SIEMENS

DESIGO™ RXC
The individual room management system
Range description

LONMARK®

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Siemens Building Technologies
Building Automation

DESIGO™ RXC
The individual room management system

Contents

DESIGO™ RXC

... is a range of individual room controllers for HVAC systems and includes integrated controllers for lighting and blinds. DESIGO™ RXC controls individual comfort in buildings such as offices, schools and hotels, matching energy consumption to actual demand.

Well-being and comfort in every room

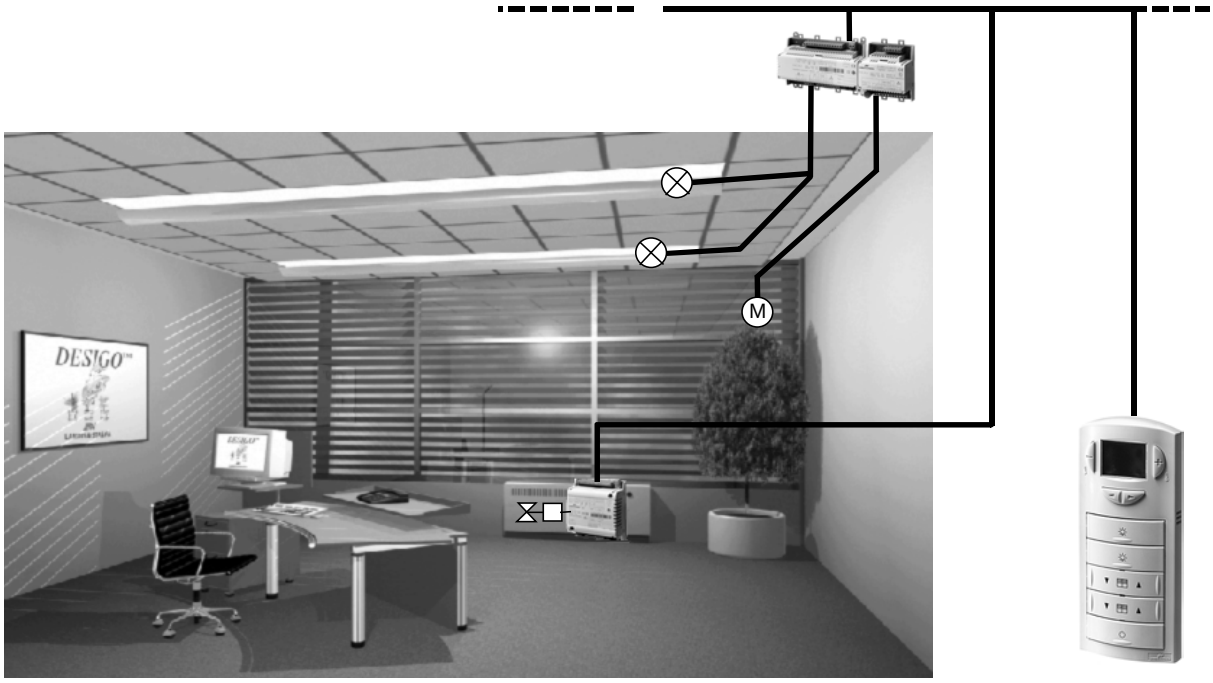
Most people in industrialised countries spend 90 % of their time indoors. About a third of this time is spent at work. It follows that good air quality, the correct temperature and draught-free air renewal are essential for well-being and productivity. DESIGO RXC controls and monitors the specific comfort conditions in rooms and other indoor areas. These tasks and functions are closely matched to individual requirements in all types of indoor environment, ensuring comfort and well-being for all and saving energy at the same time.

Maximum comfort control due to integration at room level

The modular design of DESIGO RXC means that, if desired, operation of lighting and blinds and HVAC equipment can be combined. The room user can thus control all the functions in the room to his or her own requirements.

Complete integration into the building management system

The DESIGO RXC devices communicate via a standard bus system Protocol (LONMARK® on LON bus), with each other, with other LONMARK-compatible devices or with the DESIGO building management system. This is where all the higher-level control functions and coordinating activities are executed, such as time programmes for building use and room occupancy, for example. The co-ordination of the various building services in each room is vitally important for the economical operation of the entire site.



Integrated operation of HVAC equipment, lighting and blinds

Range overview

DESIGO™ RXC is an innovative range of individual room controllers, extension modules and room units, with data communication based on LONWORKS technology.

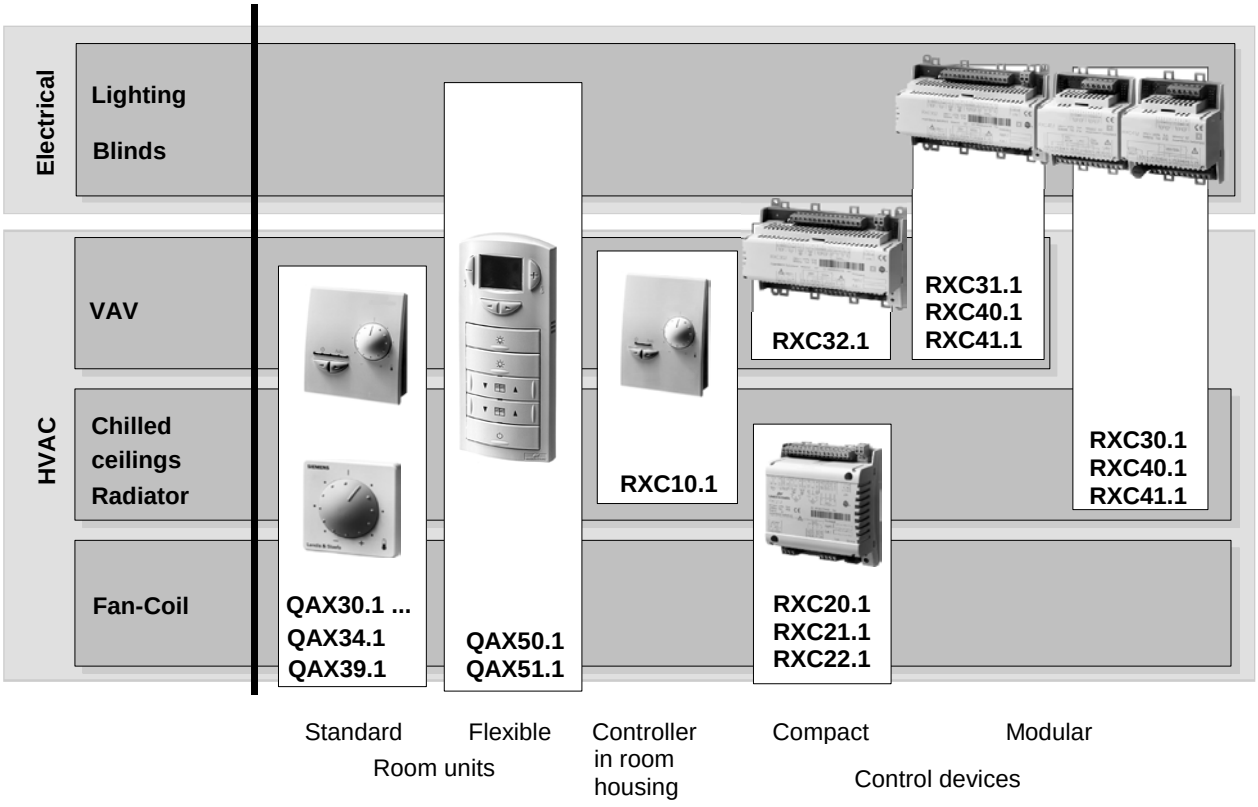
The DESIGO™ RXC hardware
The DESIGO RXC range comprises compact and modular controllers, easy-to-operate room units and controllers in room-style housings.

