteria are met. Allows for centralized time control of plants without scheduler programs/calendar functions
- **System Configurator:** Used to configure the general setup of the Desigo Insight management station and associated applications
- **Graphics Builder:** Efficient creation of customized plant graphics
- **Online operator tools** for existing systems
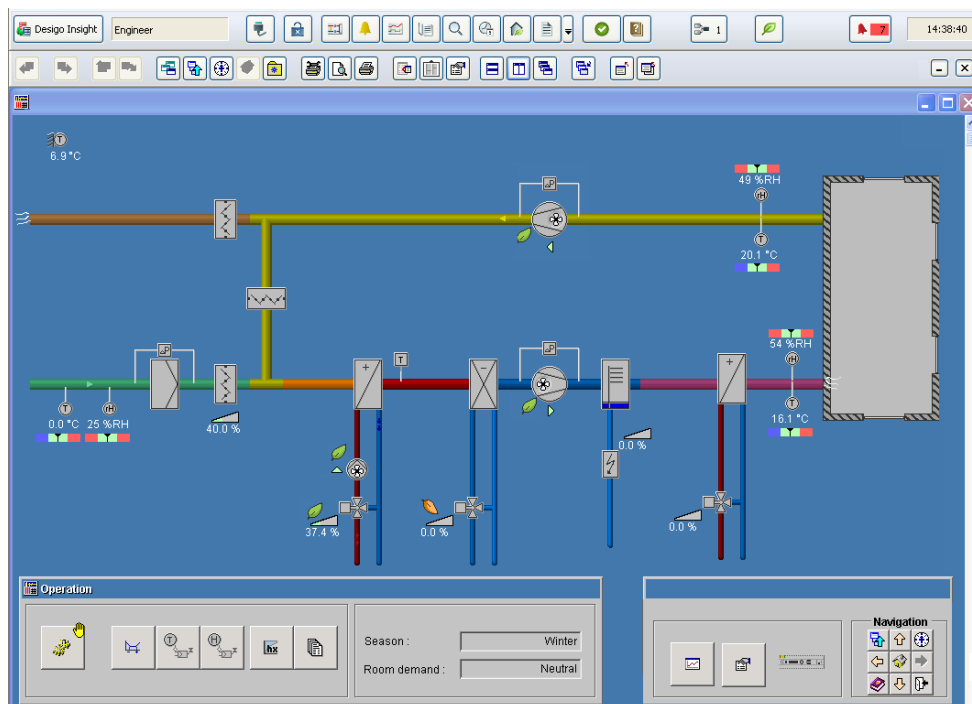
Plant Viewer

Task bar

A task bar appears after starting Desigo Insight. It provides fast and direct access to all the user applications and displays important status information.
In the case of several remote plants, it is possible to switch from one plant to another via the task bar, subject to the appropriate access rights. This ensures clear demarcation lines between the various levels of responsibility.
The user's entry into the system is simplified by user-specific start sequences with preselected programs and plant.

The Desigo Insight task bar

The icons on the task bar provide access to the main user applications:

Connect and disconnect sites

Login and logout, restart, lock or shutdown

Plant Viewer – the graphical interface to the plant

Alarm Viewer – displays the state of abnormal alarm points

Trend Viewer – displays graphs containing live data

Log Viewer – displays all event messages including alarms

Database Audit Viewer – logs unauthorized changes to databases

Object Viewer – shows all data points in the system, in list form

Eco Viewer: Fast and easy analysis of the efficiency status of primary plants

Scheduler – allows the user to modify plant switch times

Report Viewer – displays reports of momentary values recorded and compiled by the user

Reaction Processor – allows automatic triggering of cross-system process reactions

Alarm Router – routes alarms to printers, fax machines, mobile phones and e-mail systems

System fault indication

Online help

Number of connected sites

Pending alarms in order of priority

Pending fire safety alarms, e.g. from Sinteso FS20 or Cerberus PRO, sorted by priority

Green Leaf indication – higher, immediate feedback of the efficiency status of primary plants

Operation and monitoring with Web technology

Desigo Web and Desigo Terminal Server make optimum use of the advantages of modern IT technology for the benefit of building services.
- Properly selected and used, they have a significant influence on the ability to fine-tune the running of the building and on the comfort and satisfaction of building users
- They distribute building information to the person who needs it, and in the exact location where it is needed
- In addition to flexibility of operation, both solutions contribute substantially to a reduction in the day-to-day costs of modifications, extension, maintenance and data backup
- Both solutions are based on software standards and are therefore compatible with today's IT security strategies (firewalls, Virtual Private Networks (VPN), etc.)

2

Desigo Terminal Server

Desigo Terminal Server provides all the functions of the management system in the form of terminal services over the network. These services can be accessed simultaneously by different users in independent sessions. In addition to the operation and monitoring programs for day-to-day operation of the plant, engineering tools are also provided, allowing modification and extension of the system while it is running.
This makes the Desigo Terminal Server the optimum solution for professional facility managers who need unrestricted access to building data via their intranet or extranet, from any location. All the user requires is a simple, standard network-compatible terminal device such as a PC, Net PC or Web pad with a Microsoft operating system, without other installed software components (Thin Client).
Security is a top priority: Remote access from client devices is via Microsoft Remote Desktop Web Connection with the highly encrypted Remote Desktop Protocol (RDP) 5.0 which uses RSA Security's RC4 cipher with the option of 40-, 56- or 128-bit encryption.

Desigo Terminal Server is based on the Windows Server operating system with the Terminal Server component and runs on standard server hardware. The hardware and software specification depends on how intensively it is used, with the number of users requiring simultaneous access being a decisive factor.

Desigo Web

Desigo Web is a genuine Web solution based on Microsoft IIS (Internet Information Server). The programs for operation of the management system are mapped to ASPs (Active Server Pages) in special interfaces optimized for current Web browser versions of Microsoft Internet Explorer and Firefox.

Functions in Desigo Web

- Operation of graphics (Plant Viewer)
- Operation of data points (Object Viewer)
- Alarms and log (Alarm Viewer, Log Viewer)

- Trend data (Trend Viewer)
- Schedules (Scheduler)
- Report Viewer

This makes Desigo Web the optimum solution for those responsible for technical services (such as the caretaker, facility manager or security staff) that track the day-to-day operation of the building and need easy access to all the key functions. In addition, it makes new options available, enabling selected building data and user access to be allocated relevantly to tenants and users of the building (e.g. room operation, schedules and display of room conditions).
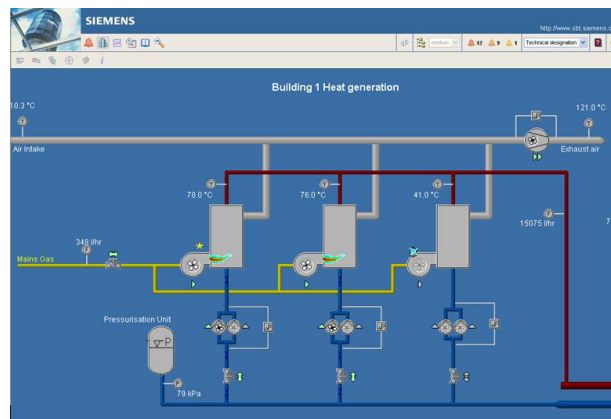
Web Plant Viewer

Energy reports

Energy Reports can easily check a building for energy efficiency based on predefined reports. The data evaluation and reporting program guarantees gap-free processing and presentation of all operational data.

The high availability and optimum use of building services plants are very important. In pursuit of this goal, Energy Reports represents a basic requirement.

Energy Reports compiles powerful reports from the data stored in the process data management database in any number of combinations and selectable periods. The reports can be displayed and printed in various forms.

Example of a line graph showing the metered energy consumption and the comparative values of the previous year.

Energy Reports focuses on the powerful presentation of consumption data.

- The following report templates are available to efficiently create Energy Reports:
    - Energy consumption report
    - Energy cost report
    - Weighted consumption report
    - Corrected heating degree day report
    - Energy benchmark report
    - CO2 benchmark report
- Multiple reports can be generated and stored for each report type
- Up to 10 data series per report are possible
- Comparison reports with previous years (1-2 years)

Notes

2

Automation control

Automation functions
Overview and selection tools
Overview of product details

Desigo™ Overall topology
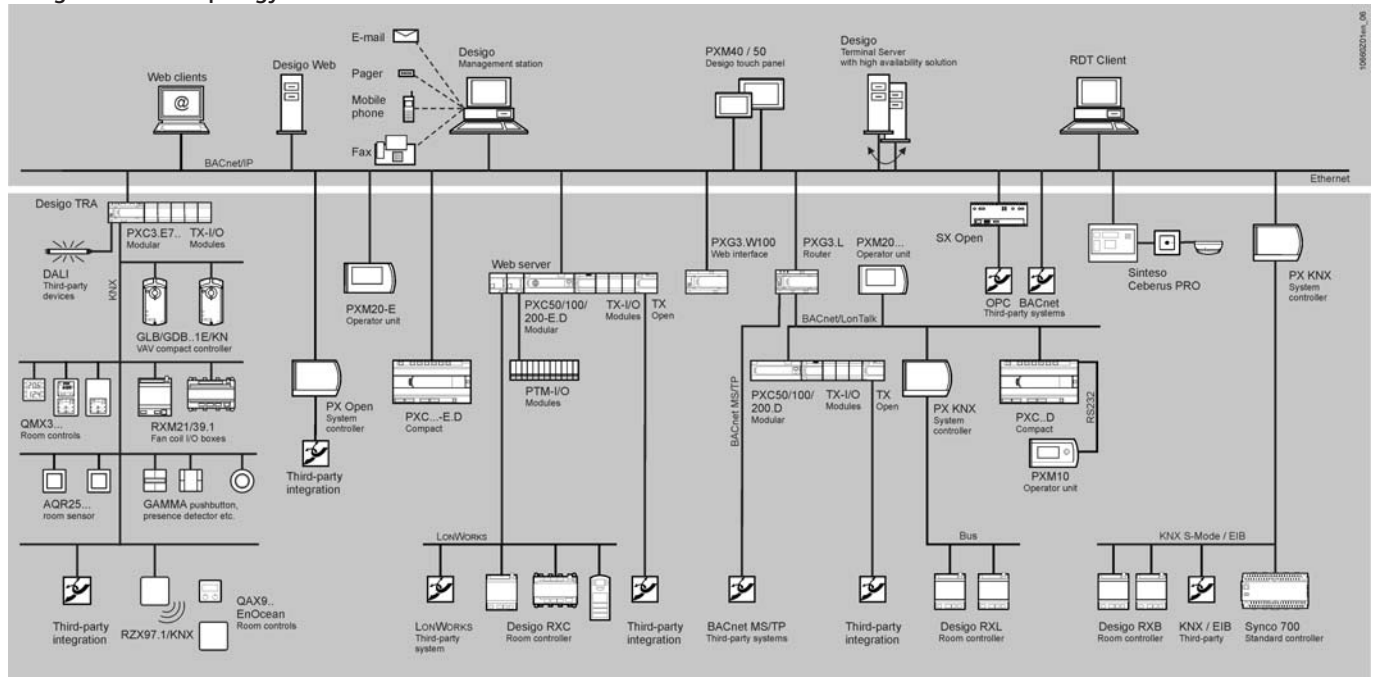
One of the key benefits of Desigo™ is its seamless expansion capability, starting from the smallest system up to comprehensive and distributed large systems.

Freely programmable automation stations

Desigo PX offers maximum flexibility with freely programmable automation stations for primary plants. This way, building services plants can be optimally controlled and monitored. Comprehensive system functions such as alarms, time scheduling and trend data storage cover all the requirements associated with the operation of a building. The distributed automation stations, available as modular and compact series, operate autonomously.

Desigo PX excels in consistent openness of the system and the scalability of its freely programmable automation stations and operator units, making cost-effective DDC technology a possibility even in smaller HVAC systems. Whether for new buildings or modernization projects, investment costs are limited to the system components that are actually needed.

Maximum openness

The consistent and coordinated use of standards like BACnet, KNX, LonWorks or AMEV emphasize the openness of Desigo for maximum overall efficiency. The native BACnet automation stations offer a multifunctional integration platform used to connect third-party automation stations and open field-bus networks to the BACnet network. A few decentralized, distributed third-party devices can be connected quickly and cost-effectively via Desigo TX Open and processed in the automation system.

A range of graded operator units

Building users and facility managers benefit from a comprehensive range of touch panels and operator units which can be used for targeted modification of comfort conditions or of the whole plant.

Especially ergonomic finger operation of the PXM40 (10 inch) and PXM50 (15 inch) Desigo Touch and Web permits complete operation of Desigo PX automation stations via the BACnet/IP Web interface PXG3.W100.

Automation functions
Overview and selection tools
Overview of product details

3

PX Automation stations and system controller overview

	PX Automation station series		PX System controllers		
	modular PXC50/100/200..D	compact PXC..	PXC00/50/100/200..D with PXX-L..	PXC00-U with PXA30-K..	PXC00-U with PXA30-RS
HMI Automation level					
Desigo Touch and Web [1]	■	■	■	■	■
Web client (PX-WEB)	■	■	■	■	■
PXM20	■	■	■	■	■
PXM10	■	■			
QAX3..		■			
System functions (BACnet)					
Alarms	■	■	■	■	■
Time schedules	■	■	■	■	■
Trend	■	■	■	■	■
I/O with value objects	■	■	■	■	■
Programming with D-MAP	■	■	■	■	■
Subsystem	Bus for I/O modules	Direct connection via I/O	LONWORKS technologie	Konnex	Modbus, M-Bus, ...
Additioinal functions					
Grouping			■		

[1] with BACnet/IP / Ethernet communication

Overview of inputs and outputs of compact PXC.. automation stations

BACnet / LONTALK	PXC12.D	PXC22.D	PXC36.D
BACnet / IP	PXC12-E.D	PXC22-E.D	PXC36-E.D
Number of I/Os complete	12	22	36
Universal inputs outputs, number	8	18	24
Digital inputs, number	2	0	4
Digital outputs, number	2	6	8

Desigo Touch and Web

Desigo Touch and Web permits convenient operation and monitoring of complex building-technical plants via touch panels as well as standard Web browsers (HTML5-technology) on various hardware platforms (e.g. tablets, notebooks/PCs, smartphones). The Web interface PXG3.W100 serves as a central access point for the operation of the automation level.

Operating functions

- Graphical display of plants with intuitive operation
- Object display and operation including all actual values and setpoints, plant and operating states via dialogs
- Graphical display and operation of scheduler programs, exception calendar (in profile and list view)
- Alarm monitoring with acknowledgement
- Graphical display of offline trend data (trendlog objects)
- Favorites for the most important plant data
- Log on and off via Desigo user profile
- Plant overview of the most important plant values, even without log on
- Display automatically adjusts to the size of the given client
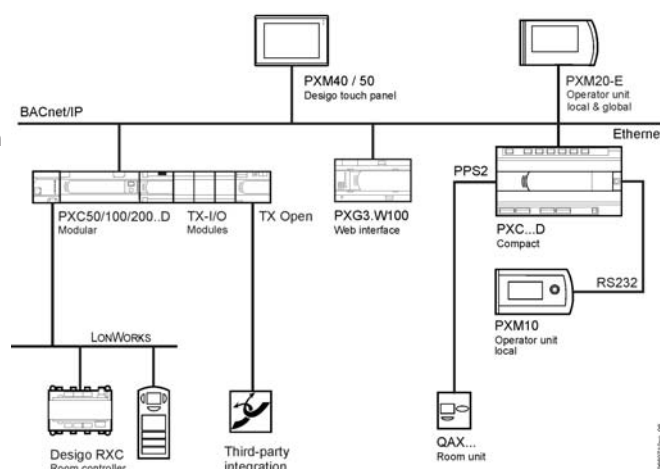
Product overview

PXM40	Desigo touch panel with 10.1 inch screen diagonal
PXM50	Desigo touch panel with 15.6 inch screen diagonal
PXG3.W100	Web interface BACnet/ip

Automation functions
Overview and selection tools
Overview of product details

Functions of PXA40... / PXA30... for the modular PX automation stations and system controllers

Functions	Modular PXC...D PXA40-T	Modular PXC...-E.D PXA40-W0	PXA40-W1	PXA40-W2	System Controller PXC00-U PXA30-N
Ethernet interface RJ45					■
Modem connection	■	■	■	■	
BACnet on Ethernet / IP					■
Generic PX Web (ethernet or PPP)		■ [1]	■	■	
Graphic PX Web (ethernet or PPP)		■ [1]		■	
Remote management BACnet (PTP)	■ [2]	■ [2]	■ [2]	■ [2]	
Remote management PX Web (PPP)		■ [2]	■ [2]	■ [2]	
Deliver alarms via SMS over RS232		■ [2]	■ [2]	■ [2]	
Deliver alarms via e-mail over ethernet		■	■	■	

[1] For the connected automation station / system controller only

[2] The modern connection can be configured as follows:
- either for Remote management (PTP)
- or for remote management PX Web generic / graphic and Alarming via SMS

Overview TX-I/O™ module range TXM1..

Type	TXM1.8D	TXM1.16D	TXM1.8U	TXM1.8U-ML	TXM1.8X	TXM1.8X-ML	TXM1.6R	TXM1.6R-M	TXM1.8P	TXM1.6RL	TXM1.8T
Number of I/Os	8	16	8	8	8	8	6	6	8	6	8
Functionality											
Local operation				■		■		■			
LC-Display				■		■					
3-colored I/O status LED	■							■			
Green colored I/O status LED		■	■	■	■	■	■		■	■	■
Digital inputs (DI)											
Message signal (open/closer)	■	■	■	■	■	■					
Message impulse	■	■	■	■	■	■					
Counter 10 Hz (with debouncing)	■	1-8 [1]									
Counter 25 Hz (Bouncer free)			■	■	■	■					
Analog inputs (AI)											
LG-Ni1000			■	■	■	■			■		
Pt 1000 / 0...2500 Ohm			■	■	■	■			■		
T1			■	■	■	■					
DC O...10V			■	■	■	■			■ [3]		
4...20 mA / 0...20 mA					■	■			■ [4]		
Analog outputs (AO)											
DC 0...10 V			■	■	■	■					
4...20 mA					5-8 [2]	5-8 [2]					
Digital outputs (DO)											
Continuous contact on/off							■	■			
Continuous contact, 3-stage							■	■			
3-stage output							■	■			
Impulse on/off, 3-stage							■	■			
Multistate							■	■			
Triac-continuous contact											■
Triac-impulse (3-stage)											■
Triac-Pulsbreitenmodulation											■
Beleuchtungssteuerung, bistabil										■	

All I/O points of a module are configurable on any, implemented functionality. The module TX1.OPEN enables the integration of Modbus, M-bus etc. via RS232, 485 on the PXC50/100/200..D.

[1] On the TXM1.16D the counters are implemented only on the inputs 1 to 8
[2] On the TXM1.8X.. the current exists 4...20 mA are implemented only on the I/Os 5 to 8
[3] 0...250 Ohm
[4] Pt100 4-wire

3-4

3

Automation station, compact series   PXC..D

Compact, freely programmable automation stations for HVAC and building services plant. The fixed data point mix makes the automation stations ideal for commonly used applications with standard signals.
- Direct connection of field devices
- Management functions (alarm management, scheduler programs, trend functions, remote manage-ment, access protection, etc.)
- Standalone application or for use with linked system or devices
- Connection of the PXM.. operator unit
- Connection of QAX.. room units
- BTL tested BACnet communication on LonTalk, PTP or IP acoording to BACnet standard (rev 1.10) include B-BC profile
- AMEV profiles AS-A and AS-B according to guide line 'BACnet 2011 - Version 1.1'

Data sheet	N9215
Communication	Bus: BACnet / LonTalk, PTP (point to point) or IP Room unit: PPS2
Universal inputs/outputs	Configurable software
Digital input, contact query	7 mA DC 20...25 V
Relay outputs	Monostable, changeover contact

Automation station with 12 data points and BACnet on LonTalk   PXC12.D

Fixed data point mix for 12 physical data points per automation station.

Data sheet	N9215
Operating voltage	AC 24 V
Frequency	50/60 Hz
Power consumption	24 VA
Communication	Bus: BACnet on LonTalk Room unit: PPS2
Universal inputs/outputs, number	8
Digital inputs, number	2
Digital outputs, number	2
Dimensions (W x H x D)	272 x 150 x 62 mm

	Stock No.	Product No.
	BPZ:PXC12.D	**PXC12.D**

Automation station with 12 data points and BACnet on IP   PXC12-E.D

Fixed data point mix for 12 physical data points per automation station.

Data sheet	N9215
Operating voltage	AC 24 V
Frequency	50/60 Hz
Power consumption	24 VA
Communication	Bus: BACnet on IP Room unit: PPS2
Universal inputs/outputs, number	8
Digital inputs, number	2
Digital outputs, number	2
Dimensions (W x H x D)	272 x 150 x 62 mm

	Stock No.	Product No.
	BPZ:PXC12-E.D	**PXC12-E.D**

3

PXC22.D	**Automation station with 22 data points and BACnet on LonTalk**

Fixed data point mix for 22 physical data points per automation station.

Data sheet	N9215
Operating voltage	AC 24 V
Frequency	50/60 Hz
Power consumption	26 VA
Communication	Bus: BACnet on LonTalk
	Room unit: PPS2
Universal inputs/outputs, number	16
Digital outputs, number	6
Dimensions (W x H x D)	272 x 150 x 62 mm

	Stock No.	Product No.
	BPZ:PXC22.D	**PXC22.D**

PXC22-E.D	**Automation station with 22 data points and BACnet on IP**

Fixed data point mix for 22 physical data points per automation station.

Data sheet	N9215
Operating voltage	AC 24 V
Frequency	50/60 Hz
Power consumption	26 VA
Communication	Bus: BACnet on IP
	Room unit: PPS2
Universal inputs/outputs, number	16
Digital outputs, number	6
Dimensions (W x H x D)	272 x 150 x 62 mm

	Stock No.	Product No.
	BPZ:PXC22-E.D	**PXC22-E.D**

PXC36.D	**Automation station with 36 data points and BACnet on LonTalk**

Fixed data point mix for 36 physical data points per automation station.

Data sheet	N9215
Operating voltage	AC 24 V
Frequency	50/60 Hz
Power consumption	35 VA
Communication	Bus: BACnet on LonTalk
	Room unit: PPS2
Universal inputs/outputs, number	24
Digital inputs, number	4
Digital outputs, number	8
Dimensions (W x H x D)	293 x 176 x 77 mm

	Stock No.	Product No.
	BPZ:PXC36.D	**PXC36.D**

Automation station with 36 data points and BACnet on IP **PXC36-E.D**

Fixed data point mix for 36 physical data points per automation station.

Data sheet	N9215
Operating voltage	AC 24 V
Frequency	50/60 Hz
Power consumption	35 VA
Communication	Bus: BACnet / IP
	Room unit: PPS2
Universal inputs/outputs, number	24
Digital inputs, number	4
Digital outputs, number	8
Dimensions (W x H x D)	293 x 176 x 77 mm

	Stock No.	Product No.
	BPZ:PXC36-E.D	**PXC36-E.D**

**PXC50..D/PXC100..D/
PXC200..D**

Automation stations, modular series PXC..D

The freely programmable modular series PXC..D automation stations with its free I/O configuration and DIN compliant construction are optimized for panel assembly. It primarily controls and monitors larger items of plant. The flexible TX-I/O modul product range for signaling, measuring, metering, switching and positioning can be seamlessly connect to the automation station.

- Management functions (alarm management, time schedules, trend functions, remote management, access protection etc.)
- Standalone application or for use in the device or system network
- PXX-L11/12 for connecting RXC room controllers / LonWorks devices
- Connection of the PXM.. operator unit
- BTL tested BACnet communication on LonTalk, PTP or IP according to BACnet standard (rev 1.10) incl. B-BC profile
- AMEV profiles AS-A and AS-B according to guide line 'BACnet 2011 - Version 1.1'

Data sheet	N9222

Operating voltage	AC 24 V
Frequency	50/60 Hz
Degree of protection	IP20
Memory	Flash: 32 MB
	SDRAM: 64 MB
Rate of transmission	LON-bus: 78 kbps
	Ethernet / IP: 10/100 MBit/s
Battery life	4 years
Dimensions (W x H x D)	192 x 74 x 96 mm

Range overview PXC50..D/PXC100..D/PXC200..D

Product Title	Communication	Data sheet	Stock No.	Product No.
Automation station BAC-net/LonTalk, with up to 52 data points	Bus: BACnet / LonTalk	N9222	S55372-C109	**PXC50.D**
Automation station BACnet/IP, with up to 52 data points	Bus: BACnet / IP	N9222	S55372-C110	**PXC50-E.D**
Automation station BAC-net/LonTalk, with up to 200 data points	Bus: BACnet / LonTalk	N9222	BPZ:PXC100.D	**PXC100.D**
Automation station BACnet/IP, with up to 200 data points	Bus: BACnet / IP	N9222	BPZ:PXC100-E.D	**PXC100-E.D**
Automation station BAC-net/LonTalk, with more than 200 data points	Bus: BACnet / LonTalk	N9222	BPZ:PXC200.D	**PXC200.D**
Automation station BACnet/IP, with more than 200 data points	Bus: BACnet / IP	N9222	BPZ:PXC200-E.D	**PXC200-E.D**

Option modules PXA40..

PXA40-T

Option module with remote management via modem for automation stations

Option module for usage with modular automation stations PXC..D.

Data sheet	N9222

Communication	Modem
Degree of protection	IP20

	Stock No.	Product No.
	BPZ:PXA40-T	**PXA40-T**

3

Option modules with web functions (PX Web) for modular automation stations PXC..-E.D

PXA40-W..

Option modules for modular automation stations PXC..-E.D.

Data sheet   N9222

Range overview PXA40-W..

Product Title	Stock No.	Product No.
Option module with Web function (generic/graphic) for one automation station	BPZ:PXA40-W0	**PXA40-W0**
Option module with Web function (generic) for all automation stations in the BACnet network	BPZ:PXA40-W1	**PXA40-W1**
Option module with Web function (generic/graphic) for all automation stations in the BACnet network	BPZ:PXA40-W2	**PXA40-W2**

Extension module for Integration of existing PTM I/O modules

PXX-PBUS

The PXX-PBUS extension module allows for integrating existing PTM I/O modules in Desigo.
The PXX-PBUS extension module, when combined with a modular series PXC..D automation station and one or two TXS1.12F12 supply modules, replaces the UNIGYR and VISONIK process units as well as the PXC64-U, PXC128-U automation stations.
- PTM I/O modules can continue to be used.
- Existing periphery can be assumed without a change.
- Control panel wiring can be assumed and need only be supplemented by new supply modules.

Data sheet   N9283

	Stock No.	Product No.
	S55842-Z107	**PXX-PBUS**

PXX-L11/12 for connecting RXC room controllers / LonWorks devices

Product Title	Data sheet	Stock No.	Product No.
Extension module for up to 60 LonWorks devices / RXC room controllers for system controller LonWorks PXC00.D/PXC00-E.D as well as modular automation stations PXC..D/PXC..-E.D. When combined with PXC100/200..D the number of devices / controllers is reduced in relation to performance. For PXC50..D 10 devices / controllers are permissible.	N9282	BPZ:PXX-L11	**PXX-L11**
Extension module for up to 120 LonWorks devices / RXC room controllers for system controller LonWorks PXC00.D/PXC00-E.D as well as modular automation stations PXC..D/PXC..-E.D. When combined with PXC100/200..D the number of devices / controllers is reduced in relation to performance. For PXC50..D 10 devices / controllers are permissible.	N9282	BPZ:PXX-L12	**PXX-L12**

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PXC00..D

System controllers for integration of Desigo RXC or third-party devices

The LonWorks system controller of this series allows you to connect LonWorks devices such as Desigo RXC room controllers and third-party devices. Depending on the used expansion module the system controller connect up to 60 or 120 LonWorks devices / RXC room controllers.

- BTL tested BACnet communication on LonTalk, PTP or IP according to BACnet standard (rev 1.10) incl. B-BC profile
- AMEV profiles AS-A and AS-B according to guide line 'BACnet 2011 - Version 1.1'

Data sheet	N9222
Operating voltage	AC 24 V
Frequency	50/60 Hz
Degree of protection	IP20
Memory	Flash: 32 MB
	SDRAM: 64 MB
Rate of transmission	LON-bus: 78 kbps
	Ethernet / IP: 10/100 MBit/s
Battery life	4 years
Dimensions (W x H x D)	192 x 74 x 96 mm

Range overview PXC00..D

Product Title	Communication	Data sheet	Stock No.	Product No.
System controller BACnet/LonTalk	Bus: BACnet / LonTalk	N9222	BPZ:PXC00.D	**PXC00.D**
System controller BACnet/IP	Bus: BACnet / IP	N9222	BPZ:PXC00-E.D	**PXC00-E.D**

Hardware for PXC00..D

Product Title	Data sheet	Stock No.	Product No.
Extension module for up to 60 LonWorks devices / RXC room controllers for system controller LonWorks PXC00.D/PXC00-E.D as well as modular automation stations PXC..D/PXC..-E.D. When combined with PXC100/200..D the number of devices / controllers is reduced in relation to performance. For PXC50..D 10 devices / controllers are permissible.	N9282	BPZ:PXX-L11	**PXX-L11**
Extension module for up to 120 LonWorks devices / RXC room controllers for system controller LonWorks PXC00.D/PXC00-E.D as well as modular automation stations PXC..D/PXC..-E.D. When combined with PXC100/200..D the number of devices / controllers is reduced in relation to performance. For PXC50..D 10 devices / controllers are permissible.	N9282	BPZ:PXX-L12	**PXX-L12**

Option modules PXA40-W..

Product Title	Data sheet	Stock No.	Product No.
Option modules with web functions (PX Web) for modular automation stations PXC..-E.D	N9222	BPZ:PXA40-W..	**PXA40-W..**

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PX KNX system controller

PX KNX

Integration of room controllers from the Desigo RXB and Desigo RXL product range and from KNX third-party systems into the Desigo building automation and control system (interface functionality). Further functions: Grouping of rooms and performance of higher level system functions.
- BTL tested BACnet communication on LonTalk or IP acoording to BACnet standard (rev 1.10) include B-BC profile
- AMEV profiles AS-A and AS-B according to guide line 'BACnet 2011 - Version 1.1'

Functions
KNX data points are mapped to BACnet data points and vice versa. The PX KNX system controller performs the following major tasks:
- Compression of Desigo RXB/RXL room controller data and other KNX data points (e.g. room thermostats RDG/ RDF/ RDU) at the automation level
- Mapping of Desigo RXB/RXL and other KNX applications to BACnet for monitoring and operation purposes (grouped according to function:HVAC, lighting and blinds)
- Performance of higher level functions for room automation: Room and supply-related groups, system functions such as changeover, summer/winter compensation, etc.

The RXB/RXL and KNX applications are mapped to the PX KNX system controller so that a room view is created. This allows for the grouping of rooms, e.g. for shared occupancy schedules, lighting or blind commands, etc

Hardware
Modular system controller PXC00-U with PXA30-K11 card.
- Without expansion module in the left slot the communication mode BACnet/LonTalk is activated.
- With the expansion module PXA30-N in the left slot the communication mode BACnet/IP is active.

	Stock No.	Product No.
	BPZ:PX KNX	**PX KNX**

Hardware for PX KNX

Product Title	Data sheet	Stock No.	Product No.
PX KNX S-mode card Card for PX KNX automation station	N9280	BPZ:PXA30-K11	**PXA30-K11**
System controller for the integration	N9221	BPZ:PXC00-U	**PXC00-U**

PX M-bus system controller

PX M-Bus

M-bus datapoints are mapped to BACnet datapoints and vice-versa. The PX M-bus system controller performs the following major tasks:
- BTL tested BACnet communication on LonTalk or IP acoording to BACnet standard (rev 1.10) include B-BC profile
- AMEV profiles AS-A and AS-B according to guide line 'BACnet 2011 - Version 1.1'

Functions
- Acquisition of consumption data and remote monitoring of max. 250 consumption meters and heat meters
- Compression of consumption and heat meter data volume at the automation level
- Mapping of M-bus data to BACnet
- Trend objects for meter monitoring

Hardware
Modular system controller PXC00-U with PXA30-RS.. card.
- Without expansion module in the left slot the communication mode BACnet/LonTalk is activated.
- With the expansion module PXA30-N in the left slot the communication mode BACnet/IP is active.