The input and output configurations and the housings of the compact controllers are optimised for each type of application.
The modular part of the range comprises basic modules for HVAC control, which can be combined with extension modules for lighting and blind control.

HVAC functions are operated via standard room units or by controllers in room-style housings. A specially configurable, flexible room unit is available for combined functions (HVAC, lighting, blinds).

The DESIGO™ RXC software
Each DESIGO RXC device is loaded with application software which contains the control program for the associated room or area. The devices are supplied pre-programmed with the required application.

Landis & Staefa maintains a comprehensive application library covering a broad range of HVAC and electrical applications (see the overview on page 8). Special applications can be developed on request.
For engineering and commissioning of a DESIGO RXC controller network, the RXT10.1 commissioning and service tool is used. The RXT10.1 also supports the creation of communications bindings between DESIGO RXC and other LONMARK-compatible devices.



RXC10.1 controller in room-style housing
This cost-effective controller combines a room unit and an HVAC controller, and is ideal for radiator, chilled ceiling and VAV systems applications.

RXC20.1, RXC21.1 and RXC22.1 compact controllers
These controllers are ideal for fan coil applications due to the input / output configuration and mounting options. They can be installed on fan coil units, in the control panel or on ducting. They are also suitable for radiator and chilled ceiling applications.

RXC32.1 compact controller
The RXC32.1 is suitable for compact control solutions for standard single-duct VAV systems. It comes with a built-in pressure sensor.

RXC30.1, RXC31.1, RXC40.1 and RXC41.1 modular devices
The RXC30.1 basic module is optimised for control of radiators and chilled ceilings, and two lighting zones.
The RXC31.1 basic module provides flexible control solutions for VAV supply and extract air systems. Compact volume controllers can be connected via the configurable interface (DC 0 ... 10 V).
The RXC30.1 and RXC31.1 can be combined with one or two extension modules, types RXC40.1 and / or RXC41.1.
The extension modules have a simple plug-in connection to the basic module. This means that only the basic module needs to be loaded with the application and connected to the LON bus.
The RXC40.1 extension module allows two further groups of lights to be switched and dimmed; the RXC41.1 module permits the switching of two drive motors for blinds.
The modular devices can be mounted in any location (e.g. in ceiling voids, hollow floors, VAV boxes, ducting etc.).

Inputs and outputs
The range of functions of the inputs and outputs is determined by the particular application and its parameters. For example, the AC 24 V outputs can be configured for thermic valve actuators or for 3-position actuators (see table).

Connections / functions	RXC10.1	RXC20.1	RXC21.1	RXC22.1	RXC30.1	RXC31.1	RXC32.1	RXC40.1	RXC41.1
Supply voltage	AC 24 V	AC 230 V	AC 230 V	AC 230 V	AC 230 V	AC 24 V	AC 24 V		
LON bus (concurring with LONMARK)	✓	✓	✓	✓	✓	✓	✓		
Interface for standard room unit		✓	✓	✓	✓	✓	✓		
Service socket for RXT10.1 tool	✓	✓	✓	✓	✓	✓	✓		
Plug-in connections between basic and extension modules					✓	✓		✓	✓
Digital inputs [1]	2	2	2	2	4	3	2	4	4
Analogue input for L&S Ni 10000 temp sensor		1	1	1		1 [4]	1		
DC 0 ... 10 V analogue inputs						3 [4]			
AC 24 V outputs [2]	2	2	4	2	2	6	4		
Voltage-free relay outputs [3]		1	3	4 [7]	2			2	4
DC 1 ... 10 V output for dimming function								2	
DC 0 ... 10 V / PPS2 outputs [5]	1					2			
Integrated pressure sensor							✓		
Integrated room temperature sensor	✓								
Room temperature setpoint adjustment	✓								
Mode selection (⏻/Auto) [6]	✓								

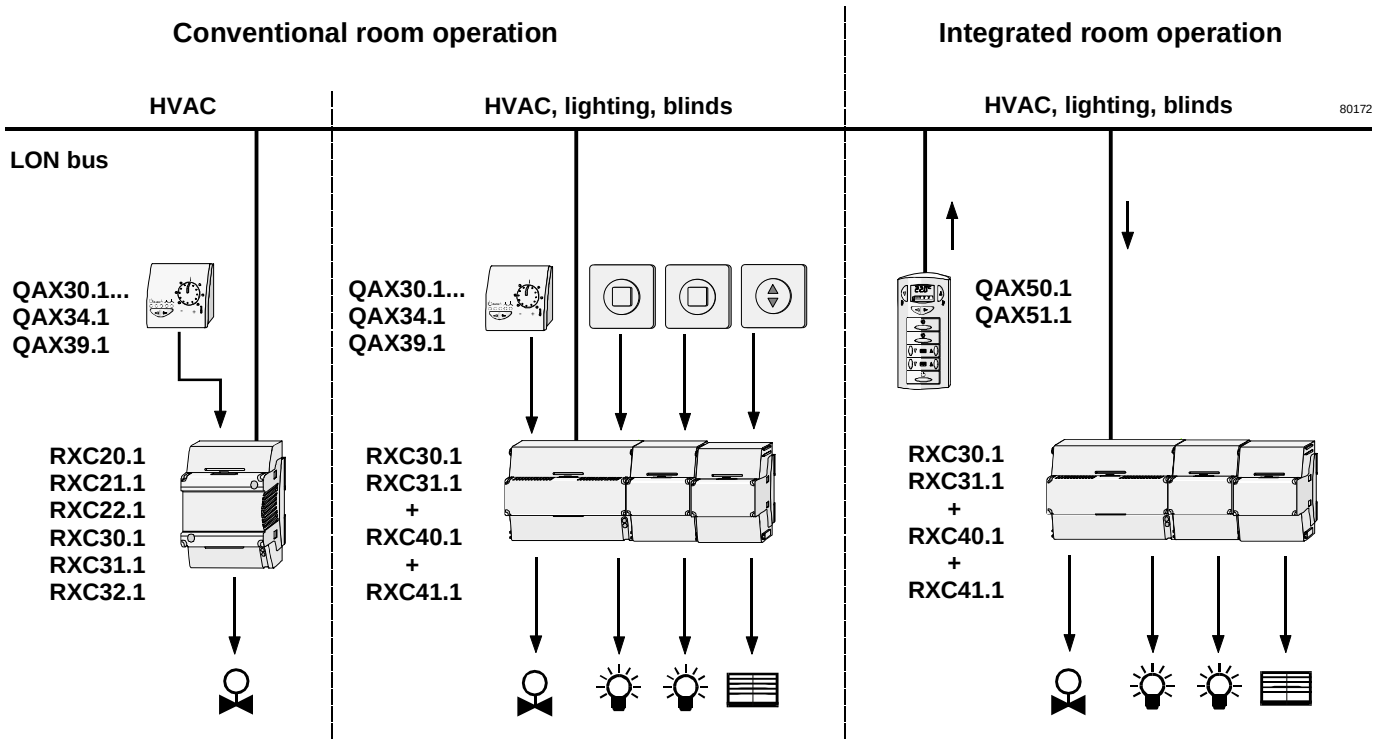
1) For window switches, occupancy detectors, dewpoint sensors, thermostats, or switches for lighting and blinds
2) For control of 2-point actuators (e.g. thermic valves with PWM algorithm), 3-point motorised actuators or contactors for electric heating coils
3) For control of fans, lighting or motorised blinds (not with RXC20.1 / RXC21.1 / RXC22.1)
4) One of the DC 0 ... 10 V inputs can be used for L&S Ni 1000 sensors (change-over switch)
5) Outputs for compact volume controllers (change-over switch DC 0 ... 10 V)
6) Operating mode Auto: *Comfort* mode
⏻: *Stand-by* or *Economy* , depending on the control from the management system (see page 15)
7) One relay output for electric re-heater

The room unit is the key to well-being and indoor comfort.