	Stock No.	Product No.
	BPZ:PX M-Bus	**PX M-Bus**

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Hardware for M-bus

Product Title	Data sheet	Stock No.	Product No.
Extension module for RS232 and RS485, up to 100 data points	N9281	BPZ:PXA30-RS	**PXA30-RS**
• Integration of third-party equipment and systems into the Desigo building automation and control system at the automation level • Plugs into the PXC00-U modular system controller			
Extension module for RS232 and RS485, up to 400 data points	N9281	BPZ:PXA30-RS1	**PXA30-RS1**
Extension module for RS232 and RS485, up to 2000 data points	N9281	BPZ:PXA30-RS2	**PXA30-RS2**
System controller for the integration	N9221	BPZ:PXC00-U	**PXC00-U**

PX Modbus

PX Modbus system controller

The PX Modbus provides a platform for the integration of various third-party systems and devices. It allows for the exchange of information with the Desigo building automation and control system at the automation level.
• BTL tested BACnet communication on LonTalk or IP acoording to BACnet standard (rev 1.10) include B-BC profile
• AMEV profiles AS-A and AS-B according to guide line 'BACnet 2011 - Version 1.1'

Functions
PX Modbus supports the following Modbus function codes and data formats:
• Function codes:01 , 02 , 03 , 04 , 05 , 06 , 15 , 16.
• Data formats:
- 16-bit signed and unsigned integers
- 32-bit signed and unsigned integers
- 32-bit signed and unsigned 'Modulus-10000'
- Real 32-bit (IEEE floating point)
- ACM 16-bit
- BCD 16-bit and 32-bit

Master or slave
• The PX Modbus can be configured as either a master or slave. It supports up to 2000 third-party system data points

Hardware
Modular system controller PXC00-U with PXA30-RS.. card.
• Without expansion module in the left slot the communication mode BACnet/LonTalk is activated.
• With the expansion module PXA30-N in the left slot the communication mode BACnet/IP is active.

	Stock No.	Product No.
	BPZ:PX Modbus	**PX Modbus**

Hardware for PX Modbus

Product Title	Data sheet	Stock No.	Product No.
Extension module for RS232 and RS485, up to 100 data points	N9281	BPZ:PXA30-RS	**PXA30-RS**
• Integration of third-party equipment and systems into the Desigo building automation and control system at the automation level • Plugs into the PXC00-U modular system controller			
Extension module for RS232 and RS485, up to 400 data points	N9281	BPZ:PXA30-RS1	**PXA30-RS1**
Extension module for RS232 and RS485, up to 2000 data points	N9281	BPZ:PXA30-RS2	**PXA30-RS2**
System controller for the integration	N9221	BPZ:PXC00-U	**PXC00-U**

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Extension modules for PX Open with PXC..-U

Product Title	Data sheet	Stock No.	Product No.
Extension module for BACnet on Ethernet/IP	N9262	BPZ:PXA30-N	**PXA30-N**

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PXG3..	**BACnet router**

The PXG3.. BACnet router connects a BACnet Ethernet/IP network (BACnet/IPv4 and BACnet/IPv6) to a BACnet /LonTalk network (PXG3.L only), and/or a BACnet/MS/TP channel. BACnet objects are simultaneously transmitted among any and all networks.

- Routing between BACnet MS/TP, BACnet/LonTalk (PXG3.L only), and BACnet/IP
- Routing between BACnet/IPv4 and BACnet/IPv6
- Configuration with Desigo Xwork Plus
- LED indication
- 2-port Ethernet switch for low-cost cabling (10/100 baseT)
- BACnet MS/TP (RS-485) baud rates: 9600, 19200, 38400, 76800

Data sheet	N9270
Operating voltage	AC 24 V
	DC 24 V
Frequency	50/60 Hz
Degree of protection	IP20

Range overview PXG3..

Product Title	Communication	Dimensions (W x H x D)	Stock No.	Product No.
BACnet router, BACnet Ethernet/IP to BACnet/LonTalk or BACnet/MS/TP	BACnet / IP (BACnet/IPv4 and BACnet/IPv6) BACnet / LonTalk BACnet / MS / TP	162 x 74 x 90 mm	S55842-Z105-A100	PXG3.L
BACnet router, BACnet Ethernet/IP to BACnet/MS/TP	BACnet / IP (BACnet/IPv4 and BACnet/IPv6) BACnet / MS / TP	162 x 74 x 90 mm	S55842-Z106-A101	PXG3.M

Accessories for PXG3..

Product Title	Data sheet	Stock No.	Product No.
Bus terminator 52.3 Ohm for LonWorks bus	N3861	BPZ:RXZ01.1	**RXZ01.1**
Bus terminator 105 Ohm for LonWorks bus	N3861	BPZ:RXZ02.1	**RXZ02.1**
Connecting cable RJ45 - RHJ45, cable length 3 m	N9234	BPZ:PXA-C1	**PXA-C1**
Adapter RJ45 - RS232 at computer	N9234	BPZ:PXA-C2	**PXA-C2**

NEW PRODUCT

Automation station for INTEGRAL migration, intgrates 64 data points in Desigo

PXC-NRUF

In existing INTEGRAL plants, you can replace compact automation units NRUE/A, NRUF/A and NRUT/A with the PXC NRUF automation station.
Fixed data point mix for 64 physical data points per automation station UI=16, DI=24, DO=16, UO=8.

- BTL tested BACnet communication on LonTalk or PTP acoording to BACnet standard (rev 1.10) include B-BC profile
- AMEV profiles AS-A and AS-B according to guide line 'BACnet 2011 - Version 1.1'

Data sheet	N9760
Operating voltage	AC 24 V
Frequency	50/60 Hz
Power consumption	26 VA
Communication	Bus: BACnet / LonTalk
	Bus: BACnet / PTP (point to point)
	Room unit: PPS2
Dimensions (W x H x D)	265 x 295 x 100 mm
Universal inputs, number	16
Universal outputs, number	8
Digital inputs, number	24
Digital outputs, number	16

	Stock No.	Product No.
	BPZ:PXC-NRUF	**PXC-NRUF**

Adapter plug-in circuit board for INTEGRAL NK modules, intgrates 48 data points in Desigo

PXC-NRUD

This adapter, combined with an automation station PXC100..D, serves as a replacement for the modular automation stations NRUA/A, NRUB/A, NRUC/A and NRUD/A.
Fixed data point mix for 48 physical data points per adapter DI=8, DO=8, UI/UO=32.

The adapter consists of a plug-in circuit board with front plate.
It is inserted into an existing card housing NHGB.

Data sheet	N9761
Operating voltage	AC 24 V
Frequency	50/60 Hz
Power consumption	18 VA
Communication	Bus: TX-I/O island bus to TXB1.PBUS
Universal inputs, number	16
Universal outputs, number	16
Digital inputs, number	8
Digital outputs, number	8

	Stock No.	Product No.
	BPZ:PXC-NRUD	**PXC-NRUD**

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PXM50

15.6-inch touch panel

The Desigo PXM50 touch panel of Desigo Touch and Web is designed for control panel mounting. It is used together with the web interface PXG3.W100 and adapts the standard technology used for the web interface for local operation of the technical installations in the building. The touch panel allows for intuitive and efficient operation of multiple Desigo PXC..D/U automations stations (version 4 or higher) and allows for permanent monitoring of technical installations in a building. TCP/IP is used for communications.

- Compact design with low built-in depth, for mounting in control panel doors
- High-resolution TFT display with 16.7 million colors. Resolution: 1366 x 768 pixels (wide screen)
- Capacitive touch screen
- Dimmable LED background lighting
- Intuitive operation and monitoring of multiple plants or Desigo PX automation stations
- Optimized for local operation of the Desigo building automation and control system
- LED to indicate alarms while the screen is off
- Connection via Ethernet RJ45
- Commissioning wizard
- Remote access via VNC to the touch panel
- No additional mounting materials required

Data sheet	N9293
Operating voltage	AC 24 V
	DC 24 V
Frequency	50/60 Hz
Power consumption	13 W
	26 VA
Display size	396.7 mm (15.6 "), resolution: 1366 x 768 pixels
Interface type	Ethernet IP
Mounting	In control panel doors
	In operating tablets
Degree of protection	IP54 / IP20
Ambient temperature, operation	0...50 ℃
Dimensions (W x H x D)	419 x 270 x 51.3 mm

	Stock No.	Product No.
	S55623-H120	PXM50

NEW PRODUCT

10.1-inch touch panel

PXM40

The Desigo PXM40 touch panel of Desigo Touch and Web is designed for control panel mounting. It is used together with the web interface PXG3.W100 and adapts the standard technology used for the web interface for local operation of the technical installations in the building. The touch panel allows for intuitive and efficient operation of multiple Desigo PXC..D/U automations stations (version 4 or higher) and allows for permanent monitoring of technical installations in a building. TCP/IP is used for communications.

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- Compact design with low built-in depth, for mounting in control panel doors
- High-resolution TFT display with 262 k colors. Resolution: 1280 x 800 pixels (wide screen)
- Capacitive touch screen
- Dimmable LED background lighting
- Intuitive operation and monitoring of multiple plants or Desigo PX automation stations
- Optimized for local operation of the Desigo building automation and control system
- LED to indicate alarms while the screen is off
- Connection via Ethernet RJ45
- Commissioning wizard
- Remote access via VNC to the touch panel
- No additional mounting materials required

Data sheet	N9292
Operating voltage	AC 24 V
	DC 24 V
Frequency	50/60 Hz
Power consumption	7 W
	14 VA
Display size	256.4 mm (10.1 "), resolution: 1280 x 800 pixels
Interface type	Ethernet IP
Mounting	In control panel doors
	In operating tablets
Degree of protection	IP54 / IP20
Ambient temperature, operation	0...50 °C
Dimensions (W x H x D)	289 x 198 x 51.3 mm

	Stock No.	Product No.
	S55623-H119	PXM40

Accessories for PXM..

Product Title	Data sheet	Stock No.	Product No.
Multifunction cover blade for panel door or wall mount		BPZ:PXA-H1	**PXA-H1**
Connecting cable RJ45 - RHJ45, cable length 3 m	N9234	BPZ:PXA-C1	**PXA-C1**
Adapter RJ45 - RS232 at computer	N9234	BPZ:PXA-C2	**PXA-C2**
Adapter from PXM20.. for firmware download	N9234	S55372-C108	**PXA-C4**

NEW PRODUCT

PXG3.W100

Web interface BACnet/IP for Desigo Touchpanels

The PXG3.W100 web interface serves as the central access point to operate the automation level. A central access point also allows for concurrent operation of different operator units while supporting connection of the Desigo touch panels PXM40 / PXM50 as well as providing access using devices featuring a standard web browser (HTML5 technoligy) on varios hardware platforms. (e.g. tablets, notebook/PC, smartphones).

- Connection via Ethernet
- Central user interface for simultaneous access from various operator units
- Offline engineering using Xworks Plus
- Upload/download of configuration data via LAN, or Internet
- LED indication for Ethernet link and activity
- 2-port Ethernet switch for low-cost cabling (10/100baseT)

Data sheet	N9294
Operating voltage	AC 24 V
	DC 24 V
Frequency	50/60 Hz
Degree of protection	IP20
Dimensions (W x H x D)	162 x 109 x 77.5 mm

	Stock No.	Product No.
	S55842-Z115	PXG3.W100

Accessories for PXG3.W100

Product Title	Data sheet	Stock No.	Product No.
Connecting cable RJ45 - RHJ45, cable length 3 m	N9234	BPZ:PXA-C1	**PXA-C1**
Adapter RJ45 - RS232 at computer	N9234	BPZ:PXA-C2	**PXA-C2**

NEW PRODUCT

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Operator unit with BACnet on LonTalk   PXM20

The network-capable PXM20 operator unit allows for homogenous operation of a multitude of building services plants at the automation level. The operator unit offers an operating keyboard and a high-resolution display for graphics and text. The PXM20 can be used on-site or remote for all plants connected via a network. The operator unit can be integrated in a panel or plugged into a modular automation station of the PXC..-U series.

Operating functions
Transparently organized function and quick-access keys allow even casual users to expertly operate the unit. The operator unit offers the following operator functions (among others):
- Easy-to-understand user instructions via the plant function
- Full access to all actual values, setpoints, plant and operating states, and parameters
- Complete data point operation and setpoint entry via clear text
- Optical and acoustic alarm indication.
- Alarm management with acknowledgement function and alarm memory
- Graphical display for scheduler program, exception day calendar, online trend heating curve
- Summary of all important values via Favorites
- Support of multi-level access protection

Data sheet	N9231
Operating voltage	AC 24 V
	DC 12...40 V
Frequency	50/60 Hz
Power consumption	4 W
	9 VA
Display size	Display area: 123 x 68 mm
	No. of dots: 240 x 128 dots
Interface type	LON-bus
	RS 232-interface
Mounting	In panel
	On automation station PXC..-U
	On DIN rail
Degree of protection	IP40
Ambient temperature, operation	0...50 °C
Dimensions (W x H x D)	210 x 117 x 37 mm
Keyboard	Keypad with plastic membrane and pressure point

	Stock No.	Product No.
	BPZ:PXM20	**PXM20**

Operator unit with BACnet on IP   PXM20-E

Provides the same functionality as PXM20, but with BACnet/IP communication.

Data sheet	N9234

	Stock No.	Product No.
	BPZ:PXM20-E	**PXM20-E**

PXM10

Operator unit, local

The PXM10 operator unit allows for operating and monitoring a Desigo PX automation station. The unit offers user-friendly single-button operation via a turn/press button and a high-quality display. The operator unit can be integrated in a panel or a modular automation station of the PXC..-U series.

Operating functions
- Display for setpoints and actual values, plant and operating states
- Setpoint adjustment
- Optical fault indication
- Alarm display with acknowledgement function
- Graphical display of scheduler programs

Data sheet	N9230
Operating voltage	AC 24 V
	DC 12...40 V
Power consumption	0.7 W
	1 VA
Display size	Display area: 82 x 42 mm
	No. of dots: 128 x 64 dots
Interface type	RS 232-interface
Cable length	3 m
Degree of protection	IP40
Ambient temperature, operation	0...50 °C
Dimensions (W x H x D)	210 x 117 x 37 mm
Weight (incl. packaging)	0.350 kg

	Stock No.	Product No.
	BPZ:PXM10	**PXM10**

Accessories for PXM..

Product Title	Data sheet	Stock No.	Product No.
Multifunction cover blade for panel door or wall mount		BPZ:PXA-H1	**PXA-H1**
Connecting cable RJ45 - RHJ45, cable length 3 m	N9234	BPZ:PXA-C1	**PXA-C1**
Adapter RJ45 - RS232 at computer	N9234	BPZ:PXA-C2	**PXA-C2**
Adapter from PXM20.. for firmware download	N9234	S55372-C108	**PXA-C4**

TX-I/O™ modules   TXM1..

Simple planning and executions:
- Slim, easy-to-understand I/O product range
- Highest flexibility for I/O point mix

Efficient panel construction:
- Small space requirements thanks to very compact construction
- DIN form eases panel construction using standard components
- Self-learning bus connections of the TX-I/O™ module with power supply
- Direct connection with interchange pins

Fast commissioning and service:
- Easiest possible addressing
- Fast servicing: plug-in I/O module exchange without tools or rewiring
- permute proof terminal bases

Operating voltage	DC 22.5…26 V
Dimensions (W x H x D)	64 x 77.5 x 98 mm

Easy-to-understand operation:
- Local priority operation as per VDI3814
- Simple display concept with LCD and colored LEDs

8 Digital Input Module   TXM1.8D

8 digital input, signaling per input with three-colored LED (green, yellow, red), without local operation.

8 DI, individually configurable as:
- Message signal
- Message impulse with storage functions
- Counter impulse for up to a maximum of 10 Hertz

Data sheet	N8172

Operating voltage	DC 22.5…26 V
Power consumption	1.1 W
Dimensions (W x H x D)	64 x 77.5 x 98 mm
Weight	0.164 kg

	Stock No.	Product No.
	BPZ:TXM1.8D	**TXM1.8D**

16 Digital Input Module   TXM1.16D

16 digital input, signaling per input with green LED, without local operation.

16 DI, individually configurable as:
- Message signal
- Message impulse with storage functions
- 8 inputs as counter impulse for up to a maximum of 10 Hertz

Data sheet	N8172

Operating voltage	DC 22.5…26 V
Power consumption	1.4 W
Dimensions (W x H x D)	64 x 77.5 x 98 mm
Weight	0.199 kg

	Stock No.	Product No.
	BPZ:TXM1.16D	**TXM1.16D**

3

TXM1.6RL

6 Relay output module, bistable

6 outputs signaled with green LED, without local operation.

6 DO (volt-free, bistable), individually configurable as:
- Configurable behavior in case of power failure and bus failure
- Switching voltage AC 24... 277 V
- Switching current max. 10 A (cos φ = 0.8)

Data sheet	N8177

Operating voltage	DC 22.5...26 V
Power consumption	0.8 W
Dimensions (W x H x D)	64 x 77.5 x 98 mm
Weight	0.27 kg

	Stock No.	Product No.
	S55661-J103	**TXM1.6RL**

TXM1.6R

6 Relay output module

6 outputs signaled with green LED, without local operation.

6 DO (relay switch), individually configurable as:
- Continuous or impulse contact
- Single-stage or multi-stage
- Three-point positioning output with internal stroke model
Hardware bolting device is by means of external wiring the two-way contacts.

Data sheet	N8175

Operating voltage	DC 22.5...26 V
Power consumption	1.7 W
Dimensions (W x H x D)	64 x 77.5 x 98 mm
Weight	0.231 kg

	Stock No.	Product No.
	BPZ:TXM1.6R	**TXM1.6R**

TXM1.6R-M

6 Relay output module with Override

6 outputs, signaling per output with three-colored LED (greed, yellow, red), with local operation as per ISO 16484.

6 DO (relay switch), individually configurable as:
- Continuous or impulse contact
- Single-stage or multi-stage
- Three-point positioning output with internal stroke model
Hardware bolting device is by means of external wiring the two-way contacts.

Data sheet	N8175

Operating voltage	DC 22.5...26 V
Power consumption	1.9 W
Dimensions (W x H x D)	64 x 77.5 x 98 mm
Weight	0.241 kg

	Stock No.	Product No.
	BPZ:TXM1.6R-M	**TXM1.6R-M**

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8 Resistance measuring input module   TXM1.8P

8 inputs with LED signal / fault display.

8 resistance measuring inputs with individual configuration of resistance or temperature measurement:
- Pt100 (4-wire)
- Pt1000, Ni1000
- Resistance 250 ohm or 2500 ohm (2-wire)

Data sheet	N8176

Operating voltage	DC 22.5...26 V
Power consumption	1.2 W
Dimensions (W x H x D)	64 x 77.5 x 98 mm
Weight	0.219 kg

	Stock No.	Product No.
	BPZ:TXM1.8P	**TXM1.8P**

8 Triac output module   TXM1.8T

8 Triac outputs, signaled with green LED.

8 AO, configurable for:
- Permanent contact
- Three-point positioning output with internal stroke model
- Pulsewidth-modulated output (PWM)
- Switching voltage AC 24 V
- Switching current AO 3-position: 250 mA / 6 VA per output
- Switching current AO PWM, BO: 125 mA / 3 VA per output

Data sheet	N8179

Operating voltage	DC 22.5...26 V
Power consumption	1.0 W
Dimensions (W x H x D)	64 x 77.5 x 98 mm
Weight	0.198 kg

	Stock No.	Product No.
	S55661-J106	**TXM1.8T**

8 Universal I/O Module   TXM1.8U

8 inputs/outputs signaled with green LED, without local operation

8 universal I/O points, individually configurable as:
- DI: Message signal, message impulse or counter impulse (25 Hertz)
- AI: Temperature sensor or DC 0...10 V
- AO: DC 0...10 V

Data sheet	N8173

Operating voltage	DC 22.5...26 V
Power consumption	1.5 W
Dimensions (W x H x D)	64 x 77.5 x 98 mm
Weight	0.179 kg

	Stock No.	Product No.
	BPZ:TXM1.8U	**TXM1.8U**

3

TXM1.8U-ML

8 Universal I/O Module, Override and LCD

8 inputs/outputs signaled with green LED, with local operation as per ISO 16484 with LCD signal display.

8 universal I/O points, individually configurable as:
- DI: Message signal, message impulse or counter impulse (25 Hertz)
- AI: Temperature sensor or DC 0...10 V
- AO: DC 0...10 V

Data sheet	N8173

Operating voltage	DC 22.5...26 V
Power consumption	1.8 W
Dimensions (W x H x D)	64 x 77.5 x 98 mm
Weight	0.202 kg

	Stock No.	Product No.
	BPZ:TXM1.8U-ML	**TXM1.8U-ML**

TXM1.8X

8 Universal I/O Module, 4-20mA,

8 Inputs/outputs signaled with green LED, without local operation (same functionality as TXM1.8U, but with current input/output).

8 universal I/O points, individually configurable as:
- DI: Message signal, message impulse (with storage function) or counter impulse (25 Hz)
- AI: Temperature sensor, DC 0...10 V, or 4...20 mA
- AO: DC 0...10 V, 4...20 mA (for 4 I/O points)

Data sheet	N8174

Operating voltage	DC 22.5...26 V
Power consumption	2.2 W
Dimensions (W x H x D)	64 x 77.5 x 98 mm
Weight	0.194 kg

	Stock No.	Product No.
	BPZ:TXM1.8X	**TXM1.8X**

TXM1.8X-ML

8 Universal I/O Module, 4-20mA, Override and LCD

8 Inputs/outputs signaled with green LED, with local operation as per ISO 16484 with LCD signal display (same functionality as TXM1.8U-ML, but with current input/output).

8 universal I/O points, individually configurable as:
- DI: Message signal, message impulse (with storage function) or counter impulse (25 Hertz)
- AI: Temperature sensor, DC 0...10 V, or 4...20 mA
- AO: DC 0...10 V, 4...20 mA (for 4 I/O points)

Data sheet	N8174

Operating voltage	DC 22.5...26 V
Power consumption	2.3 W
Dimensions (W x H x D)	64 x 77.5 x 98 mm
Weight	0.211 kg

	Stock No.	Product No.
	BPZ:TXM1.8X-ML	**TXM1.8X-ML**

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TX Open RS232/485 module for integrating third-party systems and devices to Desigo

RS232/485 module as platform to integrate third-party systems and devices to the Desigo building automation and control system via modular automation stations PXC..D (Version 4 or higher).

- With LED's to monitor operating and communication status
- USB interface for connecting the TX Open Tool
- Easy installation and setup
- Simple, fast diagnostics
- Suitable for operation using pre-defined applications for the following systems:
- Modbus
- M-Bus
- G120P
- Grundfos- and Wilo pumps

Data sheet	N8185

Operating voltage	DC 24 V
Power consumption	1.32 W
Communication	RS232
	RS485
Dimensions (W x H x D)	96 x 77.5 x 98 mm
Weight	0.168 kg

	Stock No.	Product No.
	S55661-J100	**TXI1.OPEN**

3

TXA1.IBE

Island bus expansion module for decentralized sub-islands with TX-I/O-modules

- Expand island bus to a distance of up to 2 x 200 meters
- Compact design per DIN 43 880, requires little space
- With LED to monitor communication status
- Easy installation and setup:
- Mounted on standard rails
- Self-connecting bus (island bus) for the easiest possible installation
- Plug-in screw terminals for island bus expansion
- No programming / parameterization tool required

Data sheet	N8184
Dimensions (W x H x D)	32 x 77.5 x 98 mm
Weight	0.064 kg

	Stock No.	Product No.
	BPZ:TXA1.IBE	**TXA1.IBE**

TXS1.12F10

TX-I/O Power Supply Modules 24 VDC Supply 1200 mA, 10 A Fuse

Up to 4 power supply modules can be operated in parallel
AC 24 Volt input
Generation / transfer of DC 24 V, 1.2A for the supply of TX-I/O modules and field devices
Fresh provision of AC 24 V for field device supply
Transfer of the bus signal

Data sheet	N8183
Dimensions (W x H x D)	96 x 77.5 x 98 mm
Weight	0.309 kg

	Stock No.	Product No.
	BPZ:TXS1.12F10	**TXS1.12F10**

TXS1.EF10

BUS Connection Module, 10A Fuse

Transfer of DC 24 V for the supply of TX-I/O modules and field devices
Fresh provision of AC / DC 12 ... 24 V for field device supply
Transfer of the bus signal

Data sheet	N8183
Dimensions (W x H x D)	32 x 77.5 x 98 mm
Weight	0.082 kg

	Stock No.	Product No.
	BPZ:TXS1.EF10	**TXS1.EF10**

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P-bus interface module

TXB1.PBUS

- Interface between the automation station PXC64-U/PXC128-U and the bus of the TX-I/O modules
- Integrated DC 24 V, 1.2 A to supply power to TX-I/O modules and field devices
- USB port for tool connection

Data sheet	N8180

Dimensions (W x H x D)	128 x 77.5 x 98 mm
Weight	0.28 kg

	Stock No.	Product No.
	BPZ:TXB1.PBUS	**TXB1.PBUS**

Set of address plugs

Product Title	Data sheet	Stock No.	Product No.
Address Keys 1-12 + reset key	N8170	BPZ:TXA1.K12	**TXA1.K12**
Address Keys 1-24 + 2 reset keys	N8170	BPZ:TXA1.K24	**TXA1.K24**
Address keys 25-48 + 2 reset keys	N8170	BPZ:TXA1.K-48	**TXA1.K-48**
Address keys 49-72 + 2 reset keys	N8170	BPZ:TXA1.K-72	**TXA1.K-72**
Address keys 73-96 + 2 reset keys	N8170	S55661-J101	**TXA1.K-96**
Address keys 97-120 + 2 reset keys	N8170	S55661-J102	**TXA1.K-120**
Address key 5, 10 ... 120 + 2 reset keys	N8170	BPZ:TXA1.5K120	**TXA1.5K120**

Labeling material

Product Title	Data sheet	Stock No.	Product No.
Labels (sheet A4 with 9 labels)	N8170	BPZ:TXA1.LA4	**TXA1.LA4**
Spare transparent label holders (10 pcs.)	N8170	BPZ:TXA1.LH	**TXA1.LH**

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Room automation

Overview and selection tools
Product range overview

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Room Controller / Room automation station	RXL..	RXB..	RXC1..	RXC2..	RXC3..	RXC4..	PXC3..
Communication	Bus	KNX	LonWorks				BACnet
Peripheral bus	PPS2	PPS2	PPS2				KNX/DALI
Fan coil systems							
2-pipe system with changeover	■	■		■			■
2-pipe system with changeover and electric air heater battery	■	■		■			■
4-pipe system	■	■		■			■
4-pipe system with electric air heater battery	■	■					■
4-pipe system with supply air temperature limit	■	■		■			■
2-pipe system with changeover and outside air damper	■	■		■			■
4-pipe system with outside air damper	■	■		■			■
2-pipe system and radiator	■	■		■			■
4-pipe system, with one air damper	■	■		■			■
Heated/chilled ceilings and radiators							
Chilled ceiling with dewpoint monitoring	■	■	■	■			■
Chilled ceiling with dewpoint monitoring	■	■	■	■			■
Chilled ceiling and radiator				■			■
Chilled/heated ceiling, 2-pipe system with changeover			■	■			■
Chilled/heated ceiling, 4-pipe system and 2 ON / OFF valves for changeover				■			■
Divided chilled/heated ceiling: Cooling only and cooling/heating with changeover via LonWorks bus				■			■
Radiator with downdraft compensation	■	■	■	■			■
Electric radiator			■	■			■
VAV systems							
Single duct supply or extract air system			■		■		■
Single duct supply air system with reheater/cooler					■		■
Single duct supply air system with electric reheater					■		■
Single duct supply and extract air system					■		■
Single duct supply and extract air system with reheater/cooler					■		■
Single duct supply and extract air system with electric reheater					■		■
Single duct supply or exract air system with radiator				■			■
Single duct supply and extract air systems with radiator					■		■
Single duct supply and extract air system with electric reheater					■		■
Single duct supply and extract air systems with radiator/chilled ceiling					■		■
Fan powered box with electric reheater					■		■
Lighting							
Manual/dimmable light control						■	■
Staircase lighting						■	■
Automatic operation with presence detector and/or daylight sensor						■	■
Daylight dependent light control						■	■
Constant lighting control							■
Operating Hours							■
Shading							
Manual Shading Control						■	■
Automatic Operation with							■
Glare protection						■	■
Heat protection						■	■
Scenes							■
Room OptiControl - Green Leaf							■
Thermal load analysis						■	■
Room Operating Modes (DIN EN 15500)						■	■

Room automation
Overview and selection tools
Product range overview

Room units KNX

Features	AQR... 2570.. & 253..	AQR... 2576.. & 253..	QMX3.. P36	P30	P70	P34	P74	P02	P37
Display		■ ²⁾	■		■ ²⁾	■	■		■
Mode selection			■			■	■		■
Fan switch			■			■	■		■
Setpoint adjuster			■			■	■		■
Operation of light/blinds	■ ³⁾	■ ³⁾	■ ⁴⁾					■	■
Temperature sensor	■	■	■	■	■	■	■	■	■
Humidity sensor	■	■			■	■			
Air quality sensor		■			■	■			
Mounting									
Flush-mounted	■	■	■						
Directly on wall				■	■	■	■	■	■
Control panel(door)									
Communication									
Wireless									
PPS2									
LonWorks									
KNX	■	■	■	■	■	■	■	■	■
Controller									
RXL..									
RXB..	■	■				■			
RXC..									
PXC3..	■	■	■	■	■	■	■	■	■

Wireless-room units

Features	QAX.. 95.4	96.4	97.4	98.4
Display				
Mode selection			■	■
Fan switch				■
Setpoint adjuster		■	■	■
Temperature sensor	■	■	■	■
Mounting				
Flush-mounted	■	■	■	■
Directly on wall	■	■	■	■
Control panel(door)				
Communication				
Wireless	■	■	■	■
EnOcean	■	■	■	■
PPS2				
LonWorks	■ ¹⁾	■ ¹⁾	■ ¹⁾	■ ¹⁾
KNX	■ ¹⁾	■ ¹⁾	■ ¹⁾	■ ¹⁾
Controller				
RXL..				
RXB..	■	■	■	■
RXC..	■	■	■	■
PXC3..	■	■	■	■

¹⁾ **Suitable receivers:** RXZ95.1/LON, RXZ97.1/KNX

²⁾ LED for air quality indicator

³⁾ Via 2 potential free inputs

⁴⁾ In combination with pushbutton UP2..

Room automation
Overview and selection tools
Product range overview

Room units LonWorks/PPS2

Features	30.1	31.1	32.1	33.1	34.1	QAX.. 34.3	39.1	84.1	50..	51..
Display					■	■		■	■	■
Mode selection			■	■	■	■		■	■	■
Fan switch				■	■	■		■	■	■
Setpoint adjuster		■	■	■	■	■	■	■	■	■
Operation of light/blindes									■	■
Temperature sensor	■	■	■	■	■	■		■	■	■
Humidity sensor										
Air quality sensor										
Mounting										
Flush-mounted							■	■	■	■
Directly on wall	■	■	■	■	■	■				
Control panel(door)							■			
Communication										
Wireless										
PPS2	■	■	■	■	■	■	■	■		
LonWorks									■	■
KNX										
Controller										
RXL..	■	■	■	■	■	■	■	■		
RXB..	■	■	■	■	■	■	■	■		
RXC..	■	■	■	■	■	■	■	■	■	■
PXC3..										

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Room automation
Overview and selection tools
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Desigo Total Room Automation topology
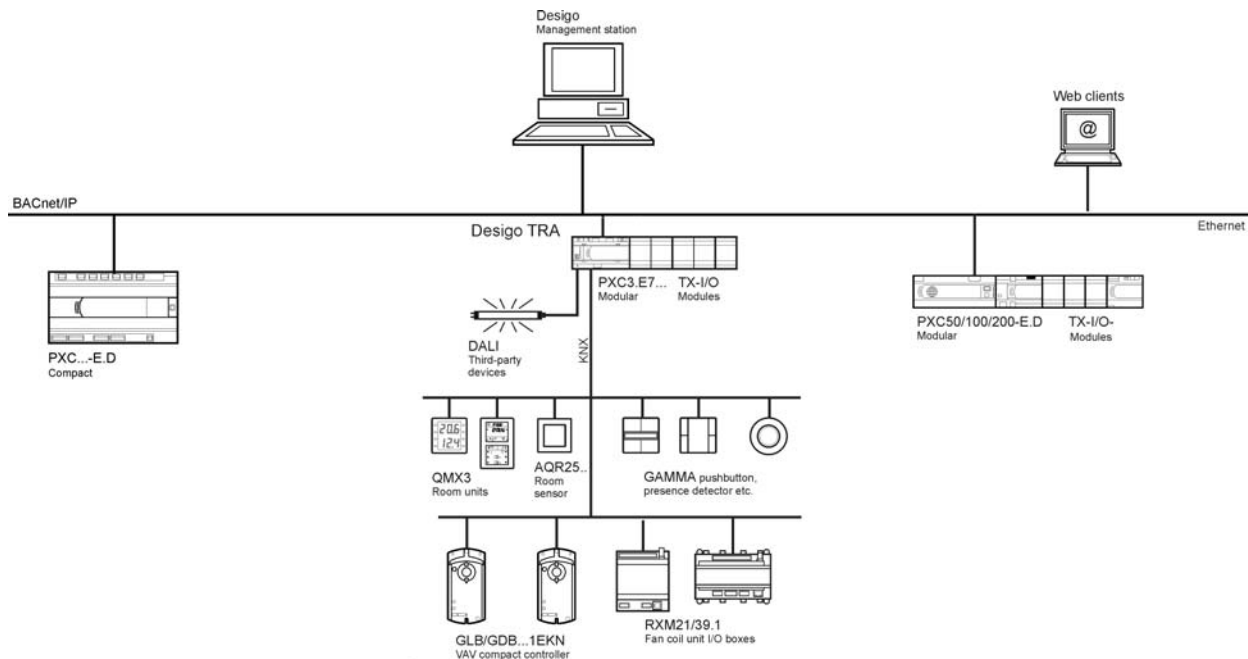
The total solution for the room

Desigo TRA (Total Room Automation) is used in buildings with multiple disciplines for room automation (HVAC, lighting, blinds) all combined in one total solution. Desigo TRA offers solutions with greater functionality and flexibility, allowing for energy-optimized plant operation without loss of comfort (energy performance class A as per EN 15232). The programmable room automation stations PXC3 communicate via BACnet/IP and offer integrated interfaces to the KNX and the DALI bus as an option.