Individual operation at room level
The DESIGO RXC range of room units is designed to fulfil a broad range of user requirements. The design of the room units is not only stylish, but focuses on ergonomic factors.
Conventional operation with standard room units for HVAC, and with conventional electric switches for lighting and blinds is one possible solution.
Alternatively, an integrated room unit is available from Landis & Staefa, incorporating all the controls for HVAC, lighting and blinds in a single device.
Finally, with Intranet room operation, indoor comfort can even be controlled from an office PC.

Conventional room operation
The standard QAX30.1 ... QAX34.1 room units and setpoint adjuster QAX39.1 are available for HVAC applications. They are connected to the DESIGO RXC controller via terminals on the base. In addition to the built-in temperature sensor, all room units have a socket for the commissioning and service tool.
For applications involving the control of lighting and blinds, conventional switches can be used. This option is primarily of interest for systems retrofitted with DESIGO RXC.

Integrated room operation
The QAX50.1 and QAX51.1 flexible room units combine the operation of HVAC, lighting and blinds in a single device. The functional scope of each room unit is defined with application software corresponding to the room configuration. The room units are then fitted accordingly with the appropriately labelled push-buttons. These integrated room units communicate with the controllers via the LON bus.



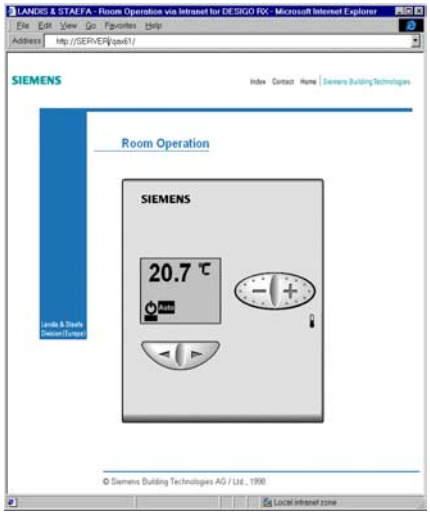
Examples of conventional and integrated room units

Intranet room operation

Room operation via the Intranet has the following advantages for room occupants and building owners:

- HVAC functions can be operated from the workstation PC
- Reduced capital investment (no need to install room units)
- Greater flexibility to accommodate changes in use of the space

For Intranet room operation, DESIGO RXC must be integrated into the DESIGO INSIGHT management station (see page 15).
Intranet room operation is supplied in the form of a software package (QAX61.1) and a licence (QAX60.1). Each licence covers ten rooms.



Intranet room operation

Room unit functions	**QAX 30.1**	**QAX 31.1**	**QAX 32.1**	**QAX 33.1**	**QAX 34.1**	**QAX 39.1**	**QAX 50.1, 51.1**	**QAX 90.1**	**QAX 91.1**
									
Integrated room temperature sensor	✓	✓	✓	✓	✓		✓	✓	✓
Room temperature setpoint adjustment		✓	✓	✓	✓	✓	✓		✓
Mode selection (⏻/Auto)[1)]			✓	✓	✓		✓		
Mode selection (⏻/Auto)[1)] and fan speed control				✓	✓		✓		
LCD display for room temperature, mode and fan speed					✓		✓		
Exchangeable push-buttons for control of lighting and blinds							✓		
Loadable application software for operation of lighting and blinds							✓		
PPS2 interface to DESIGO RXC controller	✓	✓	✓	✓	✓	✓		2)	2)
LONMARK-compatible bus communication							✓		
Wireless room units [2)]								✓	✓

1) Operating mode Auto: *Comfort* mode
⏻: *Stand-by* or *Economy* , depending on the control from the management system (see page 16)

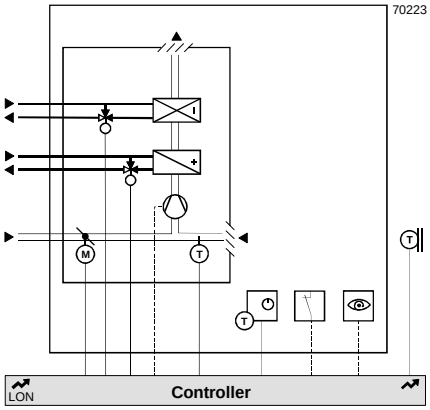
2) The receiver RXZ90.1 acts as the PPS2 interface for the QAX90.1 / 91.1 room units

Possible applications

The scope of DESIGO RXC is defined by the pre-programmed applications. The following pages, divided into different areas of application, provide an overview of the options and the corresponding devices.
The devices are supplied pre-programmed with the application required. Other applications can be loaded using the RXCT10.1 commissioning and service tool, which contains the entire applications library.
Due to the fact that the applications are largely pre-defined, engineering simply involves the definition of a small number of parameters, e.g.:

- 2-point or 3-point control of the valves and actuators
- Temperature setpoints
- Manual or automatic fan control

Fan coil systems

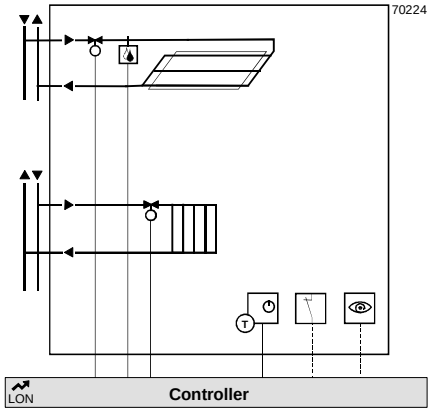


Appl.	Description	Devices
FNC02	2-pipe system with change-over	RXC20.1 / RXC21.1
FNC03	2-pipe system with change-over and electric reheater	RXC20.1 / RXC21.1 / RXC22.1
FNC04	4-pipe system	RXC20.1 / RXC21.1
FNC08	4-pipe system with supply air temperature limitation	RXC21.1
FNC10	2-pipe system with change-over and outside air damper	RXC21.1
FNC12	4-pipe system with outside air damper	RXC21.1
FNC18	2-pipe system (cooling) and radiator	RXC20.1 / RXC21.1
FNC20	4-pipe system with air-side control	RXC20.1 / RXC21.1

Common functions

- Window contact, occupancy detector, 3 operating modes
- Manual fan control with room unit
- Automatic fan control (RXC20.1 single-speed, RXC21.1, RXC22.1 three-speed)
- Options with 2-pipe systems: heating only, cooling only or change-over via LON bus

Heated / chilled ceilings and radiators

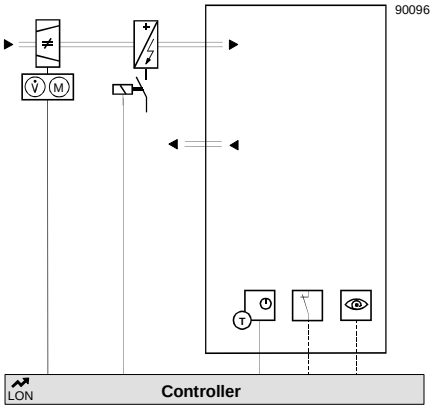


Appl.	Description	Devices
CLC01	Chilled ceiling	RXC20.1 / RXC10.1
CLC02	Chilled ceiling and radiator	RXC20.1 / RXC10.1
CLC03	Chilled ceiling and radiator	RXC20.1
CLC06	Chilled/heated ceiling, 2-pipe system with change-over via LON bus	RXC20.1 / RXC10.1
CLC07	Chilled/heated ceiling, 2-pipe system with radiator and change-over via LON bus	RXC20.1
CLC08	Chilled/heated ceiling, 4-pipe system and two on/off valves	RXC21.1
CLC09	Divided chilled/heated ceiling: Cooling only and cooling/heating with change-over via LON bus	RXC20.1 / RXC21.1
RAD01	LPHW radiators	RXC20.1 / RXC10.1
RAD03	Electric radiators	RXC20.1

Common functions

- Window contact, occupancy detector, 3 operating modes
- Dewpoint sensor

VAV systems

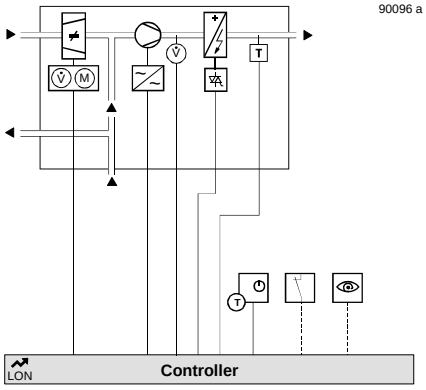


Appl.	Description	Devices
VAV01	Single duct supply or extract air system	RXC10.1 / RXC32.1
VAV02	Single-duct supply air system with reheater/cooler	RXC32.1
VAV03	Single-duct supply air system with electric reheater	RXC32.1
VAV04	Dual duct supply and extract air system	RXC31.1
VAV05	Dual duct supply and extract air system with reheater/cooler	RXC31.1
VAV06	Dual duct supply and extract air system, with electric reheater	RXC31.1
VAV07	Single-duct supply or extract air system with radiator-type heating	RXC10.1
VAV08	Single-duct supply and extract air system with radiator-type heating	RXC31.1

Common functions

- Window contact, occupancy detector, 3 operating modes
- Built-in pressure sensor (RXC32.1)
- DC 0 ... 10 V inputs for external pressure sensors (RXC31.1)
- Control of compact volume controllers with DC 0 ... 10 V (RXC10.1, RXC32.1)
- Direct control of damper actuators (RXC31.1, RXC32.1)

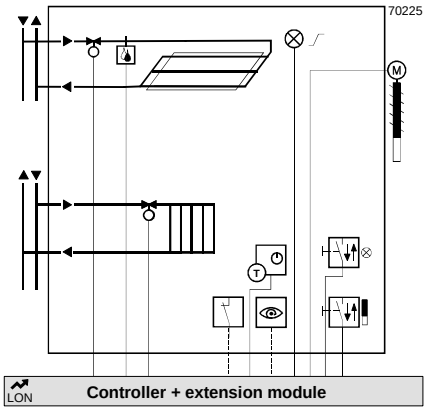
FPB systems



Appl.	Description	Devices
FPB05	Fan Powered Box with series fan and electric reheater	RXC31.1

Common functions

- Window contact, occupancy detector, 3 operating modes
- DC 0 ... 10 V inputs for external pressure sensors
- Control of compact volume controllers with DC 0 ... 10 V
- Direct control of damper actuators
- DC 0 ... 10 V output for continuous fan speed control



Combined applications

The HVAC applications covered by the RXC30.1 basic module can be combined with lighting and blind control (extension modules RXC40.1 and RXC41.1). The combined applications consist of an HVAC application with one or more electrical functions.

Appl.	HVAC appl.	Electrical function			Devices			
		Group of lights: on/off[1]	Group of lights: dimmed	Blinds up/down[2]	RXC30.1	RXC31.1	RXC40.1	RXC41.1
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	2	
INT12	VAV08[4]		2 x			1	1	
INT15	VAV08[4]	2 x		2 x		1	1	1
INT17	VAV08[4]			2 x		1		1

1) With or without daylight sensor via LON bus, as required
2) With or without slat adjustment, as required
3) CLC02: Chilled ceiling and radiator, see page 8
4) VAV08: Single-duct supply and extract air system with radiator-type heating

Operation with the flexible room unit

The flexible room unit was designed specifically for operation of combined applications (see pages 6 and 7). The unit is loaded with an application for lighting and blind operation and fitted with the appropriate push-buttons. The available applications are described in the DESIGO RXC application library.

The flexible room unit can be ordered as follows:

- If the application is not yet known the room unit can be ordered with two different sets of push-buttons covering all applications.
  QAX50.1: with push-buttons for HVAC, blinds, and on/off control of lighting
  QAX51.1: with push-buttons for HVAC, blinds, and dimmer control of lighting
- If the application is known, the room unit is delivered with the appropriate push-buttons fitted.

Basic applications

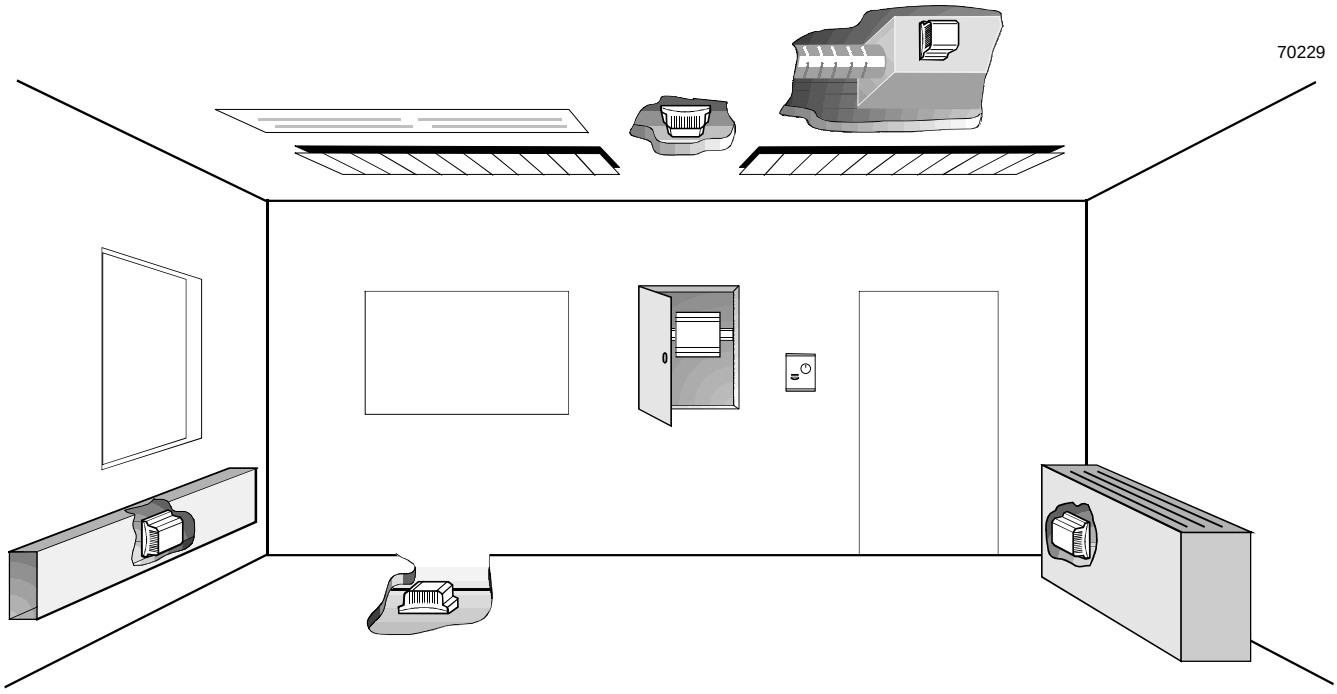
With the basic application software, every DESIGO RXC controller can also be used as an I/O module. The RXT10.1 commissioning and service tool can be used to observe the signals to the inputs or to process them further at the automation level or at the management station. Direct control of the controller outputs is also possible.
Controllers ordered without reference to a specific application will be supplied factory-programmed with the appropriate basic application.