Room automation stations PCX3

The room automation stations of the PXC3 series can assume control for multiple rooms. They communicate with each other or other system components via BACnet/IP. The room automation stations have two Ethernet interfaces to allow for low-cost cabling via line topology (Daisy Chain).

TX-I/O modules connected directly to the PXC3 allow for direct connection of field devices. The KNX connection enables room units, sensors and actuating devices to communicate with the room automation station up to 500 m. Selected Siemens field devices support KNX PL-Link and can be connected as field devices per plug-and-play to the bus. Desigo Tools parameterize them; KNX commissioning software (ETS) is not required. Devices with KNX S-Mode can be integrated with the help of ETS commissioning software.

The DALI bus is used for lighting control. Commercially available DALI-EVG electronic ballasts and dimmers can be connected. The room automation stations are capable of powering TX-I/O modules, KNX and DALI bus. With TX-I/O modules and KNX connection, separate supplies can be added as needed.

Programmable room automation

The PXC3 room automation station is programmable based on proven application blocks. Solutions tailored to specific needs achieve maximum efficiency and comfort. A comprehensive block library for room automation is provided as part the scope of delivery. The library contains predefined application functions for room climate, lighting, shading, and superimposed room functions. They can be combined to form individual solutions together with operating and display functions. The individual application functions can be adapted to customer needs and are freely programmable. The application functions do not depend on the selected field devices.

Room automation
Overview and selection tools
Product range overview

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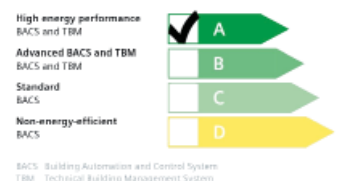
PCX3 Room automation stations overview

	PXC3.E72	PXC3.E72A	PXC3.E75	PXC3.E75A
Max. numbers of rooms / room segments	4 / 8	4 / 8	8 / 16	8 / 16
System communication	BACnet / IP	BACnet / IP	BACnet / IP	BACnet / IP
HMI Automation level				
Desigo Touch and Web and PX Web				
PXM20				
PXM10				
QAX				
QMX	■	■	■	■
Web based test and setuptool	■	■	■	■
System functions (BACnet)				
Alarms	■*	■*	■*	■*
Time schedules	■*	■*	■*	■*
Trend	■	■	■	■
Programming	■	■	■	■
Peripheral bus				
Bus for I/O module	■	■	■	■
KNX PL-Link[1] / KNX S-Mode	■	■	■	■
DALI		■		■
Number of Input/Output for TX I/O Modulen	72	72	200	200

* In combination with PX System controller PXC00-E.D only   [1] Dedicated devices with KNX PL-Link

Overview I/O module TXM1..

Product	TXM1.8D	TXM1.16D	TXM1.8U	TXM1.6R	TXM1.6RL	TXM1.8RB	TXM1.8T
Number of Input/Output	8	16	8	6	6	8	8
Functionality							
Local operation							
LC-Display							
3-colored I/O status LED	■						
Green colored I/O status LED		■	■	■	■	■	■
Digital inputs (DI)							
Message signal (open/closer)	■	■	■				
Message impulse	■	■	■				
Counter 25 Hz (Bouncer free)		■ [1]	■				
Analog inputs (AI)							
LG-Ni1000			■				
Pt1000 / 0...2500 Ohm			■				
T1			■				
DC 0...10V			■				
Analog outputs (AO)							
DC 0...10V			■				
Digital outputs (DO)							
Continuous contact on/off				■			■
Continuous contact 3-stage				■			
3-point output (stroke model)				■			■
Impulse on/off				■			
Impulse				■			
Impulse 3-stage				■			
Bistable contact					■		
Contact for control of blinds						■	
Modulating (PWM)							■

All I/O points of a module are configurable on any, implemented functionality. The module TX1.OPEN enables the integration of Modbus, M-bus etc.
via RS232, 485 on the PXC50/100/200..D.
[1] On the TXM1.16D the counters are implemented only on the inputs 1 to 8
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Room automation
Overview and selection tools
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RXL applications

RXL – Powerful room controllers for temperature control in individual rooms
RXL ensures individual demand-based comfort in public buildings, offices, schools, hotels, etc. Flexible control of all types of equipment in individual rooms calls for economical and convenient solutions that can be integrated into existing or new systems and will retain their compatibility long into the future.

Communicating controllers for individual rooms
The communicating room controllers RXL21.1, RXL22.1 and RXL24.1 are used for temperature control in individual rooms. RXL39.1 support energy efficient EC fan-coils. Siemens actuator and sensor technology can be connected.

Easy commissioning with room operator unit
Commissioning and parameter-setting for RXL controllers is carried out directly on the controller, with the QAX34.3 room operator unit. There is no need for a network connection or a software tool. Mounting on a DIN rail is quick and simple.

User-friendly commissioning and service
The Service LED shows the operational status of the room controller at all times. For example, a flashing green LED is used to indicate normal, trouble-free operation, a continuous red LED for addressing mode and a flashing red LED to indicate a fault. With the service pin, all controllers can be easily identified for commissioning or maintenance purposes. As soon as the service pin is pressed, the red service LED on the controller lights up and the controller is displayed on a graphic of the building at the management station.

Complete range of standard room operating units
The extensive range of room operator units is available for direct operation and monitoring of setpoints and measured values in individual rooms. The range extends from very simple room temperature sensors to versatile room operator units with parameter-setting functions.

Connection to the Desigo building automation and control system
Desigo PX KNX allow for flexibly connecting RXL controllers to the Desigo building automation and control system, and hence acts as a gateway to BACnet. The connection provides access to other functions such as time schedules and central control of setpoints.
RXL thus fits into the overall expandable modular system, and ensures long-term cost-efficiency.

Integration into Synco™
The Synco™ central control unit RMB795 is used for controlling and monitoring the RXL controllers in a Synco™ system.

HVAC	Chilled ceiling Radiator-type systems			eu.bac Cert
	Fan coil units			
		QAX30 QAX31 QAX32 QAX33 QAX34 QAX39 QAX84	RXL21.1 RXL22.1 RXL24.1 RXL39.1	
		Room units	Compact	

Room automation
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Fields of application

The scope of RXL is defined by the preprogrammed application software. The following pages provide an overview of the options and the corresponding devices. The devices are supplied preprogrammed with the applications. The required application can be selected by means of the Handy tool QAX34.3.

Due to the fact that the applications are predefined, engineering simply involves the definition of a small number of parameters, e. g.:
- ON / OFF or 3-point control of the valves and actuators
- Temperature setpoints
- Manual or automatic fan control

Fan coil systems

Application	Description	Devices
FNC02	2-pipe system with changeover	RXL21.1/FC-10
FNC03	2-pipe system with changeover and electrical reheater	RXL22.1/FC-12
FNC04	4-pipe system	RXL21.1/FC-10
FNC05	4-pipe system with electrical reheater	RXL22.1/FC-12
FNC08	4-pipe system with supply air temperature limitation	RXL21.1/FC-10
FNC10	2-pipe system with change over and outside air damper	RXL21.1/FC-11
FNC12	4-pipe system with outside damper	RXL21.1/FC-11
FNC18	2-pipe system with change over and radiator	RXL21.1/FC-11
FNC20	4-pipe system with air-side control	RXL21.1/FC-10
FNC02/03/04/08	2-pipe/4-pipe system with EC fan-coil support	RXL39.1/FC-13

Common functions
- Window contact, occupancy detector, 4 operating modes
- Manual fan control with room unit
- Automatic fan control (RXL21.1/RXL22.1 three speed; RXL39.1 continous speed 0..10V)
- Options for 2-pipe systems: heating only, cooling only or changeover

Controller
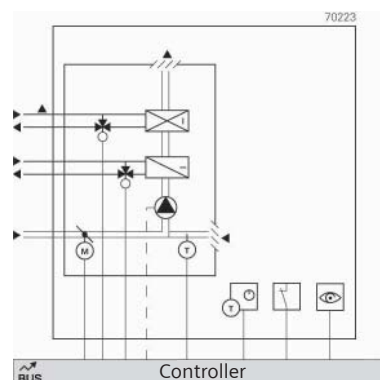
Heated/chilled ceilings and radiators

Application	Description	Devices
CLC01	Chilled ceiling with dewpoint monitoring	RXL24.1/CC-02
CLC02	Chilled ceiling with dewpoint monitoring, radiator with downdraft compensation	RXL24.1/CC-02
RAD01	Radiator with downdraft compensation	RXL24.1/CC-02

Common functions
- Window contact, occupancy detector, 4 operating modes

Controller

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RXB applications

RXB hardware

The product range comprises compact controllers and corresponding room units for comfortable control. The compact room controllers are optimized to the respective application with regard to input/output configuration. HVAC functions are operated via standard room units.

Communication is based on KNX S-mode. The fan coil room controllers communicate also in KNX LTE mode. KNX LTE mode is used for to communicate with control equipment from the Synco™ 700 product range.

RXB software

Each RXB unit comes with preloaded application software featuring one or several applications (see next page).

The ETS software helps engineer and commission a network with RXB units.

In addition, the Synco™ tool... and room unit QAX34.3 by Siemens can be used for commissioning and parameterization.

Connection to the Desigo building automation and control system

Desigo PX KNX allow for flexibly connecting RXB controllers to the Desigo building automation and control system, and hence acts as a gateway to BACnet.

The connection provides access to other functions such as time schedules and central control of setpoints.

RXB thus fits into the overall expandable modular system, and ensures long-term cost-efficiency.

Integration into Synco™

The Synco™ central control unit RMB795 is used for controlling and monitoring the RBX controllers in a Synco™ system.

HVAC			
	Chilled ceiling **Radiator-type** **systems**		
			KNX (S- and LTE-Mode)
	Fan coil units		
		QAX30 QAX31 QAX32 QAX33 QAX34 QAX39 QAX84 QAX95 QAX96 QAX97 QAX98 AQR2531..	RXB21.1 RXB22.1 RXB24.1 RXB39.1

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Room units ←——————→   ←——————→ Compact

Room automation
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Fields of application

The scope of RXB is defined by the preprogrammed application software. The following pages provide an overview of the options and the corresponding devices, divided into different areas of application. The devices are supplied preprogrammed with the applications. The required application can be selected by means of the ETS, Synco™ tool or the Handy tool QAX34.3.

Due to the fact that the applications are predefined, engineering simply involves the definition of a small number of parameters, e. g.:
- ON / OFF or 3-point control of the valves and actuators
- Temperature setpoints
- Manual or automatic fan control

Fan coil systems

Application	Description	Devices
FNC02	2-pipe system with changeover	RXB21.1/FC-10
FNC03	2-pipe system with changeover and electrical reheater	RXB22.1/FC-12
FNC04	4-pipe system	RXB21.1/FC-10
FNC05	4-pipe system with electrical reheater	RXB22.1/FC-12
FNC08	4-pipe system with supply air temperature limitation	RXB21.1/FC-10
FNC10	2-pipe system with changeover and outside air damper	RXB21.1/FC-11
FNC12	4-pipe system with outside damper	RXB21.1/FC-11
FNC18	2-pipe system with change over and radiator	RXB21.1/FC-11
FNC20	4-pipe system with air-side control	RXB21.1/FC-10
FNC02/03/04/08	2-pipe/4-pipe system with EC fan-coil support	RXB39.1/FC13

Controller

Common functions
- Window contact, occupancy detector, 4 operating modes
- Manual fan control with room unit
- Automatic fan control (RXB21.1/RXB22.1 three speed; RXB39.1 continous speed 0..10V)
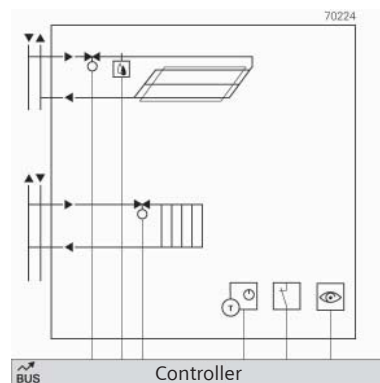- Options for 2-pipe systems: heating only, cooling only or change-over, via KNX bus

Heated/chilled ceilings and radiators

Application	Description	Devices
CLC01	Chilled ceiling with dewpoint monitoring	RXB24.1/CC-02
CLC02	Chilled ceiling with dewpoint monitoring and radiator	RXB24.1/CC-02
RAD01	Radiator with downdraft compensation	RXB24.1/CC-02

Controller

Common functions
- Window contact, occupancy detector, 4 operating modes

Room automation
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RXC applications

RXC hardware

RXC is a comprehensive range of room controllers for HVAC automation, extension modules for lighting and blinds, and a graded range of purposedesigned room units. LONWORKS technology is used for data communications.

The range consists of compact and modular room controllers, user-friendly room operator units and controllers in room-style housings.

RXC software

Each room controller contains downloadable application software (referred to as the "application") with the optimum control programs for the room or area concerned.

Siemens maintains a comprehensive library of reliable, field-proven applications for HVAC and electrical applications.

Connetion to the Desigo building automation and control system

Extension modules PXX-L.. together with the modular automation stations PXC..D allow for flexibly connecting RXC controllers to the Desigo building automation and control system, and hence acts as a gateway to BACnet. The connection provides access to other functions such as time schedules and central control of setpoints.

RXC thus fits into the overall expandable modular system, and ensures long-term cost-efficiency.

		Standard	Flexible	Compact	Modular
Electrical	**Lighting Blinds**				RXC31 RXC40 RXC41
HVAC	**VAV**			RXC32	
	Chilled ceiling Radiator-type systems			RXC10	RXC30 RXC40 RXC41
	Fan coil units	QAX30 QAX31 QAX32 QAX33 QAX34 QAX39 QAX84 QAX95 QAX96 QAX97 QAX98	QAX50 QAX51	RXC20 RXC21 RXC22 RXC39	

Room units — Controllers in room-style housing — Controllers
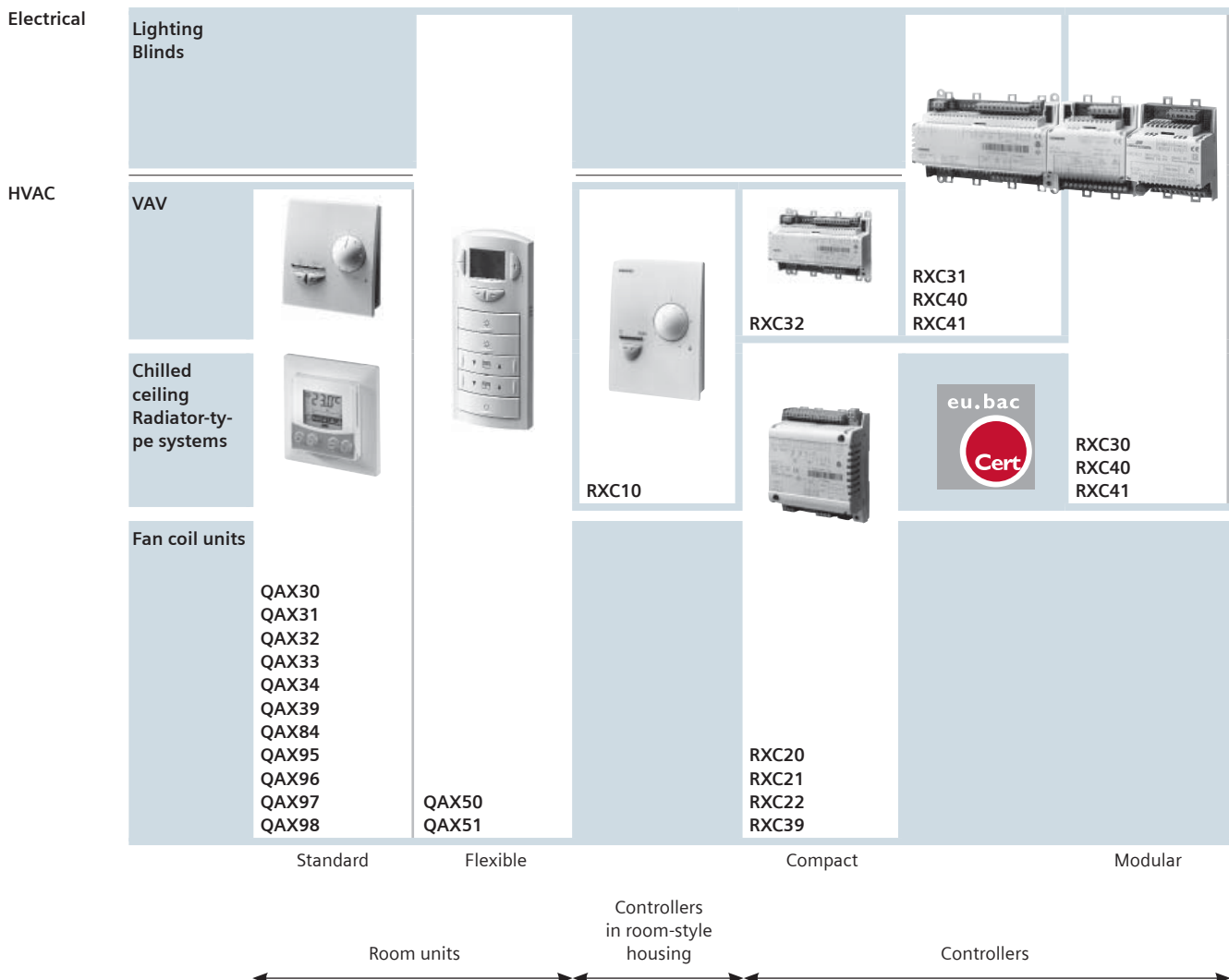
Room automation
Overview and selection tools
Product range overview

Fields of application

The scope of RXC is defined by the pre-programmed application software. The following pages provide an overview of the options and the corresponding devices, divided into different areas of application. The devices are supplied pre-programmed with the application required. Other applications can be loaded using the RXT10.3 commissioning and service tool, which contains the entire applications library.

Due to the fact that the applications are largely predefined, engineering simply involves the definition of a small number of parameters, e. g.:
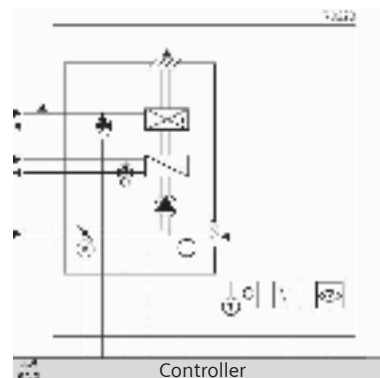■ ON / OFF or 3-point control of the valves and actuators
■ Temperature setpoints
■ Manual or automatic fan control

Basic applications

With the basic application software every RXC controller can also be used as an I/O module. The RXT10.3 commissioning and service tool can be used to observe the signals to the inputs or to process them further at the automation level or at the management station. Direct control of the controller outputs is also possible. Controllers ordered without reference to a specific application will be supplied factory-programmed with the appropriate basic application.

Application	Description
00010	Basic application for RXC10.5
00020	Basic application for RXC20.5
00021	Basic application for RXC21.5
00022	Basic application for RXC22.5
00030	Basic application for RXC30.5
00031	Basic application for RXC31.5
00032	Basic application for RXC32.5

Fan coil systems

Application	Description	Devices
FNC02	2-pipe system with changeover	RXC20.5 / RXC21.5
FNC03	2-pipe system with changeover and electric reheater	RXC20.5 / RXC21.5 / RXC22.5
FNC04	4-pipe system	RXC20.5 / RXC21.5
FNC08	4-pipe system with supply air temperature limitation	RXC21.5
FNC10	2-pipe system with changeover and outside air damper	RXC21.5
FNC12	4-pipe system with outside air damper	RXC21.5
FNC18	2-pipe system (cooling) and radiator	RXC20.5 / RXC21.5
FNC20	4-pipe system with air-side control	RXC20.5 / RXC21.5
FNC02/03/04/08	2-pipe/4-pipe system with EC fan-coil support	RXC39.5
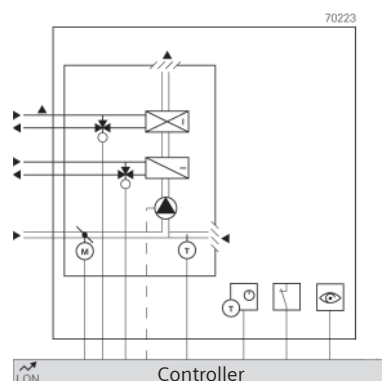
Controller

Common functions
■ Window contact, occupancy detector, 4 operating modes
■ Manual fan control with room unit
■ Automatic fan control (RXC20.5 single-speed, RXC21.5, RXC21.5 three-speed), 0..10 V (continious speed with RXC39.5 only)
■ Options for 2-pipe systems: heating only, cooling only or change-over, via LonWorks bus

Heated/chilled ceilings and radiators

Application	Description	Devices
CLC01	Chilled ceiling	RXC20.5 / RXC10.5
CLC02	Chilled ceiling and radiator	RXC20.5 / RXC10.5
CLC03	Chilled ceiling and radiator	RXC20.5
CLC06	Chilled/heated ceiling, 2-pipe system with changeover via LonWorks bus	RXC20.5 / RXC10.5
CLC07	Chilled/heated ceiling, 2-pipe system with changeover via LonWorks bus and radiator	RXC20.5
CLC08	Chilled/heated ceiling, 4-pipe system and 2 ON / OFF valves for changeover	RXC21.5
CLC09	Divided chilled/heated ceiling: Cooling only and cooling/heating with changeover via LonWorks bus	RXC20.5 / RXC21.5
RAD01	LPHW radiators	RXC20.5 / RXC10.5
RAD03	Electric radiators	RXC20.5 / RXC10.5

Controller
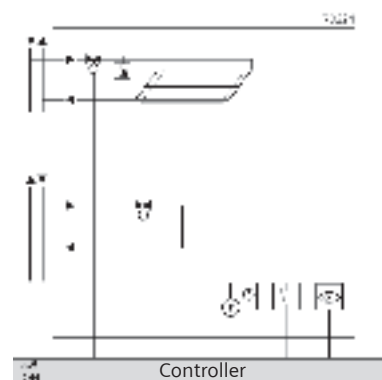
Common functions
■ Window contact, occupancy detector, 4 operating modes
■ Dewpoint sensor

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Room automation
Overview and selection tools
Product range overview

VAV systems

Application	Description	Devices
VAV01	Single duct supply or extract air system	RXC10.5 / RXC32.5
VAV02	Single duct supply air system with reheater/cooler	RXC32.5
VAV03	Single duct supply air system with electric reheater	RXC32.5
VAV04	Single duct supply and extract air system	RXC31.5
VAV05	Single duct supply and extract air system with reheater/cooler	RXC31.5
VAV06	Single duct supply and extract air system with electric reheater	RXC31.5
VAV07	Single duct supply or extract air system with radiator	RXC10.5
VAV08	Single duct supply and extract air systems with radiator	RXC31.5
VAV10	Single duct supply and extract air system with electric reheater	RXC31.5
VAV14	Single duct supply and extract air systems with radiator/chilled ceiling	RXC31.5
FPB05	Fan powered single duct supply air system with electric reheater	RXC31.5
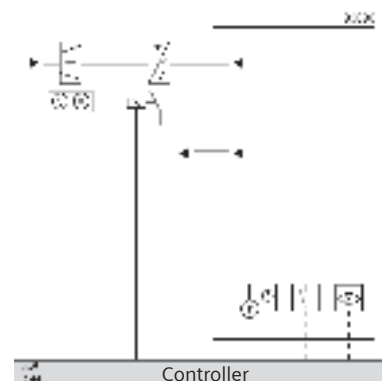
Controller

Common functions
- ■ Window contact, occupancy detector, 4 operating modes
- ■ Built-in pressure sensor (RXC32.5)
- ■ DC 0...10 V inputs for external pressure sensors (RXC31.5)
- ■ Control of compact volume controllers with DC 0...10 V (RXC10.5, RXC32.5)
- ■ Direct control of damper actuators (RXC31.5, RXC32.5)

Combined applications

The HVAC applications covered by the RXC30.5 and RXC31.5 basic modules combine lighting and blind control (extension modules RXC40.5 and RXC41.5).

The combined applications consist of an HVAC application with one or more electrical functions.

Applica-tion	HVAC Application	Electrical function			Equipment			
		Group of lights ON / OFF [1]	Group of lights dimmed	Blinds up / down [2]	RXC30.5	RXC31.5	RXC40.5	RXC41.5
INT01	CLC02 [3]	2 x			1			
INT02	CLC02 [3]	4 x			1		1	
INT03	CLC02 [3]	2 x	2 x		1		1	
INT04	CLC02 [3]	2 x		2 x	1			1
INT05	CLC02 [3]	2 x		4 x	1			2
INT06	CLC02 [3]	4 x		2 x	1		1	1
INT07	CLC02 [3]	2 x	2 x	2 x	1		1	1
INT10	VAV08 [4]	2 x				1	1	
INT11	VAV08 [4]	4 x				1	1	1
INT12	VAV08 [4]		2 x			1	1	
INT15	VAV08 [4]	2 x		2 x		1	1	1
INT17	VAV08 [4]			2 x		1		1

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Controller + Extension modules
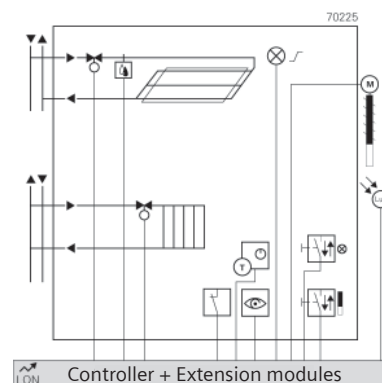
[1] With or without daylight sensor via LONWORKS bus, as required

[2] With or without slat adjustment, as required

[3] CLC02: Chilled ceiling and radiator

[4] VAV08: Single duct supply and extract air systems, see VAV systems above

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Notes

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Room automation stations

PXC3.E..

Modular, freely programmable room automation station for HVAC, lighting and shading (TRA, Total Room Automation):
- BTL tested BACnet/IP communication acoording to BACnet standard (rev 1.10) include B-ASC profile
- Island bus to connect TX-I/O modules with any data point mix (including bus supply)
- KNX bus for direct connection of peripheral devices using KNX PL-Link or KNX S-mode communication (including bus supply)
- DALI bus to connect lighting controls (only controller types PXC3...A)
- USB interface for tool
- Mounting on standard mounting rail
- 2-port Ethernet switch for low-cost cabling

Data sheet	N9203
Operating voltage	AC 24 V
Frequency	50/60 Hz
Degree of protection	IP20
Dimensions (W x H x D)	162 x 74 x 90 mm

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Range overview PXC3.E..

Product Title	Communication	Data sheet	Stock No.	Product No.
Room automation station BACnet / IP, with up to 4 rooms / 8 room segments	BACnet / IP KNX PL-Link / S-Mode Island bus	N9203	S55376-C100	**PXC3.E72**
Room automation station BACnet / IP und DALI, with up to 4 rooms / 8 room segments	BACnet / IP KNX PL-Link / S-Mode DALI Island bus	N9203	S55376-C101	**PXC3.E72A**
Room automation station BACnet / IP, with up to 8 rooms / 16 room segments	BACnet / IP KNX PL-Link / S-Mode Island bus	N9203	S55376-C102	**PXC3.E75**
Room automation station BACnet / IP und DALI, with up to 8 rooms / 16 room segments	BACnet / IP KNX PL-Link / S-Mode DALI Island bus	N9203	S55376-C103	**PXC3.E75A**

4

TXM1..	**TX-I/O™ modules**

Simple planning and executions:
- Slim, easy-to-understand I/O product range
- Highest flexibility for I/O point mix

Efficient panel construction:
- Small space requirements thanks to very compact construction
- DIN form eases panel construction using standard components
- Self-learning bus connections of the TX-I/O™ module with power supply
- Direct connection with interchange pins

Fast commissioning and service:
- Easiest possible addressing
- Fast servicing: plug-in I/O module exchange without tools or rewiring
- permute proof terminal bases

Operating voltage	DC 22.5...26 V
Dimensions (W x H x D)	64 x 77.5 x 98 mm

TXM1.6RL

6 Relay output module, bistable

6 outputs signaled with green LED, without local operation.

6 DO (volt-free, bistable), individually configurable as:
- Configurable behavior in case of power failure and bus failure
- Switching voltage AC 24... 277 V
- Switching current max. 10 A (cos φ = 0.8)

Data sheet	N8177

Operating voltage	DC 22.5...26 V
Power consumption	0.8 W
Dimensions (W x H x D)	64 x 77.5 x 98 mm

	Stock No.	Product No.
	S55661-J103	**TXM1.6RL**

TXM1.6R

6 Relay output module

6 outputs signaled with green LED, without local operation.

6 DO (relay switch), individually configurable as:
- Continuous or impulse contact
- Single-stage or multi-stage
- Three-point positioning output with internal stroke model

Hardware bolting device is by means of external wiring the two-way contacts.

Data sheet	N8175

Operating voltage	DC 22.5...26 V
Power consumption	1.7 W
Dimensions (W x H x D)	64 x 77.5 x 98 mm
Weight	0.231 kg

	Stock No.	Product No.
	BPZ:TXM1.6R	**TXM1.6R**

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8 Digital Input Module

TXM1.8D

8 digital input, signaling per input with three-colored LED (green, yellow, red), without local operation.

8 DI, individually configurable as:
- Message signal
- Message impulse with storage functions
- Counter impulse for up to a maximum of 10 Hertz

Data sheet	N8172

Operating voltage	DC 22.5...26 V
Power consumption	1.1 W
Dimensions (W x H x D)	64 x 77.5 x 98 mm
Weight	0.164 kg

	Stock No.	Product No.
	BPZ:TXM1.8D	**TXM1.8D**

8 Relay output module for blinds control

TXM1.8RB

8 relay outputs for blinds control, signaled with green LED, without local operation.

8 DO (non-floating):
- 4 blinds motors with 2 end switches
- 2 blinds motors with 3 end switches
- 2 blinds motors with 2 end switches + 1 blinds motor with 3 end switches
- Current measurement for each blinds motor
- Switching voltage AC 100... 250 V
- Switching current max. 3 A (motor)

Data sheet	N8178

Operating voltage	DC 22.5...26 V
Power consumption	1.4 W
Dimensions (W x H x D)	64 x 77.5 x 98 mm

	Stock No.	Product No.
	S55661-J105	**TXM1.8RB**

8 Triac output module

TXM1.8T

8 Triac outputs, signaled with green LED.

8 AO, configurable for:
- Permanent contact
- Three-point positioning output with internal stroke model
- Pulsewidth-modulated output (PWM)
- Switching voltage AC 24 V
- Switching current AO 3-position: 250 mA / 6 VA per output
- Switching current AO PWM, BO: 125 mA / 3 VA per output

Data sheet	N8179

Operating voltage	DC 22.5...26 V
Power consumption	1.0 W
Dimensions (W x H x D)	64 x 77.5 x 98 mm

	Stock No.	Product No.
	S55661-J106	**TXM1.8T**

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4

TXM1.16D

16 Digital Input Module

16 digital input, signaling per input with green LED, without local operation.