Appl.	Description
00010	Basic application for RXC10.1
00020	Basic application for RXC20.1
00021	Basic application for RXC21.1
00022	Basic application for RXC22.1
00030	Basic application for RXC30.1
00031	Basic application for RXC31.1
00032	Basic application for RXC32.1

Installation

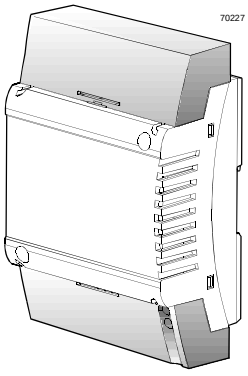
The DESIGO RXC controllers are designed for various types of installation:

- In fan coil units (mounting with screws or on DIN rails)
- In control panels (on DIN rail)
- In ceiling voids
- In hollow floors
- In sill or floor ducting
- On VAV boxes
- On flush-mounting boxes (RXC10.1)



Various options for installation

Terminal covers are required when mounting the controllers outside control panels or fan coil units.
(see page 19 accessoires)



Example: RXC20.1 with terminal covers

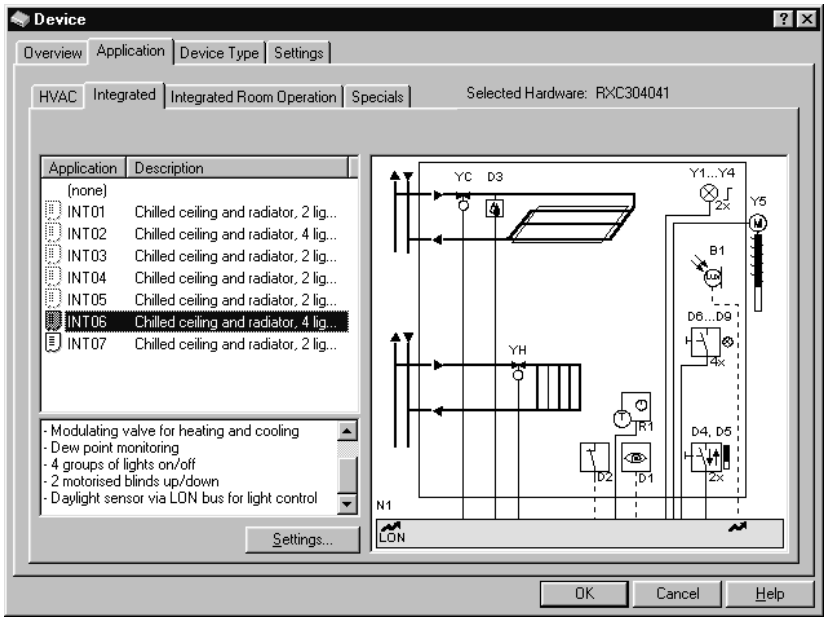
Engineering and commissioning

In the engineering phase, the number of DESIGO RXC controllers, their application and the LONMARK bindings between the DESIGO RXC controllers, and between DESIGO RXC and third-party equipment are determined according to the division of rooms and zones in the building. The network structure defined at the engineering stage (applications, parameters, LONMARK bindings etc.) is mapped in the DESIGO RXC devices in the commissioning phase.
The controllers can be ordered pre-programmed with an application. If the application is not known at the time of ordering, the controller will be delivered with a basic application which can be overwritten later.

RXT10.1 commissioning and service tool
Engineering in the office and commissioning on site are efficiently supported by the RXT10.1 commissioning and service tool. RXT10.1 is a PC software program which runs under Windows 95, 98 or NT4.0.
The commissioning and service tool is used for the following:

- Selecting the application for each room
- Definition of the required controllers
- Parameter setting
- Creating the LONMARK bindings
- Addressing the DESIGO RXC devices
- Loading the network structure in the DESIGO RXC devices (incl. applications)
- Commissioning (online help)
- Integration of LONMARK-compatible third-party equipment
- Project documentation
- Graphical network view

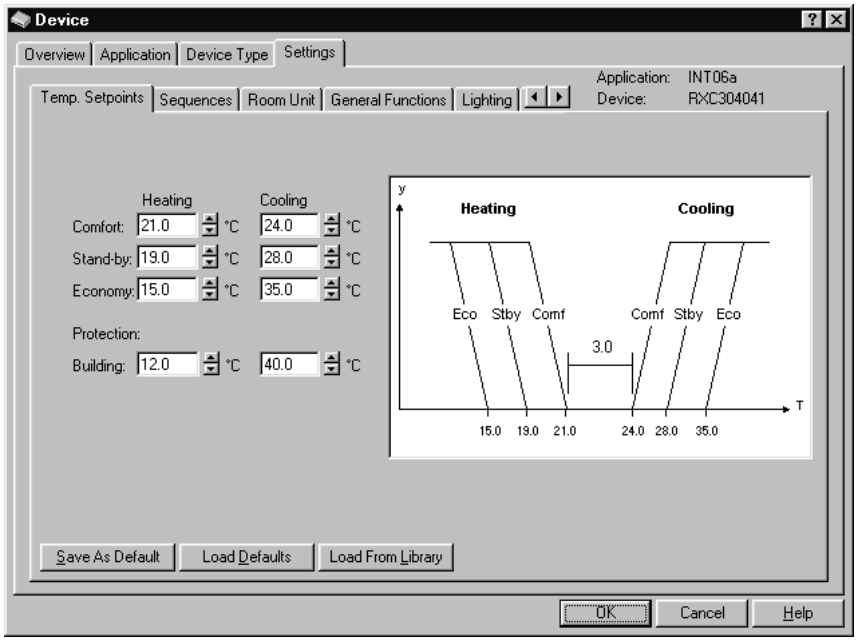
Selection of the application and controllers
When the appropriate application has been chosen, the correct controllers are selected for each room or area from the comprehensive application library stored in the RXT10.1. (In the example below, application INT06 and the RXC30.1 basic module with extension modules RXC40.1 and RXC41.1).



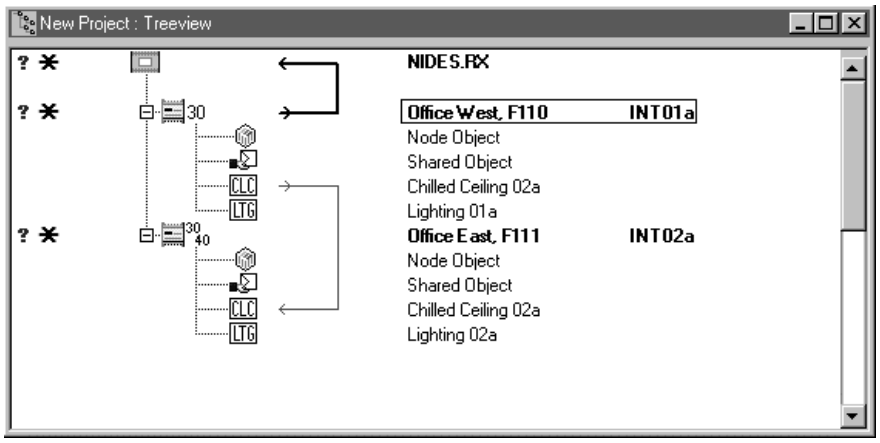
Selection of the application

Parameter setting

Each application has a number of parameters, such as temperature setpoint, type of output sequence (2-point or 3-point), type of fan control etc. These parameters are now adjusted according to the requirements. The parameters are preset, however, which means that the default setting can be retained in most cases.



Setting the temperature setpoints



Example: Using “drag-and-drop” to create LONMARK bindings

LONMARK bindings

The DESIGO RXC bus communication is based on LONWORKS technology. This allows DESIGO RXC devices to communicate with each other and with LONMARK-compatible devices from other manufacturers. So, for example, an outside temperature sensor can be connected to a number of DESIGO RXC controllers via the LON bus.

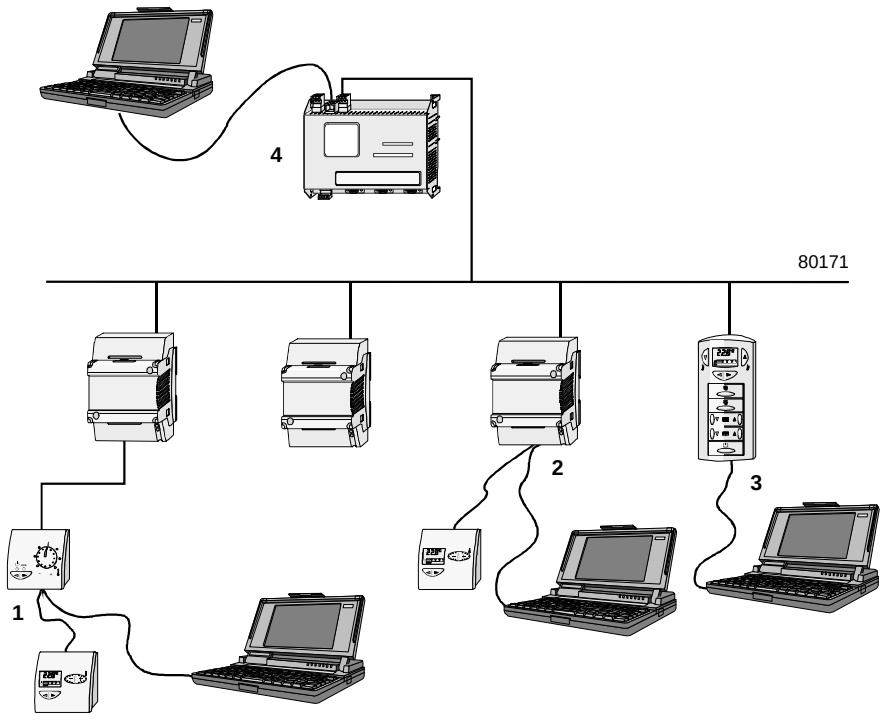
Changes in building use can also be accommodated without the need for rewiring. If two rooms are combined, for example, the output sequences of one of the controllers can be transferred to the second one via the LON bus, so that the two controllers operate in parallel.

The graphical interface of the RXT10.1 allows the user to create these LONMARK bindings quickly and easily.

Addressing
The physical identification number (neuron ID) of each DESIGO RXC device or LONMARK-compatible field device must be adapted to conform to the logical address (e.g. location) in the network structure. RXT10.1 offers various options for efficient addressing.

Loading the network structure
The network structure (applications, parameters, LONMARK bindings) must now be mapped in the individual DESIGO RXC devices:
On site, the entire structure can be downloaded into the installed DESIGO RXC devices from one point on the LON bus (see the diagram below).
It is also possible to address all the DESIGO RXC devices individually and download the network structure in the office before installation.

Connection of the RXT10.1 commissioning and service tool
A laptop with RXT10.1 software is connected to the LON bus for commissioning on site. All the controllers on the LON bus can be addressed from a single point. All room units have a socket for the RXT10.1, ensuring easy access to the LON bus even when the DESIGO RXC devices are installed in inaccessible locations.



Connection options		RXT10.1	Service terminal RXT20.1
1	At the standard room unit	✓	✓
2	At the controller	✓	✓
3	At the flexible room unit	✓	
4	At the NIDES.RX interface (see page 14)	✓	

Adjusting the parameters
If necessary, parameters such as temperature setpoints can be adjusted during commissioning or later, when servicing the system.

Commissioning support
RXT10.1 includes convenient functions to support commissioning.
Examples:
- Interrogation or restoration of network data
- Monitoring and testing of the inputs of one or more DESIGO RXC devices
- Direct control of the outputs of one or more DESIGO RXC controllers, for test purposes or to balance hydraulic circuits
- Trend features for long-term data logging
- Report functions for printing project data

RXT20.1 service terminal
For simple diagnostics and to address the DESIGO RXC devices (by operating the service pin), the commissioning engineer may also use the RXT20.1 service terminal. This is connected directly to the DESIGO RXC controller or to a room unit (see left). When connected to the room unit, the terminal can be used to address DESIGO RXC controllers installed in locations to which there is no easy physical access.

Integration into DESIGO™ INSIGHT

DESIGO™ INSIGHT ...
... is the new Windows NT-based building management system from Landis & Staefa Division. It integrates the automation levels INTEGRAL (with NCRS or NITEL), VISONIK [1] (with DCS) and UNIGYR.
With its modular structure, DESIGO covers every level of complexity, from small buildings to large building complexes and geographically separate buildings.
Depending on the degree of complexity required, the management station DESIGO INSIGHT offers the following program components to the user:

- Plant Viewer: graphical operation of the site
- Trend Viewer: logging and display of measured values
- Alarm Viewer: display of alarm messages
- Log Viewer: logging of system events
- Time Scheduler: schedules for a wide range of switching operations
- Object Viewer: display and modification of data point values
- Alarm Router: routing of alarm messages

Further information will be found in the system description documents CA1S9100, CA1S9101 and CM1S9102.

1) VAV applications and third-party devices will be supported by VISONIK from spring 2001.