16 DI, individually configurable as:
- Message signal
- Message impulse with storage functions
- 8 inputs as counter impulse for up to a maximum of 10 Hertz

Data sheet	N8172

Operating voltage	DC 22.5...26 V
Power consumption	1.4 W
Dimensions (W x H x D)	64 x 77.5 x 98 mm
Weight	0.199 kg

	Stock No.	Product No.
	BPZ:TXM1.16D	**TXM1.16D**

TXM1.8U

8 Universal I/O Module

8 inputs/outputs signaled with green LED, without local operation

8 universal I/O points, individually configurable as:
- DI: Message signal, message impulse or counter impulse (25 Hertz)
- AI: Temperature sensor or DC 0...10 V
- AO: DC 0...10 V

Data sheet	N8173

Operating voltage	DC 22.5...26 V
Power consumption	1.5 W
Dimensions (W x H x D)	64 x 77.5 x 98 mm
Weight	0.179 kg

	Stock No.	Product No.
	BPZ:TXM1.8U	**TXM1.8U**

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Island bus expansion module for decentralized sub-islands with TX-I/O-modules

TXA1.IBE

- Expand island bus to a distance of up to 2 x 200 meters
- Compact design per DIN 43 880, requires little space
- With LED to monitor communication status
- Easy installation and setup:
- Mounted on standard rails
- Self-connecting bus (island bus) for the easiest possible installation
- Plug-in screw terminals for island bus expansion
- No programming / parameterization tool required

Data sheet	N8184
Dimensions (W x H x D)	32 x 77.5 x 98 mm
Weight	0.064 kg

	Stock No.	Product No.
	BPZ:TXA1.IBE	**TXA1.IBE**

TX-I/O Power Supply Modules 24 VDC Supply 1200 mA, 10 A Fuse

TXS1.12F10

Up to 4 power supply modules can be operated in parallel
AC 24 Volt input
Generation / transfer of DC 24 V, 1.2A for the supply of TX-I/O modules and field devices
Fresh provision of AC 24 V for field device supply
Transfer of the bus signal

Data sheet	N8183
Dimensions (W x H x D)	96 x 77.5 x 98 mm
Weight	0.309 kg

	Stock No.	Product No.
	BPZ:TXS1.12F10	**TXS1.12F10**

BUS Connection Module, 10A Fuse

TXS1.EF10

Transfer of DC 24 V for the supply of TX-I/O modules and field devices
Fresh provision of AC / DC 12 ... 24 V for field device supply
Transfer of the bus signal

Data sheet	N8183
Dimensions (W x H x D)	32 x 77.5 x 98 mm
Weight	0.082 kg

	Stock No.	Product No.
	BPZ:TXS1.EF10	**TXS1.EF10**

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Set of address plugs

Product Title	Data sheet	Stock No.	Product No.
Address Keys 1-12 + reset key	N8170	BPZ:TXA1.K12	**TXA1.K12**
Address Keys 1-24 + 2 reset keys	N8170	BPZ:TXA1.K24	**TXA1.K24**
Address keys 25-48 + 2 reset keys	N8170	BPZ:TXA1.K-48	**TXA1.K-48**
Address keys 49-72 + 2 reset keys	N8170	BPZ:TXA1.K-72	**TXA1.K-72**
Address keys 73-96 + 2 reset keys	N8170	S55661-J101	**TXA1.K-96**
Address keys 97-120 + 2 reset keys	N8170	S55661-J102	**TXA1.K-120**
Address key 5, 10 ... 120 + 2 reset keys	N8170	BPZ:TXA1.5K120	**TXA1.5K120**

Labeling material

Product Title	Data sheet	Stock No.	Product No.
Labels (sheet A4 with 9 labels)	N8170	BPZ:TXA1.LA4	**TXA1.LA4**
Spare transparent label holders (10 pcs.)	N8170	BPZ:TXA1.LH	**TXA1.LH**

KNX PL-Link I/O block for use with a PXC3.. series room automation station   RXM21.1

The KNX PL-Link I/O block RXM21.1 contains the inputs and outputs required by a PXC3 series room auto-
mation station for a Fancoil application.
- KNX PL-Link bus communication
- Valve control (3 potential-free relay contacts)
- Thermal valve actuator control (AC 24 V)
- Motor-driven valve and damper actuators (AC 24 V, 2- or 3-point)
- Pluggable screw terminals

Data sheet	N3835
Operating voltage	AC 230 V
Frequency	50/60 Hz
Power consumption	12 VA
Digital inputs, number	2
Analog inputs, number	1
Triac outputs, number	4
Triac outputs	ON/OFF
Triac output, switching voltage	AC 24 V
Triac output, switching current	0.5 A
Relay outputs, number	3
Relay output, switching voltage	AC 250 V
Relay output, switching current	5 (4) A
Degree of protection	IP20
Communication	KNX PL-Link
Mounting	On DIN rail
Dimensions (W x H x D)	113 x 167 x 62 mm

	Stock No.	Product No.
	S55376-C104	**RXM21.1**

RXM39.1

KNX PL-Link I/O block for use with a PXC3.. series room automation station

The KNX PL-Link I/O block RXM39.1 contains the inputs and outputs required by a PXC3 series room auto-mation station for a fan-coil application.
- KNX PL-Link bus communication
- Fan control (ECM fan, DC 0...10 V)
- Actuator control DC 0...10 V
- Electric heating control DC 0...10 V
- Potential-free relay contacts to release fan and electric heating
- Plug-in screw terminals

Data sheet	N3836
Operating voltage	AC 230 V
Frequency	50/60 Hz
Power consumption	12 VA
Digital inputs, number	4
Analog inputs, number	2
Analog outputs, number	3
Analog output, signal	DC 0...10 V
Relay outputs, number	1
Electric reheater relay	1
Relay output, switching voltage	AC 250 V
Relay output, switching current	5 (4) A
Degree of protection	IP20
Communication	KNX PL-Link
Mounting	On DIN rail
Dimensions (W x H x D)	152 x 120 x 62 mm

	Stock No.	Product No.
	S55376-C105	**RXM39.1**

Pushbutton interface, 4 x potential-free contact, output for LED control   **UP 220D31**

Pushbutton interface:
- with 4 inputs / outputs each configurable for potential-free contacts or for control of an LED (max 2 mA)
- with integrated bus coupling unit, bus connection via bus terminal
- for insertion in flush-mounting switch and socket boxes 60 mm in diameter and 40 mm deep

Communication	KNX S-Mode
	KNX PL-Link
Dimensions (W x H x D)	42 x 42 x 8.5 mm

	Stock No.	Product No.
	5WG1220-2DB31	**UP 220D31**

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QMX3..	**Room sensor and unit for KNX PL-Link, freely configurable, flush-mounted**

The flush-mounted room unit QMX3.. consists of:
- Operator unit
- Bezel, titanium white
- Base plate and KNX plug.

Functionality:
- Freely configurable user interface (keys and visual items) as part of Total Room Automation
- RoomOptiControl energy efficiency function
- Room temperature measurement
- Display of room temperature, control mode, scenes etc. (dot matrix LCD)
- Backlit display, white or blue selection
- KNX PL-Link interface to the room automation station with plug & play functionality
- Can be combined with different standard and design bezels

Data sheet	N1601
Measuring range, temperature	0...50 °C
Sensing element, temperature	NTC
Degree of protection	IP30
Mounting	Flush or wall-mounted conduit box
Dimensions (W x H x D)	55 x 55 x 38 mm

Range overview QMX3..

Product Title	Stock No.	Product No.
Room unit for KNX PL-Link, freely configurable, flush-mounted with square bezel	S55624-H100	**QMX3.P36F**
Room unit for KNX PL-Link, freely configurable, flush-mounted with landscape bezel (3 modules landscape)	S55624-H101	**QMX3.P36G**

AQR2570..	**Base module with KNX for temperature and humidity measurement**

Data sheet	N1411
Voltage supply	KNX bus
Communication	KNX S-mode
	KNX LTE-mode
	KNX PL-Link
Analog inputs	Passive temperature sensor NTC 10k
Analog inputs, number	1
Digital inputs	Potential-free contacts
Digital inputs, number	2
Connection, electrical	Bus connection: spring terminal
	sensor inputs: 4 screw terminals

Range overview AQR2570..

Mechanical design	Dimensions (W x H)	Stock No.	Product No.
EU (CEE/VDE)	70.8 x 70.8 mm	S55720-S203	**AQR2570NF**
UK (British Standard)	83 x 83 mm	S55720-S204	**AQR2570NH**
IT (3 Modular)	110 x 64 mm	S55720-S205	**AQR2570NG**
US (UL)	64 x 110 mm	S55720-S206	**AQR2570NJ**

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Base modules with KNX for CO_2 measurement   AQR2576..

Data sheet	N1411
Voltage supply	KNX bus
Communication	KNX S-mode
	KNX LTE-mode
	KNX PL-Link
Analog inputs	Passive temperature sensor NTC 10k
Analog inputs, number	1
Digital inputs	Potential-free contacts
Digital inputs, number	2
Measuring range	CO_2: 0...5000 ppm
Connection, electrical	Bus connection: spring terminal
	sensor inputs: 4 screw terminals

Range overview AQR2576..

Mechanical design	Dimensions (W x H)	Stock No.	Product No.
EU (CEE/VDE)	70.8 x 70.8 mm	S55720-S207	**AQR2576NF**
UK (British Standard)	83 x 83 mm	S55720-S208	**AQR2576NH**
IT (3 Modular)	110 x 64 mm	S55720-S209	**AQR2576NG**
US (UL)	64 x 110 mm	S55720-S210	**AQR2576NJ**

Front modules for base modules   AQR253..

Data sheet	N1410
Color	Titanium white
Degree of protection	IP30
Dimensions (W x H)	55 x 55 mm

Range overview AQR253..

Measuring range, temperature	Signal output temperature	Measurement range humidity	Stock No.	Product No.
0...50 °C	Active		S55720-S136	**AQR2532NNW**
		0...100 %	S55720-S140	**AQR2533NNW**
0...50 °C	Active	0...100 %	S55720-S141	**AQR2535NNW**
			S55720-S137	**AQR2530NNW**
0...50 °C	Active	0...100 %	S55720-S219	**AQR2535NNWQ**

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QMX3..	**Wall-mounted room sensors and operator units for KNX**

The wall-mounted room unit QMX3.. consists of:
- Base plate
- Sensor or room operator unit

The following functions are (depending on type):
- Temperature sensor or multisensor (T, r.h., CO2)
- Backlit display or LED display
- Touchkeys
- Switching and control of lighting, blinds, scenes

Data sheet	N1602
Measuring range, temperature	0...50 °C
Sensing element, temperature	NTC
Degree of protection	IP30
Mounting	Wall-mounting
Communication	KNX PL-Link
	KNX S-Mode
Dimensions (W x H x D)	88.4 x 133.4 x 18 mm

QMX3.P30 — Room sensor KNX for temperature

Functions:
- Temperature sensor

	Stock No.	Product No.
	S55624-H103	QMX3.P30

QMX3.P70 — Room sensor KNX for temperature, humidity, CO2

Functions:
- multisensor for temperature, humidity and CO2
- Air quality indicator with LED

	Stock No.	Product No.
	S55624-H104	QMX3.P70

NEW PRODUCT

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Room operator unit KNX with temperature sensor, segmented backlit display, touchkeys

QMX3.P34

Functions:
- Temperature sensor
- Segmented backlit display and touchkeys

- "Green Leaf" LED

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	Stock No.	Product No.
	S55624-H105	QMX3.P34

Room operator unit KNX with sensors for temperature, humidity, CO2, segmented backlit display, touchkeys

QMX3.P74

Functions:
- multisensor for temperature, humidity and CO2
- Segmented backlit display and touchkeys

- "Green Leaf" LED

	Stock No.	Product No.
	S55624-H106	QMX3.P74

Room operator unit KNX with temperature sensor, configurable touchkeys, LED display

QMX3.P02

Functions:
- Temperature sensor
- Configurable touchkeys with LED display
- Switching and control of lighting, blinds, scenes
- Window for labels

	Stock No.	Product No.
	S55624-H107	QMX3.P02

NEW PRODUCT

QMX3.P37

Room operator unit KNX with temperature sensor, segmented backlit display, configurable touchkeys, LED display

Functions:
- Temperature sensor
- Segmented backlit display and touchkeys
- Configurable touchkeys with LED display
- Switching and control of lighting, blinds, scenes
- Window for labels

- "Green Leaf" LED

	Stock No.	Product No.
	S55624-H108	QMX3.P37

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NEW PRODUCT

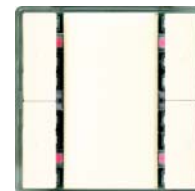## Pushbutton, i-system   UP 22..

Design
Dimensions (W x H x D)   55 x 55 x 11 mm

Range overview UP 22..

Display	Number of keys	Color	Stock No.	Product No.
None	2	Titanium white	5WG1221-2DB12	**UP 221/12**
None	2	Aluminum metallic	5WG1221-2DB32	**UP 221/32**
Status LED	2	Aluminum metallic	5WG1221-2DB33	**UP 221/33**
None	4	Titanium white	5WG1222-2DB12	**UP 222/12**
Status LED	4	Titanium white	5WG1222-2DB13	**UP 222/13**
None	4	Aluminum metallic	5WG1222-2DB32	**UP 222/32**
Status LED	4	Aluminum metallic	5WG1222-2DB33	**UP 222/33**
None	6	Titanium white	5WG1223-2DB12	**UP 223/12**
None	6	Aluminum metallic	5WG1223-2DB32	**UP 223/32**
Status LED	6	Aluminum metallic	5WG1223-2DB33	**UP 223/33**

Range overview UP 22..

Product Title	Stock No.	Product No.
Pushbutton, single, without status LED, titanium white	5WG1221-2DB12	**UP 221/12**
Pushbutton, single, with status LED, titanium white	5WG1221-2DB13	**UP 221/13**
Pushbutton, single, without status LED, aluminum metallic	5WG1221-2DB32	**UP 221/32**
Pushbutton, single, with status LED, aluminum metallic	5WG1221-2DB33	**UP 221/33**
Pushbutton, double, without status LED, titanium white	5WG1222-2DB12	**UP 222/12**
Pushbutton, double, with status LED, titanium white	5WG1222-2DB13	**UP 222/13**
Pushbutton, double, without status LED, aluminum metallic	5WG1222-2DB32	**UP 222/32**
Pushbutton, double, with status LED, aluminum metallic	5WG1222-2DB33	**UP 222/33**
Pushbutton, triple, without status LED, titanium white	5WG1223-2DB12	**UP 223/12**
Pushbutton, triple, without status LED, aluminum metallic	5WG1223-2DB32	**UP 223/32**
Pushbutton, triple, with status LED, aluminum metallic	5WG1223-2DB33	**UP 223/33**

Pushbutton with scene controller and IR receiver decoder, i-system   UP 223/..5

Design
Dimensions (W x H x D)   55 x 55 x 11 mm

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Range overview UP 223/..5

Display	Color	Communication	Stock No.	Product No.
Status LED	Titanium white	IR receiver decoder (industry standard)	5WG1223-2DB15	**UP 223/15**
Status LED	Aluminum metallic	IR receiver decoder (industry standard)	5WG1223-2DB35	**UP 223/35**

Pushbutton, DELTA style   UP 28..

Dimensions (W x H x D)   68 x 68 x 14 mm

Range overview UP 28..

Display	Number of keys	Color	Stock No.	Product No.
None		Titanium white	5WG1285-2DB12	**UP 285/12**
Status LED	Status LED	Titanium white	5WG1285-2DB13	**UP 285/13**
None	None	Platinum metallic	5WG1285-2DB42	**UP 285/42**
Status LED	Status LED	Platinum metallic	5WG1285-2DB43	**UP 285/43**
None	None	Titanium white	5WG1286-2DB12	**UP 286/12**
Status LED	Status LED	Titanium white	5WG1286-2DB13	**UP 286/13**
None	None	Platinum metallic	5WG1286-2DB42	**UP 286/42**
Status LED	Status LED	Platinum metallic	5WG1286-2DB43	**UP 286/43**
None	None	Titanium white	5WG1287-2DB12	**UP 287/12**
Status LED	Status LED	Titanium white	5WG1287-2DB13	**UP 287/13**
None	None	Platinum metallic	5WG1287-2DB42	**UP 287/42**
Status LED	Status LED	Platinum metallic	5WG1287-2DB43	**UP 287/43**

Pushbutton with scene controller and IR receiver decoder, DELTA style   UP 287/..5

Design
Dimensions (W x H x D)   68 x 68 x 14 mm
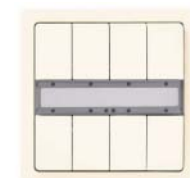
Range overview UP 287/..5

Display	Color	Communication	Stock No.	Product No.
Status LED	Titanium white	IR receiver decoder (industry standard)	5WG1287-2DB15	**UP 287/15**
Status LED	Platinum metallic	IR receiver decoder (industry standard)	5WG1287-2DB45	**UP 287/45**

4

UP 117/11	**Bus coupling unit**

Bus coupling unit for connection of a modular bus device to the bus line:
- with 10-pole peripheral external interface (PEI)
- for clipping on an application module (e.g. pushbutton)
- with reverse voltage protection for switching off the bus coupling unit if the bus cable is incorrectly connected
- for installation in a switch and socket box with 60 mm in diameter and 40 mm depth
- with bus connection via bus terminal

Communication	KNX S-Mode
	KNX PL-Link
Dimensions (W x H x D)	71 x 71 x 16 mm

	Stock No.	Product No.
	5WG1117-2AB11	**UP 117/11**

S 425/72	**IR remote, silver**

IR hand-held transmitters:
- For wireless control of actuators via infrared signals, e.g. for switching on/off/toggle, dimming, send value, control solar protection or recall/save scenes
- 1 LED per group for control of transmission and battery
- Infrared wave length: 890 nm
- Infrared frequency: 455 kHz
- Transmission range: 20 m, non-directional
- Power supply by two commercially available 1.5 V batteries type Alkaline LR03/AAA

Communication	IR sender
	(industry standard)
Dimensions (W x H x D)	55 x 154 x 24 mm

Accessories for pushbuttons UP 223 and UP 287 with IR receiver decoder

	Stock No.	Product No.
	5WG1425-7AB72	**S 425/72**

AP 42../13	**IR wall switch, titanium white**

- For wireless control of actuators via infrared signals, e.g. for switching On/Off/Over, dimming, value transmission, shutter/blind control or call up/store scenes
- 1 LED for control of transmission and battery
- Red LED cover
- DIP switches for selection of the channel number (1...64)
- Infrared wave length: 890 nm
- Infrared frequency: 455 kHz
- Transmitter range: 8 m, non-directional
- Power supply by two commercially available 1.5 V batteries type Alkaline LR03/AAA
- Mounting frame for mounting on a flush-mounting wall box, on a wall surface or with adhesive tape on an even surface

Communication	IR sender
	(industry standard)
Color	Titanium white
Dimensions (W x H x D)	82 x 115 x 21 mm

Accessories for pushbuttons with IR receiver decoder have to be ordered separately, see chapter Gateways, Interface Converters - KNX infrared.

Range overview AP 42../13

Product Title	Stock No.	Product No.
IR wall switch, single, titanium white	5WG1420-3AB13	**AP 420/13**
IR wall switch, double, titanium white	5WG1421-3AB13	**AP 421/13**
IR wall switch, quadruple, titanium white	5WG1422-3AB13	**AP 422/13**

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UP 258D11

Motion detector with brightness sensor

- Integrated 2-step light control, optionally available in fully automatic or semi-automatic version
- 3 independent control channels each with 2 start objects and 2 end objects

Communication	KNX S-Mode
	KNX PL-Link
Dimensions (Ø x H)	88 x 63 mm

	Stock No.	Product No.
	5WG1258-2DB11	**UP 258D11**

AP 258E01

Surface-mounting enclosures for UP 258E21 or UP 258D11

For fixing the presence detector as a surface mounting device

Dimensions (Ø x H)	88 x 44 mm

	Stock No.	Product No.
	5WG1258-7EB01	**AP 258E01**

4

VAV compact controller KNX

G..B181.1E/KN

- Networked compact controller with KNX capability for plants with variable or constant air volume flow
- Integrated, highly precise differential pressure sensor, damper actuator and digitally configurable air volume controller
- Nominal torque 5 or 10 Nm, air damper rotation angle mechanically adjustable between 0 and 90°
- Configurable as single device per room or for cascade control with pressure ratio 1:1, positive pressure, or negative pressure
- Prewired with a 0.9 m connecting cable and a 0.9 m KNX bus cable

Data sheet	N3547
Communication	KNX S-Mode
	KNX LTE-Mode
	KNX PL-Link
Angular rotation	90 °
Positioning time	150 s
Degree of protection	IP54
Dimensions (W x H x D)	71 x 158 x 61 mm

Range overview G..B181.1E/KN

Torque [Nm]	Operating voltage [V]	Air damper area [m²]	Power consumption [VA]	Stock No.	Product No.
5	AC 24	0.8	3	S55499-D134	**GDB181.1E/KN**
10	AC 24	1.5	3	S55499-D135	**GLB181.1E/KN**

Basic Documentation No.: P3547

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RXL2..	**Room controller with bus communication**

The controllers RXL2.. are used for temperature control in individual rooms.
- For 2-pipe with changeover or 4-pipe fan coil systems
- Control of thermic valve actuators AC 24 V, PDM, valve and damper actuators AC 24 V (3-position)
- Volt-free relay contacts for fan speed control
- Relay for electric heating (RXL22.1 only)
- Bus communication
- Connection to Desigo building automation and control system via PX KNX
- Commissioning with "Handy Tool" QAX34.3 or Synco ACS

Application description fan coil: CM110677
Application description RAD/CLC: CM110676

Operating voltage	AC 24 V
Frequency	50/60 Hz
Power consumption	15 VA
Control algorithm	PI
Digital inputs, number	2
Triac outputs	ON/OFF
	PWM
	3-position
Triac output, switching voltage	AC 24 V
Triac output, switching current	0.5 A
Relay output, switching voltage	AC 250 V
Relay output, switching current	5 (4) A
Communication	Bus
	Room unit: PPS2
Service plug	RXT20.1
Mounting location	Ceiling voids with cover
	Fan coil
	Panel
Mounting	On DIN rail
	With screws
Dimensions (W x H x D)	113 x 167 x 62 mm

Range overview RXL2..

Product Title	Triac outputs, number	Relay outputs, number	Data sheet	Stock No.	Product No.
Room controller for 3-speed fan	4	3	N3877	BPZ:RXL21.1/FC-10	**RXL21.1/FC-10**
Room controller for 3-speed fan	4	3	N3877	BPZ:RXL21.1/FC-11	**RXL21.1/FC-11**
Room controller with 3-speed fan and electric heating coil	2	4	N3877	BPZ:RXL22.1/FC-12	**RXL22.1/FC-12**
Room controller for chilled ceilings and radiators	4	0	N3878	BPZ:RXL24.1/CC-02	**RXL24.1/CC-02**

The application determines the usable actuator (2-position /3-position) with the triac output

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Communicating room controller for fan-coil applications with proprietary communication

RXL39.1/FC-13

The RXL39.1 room controller is used for temperature control in individual rooms.
- For 2-pipe and 4-pipe fan coil systems with or without changeover
- PI control
- Proprietary bus communication
- Connection to Desigo building automation and control system via PX KNX
- DC 0...10 V control of valve and actuators, fan (ECM), and electric heater
- Potential-free relay contacts to release fan and electric heating
- Commissioning with "Handy Tool" QAX34.3 or Synco ACS

Data sheet	N3876
Operating voltage	AC 230 V
Frequency	50/60 Hz
Power consumption	12 VA
Control algorithm	PI
Digital inputs, number	4
Digital outputs, number	0
Analog inputs, number	2
Analog outputs, number	3
Relay output, switching voltage	AC 250 V
Relay output, switching current	5 (4) A
Degree of protection	IP20
Communication	Bus: Proprietär
	Raumgerät: PPS2
Service plug	ACS, HandyTool
Mounting	On DIN rail
Dimensions (W x H x D)	152 x 120 x 62 mm

	Stock No.	Product No.
	S55373-C122	**RXL39.1/FC-13**

Accessories for RXL..

Product Title	Data sheet	Stock No.	Product No.
Power amplifier for thermal actuators AC 24 V, PWM	N3591	BPZ:UA1T	**UA1T**
Terminal cover for RXA2../ RXB2../ RXL2../ RXC2..	N3834	BPZ:RXZ20.1	**RXZ20.1**
Terminal cover for RXB3.. / RXL3.. / RXC3..	N3840	BPZ:RXZ30.1	**RXZ30.1**
Power supply unit DC 29 V, 160 mA with additional unchoked output, N 125/02	2.14.4.4	5WG1125-1AB02	**N 125/02**
Power supply unit DC 29 V, 320 mA with additional unchoked output, N 125/12	2.14.4.4	5WG1125-1AB12	**N 125/12**
Power supply unit DC 29 V, 640 mA with additional unchoked output, N 125/22	2.14.4.4	5WG1125-1AB22	**N 125/22**

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Room units for RXL..

Product Title	Data sheet	Stock No.	Product No.
Room unit with sensor and PPS2 interface	N1741	BPZ:QAX30.1	**QAX30.1**
Room unit with sensor, setpoint adjuster and PPS2 interface	N1741	BPZ:QAX31.1	**QAX31.1**
Room unit with sensor, setpoint and operating mode selector and PPS2 interface	N1641	BPZ:QAX32.1	**QAX32.1**
Room unit with sensor, setpoint and operating mode selector, fan speed selection, and PPS2 interface	N1642	BPZ:QAX33.1	**QAX33.1**
Room unit with sensor, setpoint and operating mode selector, display and PPS2 interface	N1645	BPZ:QAX34.1	**QAX34.1**
Room unit with sensor, setpoint and operating mode selector, display and PPS2 interface	N1640	BPZ:QAX34.3	**QAX34.3**
Flush-mounted room unit complete with PPS2 interface and design frame	N1649	BPZ:QAX84.1/PPS2	**QAX84.1/PPS2**
Universal setpoint adjuster with PPS2 interface	N1646	BPZ:QAX39.1	**QAX39.1**

Temperature sensors for RXL..

Product Title	Data sheet	Stock No.	Product No.
Room temperature sensor LG-Ni1000	N1721	BPZ:QAA24	**QAA24**
Front module with passiv temperature measurement, LG-Ni1000	N1408	S55720-S133	**AQR2531ANW**
Room temperature sensor LG-Ni1000 for mounting on recessed conduit boxes	N1722	BPZ:QAA64	**QAA64**
Cable temperature sensor PVC 2 m, LG-Ni1000	N1831	BPZ:QAP22	**QAP22**
Duct temperature sensor 400 mm, LG-Ni1000	N1761	BPZ:QAM2120.040	**QAM2120.040**

For the complete flush mounting sensor offering including mounting plates and frames, see product catalog chapter 6

Dewpoint sensor for RXL..

Product Title	Data sheet	Stock No.	Product No.
Condensation monitor, AC/DC 24 V	N3302	S55770-T325	QXA2601
Condensation monitor, AC/DC 24 V, with remote sensor head (cable length 1.5 m)	N3302	S55770-T326	QXA2602
Condensation monitor, AC 230 V	N3302	S55770-T327	QXA2603
Condensation monitor, AC 230 V, with remote sensor head (cable length 1.5 m)	N3302	S55770-T328	QXA2604

Valve actuators for RXL..

Product Title	Data sheet	Stock No.	Product No.
Electrothermal actuator, AC/DC 24 V, NC, 2P, PDM, PR	N4884	S55174-A115	**STA73PR/00**
Electrothermal actuator, AC/DC 24 V, NO, 2P, PDM, PR	N4884	S55174-A116	**STP73PR/00**
Electromotoric actuator, 100 N, 2.5/5 mm, 1.5 m, AC 24 V, 3P	N4893	BPZ:SSA81	**SSA81**
Electromotoric actuator, 200 N, 5.5 mm, AC 24 V, 1.5 m, 3P	N4891	BPZ:SSB81	**SSB81**
Electromotoric actuator, 160 N, 2.5 mm, 1.5 m, AC 24 V, 3P	N4864	BPZ:SSP81	**SSP81**

NEW PRODUCT

Damper actuators for RXL..

Product Title	Data sheet	Stock No.	Product No.
Rotary air damper actuators 5 Nm, without spring return	N4634	BPZ:GDB..1E	**GDB..1E**
Linear air damper actuators 125 N, without spring return	N4664	BPZ:GDB..2E	**GDB..2E**
Rotary air damper actuators 10 Nm, without spring return	N4634	BPZ:GLB..1E	**GLB..1E**
Linear air damper actuators 250 N, without spring return	N4664	BPZ:GLB..2E	**GLB..2E**

For suitable combination of actuator STA.. and connection cable ASY.., see chapter introduction page 7-4 of the HVAC Catalog

Interfaces and tools RXB and RXL

Product Title	Data sheet	Stock No.	Product No.
Service unit with LCD	N3851	BPZ:RXT20.1	**RXT20.1**
Room unit with sensor, setpoint and operating mode selector, display and PPS2 interface	N1640	BPZ:QAX34.3	**QAX34.3**

Connection to Desigo or Synco 700

Connection of RXB and RXL room controllers with integrated control and supervisory functions

Product Title	Data sheet	Stock No.	Product No.
System controller for the integration	N9221	BPZ:PXC00-U	**PXC00-U**
Central control unit RMB795B for RXB/RXL room controllers and room thermostats RDG/RDF/RDU	N3122	BPZ:RMB795B..	**RMB795B..**

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RXB2..	Room controller with KNX communication

The controllers are used for temperature control in individual rooms.
- For 2-pipe with changeover or 4-pipe fan coil systems
- For radiator and chilled ceiling (RXB24.1 only)
- Control of thermal valve actuators AC 24 V, PDM, valve and damper actuators AC 24 V (3-position) as well as KNX bus actuators
- Potential-free relay contacts for fan speed control
- Relay for electric heating (RXB22.1 only)
- KNX bus communication
- Connection to Desigo building automation and control system via PX KNX
- Commissioning with "Handy Tool" QAX34.3 or Synco ACS

Application description fan coil: CM110672
Application description RAD/CLC: CM110671

Operating voltage	AC 230 V
Frequency	50/60 Hz
Power consumption	Max. 12 VA
Control algorithm	PI
Digital inputs, number	2
Triac outputs	ON/OFF
	PWM
	3-position
Triac output, switching voltage	AC 24 V
Triac output, switching current	0.5 A
Relay output, switching voltage	AC 250 V
Relay output, switching current	5 (4) A
Communication	Bus: KNX (S-mode and LTE mode)
	Room unit: PPS2
Service plug	RXT20.1
Mounting location	Ceiling voids with cover
	Fan coil
	Panel
Mounting	On DIN rail
	With screws
Dimensions (W x H x D)	113 x 167 x 62 mm

Range overview RXB2..

Product Title	Triac outputs, number	Relay outputs, number	Data sheet	Stock No.	Product No.
Room controller for 3-speed fan	4	3	N3873	BPZ:RXB21.1/FC-10	**RXB21.1/FC-10**
Room controller for 3-speed fan	4	3	N3873	BPZ:RXB21.1/FC-11	**RXB21.1/FC-11**
Room controller with 3-speed fan and electric heating coil	2	4	N3873	BPZ:RXB22.1/FC-12	**RXB22.1/FC-12**
Room controller for chilled ceilings and radiators	4	0	N3874	BPZ:RXB24.1/CC-02	**RXB24.1/CC-02**

The application determines the usable actuator (2-position /3-position) with the triac output

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Room controller for fan-coil applications with KNX communication

RXB39.1/FC-13

The RXB39.1 room controller is used for temperature control in individual rooms.
- For 2-pipe and 4-pipe fan coil systems with or without changeover
- PI control
- KNX bus communication
- Connection to Desigo building automation and control system via PX KNX
- DC 0...10 V control of valve and actuators, fan (ECM), and electric heater
- 2 Potential-free relay contacts to release fan and electric heating
- Commissioning with ETS Professional, "Handy Tool" QAX34.3 or Synco ACS
- Operating voltage AC 230 V
- Plug-in screw terminals

Data sheet	N3875
Operating voltage	AC 230 V
Frequency	50/60 Hz
Power consumption	12 VA
Control algorithm	PI
Digital inputs, number	4
Digital outputs, number	0
Analog inputs, number	2
Analog outputs, number	3
Relay output, switching voltage	AC 250 V
Relay output, switching current	5 (4) A
Degree of protection	IP20
Communication	Bus: KNX
	Room unit: PPS2
Service plug	ETS Professional, ACS, HandyTool
Mounting	On DIN rail
Dimensions (W x H x D)	152 x 120 x 62 mm

	Stock No.	Product No.
	S55373-C121	**RXB39.1/FC-13**

Accessories for RXB..

Product Title	Data sheet	Stock No.	Product No.
Power amplifier for thermal actuators AC 24 V, PWM	N3591	BPZ:UA1T	**UA1T**
Terminal cover for RXA2../ RXB2../ RXL2../ RXC2..	N3834	BPZ:RXZ20.1	**RXZ20.1**
Terminal cover for RXB3.. / RXL3.. / RXC3..	N3840	BPZ:RXZ30.1	**RXZ30.1**
Power supply unit DC 29 V, 160 mA with additional unchoked output, N 125/02	2.14.4.4	5WG1125-1AB02	**N 125/02**
Power supply unit DC 29 V, 320 mA with additional unchoked output, N 125/12	2.14.4.4	5WG1125-1AB12	**N 125/12**
Power supply unit DC 29 V, 640 mA with additional unchoked output, N 125/22	2.14.4.4	5WG1125-1AB22	**N 125/22**

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Room units for RXB..

Product Title	Data sheet	Stock No.	Product No.
Room unit with sensor and PPS2 interface	N1741	BPZ:QAX30.1	**QAX30.1**
Room unit with sensor, setpoint adjuster and PPS2 interface	N1741	BPZ:QAX31.1	**QAX31.1**
Room unit with sensor, setpoint and operating mode selector and PPS2 interface	N1641	BPZ:QAX32.1	**QAX32.1**
Room unit with sensor, setpoint and operating mode selector, fan speed selection, and PPS2 interface	N1642	BPZ:QAX33.1	**QAX33.1**
Room unit with sensor, setpoint and operating mode selector, display and PPS2 interface	N1645	BPZ:QAX34.1	**QAX34.1**
Room unit with sensor, setpoint and operating mode selector, display and PPS2 interface	N1640	BPZ:QAX34.3	**QAX34.3**
Flush-mounted room unit complete with PPS2 interface and design frame	N1649	BPZ:QAX84.1/PPS2	**QAX84.1/PPS2**
Room unit with EnOcean interface	N1663	S55623-H104	**QAX95.4**
Room unit with EnOcean interface, setpoint adjuster	N1663	S55623-H105	**QAX96.4**
Room unit with EnOcean interface, setpoint adjuster, button and switch	N1663	S55623-H106	**QAX97.4**
Room unit with EnOcean interface, setpoint adjuster, button and switch for fan stages	N1663	S55623-H107	**QAX98.4**
Radio frequency receiver with Gateway EnOcean/KNX	N1662	S55842-Z101	**RXZ97.1/KNX**
Universal setpoint adjuster with PPS2 interface	N1646	BPZ:QAX39.1	**QAX39.1**

Temperature sensors for RXB..

Product Title	Data sheet	Stock No.	Product No.
Room temperature sensor LG-Ni1000	N1721	BPZ:QAA24	**QAA24**
Front module with passiv temperature measurement, LG-Ni1000	N1408	S55720-S133	**AQR2531ANW**
Room temperature sensor LG-Ni1000 for mounting on recessed conduit boxes	N1722	BPZ:QAA64	**QAA64**
Cable temperature sensor PVC 2 m, LG-Ni1000	N1831	BPZ:QAP22	**QAP22**
Duct temperature sensor 400 mm, LG-Ni1000	N1761	BPZ:QAM2120.040	**QAM2120.040**

For the complete flush mounting sensor offering including mounting plates and frames, see product catalog chapter 6

Dewpoint sensors for RXB..

Product Title	Data sheet	Stock No.	Product No.
Condensation monitor, AC/DC 24 V	N3302	S55770-T325	QXA2601
Condensation monitor, AC/DC 24 V, with remote sensor head (cable length 1.5 m)	N3302	S55770-T326	QXA2602
Condensation monitor, AC 230 V	N3302	S55770-T327	QXA2603
Condensation monitor, AC 230 V, with remote sensor head (cable length 1.5 m)	N3302	S55770-T328	QXA2604

Valve actuators for RXB..

Product Title	Data sheet	Stock No.	Product No.
Electrothermal actuator, AC/DC 24 V, NC, 2P, PDM, PR	N4884	S55174-A115	**STA73PR/00**
Electrothermal actuator, AC/DC 24 V, NO, 2P, PDM, PR	N4884	S55174-A116	**STP73PR/00**
Electromotoric actuator, 100 N, 2.5/5 mm, 1.5 m, AC 24 V, 3P	N4893	BPZ:SSA81	**SSA81**
Electromotoric actuator, 200 N, 5.5 mm, AC 24 V, 1.5 m, 3P	N4891	BPZ:SSB81	**SSB81**
Electromotoric actuator, 160 N, 2.5 mm, 1.5 m, AC 24 V, 3P	N4864	BPZ:SSP81	**SSP81**

For suitable combination of actuator STA.. and connection cable ASY.., see chapter introduction page 7-4 of the HVAC Catalog

Damper actuators for RXB..

Product Title	Data sheet	Stock No.	Product No.
Rotary air damper actuators 5 Nm, without spring return	N4634	BPZ:GDB..1E	**GDB..1E**
Linear air damper actuators 125 N, without spring return	N4664	BPZ:GDB..2E	**GDB..2E**
Rotary air damper actuators 10 Nm, without spring return	N4634	BPZ:GLB..1E	**GLB..1E**
Linear air damper actuators 250 N, without spring return	N4664	BPZ:GLB..2E	**GLB..2E**

Interfaces and tools RXB and RXL

Product Title	Data sheet	Stock No.	Product No.
Service unit with LCD	N3851	BPZ:RXT20.1	**RXT20.1**
Room unit with sensor, setpoint and operating mode selector, display and PPS2 interface	N1640	BPZ:QAX34.3	**QAX34.3**

Connection to Desigo or Synco 700

Connection of RXB and RXL room controllers with integrated control and supervisory functions

Product Title	Data sheet	Stock No.	Product No.
System controller for the integration	N9221	BPZ:PXC00-U	**PXC00-U**
Central control unit RMB795B for RXB/RXL room controllers and room thermostats RDG/RDF/RDU	N3122	BPZ:RMB795B..	**RMB795B..**

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RXC10.5/..	**Radiator, chilled ceilings and VAV room controllers with LonWorks communication**

The RXC10.5 controller is used for temperature control in individual rooms.
- For chilled ceilings and radiators
- VAV
- PID control
- Loadable application software
- LonMark-compatible bus communications
- Connection to Desigo building automation and control system
- Control of thermal valve actuators, AC 24 V, PDM*
- Operating voltage AC 24 V

* PDM = pulse duration modulation

Data sheet	N3830
Operating voltage	AC 24 V
Frequency	50/60 Hz
Power consumption	2 VA
Control algorithm	PI
Digital inputs, number	2
Position feedback	DC 0...10 V
Triac outputs, number	2
Triac outputs	ON/OFF
Triac output, switching voltage	AC 24 V
Triac output, switching current	0.5 A
Communication	Bus: LonWorks
Service plug	RXT10.., RXT20.1
Mounting location	In room
Dimensions (W x H x D)	92 x 126 x 40 mm

Range overview RXC10.5/..

Product Title	Stock No.	Product No.
Radiator, chilled ceilings and VAV room controller with LonWorks communication and basic application OOO10	S55373-C110	**RXC10.5/00010**

The application determines the usable actuator (2-position /3-position) with the triac output

Accessories for RXC1..

Product Title	Data sheet	Stock No.	Product No.
Power amplifier for thermal actuators AC 24 V, PWM	N3591	BPZ:UA1T	**UA1T**

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Room controller with LonWorks communication

RXC20/21/22..

The RXC20.., RXC21.. and RXC22.. controllers are used for temperature control in individual rooms.
- For 2- or 4-pipe fan coil systems with or without changeover
- For chilled ceilings and radiators
- Control of thermic valve actuators AC 24 V, PDM, valve and damper actuators AC 24 V (3-position) or electric air heater units
- Volt-free relay contacts for fan speed control
- Connection to Desigo building automation and control system
- LonMark-compatible bus communication
- Plug-in screw terminal
Application description: CA110300

Data sheet	N3834
Operating voltage	AC 230 V
Frequency	50/60 Hz
Power consumption	12 VA
Control algorithm	PI
Digital inputs, number	2
Triac outputs	ON/OFF
Triac output, switching voltage	AC 24 V
Triac output, switching current	0.5 A
Relay output, switching voltage	AC 250 V
Relay output, switching current	5 (4) A
Communication	Bus: LonWorks
	Room unit: PPS2
Service plug	RXT10.3, RXT20.1
Mounting location	Ceiling voids with cover
	Fan coil
	Panel
Mounting	On DIN rail
	With screws
Dimensions (W x H x D)	113 x 167 x 62 mm

Range overview RXC20/21/22..

Product Title	Triac outputs, number	Relay outputs, number	Electric reheater relay	Stock No.	Product No.
Room controller for fan coils with 1-speed fan or chilled ceiling/radiator with basic application OOO20	2	1	0	S55373-C111	**RXC20.5/00020**
Room controller for fan coils with 3-speed fan and/or outside air damper with basic application OOO21	4	3	0	S55373-C112	**RXC21.5/00021**
Room controller for fan coils with 3-speed fan and electric reheater with basic application OOO22	2	4	1	S55373-C113	**RXC22.5/00022**

The application determines the usable actuator (2-position/3-position) with the triac output

Accessories for RXC2..

Product Title	Data sheet	Stock No.	Product No.
Terminal cover for RXA2../ RXB2../ RXL2../ RXC2..	N3834	BPZ:RXZ20.1	**RXZ20.1**
Power amplifier for thermal actuators AC 24 V, PWM	N3591	BPZ:UA1T	**UA1T**

RXC39.5/00039

Communicating room controller, with LonMark compatible bus communication

The RXC39.5 room controller is used for temperature control in individual rooms.
- For fan coil systems with continuous (ECM) fan
- Downloadable application software
- LonMark-compatible bus communication
- Connection to Desigo building automation and control system
- DC 0...10 V control of valve and damper actuators, fan, and electric heater
- Commissioning with RXT10 or standard LonWorks tool
- Operating voltage AC 24 V
- Plug-in screw terminals

Data sheet	N3856
Operating voltage	AC 24 V
Frequency	50/60 Hz
Power consumption	33 VA
Control algorithm	PI
Digital inputs, number	4
Digital outputs, number	0
Analog inputs, number	1
Analog outputs, number	4
Triac outputs	ON/OFF
Triac output, switching voltage	AC 24 V
Triac output, switching current	0.5 A
Relay output, switching voltage	AC 250 V
Relay output, switching current	2 (2) A
Communication	Bus: LonWorks
	Room unit: PPS2
Service plug	RXT10; Standard-LonWorks-Tool
Mounting location	Ceiling voids with cover
	Fan coil
	Panel
Mounting	On DIN rail
Dimensions (W x H x D)	152 x 120 x 62 mm

	Stock No.	Product No.
	S55373-C118	**RXC39.5/00039**

Accessories for RXC39..

Product Title	Data sheet	Stock No.	Product No.
Terminal cover for RXB3.. / RXL3.. / RXC3..	N3840	BPZ:RXZ30.1	**RXZ30.1**
Power amplifier for thermal actuators AC 24 V, PWM	N3591	BPZ:UA1T	**UA1T**

Radiators, chilled ceilings, lighting, base module with LonWorks communication

RXC30.5/..

The controllers are used for temperature and lighting control in individual rooms.
- PID control of chilled ceilings and radiators
- Extension modules for control of lighting and blinds
- Connection to Desigo building automation and control system
- LonMark-compatible bus communication
- Control of 2 thermic valve actuators AC 24 V (PDM) or 1 motorized valve actuator AC 24 V (3-position)
- Volt-free relay contacts for lighting control (16 A)
- Plug-in screw terminal

Data sheet	N3840
Operating voltage	AC 230 V
Frequency	50/60 Hz
Power consumption	12 VA
Control algorithm	PI
Digital input, application	HVAC Light
Triac outputs	HVAC: ON/OFF
Triac output, switching voltage	AC 24 V
Triac output, switching current	0.5 A
Relay output, switching voltage	AC 250 V
Relay output, switching current	16 (12) A
Communication	Bus: LonWorks Room unit: PPS2
Service plug	RXT10.3, RXT20.1
Mounting location	Ceiling voids with cover Panel
Mounting	On DIN rail With screws
Dimensions (W x H x D)	152 x 120 x 62 mm

Range overview RXC30.5/..

Product Title	Stock No.	Product No.
Radiators, chilled ceilings, lighting, base module with LonWorks communication, basic application 00030	S55373-C114	**RXC30.5/00030**

The application determines the usable actuator (2-position /3-position) with the triac output

Extension modules and accessories for RXC30..

Product Title	Data sheet	Stock No.	Product No.
Extension module for lighting control	N3842	S55373-C119	**RXC40.5**
Extension module for blinds control	N3843	S55373-C120	**RXC41.5**
Terminal cover for RXB3.. / RXL3.. / RXC3..	N3840	BPZ:RXZ30.1	**RXZ30.1**
Power amplifier for thermal actuators AC 24 V, PWM	N3591	BPZ:UA1T	**UA1T**

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RXC31.5/..

VAV base module with LonWorks communication

The RXC31.5 controller is used for VAV room temperature control in individual rooms.
- Control of supply and extract air, with volume control dampers or additional VAV compact controllers, with or without reheater
- Can be combined with extension modules for control of lighting and blinds
- Downloadable application software
- LonMark-compatible bus communication
- Connection to Desigo building automation and control system
- Control of damper actuators with AC 24 V, 3-position or DC 0...10 V positioning signal
- Control of VAV compact controllers (with differential pressure sensor, volumetric flow controller and actuator) with DC 0...10 V signal
- Control of electric or LPHW reheaters with AC 24 V or AC 24 V 3-position signals
- Operating voltage AC 24 V
- Plug-in screw terminal

Data sheet	N3844
Operating voltage	AC 24 V
Frequency	50/60 Hz
Power consumption	33 VA
Control algorithm	PI
Digital inputs, number	3
Analog inputs, number	3
Triac outputs	ON/OFF
Position feedback	DC 0...10 V
Mounting	On DIN rail With screws
Communication	Bus: LonWorks Room unit: PPS2
Service plug	RXT10.3, RXT20.1
Mounting location	Ceiling voids with cover Panel VAV box
Dimensions (W x H x D)	152 x 120 x 62 mm

Range overview RXC31.5/..

Product Title	Stock No.	Product No.
VAV base module with LonWorks communication, basic application 00031	S55373-C115	**RXC31.5/00031**

The application determines the usable actuator (2-position /3-position) with the triac output

Accessories for RXC31..

Product Title	Data sheet	Stock No.	Product No.
Extension module for lighting control	N3842	S55373-C119	**RXC40.5**
Extension module for blinds control	N3843	S55373-C120	**RXC41.5**
Terminal cover for RXB3.. / RXL3.. / RXC3..	N3840	BPZ:RXZ30.1	**RXZ30.1**
Power amplifier for thermal actuators AC 24 V, PWM	N3591	BPZ:UA1T	**UA1T**

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VAV room controller with LonWorks communication   RXC32.5/..

The RXC32.5 controller is used for VAV room temperature control in individual rooms.
- Control of the supply or extract air with volume control dampers, with or without reheater
- Downloadable application software
- LonMark-compatible bus communication
- Connetion to Desigo building automation and control system
- Control of damper actuators with AC 24 V, 3-position positioning signal
- Control of electric or LPHW reheaters with AC 24 V or AC 24 V 3-position signals
- Built-in air flow sensor
- Operating voltage AC 24 V
- Plug-in screw terminal

Data sheet	N3845
Operating voltage	AC 24 V
Frequency	50/60 Hz
Power consumption	33 VA
Control algorithm	PI
Digital inputs, number	2
Triac outputs	ON/OFF
Triac output, switching voltage	AC 24 V
Triac output, switching current	0.5 A
Communication	Bus: LonWorks
	Room unit: PPS2
Service plug	RXT10.3, RXT20.1
Mounting location	Ceiling voids with cover
	Panel
	VAV box
Mounting	On DIN rail
	With screws
Dimensions (W x H x D)	152 x 120 x 62 mm

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Range overview RXC32.5/..

Product Title	Stock No.	Product No.
VAV room controller with LonWorks communication, basic application 00032	S55373-C116	**RXC32.5/00032**

The application determines the usable actuator (2-position /3-position) with the triac output

Accessories for RXC32..

Product Title	Data sheet	Stock No.	Product No.
Terminal cover for RXB3.. / RXL3.. / RXC3..	N3840	BPZ:RXZ30.1	**RXZ30.1**
Power amplifier for thermal actuators AC 24 V, PWM	N3591	BPZ:UA1T	**UA1T**

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RXC40.5	**Extension module for lighting control**	
	- Switching and dimming of 2 groups of lights	
	Data sheet	N3842
	Voltage supply	From base module
	Digital inputs, number	4
	Relay output, switching voltage	AC 250 V
	Relay output, switching current	12 (12) A
	Analog outputs, number	2
	Interface for base module	PE-bus for RXC3..
	Mounting location	Ceiling voids with cover Panel
	Mounting	On DIN rail
	Dimensions (W x H x D)	80 x 120 x 62 mm

	Stock No.	Product No.
	S55373-C119	**RXC40.5**

RXC41.5	**Extension module for blinds control**	
	- Control of 2 electric motors for blinds	
	Data sheet	N3843
	Voltage supply	From base module
	Digital inputs, number	4
	Relay output, switching voltage	AC 250 V
	Relay output, switching current	3 (3) A
	Interface for base module	PE-bus for RXC3..
	Mounting location	Ceiling voids with cover Panel
	Mounting	On DIN rail
	Dimensions (W x H x D)	80 x 120 x 62 mm

	Stock No.	Product No.
	S55373-C120	**RXC41.5**

Accessories for RXC40.. and RXC41..

Product Title	Data sheet	Stock No.	Product No.
Terminal cover for RXC4.. and AQX2000	N3842	BPZ:RXZ40.1	**RXZ40.1**

Connection to Desigo

Product Title	Data sheet	Stock No.	Product No.
System controller BACnet/LonTalk	N9222	BPZ:PXC00.D	**PXC00.D**
System controller BACnet/IP	N9222	BPZ:PXC00-E.D	**PXC00-E.D**
Automation station BACnet/LonTalk, with up to 52 data points	N9222	S55372-C109	**PXC50.D**
Automation station BACnet/IP, with up to 52 data points	N9222	S55372-C110	**PXC50-E.D**
Automation station BACnet/LonTalk, with up to 200 data points	N9222	BPZ:PXC100.D	**PXC100.D**
Automation station BACnet/IP, with up to 200 data points	N9222	BPZ:PXC100-E.D	**PXC100-E.D**
Automation station BACnet/LonTalk, with more than 200 data points	N9222	BPZ:PXC200.D	**PXC200.D**
Automation station BACnet/IP, with more than 200 data points	N9222	BPZ:PXC200-E.D	**PXC200-E.D**

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Room units for RXC..

Product Title	Data sheet	Stock No.	Product No.
Room unit with sensor and PPS2 interface	N1741	BPZ:QAX30.1	**QAX30.1**
Room unit with sensor, setpoint adjuster and PPS2 interface	N1741	BPZ:QAX31.1	**QAX31.1**
Room unit with sensor, setpoint and operating mode selector and PPS2 interface	N1641	BPZ:QAX32.1	**QAX32.1**
Room unit with sensor, setpoint and operating mode selector, fan speed selection, and PPS2 interface	N1642	BPZ:QAX33.1	**QAX33.1**
Room unit with sensor, setpoint and operating mode selector, display and PPS2 interface	N1645	BPZ:QAX34.1	**QAX34.1**
Room unit with sensor, setpoint and operating mode selector, display and PPS2 interface	N1640	BPZ:QAX34.3	**QAX34.3**
Flush-mounted room unit complete with PPS2 interface and design frame	N1649	BPZ:QAX84.1/PPS2	**QAX84.1/PPS2**
Versatile room unit with LonWorks interface, lighting systems (on / off)	N1648	S55623-H114	**QAX50.5/C000**
Versatile room unit with LonWorks interface, lighting systems (dimmed)	N1648	S55623-H115	**QAX51.5/C000**
Room unit with EnOcean interface	N1663	S55623-H104	**QAX95.4**
Room unit with EnOcean interface, setpoint adjuster	N1663	S55623-H105	**QAX96.4**
Room unit with EnOcean interface, setpoint adjuster, button and switch	N1663	S55623-H106	**QAX97.4**
Room unit with EnOcean interface, setpoint adjuster, button and switch for fan stages	N1663	S55623-H107	**QAX98.4**
Radio frequency receiver with Gateway EnOcean/LonWorks, AC / DC 24 V, external antenna	N1661	S55842-Z100	**RXZ95.1/LON**
Universal setpoint adjuster with PPS2 interface	N1646	BPZ:QAX39.1	**QAX39.1**

Temperature sensors for RXC..

Product Title	Data sheet	Stock No.	Product No.
Room temperature sensor LG-Ni1000	N1721	BPZ:QAA24	**QAA24**
Front module with passiv temperature measurement, LG-Ni1000	N1408	S55720-S133	**AQR2531ANW**
Room temperature sensor LG-Ni1000 for mounting on recessed conduit boxes	N1722	BPZ:QAA64	**QAA64**
Duct temperature sensor 400 mm, LG-Ni1000	N1761	BPZ:QAM2120.040	**QAM2120.040**
Cable temperature sensor PVC 2 m, LG-Ni1000	N1831	BPZ:QAP22	**QAP22**

For the complete flush mounting sensor offering including mounting plates and frames, see product catalog chapter 6

Indoor air quality sensors for RXC..

Product Title	Data sheet	Stock No.	Product No.
Room air quality sensor CO_2 / temperature / rel. Humidity / VOC	N1961	BPZ:QPA20..	**QPA..**
Base modules with integrated CO_2 and VOC measurement	N1410	BPZ:AQR2548..	**AQR2548..**
Duct air quality sensor CO_2/ temperature / rel. Humidity / VOC	N1962	BPZ:QPM21..	**QPM..**

For the complete flush mounting sensor offering including mounting plates and frames, see product catalog chapter 6

Dewpoint sensors for RXC..

Product Title	Data sheet	Stock No.	Product No.
Condensation monitor, AC/DC 24 V	N3302	S55770-T325	QXA2601
Condensation monitor, AC/DC 24 V, with remote sensor head (cable length 1.5 m)	N3302	S55770-T326	QXA2602
Condensation monitor, AC 230 V	N3302	S55770-T327	QXA2603
Condensation monitor, AC 230 V, with remote sensor head (cable length 1.5 m)	N3302	S55770-T328	QXA2604

Differential pressure sensors for RXC..

Product Title	Data sheet	Stock No.	Product No.
Air duct differential pressure sensor, DC 0...10 V	N1916_01	BPZ:QBM3020..	QBM3020..
Differential pressure sensor, DC 0...10 V	N1910_01	BPZ:QBM2030..	QBM2030..
Air duct differential pressure sensor with calibration certificate	N1919_01	BPZ:QBM400..	QBM400..

Valve actuators for RXC..

Product Title	Data sheet	Stock No.	Product No.
Electrothermal actuator, AC/DC 24 V, NC, 2P, PDM, PR	N4884	S55174-A115	STA73PR/00
Electrothermal actuator, AC/DC 24 V, NO, 2P, PDM, PR	N4884	S55174-A116	STP73PR/00
Electromotoric actuator, 100 N, 2.5/5 mm, 1.5 m, AC 24 V, 3P	N4893	BPZ:SSA81	SSA81
Electromotoric actuator, 200 N, 5.5 mm, AC 24 V, 1.5 m, 3P	N4891	BPZ:SSB81	SSB81
Electromotoric actuator, 160 N, 2.5 mm, 1.5 m, AC 24 V, 3P	N4864	BPZ:SSP81	SSP81

For suitable combination of actuator STA.. and connection cable ASY.., see chapter introduction page 7-4 of the HVAC Catalog

Damper actuators for RXC..

Product Title	Data sheet	Stock No.	Product No.
Rotary air damper actuators 5 Nm, without spring return	N4634	BPZ:GDB..1E	GDB..1E
Linear air damper actuators 125 N, without spring return	N4664	BPZ:GDB..2E	GDB..2E
Rotary air damper actuators 10 Nm, without spring return	N4634	BPZ:GLB..1E	GLB..1E
Linear air damper actuators 250 N, without spring return	N4664	BPZ:GLB..2E	GLB..2E

Service units

Product Title	Data sheet	Stock No.	Product No.
Service unit with LCD	N3851	BPZ:RXT20.1	RXT20.1

NEW PRODUCT

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Room unit with PPS2 interface

QAX3..

Room units for acquiring the room temperature and operation of individual room control.

Power consumption	0.10 VA
Interface for controller	PPS2
Interface for service	LonWorks and PPS2 on RJ45
Sensing element, temperature	NTC
Measuring range, temperature	0...40 °C
Time constant	≤8 min
Measurement accuracy	±0.25 K at 25 °C
	±0.5 K at 5...30 °C
Setpoint readjustment range	±12 K
Degree of protection	IP30
Mounting location	Indoors
Mounting	Directly on wall
	In recessed or top-mounted conduit box

4

Room unit with sensor and PPS2 interface

QAX30.1

- Acquisition of room temperature

Data sheet	N1741
Voltage supply	PPS2
Dimensions (W x H x D)	90 x 100 x 32 mm

	Stock No.	Product No.
	BPZ:QAX30.1	**QAX30.1**

Room unit with sensor, setpoint adjuster and PPS2 interface

QAX31.1

- Acquisition of room temperature
- Setpoint adjuster for room temperature

Data sheet	N1741
Dimensions (W x H x D)	90 x 100 x 36 mm

	Stock No.	Product No.
	BPZ:QAX31.1	**QAX31.1**

Room unit with sensor, setpoint and operating mode selector and PPS2 interface

QAX32.1

- Acquisition of room temperature
- Setpoint adjuster for room temperature
- Rocker switch for mode selection (Off / Auto)

Data sheet	N1641
Dimensions (W x H x D)	90 x 100 x 36 mm

	Stock No.	Product No.
	BPZ:QAX32.1	**QAX32.1**

4

QAX33.1

Room unit with sensor, setpoint and operating mode selector, fan speed selection, and PPS2 interface

- Acquisition of room temperature
- Setpoint adjuster for room temperature
- Rocker switch for mode selection (Off/Auto) and for manual fan control with fan coil systems (up to 3 speeds)

Data sheet	N1642

Dimensions (W x H x D)	90 x 100 x 36 mm

		Stock No.	Product No.
		BPZ:QAX33.1	**QAX33.1**

QAX34.1

Room unit with sensor, setpoint and operating mode selector, display and PPS2 interface

- Acquisition of room temperature
- Rocker switch for adjustment of room temperature setpoint
- Rocker switch for mode selection (Off/Auto) and for manual fan control with fan coil systems (up to 3 speeds)
- LCD with display of room temperature and control mode

Data sheet	N1645

Dimensions (W x H x D)	90 x 100 x 36 mm

		Stock No.	Product No.
		BPZ:QAX34.1	**QAX34.1**

QAX34.3

Room unit with sensor, setpoint and operating mode selector, display and PPS2 interface

- Acquisition of room temperature
- Rocker switch for adjustment of room temperature setpoint
- Rocker switch for mode selection (Off/Auto) and for manual fan control with fan coil systems (up to 3 speeds)
- LCD with display of room temperature and control mode
- Together with the new RXB and RXL controllers for parameter setting

Data sheet	N1640

Dimensions (W x H x D)	96 x 119 x 24 mm

		Stock No.	Product No.
		BPZ:QAX34.3	**QAX34.3**

QAX39.1

Universal setpoint adjuster with PPS2 interface

- Setpoint adjuster for room temperature

Data sheet	N1646

Dimensions (W x H x D)	48 x 48 x 15 mm

		Stock No.	Product No.
		BPZ:QAX39.1	**QAX39.1**

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Flush-mounted room unit complete with PPS2 interface and design frame   **QAX84.1/PPS2**

The set consists of:
- Operator unit,
- PPS2 bus coupling unit and
- Design frame DELTA line in titanium white.

Functionality:
- Acquisition of room temperature
- Switch for adjustment of room temperature setpoint
- Switch for mode selection (Off/Auto) and for manual fan control with fan coil systems (up to 3 speeds)
- LCD with display of room temperature and control mode

Data sheet	N1649
Voltage supply	PPS2
Measuring range, temperature	0...40 °C
Sensing element, temperature	NTC
Mounting	Flush or wall-mounted conduit box
Degree of protection	IP30
Dimensions (W x H x D)	80 x 80 x 30.5 mm

	Stock No.	Product No.
	BPZ:QAX84.1/PPS2	**QAX84.1/PPS2**

4

Room automation
Room operator units
For controllers RX.. and room automation (BACnet) (EnOcean and wireless)

4

QAX95.4	**Room unit with EnOcean interface**	
	• Acquisition of the room temperature	
	• Powered by solar cell	
	• A gateway is mandatory (EnOcean / KNX)	
	• Optional use of battery if light conditions are insufficient	
	• Including design frame DELTA line, titan white	

For use with units from the following product ranges:
- RXB (together with gateway EnOcean/KNX, RXZ97.1/KNX)
- Devices with KNX Communication

Data sheet	N1663
Voltage supply	Solar cell
Measuring range, temperature	0...50 °C
Measurement accuracy	±0.4 K
Time constant	≤16 min
Degree of protection	IP30
Dimensions (W x H x D)	55 x 55 x 19 mm
Weight	0.05 kg

	Stock No.	Product No.
	S55623-H104	**QAX95.4**

QAX96.4	**Room unit with EnOcean interface, setpoint adjuster**	
	• Acquisition of the room temperature	
	• Room temperature setpoint adjustment	
	• Powered by solar cell	
	• A gateway is mandatory (EnOcean / KNX)	
	• Optional use of battery if light conditions are insufficient	
	• Including design frame DELTA line, titan white	

For use with units from the following product ranges:
- RXB (together with gateway EnOcean/KNX, RXZ97.1/KNX)
- Devices with KNX Communication

Data sheet	N1663
Voltage supply	Solar cell
Measuring range, temperature	0...50 °C
Measurement accuracy	±0.4 K
Time constant	≤16 min
Setpoint readjustment range	±10 K
Degree of protection	IP30
Dimensions (W x H x D)	55 x 55 x 28 mm
Weight	0.05 kg

	Stock No.	Product No.
	S55623-H105	**QAX96.4**

Room automation
Room operator units
For controllers RX.. and room automation (BACnet) (EnOcean and wireless)

Room unit with EnOcean interface, setpoint adjuster, button and switch

QAX97.4

- Acquisition of the room temperature
- Room temperature setpoint adjustment
- Freely-programmable button
- Step switch (2 stages)
- Powered by solar cell
- A gateway is mandatory (EnOcean / KNX)
- Optional use of battery if light conditions are insufficient
- Including design frame DELTA line, titan white

For use with units from the following product ranges:
- RXB (together with gateway EnOcean/KNX, RXZ97.1/KNX)
- Devices with KNX Communication

Data sheet	N1663

Voltage supply	Solar cell
Measuring range, temperature	0...50 °C
Measurement accuracy	±0.4 K
Time constant	≤16 min
Setpoint readjustment range	±10 K
Degree of protection	IP30
Dimensions (W x H x D)	55 x 55 x 28 mm
Weight	0.05 kg

	Stock No.	Product No.
	S55623-H106	**QAX97.4**

Room unit with EnOcean interface, setpoint adjuster, button and switch for fan stages

QAX98.4

- Acquisition of the room temperature
- Room temperature setpoint adjustment
- Freely-programmable button
- Step switch (5 stages)
- Powered by solar cell
- A gateway is mandatory (EnOcean / KNX)
- Optional use of battery if light conditions are insufficient
- Including design frame DELTA line, titan white

For use with units from the following product ranges:
- RXB (together with gateway EnOcean/KNX, RXZ97.1/KNX)
- Devices with KNX Communication

Data sheet	N1663

Voltage supply	Solar cell
Measuring range, temperature	0...50 °C
Measurement accuracy	±0.4 K
Time constant	≤16 min
Setpoint readjustment range	±10 K
Degree of protection	IP30
Dimensions (W x H x D)	55 x 55 x 28 mm
Weight	0.05 kg

	Stock No.	Product No.
	S55623-H107	**QAX98.4**

Room automation
Room operator units
For controllers RX.. and room automation (BACnet) (EnOcean and wireless)

4

RXZ95.1/LON

Radio frequency receiver with Gateway EnOcean/LonWorks, AC / DC 24 V, external antenna

- Wireless receiver with LonWorks® interface FTT10A
- Evaluation of up to 9 EnOcean room units (room temperature and setpoint adjustment)

For use with:
- Desigo RXC
- Devices / systems with LonWorks® communication
An external antenna is included in the delivery.

Data sheet	N1661
Operating voltage	DC 24 V
	AC 24 V
Voltage supply	LonWorks bus (LPT10)
Power consumption	0.82 VA
Ambient temperature, operation	-20...60 °C
Ambient humidity, operation	<70 % r.H.
Degree of protection	IP42
Dimensions (W x H x D)	58 x 78 x 46 mm
Weight	0.173 kg

	Stock No.	Product No.
	S55842-Z100	**RXZ95.1/LON**

RXZ97.1/KNX

Radio frequency receiver with Gateway EnOcean/KNX

- Evaluation of up to 32 EnOcean channels
- With RXB, other EnOcean functions may also be integrated: switches, window contacts, motion detectors
- Other EnOcean functions (dimming, blinds, light sensors) can be realized in KNX systems
- Powered via KNX bus
- With internal antenna

Data sheet	N1662
Operating voltage	DC 24 V
Voltage supply	KNX bus
Power consumption	0.6 VA
Ambient temperature, operation	-5...45 °C
Ambient humidity, operation	5...93 % r.H.
Degree of protection	IP20
Dimensions (W x H x D)	71 x 71 x 27 mm
Weight	0.07 kg

	Stock No.	Product No.
	S55842-Z101	**RXZ97.1/KNX**

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Room automation
Room operator units
For communicating controller - RXC (LonWorks) QAX5..