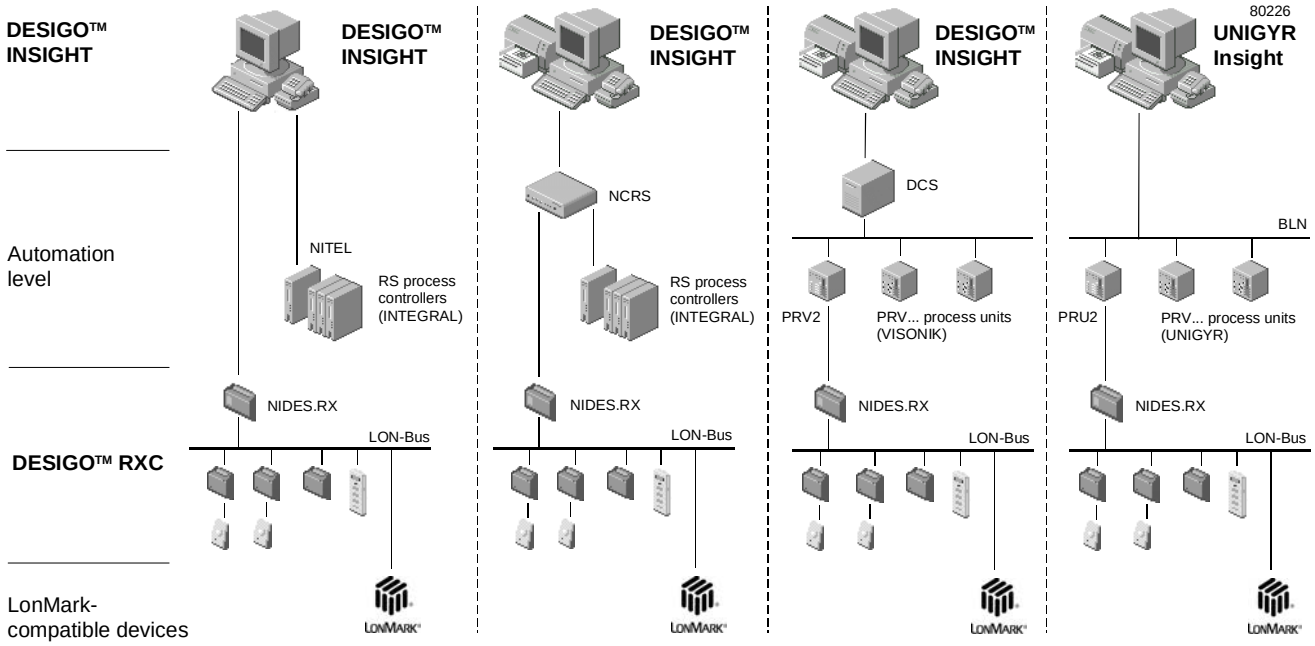
Fully integrated building automation
The integration of DESIGO RXC into the DESIGO building management system opens up a wide range of additional functions for control and operation of the DESIGO RXC devices:

- Interrogation and analysis of the controller data
- Integration of the controller data into plant graphics
- Individual time schedules
- Central control of setpoints, operating mode, lighting, blinds etc.

NIDES.RX interface
The NIDES.RX is used to integrate DESIGO RXC into DESIGO. It converts the LON data points into data points for the automation level. Depending on the number of integrated data points, up to 80 DESIGO RXC controllers can be connected to each NIDES.
Depending on the automation level, the NIDES.RX is integrated as follows:

- via PRV2 (VISONIK)
- via PRU2 (UNIGYR)
- via NCRS (INTEGRAL with NCRS)
- directly via the management station (INTEGRAL with NITEL)

Engineering
The data from the network structure defined in the RXT10.1 is imported into the engineering tools for the automation level (INTEGRAL PLAN, ETS) and thus made available to the building management system.
In addition, a backup of the entire network structure is stored for service purposes in the NIDES.RX interface.



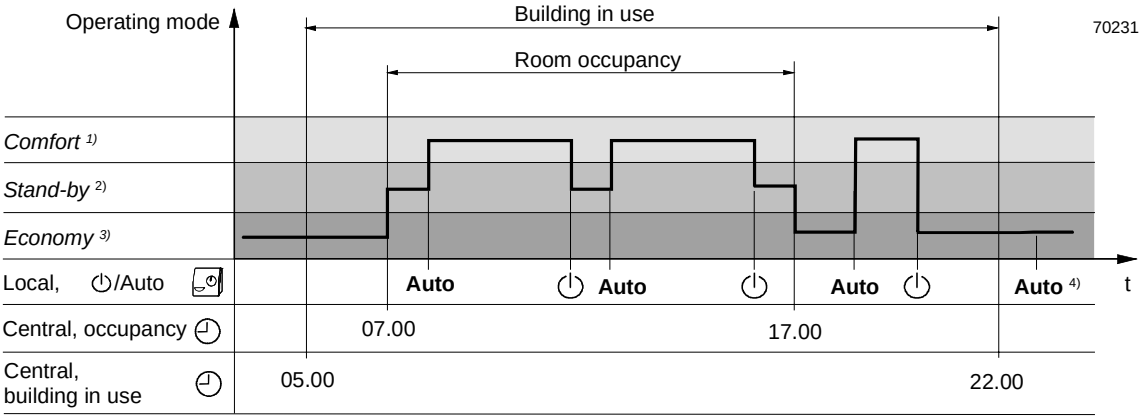
Options for connection to DESIGO RXC (according to the automation level used)

Building and room occupancy
The time programmes available in DESIGO INSIGHT for building and room occupancy can be used to match the energy demand closely to the differing occupancy times in various parts of the building.
The building occupancy time programme determines the overall period of time during which the building is in use.

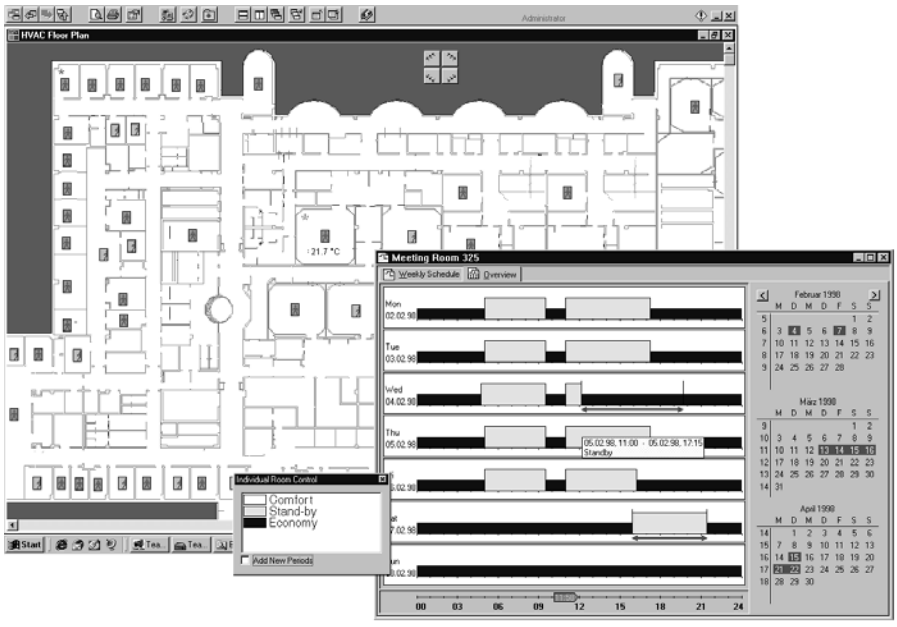
Outside the building occupancy period, the plant (e.g. HVAC primary plant) is available, but at reduced output.
The room occupancy time programme determines the occupancy times in individual rooms or groups of rooms. This allows the various tenants in a building, for example, to define their own occupancy hours.

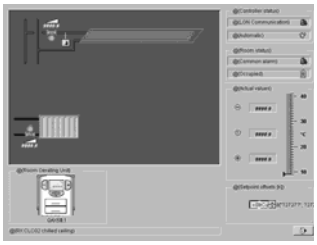
Central and local operating mode control
The diagram below shows an example of the way in which the central time programmes (for building occupancy and room occupancy) interact with the local ⏻/Auto control on the room unit (operating as an occupancy function in this case).
Local control with an occupancy sensor is also possible.