Versatile room units with LonWorks interface   QAX5..

Versatile room units with LonWorks bus communication.
- Acquisition of room temperature
- Buttons for adjustment of room temperature setpoint
- Rocker switch for selecting the HVAC operating state (Off / Auto) and for manual fan speed control with fan coil systems (up to 3 speeds)
- LCD with display of room temperature and operating state
- Configurable keypad for operation of lighting and blinds
- LonMark-compatible bus communication

Data sheet	N1648

Voltage supply	LonWorks bus (LPT10)
Communication	Bus: LonWorks
Mounting location	Indoors
Mounting	Directly on wall In recessed or top-mounted conduit box
Dimensions (W x H x D)	80 x 187 x 20 mm

Versatile room unit with LonWorks interface, lighting systems (on / off)   QAX50.5/C000

For operating HVAC systems and controlling lighting systems (on / off) and blinds.

Data sheet	N1648

	Stock No.	Product No.
	S55623-H114	**QAX50.5/C000**

Versatile room unit with LonWorks interface, lighting systems (dimmed)   QAX51.5/C000

For operating HVAC systems and controlling lighting systems (dimmed) and blinds.

Data sheet	N1648

	Stock No.	Product No.
	S55623-H115	**QAX51.5/C000**

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RXT20.1	Service unit with LCD	

	Data sheet	N3851
	Voltage supply	PPS2
	Power consumption	0.1 VA
	Ambient temperature, operation	0...50 °C
	Weight	0.13 kg

		Stock No.	Product No.
		BPZ:RXT20.1	**RXT20.1**

4

Standard Controllers

Standard Controllers
Overview and selection tools
Product range overview

5

One system for all types of applications

**Synco operating –
efficient operation of plant with
straightforward remote control**
Thanks to Synco's Web server, plant operation and monitoring can be effected from a PC or smartphone at any time and from any location. An alarm system delivers fault status or maintenance messages in due time, also via SMS or e-mail, if required. The app allows your customers operation from underway or from the sofa.

**Synco tool – support functions for
quick commissioning**
To facilitate commissioning, the Synco tool offers you a host of help functions and choices: Diagnostics including trending, for example, straightforward fault tracing thanks to access to all data points of all controllers, saving all settings on the PC, or printing commissioning reports.

**Simple concept for opening
communication**
With Synco, opening and starting communication is child's play: Simply interconnect the units, activate the bus power supply on the controller and set the device address. All relevant settings can be made directly via local operation.

**Open data exchange via KNX
standard bus, irrespective of supplier**
The KNX standard bus facilitates interconnections of HVAC, lighting and blind control, for instance, regardless of the supplier – for simultaneous control of the ventilation system and of lighting via presence detectors, for example.

Synco tool

For commissioning and diagnostics

PC with
ACS software
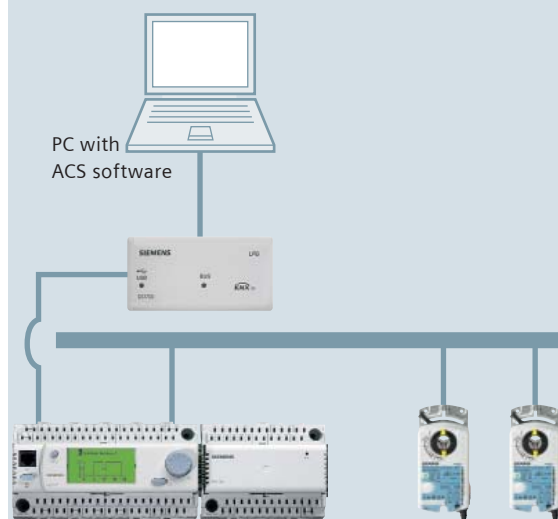
Control and switching unit for heating,
ventilation and air conditioning plants

Synco 700

Universal controllers

RMU710	modular universal controller, 1 control loop
RMU720	modular universal controller, 2 control loops
RMU730	modular universal controller, 3 control loops
RMS705	switching and monitoring device

**Universal extension modules
(for all types of controllers)**

RMZ785	universal module
RMZ787	universal module
RMZ788	universal module

Operator units (for all types of controllers)

RMZ790	plug-in type operator unit
RMZ791	detached operator unit (3 m)
RMZ792	bus operator unit

Field devices

GDB181.1E/KN	VAV compact controller (5 Nm)
GLB181.1E/KN	VAV compact controller (10 Nm)

Standard Controllers
Overview and selection tools
Product range overview

Synco operating

Efficient operation of plant including alarm reporting

Mobile phone

Smartphone

PC with Web browser

Standard gateway

Internet/Intranet

Modem

KNX
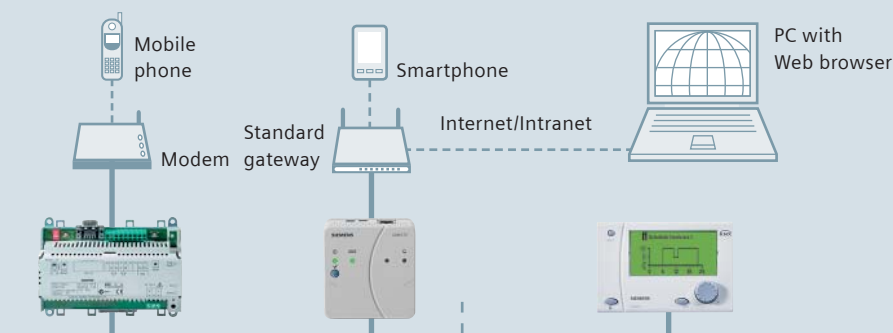
The world's only open standard for home and building control – ISO/IEC 14543-3

5

Control and switching unit for heating, ventilation and air conditioning plants

Central control unit and room controller for individual room climate

Synco RXB/RXL room controllers, Synco RDG/RDF/RDU room thermostats

Heating controllers
RMH760   modular heating controller
RMK770   boiler sequence controller

Extension modules for heating controllers
RMZ782   heating circuit module
RMZ783   DHW module
RMZ787   universal module
RMZ789   universal module

Room unit
QAW740   room unit

Synco operating
OZW771   central communication unit
OZW772   Web server (Ethernet)

Synco tool
OCI700.1   service tool
ACS790   commissioning software

Central control unit
RMB795
– Central control unit for room controllers

Room controllers
RXB21.1, RXL21.1, RXB22.1, RXL22.1, RXB39.1, RXL39.1
– Fan coil units

RXB24.1, RXL24.1
– Chilled ceiling or radiator

Room thermostats
RDG100KN, RDG160KN
– Fan coil units
– Universal system, chilled/heated ceiling and radiator
– Heat pump systems

RDG400KN
– Variable air volume system

RDF301, RDF301.50, RDF600KN
– Fan coil units
– Heat pump systems
– Semi flush mount

RDU341
– Variable air volume system
– Semi flush mount

Standard Controllers
Overview and selection tools
Overview of product details

Overview HVAC controller

	RMH.. 760	RMK.. 770	RMU.. 710	RMU.. 720	RMU.. 730	RMS.. 705	RMZ.. 785	RMZ.. 787	RMZ.. 788	RMZ.. 782	RMZ.. 783	RMZ.. 789
	Modular heating controller max. 3 heating circuit	Boiler sequence controller	Modular universal controller, 1 control loop	Modular universal controller, 2 control loops	Modular universal controller, 3 control loops	Switching and Monitoring Device	Universal module, 8UI	Universal module, 4UI, 4DO	Universal module, 4UI, 2DO, 2AO	Heating circuit module 3UI, 3DO, 1AO	DHW module 4UI, 5DO, 1AO	Universal module, 6UI, 2AO, 4DO
Operation	■1)		■1)	■1)	■1)	■1)						
KNX communication	■		■	■	■	■						
7-day time switch and holiday/ special day program	■		■	■	■	■						
Supervision	■		■	■	■	■						
Logic functions	■		■	■	■	■						
Outputs												
Step switch	■	■	■	■	■	■						
Relay	5	7	2	4	6	6		4	2	3	5	4
3-position												
DC 0...10 V	2	2	2	3	4	4			2	1	1	2
Universal inputs												
T1	■	■	■	■	■	■	■	■	■	■	■	■
Pt1000	■	■	■	■	■	■	■	■	■	■	■	■
DC 0...10 V	■	■	■	■	■	■	■	■	■	■	■	■
Digital	■	■	■	■	■	■	■	■	■	■	■	■
LG-Ni 1000	■	■	■	■	■	■	■	■	■	■	■	■
Number of universal inputs	■	■	6	8	8	8	8	4	4	3	4	6
Controlled variable												
Universal	■	■	■	■	■	■						
Temperature °C	■	■	■	■	■	■						
Control mode												
PID	■		■	■	■	■						
P/PI	■		■	■	■	■						
Control loops												
Cascade	■		■	■	■							
Number	3		1	2	3	3						

■ 1) Optional operation:
RMZ790: Plug-in operator unit
RMZ791: Detached operator unit
RMZ792: Bus operator unit

AO   Analog output
DO   Digital output
UI   Universal inputs

Standard Controllers
Overview and selection tools
Overview of product details

Overview standard systems

Communication	KNX
Standard systems for:	**Heating, ventilation or air conditioning**
Communication central unit	OZW771.. OZW772..
Software	ACS790
Service Tool	OCI700.1
Heating controllers	Synco™ ■ RMH760 Heating controllers ■ RMK770 Boiler sequence controllers
Ventilation and air conditioning controllers	Synco™ series ■ RMU700 Universal controllers
Switching and Monitoring Device	Synco™ ■ RMS705
Room controllers	Synco™ ■ RMB795 ■ RXB / RXL Room controllers
Thermostats	Synco™ ■ RDF301, RDF301.50, RDF600KN ■ RDG100KN, RDG160KN, RDG400KN ■ RDU341

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Standard Controllers
Overview and selection tools
Overview of product details

5

KNX system

Standard systems for heating, ventilation or air conditioning Synco™ (KNX)
Low engineering system to easily build complex applications with flexible and modular combinations of standard controllers Synco™ 700.
Standard Systems for HVAC plants are capable to be remote operated and can generate alarms to service centers. Full control without extensive engineering.

Communication central units	OZW772			
Device versions	OZW772.01	OZW772.04	OZW772.16	OZW772.250
No. of comm. devices [1]	1	4	16	250
Plant operation				
ACS software		Yes		
Web Browser		Yes		
Interface		Ethernet, USB		
Alarming				
Max. message receivers		4		
ACS alarm via PC		No		
Fax		No		
Pager		No		
SMS		No		
e-Mail		Yes (Ethernet)		
Offline trend function		Yes		
Digital inputs (potential free)		None		
Universal inputs (UI)		None		
As alarm input		No		
As pulse counter		No		
As counter (operating hours)		No		
Digital output		None		
Local device operation		Button / Switch		
Bus power supply		No		
General device data				
Operating voltage		AC 230 V ±10 %		
Frequency		50/60 Hz		
Power consumption		3 VA		
Degree of protection		IP30		

[1] Synco™ controller series 700, QAW740, RXB / RXL, RDG, RDF, RDU, Synco™ living QAX9..

Standard Controllers
Overview and selection tools
Overview of product details

KNX system

Standard systems for heating, ventilation or air conditioning Synco™ (KNX)
Low engineering system to easily build complex applications with flexible and modular combinations of standard controllers Synco™ 700.
Standard Systems for HVAC plants are capable to be remote operated and can generate alarms to service centers. Full control without extensive engineering.
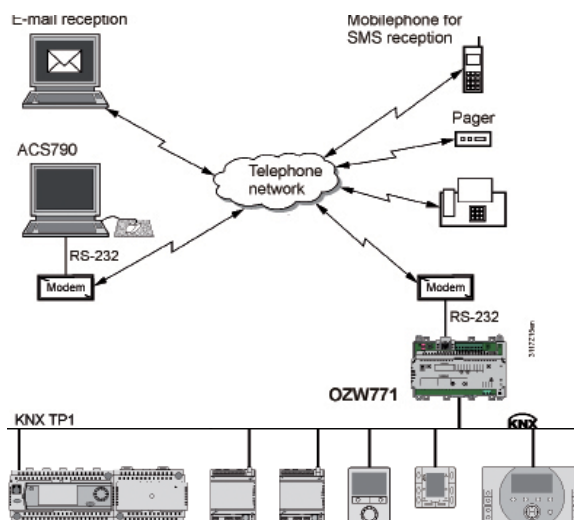
Communication central units		OZW771	
Device versions	OZW771.04	OZW771.10	OZW771.64
No. of comm. devices [1]	4	10	64
Plant operation			
ACS software		Yes	
Web Browser		No	
Interface		RS232	
Alarming			
Max. message receivers		2	
ACS alarm via PC		Yes	
Fax		with SMS via GSM	
Pager		Yes	
SMS		Yes	
e-Mail		with SMS via GSM	
Offline trend function		No	
Digital inputs (potential free)		2	
Universal inputs (UI)			
As alarm input		Yes	
As pulse counter		No	
As counter (operating hours)		No	
Digital output		None	
Local device operation		Button / Switch	
Bus power supply		No	
General device data			
Operating voltage		AC 230 V ±10 %	
Frequency		50/60 Hz	
Power consumption		5 VA	
Degree of protection		IP20 [2]	

[1] Synco™ controller series 700, QAW740, RXB / RXL, RDG, RDF, RDU, Synco™ living QAX9..
[2] IP30 with terminal covers

Notes

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Heating controller

RMH760B..

- Heating controller as primary controller or main controller (district heat) or heating circuit controller
- Boiler temperature control
- Control of max. 3 heating circuits and DHW heating (7 variants available) with optional extension modules
- Tested, predefined applications (refer to Application Catalog)
- Flexible configuration
- Clear-text operation with separate operator unit (plug-in type or detached)
- Integrated KNX bus communication
- No commissioning tool required

Extension modules complement the Synco 700 heating controller and offer extra functions. Controller and extension modules are interconnected via plug-in connectors. The extension modules are attached to the controller and do not operate autonomously. Full operation from commissioning to enduser operation via the operator unit.

Available extension modules:
2 heating circuit modules RMZ782B
1 DHW module RMZ783B
1 universal module RMZ787
2 universal modules RMZ789
A total of 4 extension modules can simultaneously be used with the Synco 700 heating controller.

Available operator units:
- Plug-in type operator unit RMZ790
- Detached operator unit RMZ791
- Bus operator unit RMZ792

Data sheet	N3133
Operating voltage	AC 24 V
Frequency	50/60 Hz
Power consumption	12 VA
Universal inputs, number	6
Universal input, signal	LG-Ni1000
	2 x LG-Ni1000
	T1 (PTC)
	Pt1000
	NTC 575
	0…1000 Ohm
	1000…1175 Ohm
	DC 0…10 V
	Digital pulse contact
	Potential-free digital status contact
Analog outputs, number	2
Analog output, signal	DC 0…10 V
Analog output, current	Max. 1 mA
Relay outputs, number	5
Relay outputs	Potential-free switching contact
Relay output, switching voltage	AC 19…250 V
Relay output, switching current	4 (3) A
Communication	KNX (KNX TP1)

Range overview RMH760B..

Product Title	Data sheet	Stock No.	Product No.
Heating controller with languages de, fr, it, es	N3133	BPZ:RMH760B-1	**RMH760B-1**
Heating controller with languages de, en, fr, nl	N3133	BPZ:RMH760B-2	**RMH760B-2**
Heating controller with languages da, fi, sv, no	N3133	BPZ:RMH760B-3	**RMH760B-3**
Heating controller with languages pl, cs, sk, hu, ru, bg	N3133	BPZ:RMH760B-4	**RMH760B-4**
Heating controller with languages sr, hr, sl, ro, el, tr	N3133	BPZ:RMH760B-5	**RMH760B-5**

5

Heating circuit module

RMZ782B

- Weather-compensated flow temperature control via heating circuit's mixing valve
- Control of heating circuit pump

The available heating circuit control and supervisory functions are the same as those of the RMH760B
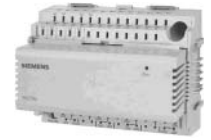
Data sheet	N3136
Voltage supply	Supply from controller module
Power consumption	2 VA
Universal inputs, number	3
Universal input, signal	LG-Ni1000
	0…1000 Ohm
	1000…1175 Ohm
	DC 0…10 V
	Pt1000
	NTC 575
	T1 (PTC)
Analog outputs, number	1
Analog output, signal	DC 0…10 V
Analog output, current	Max. 1 mA
Relay outputs, number	3
Relay outputs	Switching contact, potential-free
Relay output, switching voltage	AC 19…250 V
Relay output, switching current	4 (3) A

	Stock No.	Product No.
	BPZ:RMZ782B	**RMZ782B**

DHW module

RMZ783B

- Control of the storage tank temperature
- Storage tank charging with integrated coil, with pump or mixing valve
- Storage tank charging with detached heat exchanger, with pump and mixing valve
- Storage tank charging according to a time program
- Control of the circulating pump according to a time program

The technical data correspond to the heating circuit module RMZ782B, except:
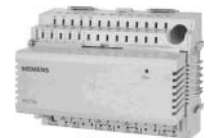
Data sheet	N3136
Universal inputs, number	4
Analog outputs, number	1
Relay outputs, number	5

	Stock No.	Product No.
	BPZ:RMZ783B	**RMZ783B**

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2014

RMK770..	**Boiler sequence controller**

Modular heating controller with integrated control and supervisory functions for:
- Up to 6 boilers
- Multistage or modulating burners
- Precontrol
- Heating circuit
- Tested, predefined applications (refer to Application Catalog)
- Flexible configuration
- Clear-text operation with separate operator unit (plug-in type or detached)
- Integrated KNX bus communication
- No commissioning tool required

Extension modules complement the Synco 700 boiler sequence controller and offer extra functions. The extension modules are attached to the controller. They do not operate autonomously. Full operation from commissioning to enduser operation via the operator unit.

Available extension modules:
3 universal modules RMZ785
3 universal modules RMZ787
3 universal modules RMZ788
3 universal modules RMZ789

A total of 3 extension modules can simultaneously be used with the Synco 700 boiler sequence controller.

Available operator units:
- Plug-in type operator unit RMZ790
- Detached operator unit RMZ791
- Bus operator unit RMZ792

Data sheet	N3132
Operating voltage	AC 24 V
Frequency	50/60 Hz
Power consumption	12 VA
Universal inputs, number	8
Universal input, signal	0...1000 Ohm
	1000...1175 Ohm
	2 x LG-Ni1000
	DC 0...10 V
	Potential-free digital status contact
	LG-Ni1000
	Pt1000
	T1 (PTC)
Digital inputs, number	2
Digital inputs	Potential-free input signal
Digital input, contact query	5 mA
	DC 15 V
Analog outputs, number	2
Analog output, signal	DC 0...10 V
Analog output, current	Max. 1 mA
Relay outputs, number	7
Relay outputs	AC 19...265 V, max. 4(3) A
	Potential-free switching contact
Communication	KNX (KNX TP1)

Range overview RMK770..

Product Title	Data sheet	Stock No.	Product No.
Boiler sequence controller with languages de, fr, it, es	N3132	BPZ:RMK770-1	**RMK770-1**
Boiler sequence controller with languages de, fr, en, nl	N3132	BPZ:RMK770-2	**RMK770-2**
Boiler sequence controller with languages da, fi, sv, no	N3132	BPZ:RMK770-3	**RMK770-3**
Boiler sequence controller with languages pl, cs, sk, hu, ru, bg	N3132	BPZ:RMK770-4	**RMK770-4**
Boiler sequence controller with languages sr, hr, sl, ro, el, tr	N3132	BPZ:RMK770-5	**RMK770-5**

5

RMZ790 | **Plug-in type operator unit**

- Operator unit plugs into the Synco™ 700 controllers
- For displaying and changing plant data for service staff and enduser
- Clear-text operation
- Can be plugged in and removed during operation
- Power supply via the controller

| Data sheet | N3111 |

	Stock No.	Product No.
	BPZ:RMZ790	**RMZ790**

RMZ791 | **Detached operator unit with 3 m cable**

Like plug-in type operator unit, but:
- Other mounting choices (typically for control panel door or wall mounting)
- Larger display
- Connection via a prefabricated 3 m cable, supplied as standard

| Data sheet | N3112 |

	Stock No.	Product No.
	BPZ:RMZ791	**RMZ791**

RMZ792 | **Bus operator unit**

Communicating operator unit for operating up to 150 controllers, room units and central units from the Synco™ 700 range via KNX bus.
Favorite pages can be freely defined. Designed for fixed installation or mobile use.

| Data sheet | N3113 |

	Stock No.	Product No.
	BPZ:RMZ792	**RMZ792**

RMZ78.. | **Universal modules**

Additional inputs and outputs required by the Synco™ 700 controllers can be provided by these modules. A description of the functions is given with the relevant controller module.

| Data sheet | N3146 |

Power consumption	2 VA
Universal input, signal	0...1000 Ohm
	1000...1175 Ohm
	2 x LG-Ni1000
	DC 0...10 V
	Potential-free digital status contact
	LG-Ni1000
	Pt1000
	T1 (PTC)
Analog output, signal	DC 0...10 V
Analog output, current	Max. 1 mA
Relay outputs	switching contact, potential-free
Relay output, switching voltage	AC 19...265 V
Relay output, switching current	4 (3) A

Range overview RMZ78..

Universal inputs, number	Analog outputs, number	Relay outputs, number	Stock No.	Product No.
8	0	0	BPZ:RMZ785	**RMZ785**
4	0	4	BPZ:RMZ787	**RMZ787**
4	2	2	BPZ:RMZ788	**RMZ788**
6	2	4	BPZ:RMZ789	**RMZ789**

Module connector

RMZ780

Module connector for detached mounting of extension modules within the control panel.
Distance for detached mounting: Maximum 10 m.

Data sheet   N3138

		Stock No.	Product No.
		BPZ:RMZ780	**RMZ780**

5

Application examples RMH760B.. and RMK770..

These are only a few examples of many applications that can be done with the with Synco™700 controllers: RMH760B.. / RMK770..
More Synco™700 applications are described in "HIT" (the HVAC project engineering tool with a library of over 300 pre-configured HVAC-applications) and in the RMH760B.. / RMK770.. data sheet.

The evaluation of the energy efficiency classification is based on EN15232:2007. For a determination of the energy efficiency classification of the application, please use the "HIT Tool".
Further details are available in the manual "Building automation - impact on energy efficiency" in our HIT Online.
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RMH760B..

H0CB02 H6B HQ
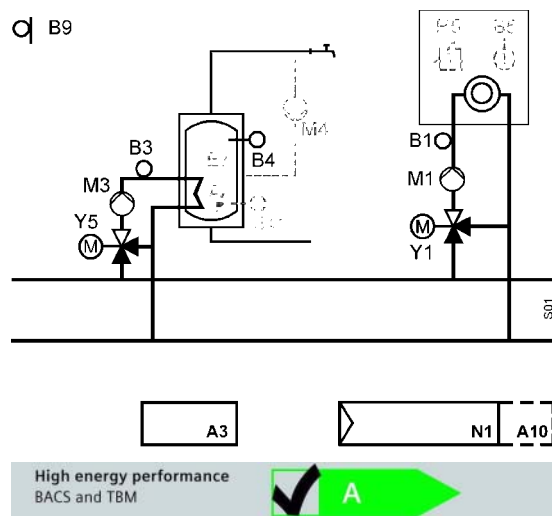
To fulfill the classification, the plant must be equipped with all indicated functions.

Weather-compensated heating control, one heating circuit, d.h.w

- Weather-compensated flow temperature control with adjustable setpoints for Comfort, Precomfort, Econo-my and Protective Mode
- Frost protection for the building and the plant
- Changeover between 3 room temperature setpoints according to the time switch program
- Yearly clock
- Holiday and special day program with up to 16 periods
- 7-day program (maximum six switching points per day)
- Time switch program for the heating circuit
- Limitation of the flow temperature
- Automatic heating limit with adjustable limits
- Optimum start control
- Quick setback
- Control of the storage tank charging temperature with adjustable setpoints for Normal, Reduced, Legionella and Protective mode
- Time switch program for DHW heating

The indicated energy efficiency classification can be attained only if the following functions are implemented:

- Integrated individual room control including demand control "by occupancy, air quality, etc." (Heating circuits for precontrol in individual room control)
- Indoor temperature control (Room temperature in individual room control via KNX requires extra configuration)
- Variable speed pump control with constant Δp (The pump must have integrated output control)
- Variable temperature depending on the load (Heat demand signal required)

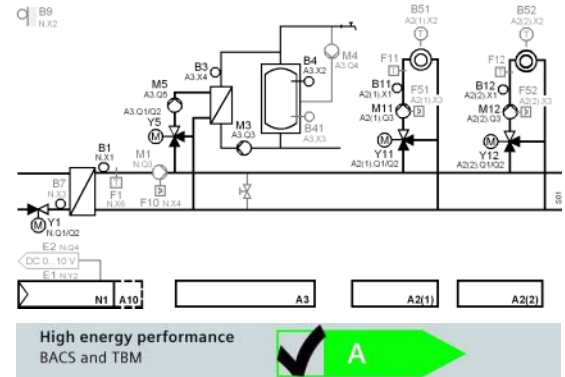## Weather-compensated heating control, heat generation, 2 heating circuits, d.h.w.

RMH760B..

HCDA01 H6B HQ

- Weather-compensated flow temperature control with adjustable setpoints for Comfort, Precomfort, Economy and Protective Mode
- Frost protection for the building and the plant
- Changeover between 3 room temperature setpoints according to the time switch program
- Yearly clock
- Holiday and special day program with up to 16 periods
- 7-day program (maximum six switching points per day)
- Time switch programs for heating circuits 1 and 2
- Limitation of the flow temperature
- Automatic heating limit with adjustable limits
- Optimum start control
- Quick setback
- Control of the storage tank temperature with adjustable setpoints for Normal, Reduced, Legionella and Protective mode
- Time switch program for DHW heating
- Demand-compensated boiler temperature control
- Protective boiler startup by reducing the consumer setpoints
- Control of a single-stage or 2-stage burner
- Control of the boiler temperature via modulating burner with DC 0...10 V control
- Burner fault contact
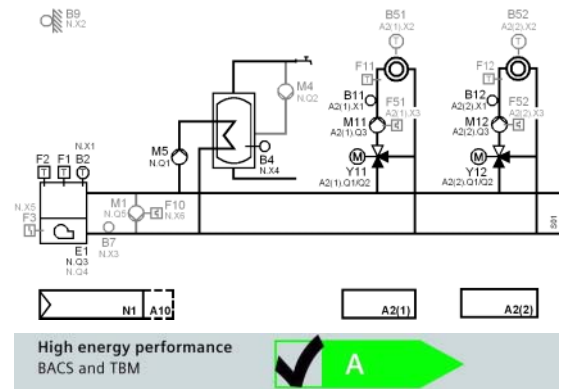
The indicated energy efficiency classification can be attained only if the following functions are implemented:

- Integrated individual room control including demand control "by occupancy, air quality, etc." (Heating circuits for precontrol in individual room control)
- Indoor temperature control (Room temperature in individual room control via KNX requires extra configuration)
- Variable speed pump control with constant Δp (The pump must have integrated output control)
- enerator; Variable temperature depending on the load

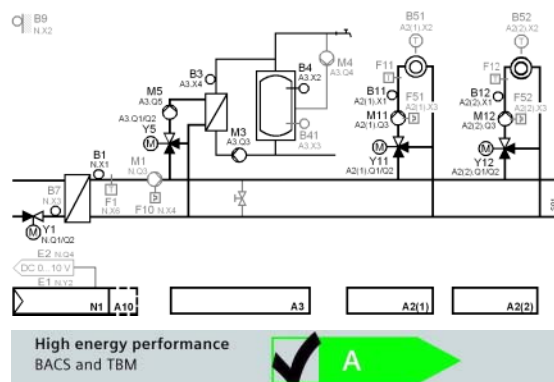To fulfill the classification, the plant must be equipped with all indicated functions.

Boiler cascade, 2 boilers with 2-stage burners

RMK770..

K2.2

- Control of the boiler temperature via 2-stage burner
- Control of the shutoff valves
- Common flow and return temperature control
- Control of the main pump
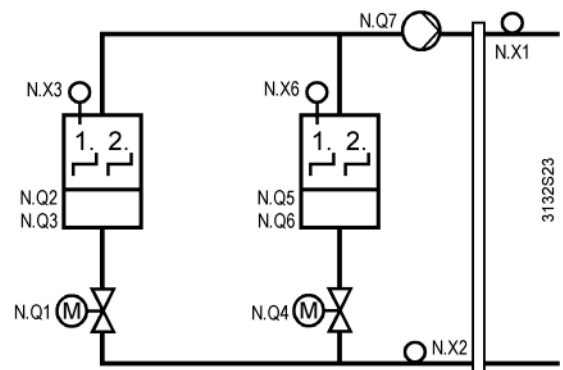
RMK770..

K6.2
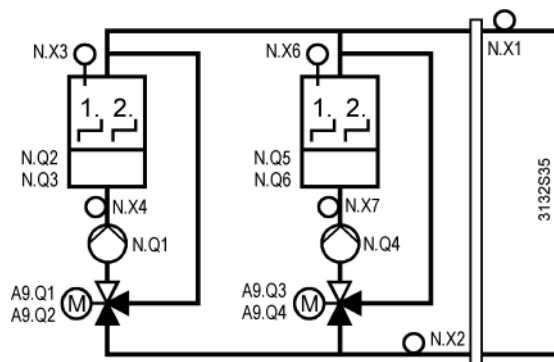
Boiler cascade, 2 boilers with 2-stage burners

- Control of the boiler temperature via 2-stage burner
- Controlled boiler return temperature with 3-port valve and 3-position or DC 0...10 V actuator
- Control of the boiler pumps
- Common flow and return temperature control
- Extension module RMZ789 needed

RMK770..

HFF003 MK7 HQ
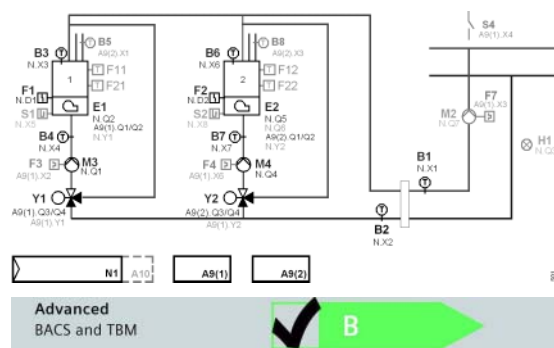
To fulfill the classification, the plant must be equipped with all indicated functions.

Dual-boiler plant, boiler pumps, boiler return with 3-port valve

- Control of the boiler sequence
- Automatic changeover of lead boiler depending on the number of boiler operating hours
- Control of the boiler pumps
- Control of the boiler temperature via modulating burner with 3-position or DC 0...10 V control
- Burner fault contact
- Limitation of the burner's minimum on time
- Controlled maintained boiler return temperature with 3-port valve and 3-position or DC 0...10 V actuator
- Protective boiler startup
- Maximum and minimum limitation of the boiler tempe-rature
- Selection of boiler operating mode
- Flue gas measuring mode, boiler testing mode
- Burner hours run and burner startup counter
- Minimum and maximum limitation of the flow tempera-ture
- Automatic changeover to summer operation
- (heating OFF)
- Pump overrun, pump kick
- Valve overrun, valve kick
- Acquisition and evaluation of heat requisition signals via Konnex bus

The indicated energy efficiency classification can be attained only if the following functions are implemented:

In connection with an application that fulfils the energy efficiency class B, necessary for:
- Emission control
- Control of distribution network hot watertemperature (supply or return)
- Control of distribution pumps
- Intermittent control of emission and/or distribution

Weather-compensated heating system, district heating connection, 2 heating circuits, d.h.w

RMH760B..

DADC04 H6B HQ

- Weather-compensated flow temperature control with adjustable setpoints for Comfort, Precomfort, Economy and Protective mode
- Frost protection for the building and the plant
- Changeover between 3 room temperature setpoints according to the time switch program
- Yearly clock
- Holiday and special day program with up to [SoftReturn]16 periods
- 7-day program (maximum six switching points [SoftReturn]per day)
- Time switch programs for the heating circuits
- Control of the storage tank charging temperature with adjustable setpoints for Normal, Reduced, Legionella and Protective mode
- Time switch program for DHW heating
- Limitation of the flow temperature
- Automatic heating limit with adjustable limits
- Optimum start control
- Quick setback
- Demand-compensated primary control

The indicated energy efficiency classification can be attained only if the following functions are implemented:

- Integrated individual room control including demand control "by occupancy, air quality, etc." (Heating circuits for precontrol in individual room control)
- Indoor temperature control (Room temperature in individual room control via KNX requires extra configuration)
- Variable speed pump control with constant Δp (The pump must have integrated output control)
- Intermittent control of emission and/or distribution, automatic control with optimum start/stop
- Generator; Variable temperature depending on the load

High energy performance BACS and TBM ✓ A

To fulfill the classification, the plant must be equipped with all indicated functions.

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RMH760B..

DADC04 H6B HQ

High energy performance BACS and TBM ✓ **A**

To fulfill the classification, the plant must be equipped with all indicated functions.

Weather-compensated heating system, district heating connection, 2 heating circuits, d.h.w

- Weather-compensated flow temperature control with adjustable setpoints for Comfort, Precomfort, Economy and Protective mode
- Frost protection for the building and the plant
- Changeover between 3 room temperature setpoints according to the time switch program
- Yearly clock
- Holiday and special day program with up to [SoftReturn]16 periods
- 7-day program (maximum six switching points [SoftReturn]per day)
- Time switch programs for the heating circuits
- Control of the storage tank charging temperature with adjustable setpoints for Normal, Reduced, Legionella and Protective mode
- Time switch program for DHW heating
- Limitation of the flow temperature
- Automatic heating limit with adjustable limits
- Optimum start control
- Quick setback
- Demand-compensated primary control

The indicated energy efficiency classification can be attained only if the following functions are implemented:

- Integrated individual room control including demand control "by occupancy, air quality, etc." (Heating circuits for precontrol in individual room control)
- Indoor temperature control (Room temperature in individual room control via KNX requires extra configuration)
- Variable speed pump control with constant Δp (The pump must have integrated output control)
- Intermittent control of emission and/or distribution, automatic control with optimum start/stop
- Generator; Variable temperature depending on the load

Sensors, setpoint adjusters

Product Title	Data sheet	Stock No.	Product No.
Outside sensor LG-Ni1000	N1811	BPZ:QAC22	**QAC22**
Outside sensor NTC 575 Ohm	N1811	BPZ:QAC32	**QAC32**
Strap-on temperature sensor LG-Ni1000	N1801	BPZ:QAD22	**QAD22**
Strap-on temperature sensor with cable LG-Ni1000	N1802	BPZ:QAD26.220	**QAD26.220**
Immersion temperature sensor 100 mm LG-Ni1000, with protection pocket	N1781	BPZ:QAE2120.010	**QAE2120.010**
Cable temperature sensor PVC 2 m, LG-Ni1000	N1831	BPZ:QAP22	**QAP22**
Solar sensor	N1943	BPZ:QLS60	**QLS60**
Setpoint adjuster, passive, scale 0...50 °C (exchangeable)	N1991	BPZ:BSG21.1	**BSG21.1**
Flue gas temperature sensor Pt1000	N1846	BPZ:FGT-PT1000	**FGT-PT1000**

Monitors

Product Title	Data sheet	Stock No.	Product No.
Flow switch for use in hydraulic systems, PN10, DN32...200	N1592	BPZ:QVE1900	**QVE1900**
Thermal reset limit thermostat	N1202	BPZ:RAK-TW.1..H	**RAK-TW.1..H**
Temperature limiter	N1206	BPZ:RAK-TB.1..M	**RAK-TB.1..M**
Safety limit thermostat	N1204	BPZ:RAK-ST..M	**RAK-ST..M**

Room units

Product Title	Data sheet	Stock No.	Product No.
Room temperature sensor LG-Ni1000	N1721	BPZ:QAA24	**QAA24**
Room unit with room temperature sensor and setpoint readjuster -3...3 K	N1721	BPZ:QAA27	**QAA27**
Room temperature sensor LG-Ni1000 for mounting on recessed conduit boxes	N1722	BPZ:QAA64	**QAA64**
Room unit with KNX bus	N1633	BPZ:QAW740	**QAW740**

Transformers

Product Title	Data sheet	Stock No.	Product No.
Transformers	N5536	BPZ:SEM62..	**SEM62..**

Service tool

Product Title	Data sheet	Stock No.	Product No.
Service tool for KNX / LPB	N5655	BPZ:OCI700.1	**OCI700.1**

5

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RMUB..

Universal controller

- Universal controllers with integrated control and supervisory functions
- Tested, predefined applications (refer to Application Catalog)
- Flexible configuration
- Suited for the controlled variables temperature, relative / absolute humidity, pressure / differential, air flow rate, indoor air quality, etc.
- Autonomous sequence controllers with P, PI or PID mode
- Functions can be extended (extension modules)
- Clear-text operation with separate operator unit (plug-in type or detached)
- Integrated KNX bus communication
- No commissioning tool required

Extension modules complement the Synco 700 universal controllers and offer extra functions. The extension modules are attached to the controller. Full operation from commissioning to enduser operation via the operator unit.

Available extension modules:
- 1 universal module RMZ785
- 2 universal modules RMZ787
- 2 universal modules RMZ788

Total maximal 4 extension modules per RMU7..B can be connected.
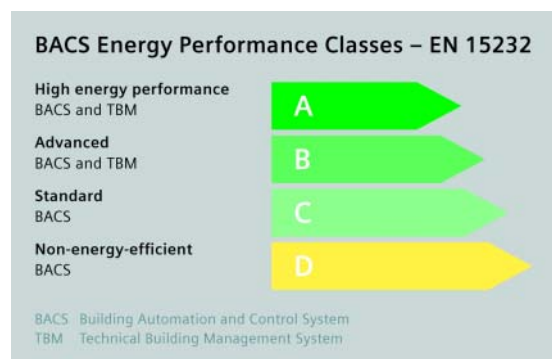
Available operator units:
- Plug-in type operator unit RMZ790
- Detached operator unit RMZ791
- Bus operating unit RMZ792

Data sheet	N3150
Operating voltage	AC 24 V
Frequency	50/60 Hz
Power consumption	12 VA
Universal input, signal	LG-Ni1000
	2 x LG-Ni1000
	T1 (PTC)
	Pt1000
	0...1000 Ohm
	1000...1175 Ohm
	DC 0...10 V
	Digital pulse contact
	Potential-free digital status contact
Analog output, signal	DC 0...10 V
Analog output, current	Max. 1 mA
Relay outputs	Potential-free switching contact
Relay output, switching voltage	AC 19...250 V
Relay output, switching current	4 (3) A
Communication	KNX (KNX TP1)
Dimensions (W x H x D)	173 x 90 x 80 mm

5

Range overview RMU7..B..

Universal inputs, number	Analog outputs, number	Relay outputs, number	Control loops, number	Loaded languages	Stock No.	Product No.
6	2	2	1	de, fr, it, es	BPZ:RMU710B-1	**RMU710B-1**
6	2	2	1	de, en, fr, nl	BPZ:RMU710B-2	**RMU710B-2**
6	2	2	1	da, fi, sv, no	BPZ:RMU710B-3	**RMU710B-3**
6	2	2	1	cs, hu, pl, sk, ru, bg	BPZ:RMU710B-4	**RMU710B-4**
6	2	2	1	sr, hr, sl, ro, el, tr	BPZ:RMU710B-5	**RMU710B-5**
6	2	2	1	zh	S55370-C159	**RMU710B-6**
8	3	4	2	de, fr, it, es	BPZ:RMU720B-1	**RMU720B-1**
8	3	4	2	de, en, fr, nl	BPZ:RMU720B-2	**RMU720B-2**
8	3	4	2	da, fi, sv, no	BPZ:RMU720B-3	**RMU720B-3**
8	3	4	2	cs, hu, pl, sk, ru, bg	BPZ:RMU720B-4	**RMU720B-4**
8	3	4	2	sr, hr, sl, ro, el, tr	BPZ:RMU720B-5	**RMU720B-5**
8	3	4	2	zh	S55370-C160	**RMU720B-6**
8	4	6	3	de, fr, it, es	BPZ:RMU730B-1	**RMU730B-1**
8	4	6	3	de, en, fr, nl	BPZ:RMU730B-2	**RMU730B-2**
8	4	6	3	da, fi, sv, no	BPZ:RMU730B-3	**RMU730B-3**
8	4	6	3	cs, hu, pl, sk, ru, bg	BPZ:RMU730B-4	**RMU730B-4**
8	4	6	3	sr, hr, sl, ro, el, tr	BPZ:RMU730B-5	**RMU730B-5**
8	4	6	3	zh	S55370-C161	**RMU730B-6**

5

Application examples RMU710B..

BACS Energy Performance Classes – EN 15232

High energy performance BACS and TBM	A
Advanced BACS and TBM	B
Standard BACS	C
Non-energy-efficient BACS	D

BACS Building Automation and Control System
TBM   Technical Building Management System

These are only a few examples of many applications that can be done with the with Synco™700 controllers: RMU710B..
More Synco™700 applications are described in "HIT" (the HVAC project engineering tool with a library of over 300 pre-configured HVAC-applications) and in the RMU710B.. data sheet.

The evaluation of the energy efficiency classification is based on EN15232:2007. For a determination of the energy efficiency classification of the application, please use the "HIT Tool".
Further details are available in the manual "Building automation - impact on energy efficiency" in our HIT Online.
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RMU710B..

ADA001 U1B HQ
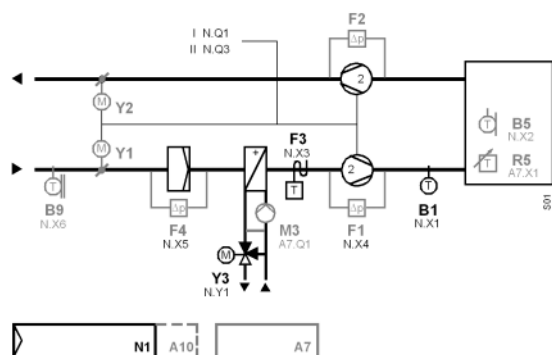
Room-supply air temperature cascade control
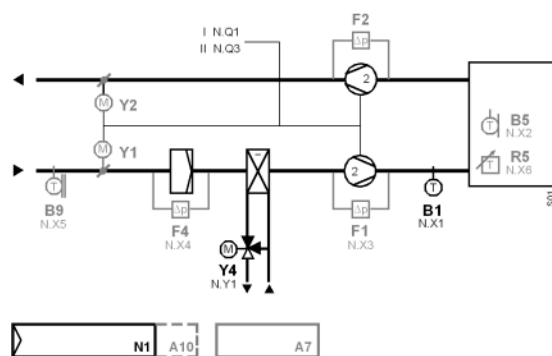
- 7-day time switch with holiday / special day program
- Control of a 2-speed fan
- Control of the supply air temperature via the heating coil valve
- Frost protection with frost protection monitor
- Supervision of the supply and extract air fans with differential pressure sensors
- Supervision of the supply air filter with a differential pressure sensor

RMU710B..

ADB001 U1B HQ

Advanced BACS and TBM ✔ B

To fulfill the classification, the plant must be equipped with all indicated functions.

Room-supply air temperature cascade control

- 7-day time switch with holiday / special day program
- Control of a 2-speed fan
- Control of the supply air temperature via the cooling coil valve
- Supervision of the supply and extract air fans with differential pressure sensors
- Supervision of the supply air filter with a differential pressure sensor

The indicated energy efficiency classification can be attained only if the following functions are implemented:

- Air flow control at the room level on demand (Air quality sensor must be integrated as an additional feature)
- Air flow control at the air handler level (Automatic fan step switching corresponds to Efficiency Class B / Step 2 must be switched based on air quality)
- Free mechanical cooling (Outside air temperature and room temperature sensor required)
- Supply temperature control, variable set point with load dependant compensation
- Humidity control (Not applicable, as no humidity control)

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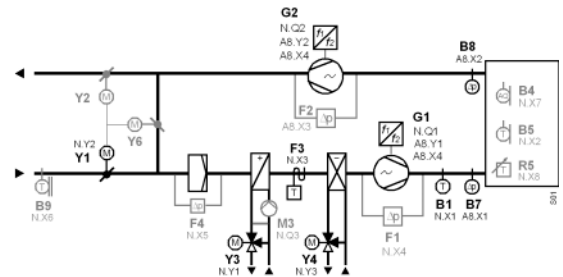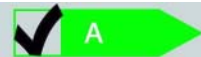
2014

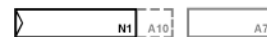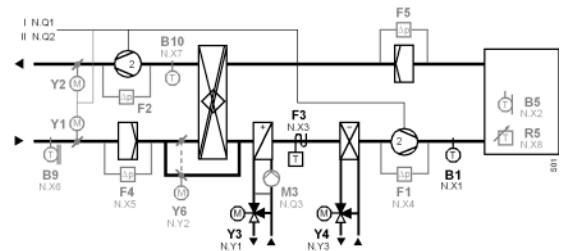## Room-supply air temperature cascade control

RMU710B..

ADC001 U1B HQ

- 7-day time switch with holiday / special day program
- Control of a 2-speed fan
- Control of the supply air temperature via the heating coil valve and the cooling coil valve in sequence
- Frost protection with frost protection monitor
- Supervision of the supply and extract air fans with differential pressure sensors
- Supervision of the supply air filter with a differential pressure sensor
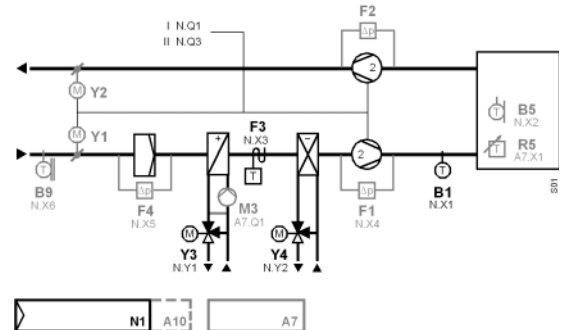
Room-supply air temperature cascade control

RMU710B..

AEA001 U1B DE

- 7-day time switch with holiday / special day program
- Control of a variable-speed fan
- Control of the supply air temperature via the mixed air dampers and the heating coil valve in sequence
- Frost protection with frost protection monitor
- Supervision of the supply and extract air fans with differential pressure sensors
- Supervision of the supply air filter with a differential pressure sensor

The indicated energy efficiency classification can be attained only if the following functions are implemented:

- Air flow control at the room level, demand control
- Air flow control at the air handler level, automatic flow or pressure control with or without pressure reset
- With heat exchanger overheating control
- Free mechanical cooling (Not applicable due to lack of cooling sequence)
- Humidity control (Not applicable, as no humidity control)
- Home automation / building automation and control system and technical home/building management required satisfying Efficiency Class A

High energy performance
BACS and TBM   ✔ A

To fulfill the classification, the plant must be equipped with all indicated functions.

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RMU710B..

ADAE01 U1B HQ

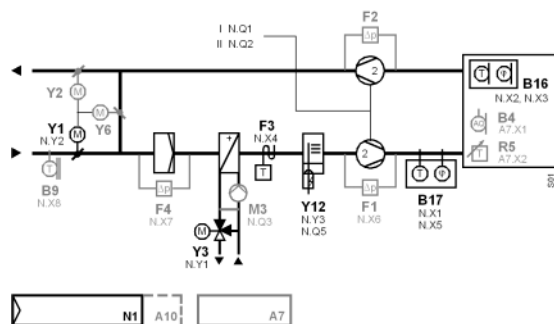To fulfill the classification, the plant must be equipped with all indicated functions.

Room-supply air temperature cascade control

- 7-day time switch with holiday / special day program
- Control of a 2-speed fan
- Control of the supply air temperature via the heat recovery system and the heating coil valve in sequence
- Frost protection with frost protection monitor
- Supervision of the supply and extract air fans with differential pressure sensors
- Supervision of the supply and extract air filters with differential pressure sensors

The indicated energy efficiency classification can be attained only if the following functions are implemented:

- Air flow control at the room level, demand control (Air quality sensor must be integrated as an additional feature)
- Air flow control at the air handler level, automatic flow or pressure control with or without pressure reset (Automatic fan step switching corresponds to Efficiency Class B / Step 2 must be switched based on air quality)
- Heat exchanger defrost control (Exhaust air temperature sensor required)
- Heat exchanger overheating control
- Supply Temperature control (Variable set point with load dependant compensation)

Application examples RMU720B..

These are only a few examples of many applications that can be done with the with Synco™700 controllers: RMU720B..
More Synco™700 applications are described in "HIT" (the HVAC project engineering tool with a library of over 300 pre-configured HVAC-applications) and in the RMU720B.. data sheet.

The evaluation of the energy efficiency classification is based on EN15232:2007. For a determination of the energy efficiency classification of the application, please use the "HIT Tool".
Further details are available in the manual "Building automation - impact on energy efficiency" in our HIT Online.
www.siemens.com/hit

Room-supply air temperature cascade control

RMU720B..

AEC001 U2B DE

- 7-day time switch with holiday / special day program
- Control of a variable-speed fan
- Control of the supply air temperature via the mixed air dampers, the heating coil valve and cooling coil valve in sequence
- Frost protection with frost protection monitor
- Supervision of the supply and extract air fans with differential pressure sensors
- Supervision of the supply air filter with a differential pressure sensor
- Home automation / building automation and control system and technical home/building management required satisfying Efficiency Class A

The indicated energy efficiency classification can be attained only if the following functions are implemented:

- Air flow control at the room level, demand control
- Air flow control at the air handler level, automatic flow or pressure control with or without pressure reset
- With heat exchanger overheating control
- Free mechanical cooling (Outside air temperature and room temperature sensor required)
- Supply temperature control, variable set point with load dependant compensation

To fulfill the classification, the plant must be equipped with all indicated functions.
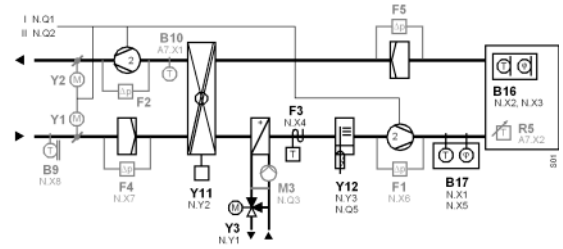
Room-supply air temperature cascade control

RMU720B..

ADCE01 U2B HQ

- 7-day time switch with holiday / special day program
- Control of a 2-speed fan
- Control of the supply air temperature via the heating coil valve and the cooling coil valve in sequence
- Frost protection with the frost protection monitor
- Supervision of the supply and extract air fans with differential pressure sensors
- Supervision of the supply and extract air filter with a differential pressure sensor

The indicated energy efficiency classification can be attained only if the following functions are implemented:

- Air flow control at the room level, demand control (Air quality sensor must be integrated as an additional feature)
- Air flow control at the air handler level, automatic flow or pressure control with or without pressure reset (Automatic fan step switching corresponds to Efficiency Class B / Step 2 must be switched based on air quality)
- Heat exchanger defrost control (Exhaust air temperature sensor required)
- With heat exchanger overheating control
- Free mechanical cooling (Outside air temperature and room temperature sensor required)
- Supply Temperature control, variable set point with load dependant compensation

To fulfill the classification, the plant must be equipped with all indicated functions.

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RMU720B..

ADFB01 U2B HQ

Room-supply air temperature cascade and humidity control

- 7-day time switch with holiday / special day program
- Control of a 2-speed fan
- Control of the supply air temperature via the heating coil valve and cooling coil valve in sequence
- Control of room humidity via the air humidifier (on command and modulating positioning signal)
- Frost protection with frost protection monitor
- Supervision of the supply and extract air fans with differential pressure sensors
- Supervision of the supply air filter with differential pressure sensors
- Limitation of supply air humidity

RMU720B..

AEDB01 U2B HQ

To fulfill the classification, the plant must be equipped with all indicated functions.

Room-supply air temperature cascade and humidity control

- 7-day time switch with holiday / special day program
- Control of a 2-speed fan
- Control of the supply air temperature via the mixed air dampers and the heating coil valve in sequence
- Control of room humidity via the air humidifier (on command and modulating positioning signal)
- Frost protection with frost protection monitor
- Supervision of the supply and extract air fans with differential pressure sensors
- Supervision of the supply air filter with a differential pressure sensor
- Limitation of supply air humidity

**The indicated energy efficiency classification can be attained only if the following functions are implemented:**

- Air flow control at the room level, demand control (Air quality sensor required)
- Air flow control at the air handler level, automatic flow or pressure control with or without pressure reset (Automatic fan step switching corresponds to Efficiency Class B / Step 2 must be switched based on air quality)
- With heat exchanger overheating control
- Supply Temperature control, variable set point with load dependant compensation
- Room or exhaust air humidity control

Room-supply air temperature cascade and humidity control

RMU720B..

ADDP01 U2B HQ

- 7-day time switch with holiday / special day program
- Control of a 2-speed fan
- Control of the supply air temperature via the heat recovery system and the heating coil valve in sequence
- Control of room humidity via the air humidifier (on command and modulating positioning signal)
- Frost protection with frost protection monitor
- Supervision of the supply and extract air fans with differential pressure sensors
- Supervision of the supply and extract air filters with differential pressure sensors
- Limitation of supply air humidity

The indicated energy efficiency classification can be attained only if the following functions are implemented:

- Air flow control at the room level, demand control (Air quality sensor must be integrated as an additional feature)
- Air flow control at the air handler level, automatic flow or pressure control with or without pressure reset (Automatic fan step switching corresponds to Efficiency Class B / Step 2 must be switched based on air quality)
- Heat exchanger defrost control (Exhaust air temperature sensor required)
- With heat exchanger overheating control
- Supply Temperature control, variable set point with load dependant compensation
- Room or exhaust air humidity control

To fulfill the classification, the plant must be equipped with all indicated functions.

Application examples RMU730B..

These are only a few examples of many applications that can be done with the with Synco™700 controllers: RMU730B..
More Synco™700 applications are described in "HIT" (the HVAC project engineering tool with a library of over 300 pre-configured HVAC-applications) and in the RMU730B.. data sheet.

The evaluation of the energy efficiency classification is based on EN15232:2007. For a determination of the energy efficiency classification of the application, please use the "HIT Tool".
Further details are available in the manual "Building automation - impact on energy efficiency" in our HIT Online.
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2014

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RMU730B..

AEFB01 U3B HQ

To fulfill the classification, the plant must be equipped with all indicated functions.

Room-supply air temperature cascade and humidity control

- 7-day time switch with holiday / special day program
- Control of a 2-speed fan
- Control of the supply air temperature via the mixed air dampers, the heating coil valve and cooling coil valve in sequence
- Control of room humidity via the air humidifier (on command and modulating positioning signal)
- Frost protection with frost protection monitor
- Supervision of the supply and extract air fans with differential pressure sensors
- Supervision of the supply air filter with a differential pressure sensor
- Limitation of supply air humidity

The indicated energy efficiency classification can be attained only if the following functions are implemented:

- Air flow control at the room level, demand control (Air quality sensor required)
- Air flow control at the air handler level, automatic flow or pressure control with or without pressure reset (Automatic fan step switching corresponds to Efficiency Class B / Step 2 must be switched based on air quality)
- With heat exchanger overheating control
- Free mechanical cooling (Outside air temperature and room temperature sensor required)
- Supply Temperature control, variable set point with load dependant compensation
- Room or exhaust air humidity control

RMU730B..

ADFP01 U3B HQ
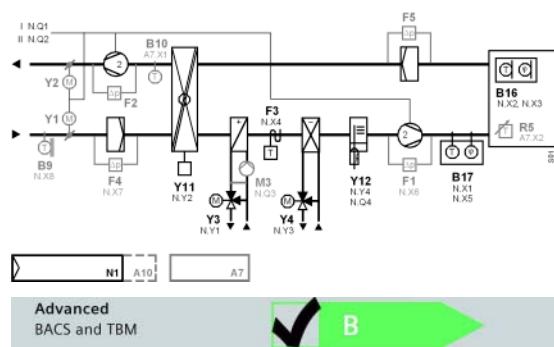
To fulfill the classification, the plant must be equipped with all indicated functions.

Room-supply air temperature cascade and humidity control

- 7-day time switch with holiday / special day program
- Control of a 2-speed fan
- Control of the supply air temperature via the heat recovery system, the heating coil valve and cooling coil valve in sequence
- Control of room humidity via the air humidifier (on command and modulating positioning signal)
- Frost protection with frost protection monitor
- Supervision of the supply and extract air fans with differential pressure sensors
- Supervision of the supply and extract air filters with differential pressure sensors
- Limitation of the supply air humidity

The indicated energy efficiency classification can be attained only if the following functions are implemented:

- Air flow control at the room level, demand control (Air quality sensor must be integrated as an additional feature)
- Air flow control at the air handler level, automatic flow or pressure control with or without pressure reset (Automatic fan step switching corresponds to Efficiency Class B / Step 2 must be switched based on air quality)
- Heat exchanger defrost control (Exhaust air temperature sensor required)
- With heat exchanger overheating control
- Free mechanical cooling (Outside air temperature and room temperature sensor required)
- Supply Temperature control, variable set point with load dependant compensation
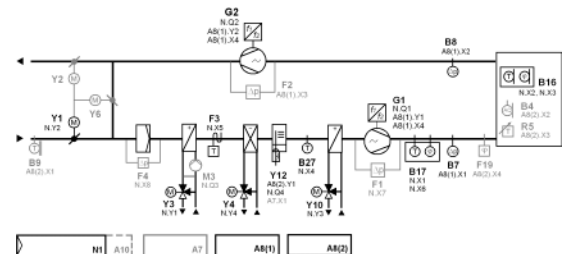- Room or exhaust air humidity control

Room-supply air temperature cascade and humidity control

RMU730B..

ADZA01 U3B HQ

- 7-day time switch with holiday / special day program
- Control of a 2-speed fan
- Room (extract air)-supply air temperature cascade control with minimum and maximum limitation of the supply air temperature
- Control of the supply air temperature via the reheater valve and the cooling coil valve in sequence
- Control of the dewpoint temperature via the preheater valve and the cooling coil valve in sequence
- Control of room humidification via the air humidifier (on command)
- Control of room dehumidification by changing the outputs of dewpoint temperature control
- Frost protection with frost protection monitor
- Supervision of the supply and extract air fans with differential pressure sensors
- Supervision of the supply air filter with a differential pressure sensor
- Limitation of supply air humidity by shutting down the preheater and by switching off the air humidifier in sequence
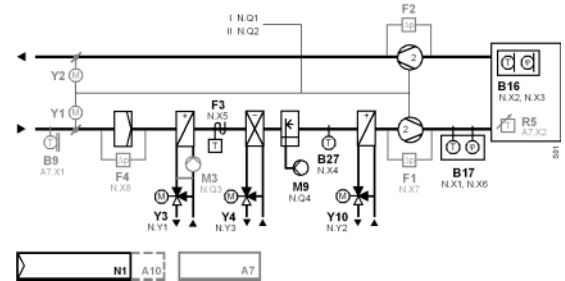
Room-supply air temperature cascade and humidity control

RMU730B..

AEZH01 U3B DE

- 7-day time switch with holiday / special day program
- Control of variable speed fan
- Room (extract air)-supply air temperature cascade control with minimum and maximum limitation of the supply air temperature
- Control of the supply air temperature via the mixed air dampers, the reheater valve and cooling coil valve in sequence
- Control of the dewpoint temperature via the mixed air dampers, the preheater valve and cooling coil valve in sequence
- Control of room humidification via the air humidifier (on command)
- Control of room dehumidification by changing the outputs of dewpoint temperature control
- Frost protection with frost protection monitor
- Supervision of the supply and extract air fans with differential pressure sensors
- Supervision of the supply air filter with a differential pressure sensor
- Limitation of supply air humidity

The indicated energy efficiency classification can be attained only if the following functions are implemented:

- Air flow control at the room level, demand control
- Air flow control at the air handler level, automatic flow or pressure control with or without pressure reset
- With heat exchanger overheating control
- Free mechanical cooling
- Supply Temperature control, variable set point with load dependant compensation
- Room or exhaust air humidity control
- Home automation / building automation and control system and technical home/building management required satisfying Efficiency Class A
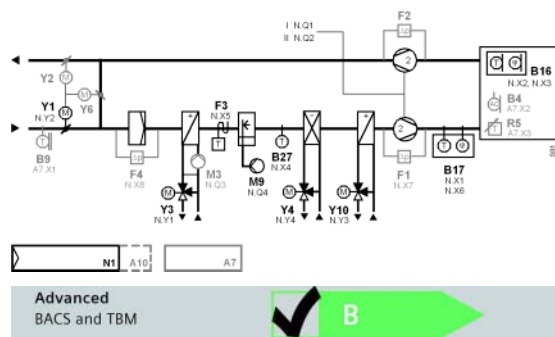

To fulfill the classification, the plant must be equipped with all indicated functions.

RMU730B..

AEZH02 U3B HQ

To fulfill the classification, the plant must be equipped with all indicated functions.

Room-supply air temperature cascade and humidity control

- 7-day time switch with holiday / special day program
- Control of a 2-speed fan
- Room (extract air)-supply air temperature cascade control with minimum and maximum limitation of the supply air temperature
- Control of the supply air temperature via the mixed air dampers, the reheater valve and the cooling coil valve in sequence
- Control of the dewpoint temperature via the mixed air dampers and the pre-heater valve in sequence
- Control of room humidification via the air humidifier (on command) and the cooling coil valve in sequence
- Frost protection with frost protection monitor
- Supervision of the supply and extract air fans with differential pressure sensors
- Supervision of the supply air filter with a differential pressure sensor
- Limitation of supply air humidity by switching off the air humidifier in sequence

The indicated energy efficiency classification can be attained only if the following functions are implemented:

- Air flow control at the room level, demand control (Air quality sensor required)
- Air flow control at the air handler level, automatic flow or pressure control with or without pressure reset (Automatic fan step switching corresponds to Efficiency Class B / Step 2 must be switched based on air quality)
- With heat exchanger overheating control
- Free mechanical cooling (Outside air temperature and room temperature sensor required)
- Supply Temperature control, variable set point with load dependant compensation
- With supply air humidity control

Switching and monitoring device

RMS705B..

In connection with the function blocks, the RMS705B complements the range of Synco700 products as a freely configurable unit for
- control and supervisory functions in heating, ventilation and refrigeration plant
- non-standard applications

and, for this reason, offers no predefined standard applications.

The RMS705B is especially suited for the following functions:
- Connection of additional universal alarm inputs
- Adding free inputs for display and supervision
- Event logging (e.g. legionella function)
- Additional time programs (ON / OFF) for basic functions
- Maximum and minimum selection
- Calculation of average
- Calculation of enthalpy, enthalpy differential, absolute humidity, dewpoint and wet bulb temperature
- Logic function blocks for switching on / off depending on different conditions
- Lead / lag control of pumps, fans, motors, chillers, etc., with automatic changeover
- Step switch with linear, binary or flexible functionality
- Autonomous sequence controllers with P, PI or PID mode

Available extension modules:
- 1 universal module RMZ785
- 2 universal modules RMZ787
- 2 universal modules RMZ788

Total maximal 4 extension modules per RMS705B can be connected.

Suitable types of operator units:
- Plug-in operator unit type RMZ790
- Detached operator unit type RMZ791
- Bus operating unit type RMZ792

Data sheet	N3124
Operating voltage	AC 24 V
Frequency	50/60 Hz
Power consumption	12 VA
Universal inputs, number	8
Universal input, signal	LG-Ni1000
	2 x LG-Ni1000
	T1 (PTC)
	Pt1000
	0…1000 Ohm
	DC 0…10 V
	Digital pulse contact
	Potential-free digital status contact
Analog outputs, number	4
Analog output, signal	DC 0…10 V
Analog output, current	Max. 1 mA
Relay outputs, number	6
Relay outputs	Potential-free switching contact
Relay output, switching voltage	AC 19...250 V
Relay output, switching current	4 (3) A
Communication	KNX (KNX TP1)
Degree of protection	IP20
Dimensions (W x H x D)	173 x 90 x 80 mm

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Range overview RMS705B..

Product Title	Data sheet	Stock No.	Product No.
Switching and monitoring device with languages de, fr, it, es, pt	N3124	S55370-C100	**RMS705B-1**
Switching and monitoring device with languages de, fr, nl, en	N3124	S55370-C101	**RMS705B-2**
Switching and monitoring device with languages da, fi, no, sv	N3124	S55370-C102	**RMS705B-3**
Switching and monitoring device with languages pl, cs, hu, ru, sk, bg	N3124	S55370-C103	**RMS705B-4**
Switching and monitoring device with languages el, ro, sl, sr, hr, tr	N3124	S55370-C104	**RMS705B-5**
Switching and monitoring device with language zh	N3124	S55370-C105	**RMS705B-6**

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Plug-in type operator unit   RMZ790

- Operator unit plugs into the Synco™ 700 controllers
- For displaying and changing plant data for service staff and enduser
- Clear-text operation
- Can be plugged in and removed during operation
- Power supply via the controller

Data sheet   N3111

Stock No.	Product No.
BPZ:RMZ790	**RMZ790**

Detached operator unit with 3 m cable   RMZ791

Like plug-in type operator unit, but:
- Other mounting choices (typically for control panel door or wall mounting)
- Larger display
- Connection via a prefabricated 3 m cable, supplied as standard

Data sheet   N3112

Stock No.	Product No.
BPZ:RMZ791	**RMZ791**

Bus operator unit   RMZ792

Communicating operator unit for operating up to 150 controllers, room units and central units from the Synco™ 700 range via KNX bus.
Favorite pages can be freely defined. Designed for fixed installation or mobile use.