Example of the routines over a typical day:



1) *Comfort*: The temperature setpoint is in the comfort zone.
2) *Stand by*: If the room user is temporarily absent, the temperature setpoint is reduced (heating) or increased (cooling) by a few degrees.
3) *Economy*: During the night or when the building is unoccupied, the heating or cooling output is reduced significantly.
4) If the building is not in use, the local operation has no influence on the operating mode.





RXC application with room unit integrated into a Super Genie

DESIGO INSIGHT: The floor plan can be used, for example, for easy editing of the room occupancy time programme in each room.

DESIGO™ RXC equipment overview (with field devices)

DESIGO RXC controllers		Documentation
RXC10.1	Individual room controller in room-style housing for chilled ceilings, radiators and VAV systems (supply or extract air)	CA2N3830
RXC20.1, RXC21.1, RXC22.1	Individual room controllers for fan coil systems, chilled ceilings and radiators	CA2N3834
RXC30.1	Individual room controller for radiators and chilled ceilings with lighting control	CA2N3840
RXC31.1	Individual room controller for VAV systems (supply or extract air)	CA2N3844
RXC32.1	Individual room controller for VAV systems (supply air, with built-in pressure sensor)	CA2N3845
RXC40.1	Extension module for RXC30.1 and RXC31.1, with lighting control	CA2N3842
RXC41.1	Extension module for RXC30.1 and RXC31.1, with blind control	CA2N3843

DESIGO RXC room units		
QAX30.1	Room unit with temperature sensor	CA2N1741
QAX31.1	Room unit with temperature sensor and setpoint adjustment	CA2N1741
QAX32.1	Room unit with temperature sensor, setpoint adjustment and ⏻/Auto switch	CA2N1641
QAX33.1	Room unit with temperature sensor, setpoint adjustment and ⏻/Auto / Fan speed switch	CA2N1642
QAX34.1	Room unit with temperature sensor, setpoint adjustment, ⏻/Auto / Fan speed switch and LCD	CA2N1645
QAX39.1	Universal setpoint adjuster	CA2N1646
QAX50.1, QAX51.1	Flexible room unit with temperature sensor, setpoint adjustment, ⏻/Auto / Fan speed switch, LCD and rocker switches for lighting and blinds	CA2N1648
QAX60.1, QAX61.1	License for Intranet room operation (10 rooms) with software	CA2B3807
QAX90.1	Wireless room unit with temperature sensor	CA2N1643
QAX91.1	Wireless room unit with temperature sensor and setpoint adjuster	CA2N1643
RXZ90.1	Receiver for wireless room units, with PPS2 interface	CA2N1644

DESIGO RXC interfaces and tools for commissioning and service		
NIDES.RX	Interface to DESIGO INSIGHT	CA2N3299, CA2Z3299
RXT10.1	Commissioning and service tool	CA2B3808
RXT20.1	Service terminal	CA2N3851

DESIGO RXC, other documentation		
	Applications library	CA2A3810
	Installation guide	CA2Z3802

L&S Ni 1000 temperature sensors		
QAM22	Duct temperature sensor	CM1N1771
QAP21.1	Window temperature sensor	CE1N1832
QAP22...	Cable temperature sensor	CM1N1831
QAA24	Room temperature sensor	CM1N1721

Air quality sensors		
QPA63...	CO_2 / VOC sensors	CM1N1958
AQP63.1	Processor for ventilation demand (for use with QPA63...)	CM1N1959
Dewpoint sensors		Documentation
QFX21	Condensation detector	CM1N1541
Differential pressure sensors		
QBM62.1...	Differential pressure sensor with extracting-the-root characteristic	CM1N1913
QBM62.2...	Differential pressure sensor with linear characteristic	CM1N1914
QBM63/..., QBM64/...	Differential pressure sensors with choice of linear or root characteristic and adjustable measuring range	CM1N1912
QBM65-...	Differential pressure sensor for positve or negative pressure	CA1N1916
QBM65-.../C	As QBM65-..., with calibration certificate	CA1N1919
QBM81-...	Differential pressure switch	CA1N1552
Air velocity sensors		
QVM62.1	Duct sensor for air velocity	CA1N1932
Valves with AC 24 V thermic actuator		
T3W..., T4W...	Thermic actuator STE72 with 3W or 4W valves	CA1N4829
Valve actuators AC 24 V		
2-point, thermic:		
STE71.1 (PWM)	Thermic actuator, nominal stroke 3.0 mm, 125 N for valves type **VD..., VE..., VU..., VPD..., VPE...**	CA1N4874 CE1N2161 CE1N2163 CE1N2185
STA71 (PWM)	Thermic actuator, nominal stroke 2,5 mm, 105 N, for valves type **VD..., VE..., VU..., VPD..., VPE...**	CA1N4877
STE72 (PWM)	Thermic actuator, nominal stroke 3.0 mm, 125 N for valves type **2W..., 3W..., 4W...**	CA1N4873 CA1N4846
3-point,motoric:		
SQS81	Motorised actuator, nominal stroke 5.5 mm, 300 N for valves type **VMP43...**	CE1N4575 CE1N4841
SSB81...	Motorised actuator, nominal stroke 5,5 mm, 200 N for valves type **V...P45...**	CA1N4891 CM1N4845
SSA81...	Motorised actuator, nominal stroke 2,5 mm, 100 N for valves type **VD..., VE..., VU...**	CA1N4893 CE1N2161 CE1N2163

Damper actuators		
GDB13...1E, GLB13...1E	Rotary actuator, 5/10 Nm, AC 24 V, 3-point	CM2N4624
GDB13...2E, GLB13...2E	Linear actuator, 125/250 N, nominal stroke 60 mm, AC 24 V, 3-point	CM2N4654
GHD131.2E	Linear actuator, 150 N, AC 24 V, 3-point	CA2N4689
GDB16...1E, GLB16...1E	Rotary actuator, 5/10 Nm, 0 ... 10 V	CM2N4634
GDB16...2E, GLB16...2E	Linear actuator, 125/250 N, nominal stroke 60 mm, 0 ... 10 V	CM2N4664
VAV compact controllers (static)		
GDB181.1E/3, GLB181.1E/3	VAV compact controller with differential pressure sensor, digital volume controller and actuator, 5/10 Nm, AC 24 V, 0 ... 10 V/PPS2	CM2N3544
Accessories		
RXZ01.1	LON bus terminator 52.3 Ω	CA2N3861
RXZ02.1	LON bus terminator 105 Ω	CA2N3861
RXZ03.1	LONMARK point coupler	CA2N3849
RXZ10.1	Cable set for RXT10.1	See CA2B3808
RXZ20.1	Terminal covers for RXC20.1 and RXC21.1	CA2N3834
RXZ30.1	Terminal covers for RXC30.1	CA2N3840
RXZ40.1	Terminal covers for RXC40.1 and RXC41.1	CA2N3842
SEA41.2	Power controller, AC 24 V, AC 24 V PWM, 0.4 ... 10 kW	CM1N4936
UA1T	Power amplifier for thermic valve actuators	CA2N3591
----------	Air filter for RXC32.1	See CA2N3845

3rd party devices (See Field Purchasing Guide for detailed order information)		
DIALOC BA LPS/RPT	LPT power supply with repeater (Moeller)	Order number: 223801
Link Power Supply	LPT power supply (Siemens)	Order number: 6EP 1252-OAAOO

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