Data sheet   N3113

Stock No.	Product No.
BPZ:RMZ792	**RMZ792**

Universal modules   RMZ78..

Additional inputs and outputs required by the Synco™ 700 controllers can be provided by these modules. A description of the functions is given with the relevant controller module.

Data sheet   N3146

Voltage supply	Supply from controller module
Power consumption	2 VA
Universal input, signal	0…1000 Ohm
	1000…1175 Ohm
	2 x LG-Ni1000
	DC 0…10 V
	Potential-free digital status contact
	LG-Ni1000
	Pt1000
	T1 (PTC)
Analog output, signal	DC 0…10 V
Analog output, current	Max. 1 mA
Relay outputs	switching contact, potential-free
Relay output, switching voltage	AC 19…265 V
Relay output, switching current	4 (3) A

Communicating HVAC controllers
Extension modules and operator units for RMU.. and RMS..

Range overview RMZ78..

Universal inputs, number	Analog outputs, number	Relay outputs, number	Stock No.	Product No.
8	0	0	BPZ:RMZ785	**RMZ785**
4	0	4	BPZ:RMZ787	**RMZ787**
4	2	2	BPZ:RMZ788	**RMZ788**

RMZ780

Module connector

Module connector for detached mounting of extension modules within the control panel.
Distance for detached mounting: Maximum 10 m.

Data sheet   N3138

	Stock No.	Product No.
	BPZ:RMZ780	**RMZ780**

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5-36

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Sensors, setpoint adjusters

Product Title	Data sheet	Stock No.	Product No.
Outside sensor LG-Ni1000	N1811	BPZ:QAC22	**QAC22**
Outside / room temperature sensor DC 0..10V	N1814	BPZ:QAC3161	**QAC3161**
Strap-on temperature sensor LG-Ni1000	N1801	BPZ:QAD22	**QAD22**
Strap-on temperature sensor with cable LG-Ni1000	N1802	BPZ:QAD26.220	**QAD26.220**
Immersion temperature sensor 100 mm LG-Ni1000, with protection pocket	N1781	BPZ:QAE2120.010	**QAE2120.010**
Immersion temperature sensor 150 mm, LG-Ni1000, with protection pocket	N1781	BPZ:QAE2120.015	**QAE2120.015**
Immersion temperature sensor 100 mm, LG-Ni1000, without protection pocket	N1781	BPZ:QAE2121.010	**QAE2121.010**
Immersion temperature sensor 150 mm LG-Ni1000, without protection pocket	N1781	BPZ:QAE2121.015	**QAE2121.015**
Immersion temperature sensor 100 mm DC 0...10 V	N1782	BPZ:QAE2164.010	**QAE2164.010**
Immersion temperature sensor 150 mm DC 0...10 V	N1782	BPZ:QAE2164.015	**QAE2164.015**
Immersion temperature sensur Ø 4 mm with cable and fitting	N1790	BPZ:QAE26.9..	**QAE26.9..**
Duct temperature sensor 400 mm, Pt1000	N1761	BPZ:QAM2112.040	**QAM2112.040**
Duct temperature sensor 400 mm, LG-Ni1000	N1761	BPZ:QAM2120.040	**QAM2120.040**
Duct temperature sensor 2000 mm, LG-Ni1000	N1761	BPZ:QAM2120.200	**QAM2120.200**
Duct temperature sensor 6000 mm, LG-Ni1000	N1761	BPZ:QAM2120.600	**QAM2120.600**
Frost sensor, modulating, capillary tube 2000 mm	N1821	BPZ:QAF63.2	**QAF63.2**
Frost sensor, modulating, capillary tube 6000 mm	N1821	BPZ:QAF63.6	**QAF63.6**
Cable temperature sensor for high-temperature applications (180°C)	N1833	BPZ:QAP21.2	**QAP21.2**
Cable temperature sensor silicone 1.5 m, LG-Ni1000	N1831	BPZ:QAP21.3	**QAP21.3**
Cable temperature sensor PVC 2 m, LG-Ni1000	N1831	BPZ:QAP22	**QAP22**
Window pane temperature sensor	N1830	BPZ:QAT22	**QAT22**
Solar sensor	N1943	BPZ:QLS60	**QLS60**
Differential pressure sensor for liquids and gases	N1923	BPZ:QBE61.3-DP..	**QBE61.3-DP..**
Differential pressure sensors for liquids and gase (DC 0...10 V)	N1920	BPZ:QBE63-DP..	**QBE63-DP..**
Differential pressure sensor for liquids and gases (DC 0...10 V) 0...400 kPa	N1921	BPZ:QBE64-DP4	**QBE64-DP4**
Pressure sensor for refrigerants (0...10 V)	N1907	BPZ:QBE2001-P..U	**QBE2001-P..U**
Pressure sensor for liquids and gases (0...10 V)	N1909	BPZ:QBE2002-P..	**QBE2002-P..**

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Sensors, setpoint adjusters

Product Title	Data sheet	Stock No.	Product No.
Air duct differential pressure sensor, DC 0...10 V	N1916_01	BPZ:QBM3020..	**QBM3020..**
Differential pressure sensor, DC 0...10 V	N1910_01	BPZ:QBM2030..	**QBM2030..**
Duct sensor for humidity (DC 0...10 V)	N1864	BPZ:QFM2100	**QFM2100**
Duct sensor for humidity (0...10 V) and temperature (Ni1000)	N1864	BPZ:QFM2120	**QFM2120**
Duct sensor for humidity (DC 0...10 V) and temperature (DC 0...10 V)	N1864	BPZ:QFM2160	**QFM2160**
Duct sensor for humidity (DC 0...10 V) for demanding requirements	N1882	BPZ:QFM3100	**QFM3100**
Duct sensor for humidity (DC 0...10 V) and temperature (DC 0...10 V) for demanding requirements	N1882	BPZ:QFM3160	**QFM3160**
Duct sensor for humidity (0...10 V) and temperature (0...10 V) with calibration certificate	N1883	BPZ:QFM4160	**QFM4160**
Duct air quality sensor CO_2/ temperature / rel. Humidity / VOC	N1962	BPZ:QPM21..	**QPM..**
Setpoint adjuster, passive, scale 0...50 °C (exchangeable)	N1991	BPZ:BSG21.1	**BSG21.1**
Setpoint adjuster, passive, temperature ranges: -20...20 °C; 20...60 °C; -3...3 K	N1991	BPZ:BSG21.5	**BSG21.5**
Active setpoint adjuster 0...100 %, for flush panel mounting	N1992	BPZ:BSG61	**BSG61**
Flue gas temperature sensor Pt1000	N1846	BPZ:FGT-PT1000	**FGT-PT1000**
Duct sensor for air velocity	N1932	BPZ:QVM62.1	**QVM62.1**

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Monitors

Product Title	Data sheet	Stock No.	Product No.
Frost monitor, air side, 2-point	N1283	BPZ:QAF64..	**QAF64..**
Frost monitor, 2-point	N1284	BPZ:QAF81..	**QAF81..**
Room hygrostat, setpoint setting range 30...90 % r.h., setpoint adjuster inside device	N1518	BPZ:QFA1000	**QFA1000**
Room hygrostat, setpoint setting range 30...90 % r.h., external setpoint adjustment	N1518	BPZ:QFA1001	**QFA1001**
Duct hygrostat, setpoint setting range 15...95 % r.h.	N1514	BPZ:QFM81.2	**QFM81.2**
Room hygrostat, setpoint setting range 15...95 % r.h., setpoint adjuster inside device	N1514	BPZ:QFM81.21	**QFM81.21**
Condensation monitor, AC/DC 24 V	N3302	S55770-T325	QXA2601
Condensation monitor, AC/DC 24 V, with remote sensor head (cable length 1.5 m)	N3302	S55770-T326	QXA2602
Differential pressure monitor	N1552	BPZ:QBM81..	**QBM81..**
Flow switch for use in hydraulic systems, PN25, DN20...200	N1594	BPZ:QVE1901	**QVE1901**
Temperature controller	N1205	BPZ:RAK-TR.1..H	**RAK-TR.1..H**
Thermal reset limit thermostat	N1202	BPZ:RAK-TW.1..H	**RAK-TW.1..H**
Temperature limiter	N1206	BPZ:RAK-TB.1..M	**RAK-TB.1..M**
Safety limit thermostat	N1204	BPZ:RAK-ST..M	**RAK-ST..M**
Temperature controller / thermal reset limit thermostat	N1191	BPZ:RAZ-TW.1..	**RAZ-TW.1..**
Temperature controller / safety limit thermostat	N1192	BPZ:RAZ-ST..	**RAZ-ST..**
Changeover thermostat, changeover, 30 °C / 19 °C, IP54	N1295	BPZ:RYT182	**RYT182**

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NEW PRODUCT

Room units

Product Title	Data sheet	Stock No.	Product No.
Room temperature sensor LG-Ni1000	N1721	BPZ:QAA24	**QAA24**
Room unit with room temperature sensor and setpoint adjuster	N1721	BPZ:QAA25	**QAA25**
Room unit with room temperature sensor and setpoint readjuster -3...3 K	N1721	BPZ:QAA27	**QAA27**
Room temperature sensor LG-Ni1000 for mounting on recessed conduit boxes	N1722	BPZ:QAA64	**QAA64**
Room unit with KNX bus	N1633	BPZ:QAW740	**QAW740**
Room sensor for humidity (DC 0...10 V)	N1857	BPZ:QFA2000	**QFA2000**
Room sensor for humidity (DC 0...10 V) and temperature (LG-Ni1000)	N1857	BPZ:QFA2020	**QFA2020**
Room sensor for humidity (DC 0...10 V) and temperature (DC 0...10 V)	N1857	BPZ:QFA2060	**QFA2060**
Room sensor for humidity (DC 0...10 V) for demanding requirements	N1858	BPZ:QFA3100	**QFA3100**
Room sensor for humidity (DC 0...10 V) and temperature (DC 0...10 V) for demanding requirements	N1858	BPZ:QFA3160	**QFA3160**
Room sensor for humidity (DC 0..10V) and temperature (DC 0..10V) with calibration certificate	N1859	BPZ:QFA4160	**QFA4160**
Indoor air quality controller with integrated VOC sensor for mixed gas	N1571	BPZ:QPA84	**QPA84**
Room air quality sensor CO_2 / temperature / rel. Humidity / VOC	N1961	BPZ:QPA20..	**QPA..**

Step switches, signal converters and transformers

Product Title	Data sheet	Stock No.	Product No.
Variable speed drive	N5192	BPZ:SED2..	**SED2..**
Transformers	N5536	BPZ:SEM62..	**SEM62..**
Current valve	N4937	BPZ:SEA45.1	**SEA45.1**
Signal converter DC 0...10 V or DC 0 / 10 V in AC 0 / 24 V	N5102	BPZ:SEM61.4	**SEM61.4**
Signal converter with preprogrammed applications	N5146	BPZ:SEZ220	**SEZ220**
Universal digital indicator	N5312	BPZ:BAU200	**BAU200**

Service tool

Product Title	Data sheet	Stock No.	Product No.
Service tool for KNX / LPB	N5655	BPZ:OCI700.1	**OCI700.1**

Standard controllers
Software and central communication units
For web and remote operation via KNX: OZW77..

KNX standard systems main components

The KNX standard system consists of the following main components:

Product Title	Data sheet	Stock No.	Product No.
Commissioning and plant operating software	N5649	S55800-Y100	**ACS790**
Central communication unit OZW771..	N3117	BPZ:OZW771..	**OZW771..**
Web server for KNX devices	N5701	BPZ:OZW772..	**OZW772..**
Heating controller	N3133	BPZ:RMH760B..	**RMH760B..**
Boiler sequence controller	N3132	BPZ:RMK770..	**RMK770..**
Universal controller	N3150	BPZ:RMUB..	**RMUB..**
Switching and monitoring device	N3124	BPZ:RMS705B..	**RMS705B..**
Central control unit RMB795B for RXB/RXL room controllers and room thermostats RDG/RDF/RDU	N3122	BPZ:RMB795B..	**RMB795B..**
Room unit with KNX bus	N1633	BPZ:QAW740	**QAW740**
Room controller for 3-speed fan	N3873	BPZ:RXB21.1/FC-10	**RXB21.1/FC-10**
Room controller for 3-speed fan	N3873	BPZ:RXB21.1/FC-11	**RXB21.1/FC-11**
Room controller with 3-speed fan and electric heating coil	N3873	BPZ:RXB22.1/FC-12	**RXB22.1/FC-12**
Room controller for chilled ceilings and radiators	N3874	BPZ:RXB24.1/CC-02	**RXB24.1/CC-02**
Room controller for fan-coil applications with KNX communication	N3875	S55373-C121	**RXB39.1/FC-13**

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Standard controllers

Software and central communication units
For web and remote operation via KNX: OZW77..

KNX standard systems main components

The KNX standard system consists of the following main components:

Product Title	Data sheet	Stock No.	Product No.
Room controller for 3-speed fan	N3877	BPZ:RXL21.1/FC-10	**RXL21.1/FC-10**
Room controller for 3-speed fan	N3877	BPZ:RXL21.1/FC-11	**RXL21.1/FC-11**
Room controller with 3-speed fan and electric heating coil	N3877	BPZ:RXL22.1/FC-12	**RXL22.1/FC-12**
Room controller for chilled ceilings and radiators	N3878	BPZ:RXL24.1/CC-02	**RXL24.1/CC-02**
Communicating room controller for fan-coil applications with proprietary communication	N3876	S55373-C122	**RXL39.1/FC-13**
Semi Flush-mount room thermostat with KNX communications, 2-/4-pipe fan coils or DX type equipment	N3171	S55770-T104	**RDF301**
Semi Flush-mount room thermostat with KNX communications, 2-/4-pipe fan coils or DX type equipment, four buttons for switching lights and blinds	N3171	S55770-T105	**RDF301.50**
Hotel Semi Flush-mount room thermostat with KNX, 2-/4-pipe fan coils or DX type equipment, four buttons hotel functions	N3171	S55770-T334	**RDF301.50H**
Semi Flush-mount room thermostat with KNX communications, 2-/4-pipe fan coils or DX type equipment	N3171	S55770-T293	**RDF600KN**
Room thermostat with KNX communications, AC 230 V, for fan coil units and universal applications	N3191	S55770-T163	**RDG100KN**
Room thermostat with KNX communications, AC 24 V, for fan coil units and universal applications, fan (1-/ 3-speed, DC), valves (2-point, DC)	N3191	S55770-T297	**RDG160KN**
Room thermostat with KNX communications, AC 24 V, VAV heating and cooling systems	N3192	S55770-T165	**RDG400KN**
Semi Flush-mount room thermostat for rectangular conduit box with KNX communications, for VAV application	N3172	S55770-T106	**RDU341**
VAV compact controller KNX, 24 V, 5 Nm, 150 s, 300 Pa	N3547	S55499-D134	**GDB181.1E/KN**
VAV compact controller KNX, 24 V, 10 Nm, 150 s, 300 Pa	N3547	S55499-D135	**GLB181.1E/KN**
Base module with KNX for temperature and humidity measurement	N1411	BPZ:AQR2570..	**AQR2570..**
Base modules with KNX for CO_2 measurement	N1411	BPZ:AQR2576..	**AQR2576..**
Front modules for base modules	N1410	BPZ:AQR253..	**AQR253..**
Room sensor KNX for temperature	N1602	S55624-H103	**QMX3.P30**
Room sensor KNX for temperature, humidity, CO2	N1602	S55624-H104	**QMX3.P70**

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NEW PRODUCT

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2014

Standard controllers
Software and central communication units
For web and remote operation via KNX: OZW77..

Web server for KNX devices

OZW772..

Web server OZW772 allows for remote plant control and monitoring via the web.

* Operate web browser via PC/laptop and Smartphone
* Operate ACS (PC/laptop with ACS plant operating software)
* Connections: USB and Ethernet
* Display fault messages in the web browser
* Send fault messages to a maximum of 4 e-mail recipients
* Periodically send system reports to e-mail recipients
* Visualize the plants in the web browser based on standard plant diagrams and customized plant web pages
* Acquire and display consumption data
* Send consumption data file to 2 email recipients
* Function "Energy indicator" to monitor data points for energy-related limit values, or "Green limits"
* Web services for external applications via Web API (Web Application Programming Interface)
* Encrypted with https and TLS for emails
* Trend function with ACS790
* Direct commissioning with web browser or ACS service tool

Data sheet	N5701
Operating voltage	Power pack: AC 230 V
	Web server: DC 24 V
Communication	KNX TP1 (wire-Bus)
	Ethernet, RJ45 plug socket (shielded)
	USB V2.0 (universal serial bus)
Mounting	On DIN rails
	With Screws
Dimensions (W x H x D)	87.5 x 90 x 40 mm

Range overview OZW772..

Product Title	Stock No.	Product No.
Web server for 1 KNX device	BPZ:OZW772.01	**OZW772.01**
Web server for 4 KNX devices	BPZ:OZW772.04	**OZW772.04**
Web server for 16 KNX devices	BPZ:OZW772.16	**OZW772.16**
Web server for 250 KNX devices	BPZ:OZW772.250	**OZW772.250**

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Standard controllers
Software and central communication units
For web and remote operation via KNX: OZW77..
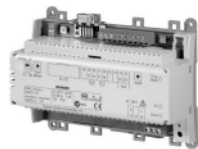
OZW771..	Central communication unit OZW771..

The OZW771... central communication unit is a component of the Synco™ system. It is used for the remote operation and supervision of plants with Synco™ 700 Synco™ RXB... and Synco™ living units in KNX network systems.
Alarm messages can be delivered to
- ACS operating station (ACS alarm)
- SMS receivers
- Fax machines*
- Pagers
- E-mail receivers*
* Only possible with GSM modem, depending also on the telephone provider

Data sheet	N3117
Operating voltage	AC 230 V
Frequency	50/60 Hz
Power consumption	5 VA
Digital inputs, number	2
Dimensions (W x H x D)	161 x 110 x 62 mm

Range overview OZW771..

Product Title	Data sheet	Stock No.	Product No.
Central communication unit, max. 4 controllers	N3117	BPZ:OZW771.04	**OZW771.04**
Central communication unit, max. 10 controllers	N3117	BPZ:OZW771.10	**OZW771.10**
Central communication unit, max. 64 controllers	N3117	BPZ:OZW771.64	**OZW771.64**

Accessory for OZW771..

Product Title	Stock No.	Product No.
Terminal covers	BPZ:7411100280	**7411100280**

Refer to the central unit data sheet for details

Commissioning and plant operating software ACS790

PC software for commissioning, operating and supervision of HVAC plants.
Consists of 2 programs: ACS-Tool and ACS-Alarm.
ACS-Tool:
for plant commissioning, operating and service
- Popcard (standard and customized)
- Plant diagram (standard and customized)
- Plant view (standard and customized)
- Trend functions (online and offline)
- File transfer
- Parameter settings
- Commissioning protocol
ACS-Alarm:
- For receiving and managing alarms

Commissioning and service via OCI700 service interface
Compatible devices see OCI700.1.

Plant operation and supervision for
KNX systems
- Central units: OZW771, OZW772
- Synco™ living: QAX9…
- Controllers: Synco™700, Synco RXB/RXL
- Thermostats: RDF…, RDG…, RDU341
- Sensors: QMX3.P30, QMX3.P70, AQR253.. and AQR257..
LPB systems
- Central units: OCI611, OZW672
- Controllers: RVD2.., RVL4.., RVP3..

Data sheet N5649

	Stock No.	Product No.
	S55800-Y100	**ACS790**

OCI700.1	**Service tool for KNX / LPB**

The service tool consists of:
- ACS790 CD-ROM
- OCI700 service interface
- USB cable
- Service cable for Synco™ controllers
- Service cable for SIGMAGYR® and ALBATROS controllers

Commissioning and diagnostics of the following devices:

KNX devices:
- Central communication units OZW771, OZW772
- Heating controllers RMH of the 700-series
- Boiler sequence controllers RMK of the 700-series
- Universal controllers RMU of the 700-series
- Universal controllers RLU of the 200-series
- Switching and monitoring devices RMS of the 700-series
- Room unit QAW740
- Central control units RMB of the 700-series
- Individual room controllers RXB.. / RXL..
- Signal converter SEZ220
- Synco™ living central apartment unit QAX9..
- Synco™ thermostats RDF.., RDG.., RDU341
- Sensores: QMX3.P30, QMX3.P70, AQR253.. and AQR257..

LPB devices:
- Central communication units OCI611 and OZW672
- Heating controllers RVL of the 4..-series
- Heating controllers RVP of the 3..-series
- District heating controllers RVD of the 2..-series

Data sheet	N5655

	Stock No.	Product No.
	BPZ:OCI700.1	**OCI700.1**

Room automation Synco

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Room automation Synco
Overview and selection tools
Product range overview

Room Controller / Roomautomationstation	RXL..	RXB..
Communication	Bus	KNX
Peripheral bus	PPS2	PPS2
Fan coil systems		
2-pipe system with changeover	■	■
2-pipe system with changeover and electric air heater battery	■	■
4-pipe system	■	■
4-pipe system with electric air heater battery	■	■
4-pipe system with supply air temperature limit	■	■
2-pipe system with changeover and outside air damper	■	■
4-pipe system with outside air damper	■	■
2-pipe system and radiator	■	■
4-pipe system, with one air damper	■	■
Heated/chilled ceilings and radiators		
Chilled ceiling with dewpoint monitoring	■	■
Chilled ceiling with dewpoint monitoring	■	■
Radiator with downdraft compensation	■	■

Room automation Synco
Overview and selection tools
Product range overview

	RDG100KN	RDG160KN	RDF301	RDF301.50	RDF600KN	RDG400KN	RDU341
Housing							
Setpoint knob	■	■				■	
Digital display	■	■	■	■	■	■	■
Semi-flush mounting			■	■	■		■
Wiring							
Mains-powered	230 V	24 V	230 V	230 V	230V	24 V	24V
Analog output		■				■	■
Relay output			■	■	■		■
Functionalities							
Manuel Heat / Cool changeover	■		■	■	■	■	■
DC-Ventilators		■					
Operating mode							
Comf. mode	■	■	■	■	■	■	■
Eco mode	■	■	■	■	■	■	■
Sandby/Prot.	■	■	■	■	■	■	■
Frost protect.	■	■	■	■	■	■	■
Buttons for light and blinds				■			
Control loop	2P/PI	2P/PI	2P/PI	2P/PI	2P/PI	P/PI	P/PI
Application selectable							
2-pipe system	■	■	■	■	■		
pipe system with electrical heater	■	■	■	■	■		
2-pipe system and radiator / floor heating	■	■					
4-pipe system	■	■	■	■	■		
4-pipe system with electrical heater	■						
2-stage heating or cooling system	■	■					
Single-duct system						■	■
Single-duct system with electrical heater						■	■
Single-duct system and radiator / floor heating						■	
Single-duct system with heating / cooling coil						■	

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Room automation Synco
Overview and selection tools
Product range overview

Room operation

Features	30.1	31.1	32.1	33.1	34.1	34.3	39.1	84.1	QAW.. 740
Display					■	■		■	■
Mode selection			■	■	■	■		■	■
Fan switch					■	■		■	
Setpoint adjuster		■	■	■	■	■	■	■	■
Temperature sensor	■	■	■	■	■	■		■	
Mounting									
Flush-mounted							■	■	
Directly on wall	■	■	■	■	■	■			■
Control panel(door)							■		
Communication									
PPS2	■	■	■	■	■	■	■	■	
KNX									■
Controller									
RXL..	■	■	■	■	■	■	■	■	
RXB..	■	■	■	■	■	■	■	■	
Synco700									■

Wireless-Room operation

Features	95.4	96.4	97.4	98.4
Mode selection			■	■
Fan switch				■
Setpoint adjuster		■	■	■
Temperature sensor	■	■	■	■
Mounting				
Flush-mounted	■	■	■	■
Directly on wall	■	■	■	■
Communication				
EnOcean	■	■	■	■
KNX	■ [1]	■ [1]	■ [1]	■ [1]
Controller				
RXL..				
RXB..	■	■	■	■

[1] **Suitable receivers:** RXZ97.1/KNX

Room automation Synco
Overview and selection tools
Product range overview

RXL applications

RXL – Powerful room controllers for temperature control in individual rooms
RXL ensures individual demand-based comfort in public buildings, offices, schools, hotels, etc. Flexible control of all types of equipment in individual rooms calls for economical and convenient solutions that can be integrated into existing or new systems and will retain their compatibility long into the future.

Communicating controllers for individual rooms
The communicating room controllers RXL21.1, RXL22.1 and RXL24.1 are used for temperature control in individual rooms. RXL39.1 support energy efficient EC fan-coils. Siemens actuator and sensor technology can be connected.

Easy commissioning with room operator unit
Commissioning and parameter-setting for RXL controllers is carried out directly on the controller, with the QAX34.3 room operator unit. There is no need for a network connection or a software tool. Mounting on a DIN rail is quick and simple.

User-friendly commissioning and service
The Service LED shows the operational status of the room controller at all times. For example, a flashing green LED is used to indicate normal, trouble-free operation, a continuous red LED for addressing mode and a flashing red LED to indicate a fault. With the service pin, all controllers can be easily identified for commissioning or maintenance purposes. As soon as the service pin is pressed, the red service LED on the controller lights up and the controller is displayed on a graphic of the building at the management station.

Complete range of standard room operating units
The extensive range of room operator units is available for direct operation and monitoring of setpoints and measured values in individual rooms. The range extends from very simple room temperature sensors to versatile room operator units with parameter-setting functions.

Integration into Synco™
The Synco™ central control unit RMB795 is used for controlling and monitoring the RXL controllers in a Synco™ system.

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HVAC	Chilled ceiling Radiator-type systems		
	Fan coil units	QAX30 QAX31 QAX32 QAX33 QAX34 QAX39 QAX84 QAX90 QAX91 AQR2531..	RXL21.1 RXL22.1 RXL24.1 RXL39.1

Room units ←——————→ | ←——————→ Compact

Room automation Synco
Overview and selection tools
Product range overview

Fields of application
The scope of RXL is defined by the preprogrammed application software. The following pages provide an overview of the options and the corresponding devices. The devices are supplied preprogrammed with the applications. The required application can be selected by means of the Handy tool QAX34.3.

Due to the fact that the applications are predefined, engineering simply involves the definition of a small number of parameters, e. g.:
- ON / OFF or 3-point control of the valves and actuators
- Temperature setpoints
- Manual or automatic fan control

Fan coil systems

Application	Description	Devices
FNC02	2-pipe system with changeover	RXL21.1/FC-10
FNC03	2-pipe system with changeover and electrical reheater	RXL22.1/FC-12
FNC04	4-pipe system	RXL21.1/FC-10
FNC05	4-pipe system with electrical reheater	RXL22.1/FC-12
FNC08	4-pipe system with supply air temperature limitation	RXL21.1/FC-10
FNC10	2-pipe system with change over and outside air damper	RXL21.1/FC-11
FNC12	4-pipe system with outside damper	RXL21.1/FC-11
FNC18	2-pipe system with change over and radiator	RXL21.1/FC-11
FNC20	4-pipe system with air-side control	RXL21.1/FC-10
FNC02/03/04/08	2-pipe/4-pipe system with EC fan-coil support	RXL39.1/FC-13

Controller

Common functions
- Window contact, occupancy detector, 4 operating modes
- Manual fan control with room unit
- Automatic fan control (RXL21.1/RXL22.1 three speed; RXL39.1 continous speed 0..10V)
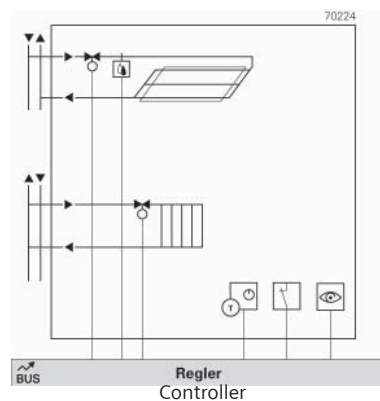- Options for 2-pipe systems: heating only, cooling only or changeover

Heated/chilled ceilings and radiators

Application	Description	Devices
CLC01	Chilled ceiling with dewpoint monitoring	RXL24.1/CC-02
CLC02	Chilled ceiling with dewpoint monitoring, radiator with downdraft compensation	RXL24.1/CC-02
RAD01	Radiator with downdraft compensation	RXL24.1/CC-02

Controller

Common functions
- Window contact, occupancy detector, 4 operating modes

Room automation Synco
Overview and selection tools
Product range overview

RXB applications

RXB hardware

The product range comprises compact controllers and corresponding room units for comfortable control. The compact room controllers are optimized to the respective application with regard to input/output configuration. HVAC functions are operated via standard room units.

Communication is based on KNX S-mode. The fan coil room controllers communicate also in KNX LTE mode. KNX LTE mode is used for to communicate with control equipment from the Synco™ 700 product range.

RXB software

Each RXB unit comes with preloaded application software featuring one or several applications (see next page).
The ETS software helps engineer and commission a network with RXB units.
In addition, the Synco™ tool and room unit QAX34.3 by Siemens can be used for commissioning and parameterization.

Integration into Synco™

The Synco™ central control unit RMB795 is used for controlling and monitoring the RXB controllers in a Synco™ system.

HVAC				
	Chilled ceiling **Radiator-type** **systems**		**KNX**	
	Fan coil units			
		QAX30 QAX31 QAX32 QAX33 QAX34 QAX39 QAX84 QAX95 QAX96 QAX97 QAX98 AQR2531..	RXB21.1 RXB22.1 RXB24.1 RXB39.1	

Room units ⟷ Compact ⟶

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Room automation Synco
Overview and selection tools
Product range overview

Fields of application

The scope of RXB is defined by the preprogrammed application software. The following pages provide an overview of the options and the corresponding devices, divided into different areas of application. The devices are supplied preprogrammed with the applications. The required application can be selected by means of the ETS, Synco™ tool or the Handy tool QAX34.3.

Due to the fact that the applications are predefined, engineering simply involves the definition of a small number of parameters, e. g.:

■ ON / OFF or 3-point control of the valves and actuators
■ Temperature setpoints
■ Manual or automatic fan control

Fan coil systems

Application	Description	Devices
FNC02	2-pipe system with changeover	RXB21.1/FC-10
FNC03	2-pipe system with changeover and electrical reheater	RXB22.1/FC-12
FNC04	4-pipe system	RXB21.1/FC-10
FNC05	4-pipe system with electrical reheater	RXB22.1/FC-12
FNC08	4-pipe system with supply air temperature limitation	RXB21.1/FC-10
FNC10	2-pipe system with changeover and outside air damper	RXB21.1/FC-11
FNC12	4-pipe system with outside damper	RXB21.1/FC-11
FNC18	2-pipe system with change over and radiator	RXB21.1/FC-11
FNC20	4-pipe system with air-side control	RXB21.1/FC-10
FNC02/03/04/08	2-pipe/4-pipe system with EC fan-coil support	RXB39.1/FC13

Controller

Common functions

■ Window contact, occupancy detector, 4 operating modes
■ Manual fan control with room unit
■ Automatic fan control (RXB21.1/RXB22.1 three speed; RXB39.1 continous speed 0..10V)
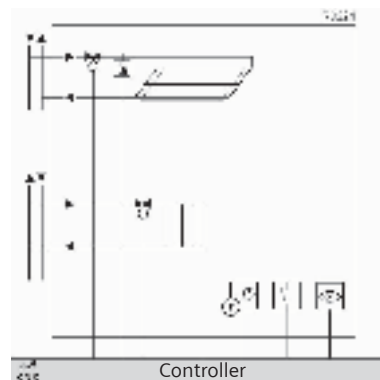■ Options for 2-pipe systems: heating only, cooling only or change-over, via KNX bus

Heated/chilled ceilings and radiators

Application	Description	Devices
CLC01	Chilled ceiling with dewpoint monitoring	RXB24.1/CC-02
CLC02	Chilled ceiling with dewpoint monitoring and radiator	RXB24.1/CC-02
RAD01	Radiator with downdraft compensation	RXB24.1/CC-02

Controller

Common functions

■ Window contact, occupancy detector, 4 operating modes

Answers for infrastructure and cities.
Our world is undergoing changes that force us to think in new ways: demographic change, urbanization, global warming and resource shortages. Maximum efficiency has top priority – and not only where energy is concerned. In addition, we need to increase comfort for the well-being of users. Also, our need for safety and security is constantly growing. For our customers, success is defined by how well they manage these challenges. Siemens has the answers.

"We are the trusted technology partner for energy-efficient, safe and secure buildings and infrastructure."

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