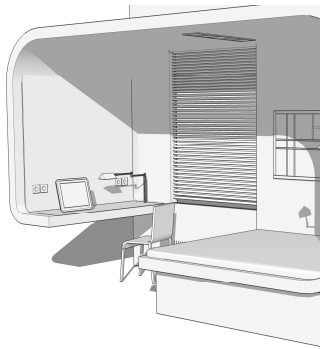


Welcome to the digital ABB Stotz-Kontakt learning programme. In this module you will learn about the ABB/KNX Room Master. The Room Master ABB i-bus KNX is an intelligent building control for hotel rooms and apartments.

If you need help navigating this module, just click “help”. To see the presenter notes , click on the “Notes” button in the bottom right-hand corner. You can also download a printed version of the presentation by clicking on „Attachments”.

And now: sit back and enjoy the presentation!

Room Master Learning Objectives



In this learning module
you are going to learn about:

- Room automation
- The functions of room automation at a glance
- The different versions and product details
- The market potential and customer value

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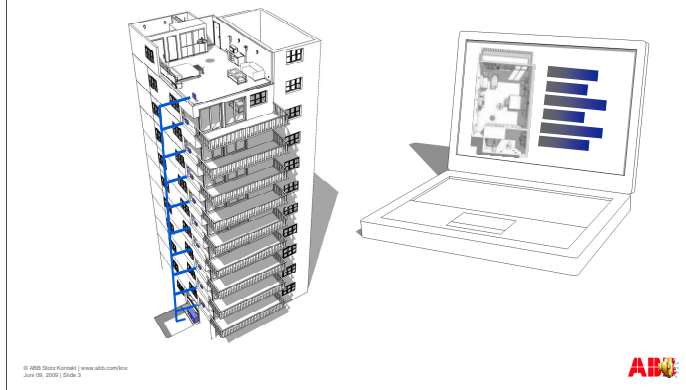


In this learning module you are going to learn about:

room automation in general, the functions of the Room Master at a glance the different types of Room Master and the product details and also about the market potential and customer value.

When you have finished this module you will know about the latest options in room automation using ABB i-bus KNX devices.

Requirements in modern buildings Modern buildings need efficient room automation



Many buildings can be operated efficiently with modern home automation.

Central control makes good sense, particularly in buildings with identical room layouts e.g. apartments, hospitals, assisted-living facilities and hotels.

All these rooms make similar demands on the electrical installation, but often the rooms are not networked.

The appropriate technology provides room automation and networking and this leads to energy conservation and the efficient, easy-to-use operation of the rooms.

Modern buildings need efficient room automation

Hospital rooms



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In hospitals and in buildings with a similar use e.g. assisted-living facilities, there are many functions which facilitate the efficient operation of a modern building:

- Easy operation of the room functions by the patients
- Automatic control of the room climate
- Day/night switching
- An indication when the doctor is making his round
- Remote control of the room and display of the room conditions in the nurses' station
- Rapid localisation of malfunctions in the rooms and easier room maintenance

Apartments



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Apartments must be attractive and provide a high quality of life. The key factors when buying or renting an apartment are: Automatic switching of the lighting in the rooms Automatic control of the heating and air-conditioning systems, Shading the rooms with blinds or curtains, And easy-to-use operation of the room functions.

Hotel rooms



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Modern hotels need technology which spoils the guests and allows routine operations to run smoothly, while guaranteeing the profitability of their business.

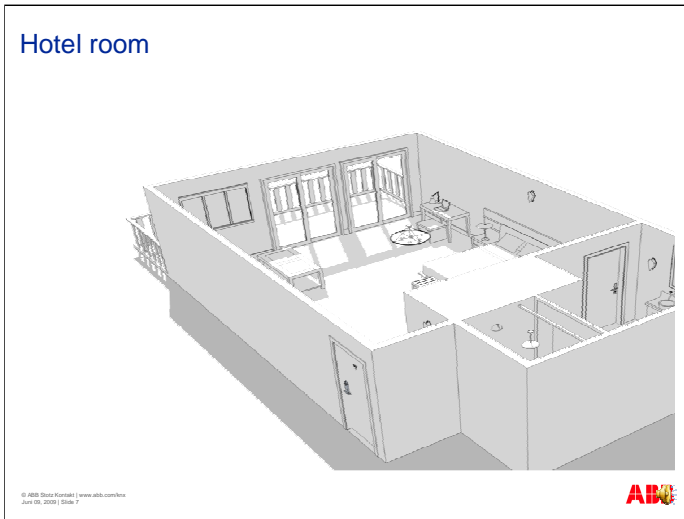
Easy-to-use operation of the room functions by the guests Convenient, customized lighting control, e.g. using light scenes, bedside master switches and room shading- blinds and curtains protect the guest from the elements and ensure his privacy.

Control of heating, air-conditioning and ventilation systems based on the outside temperature and occupancy and, of course, the individual wishes of the guest.

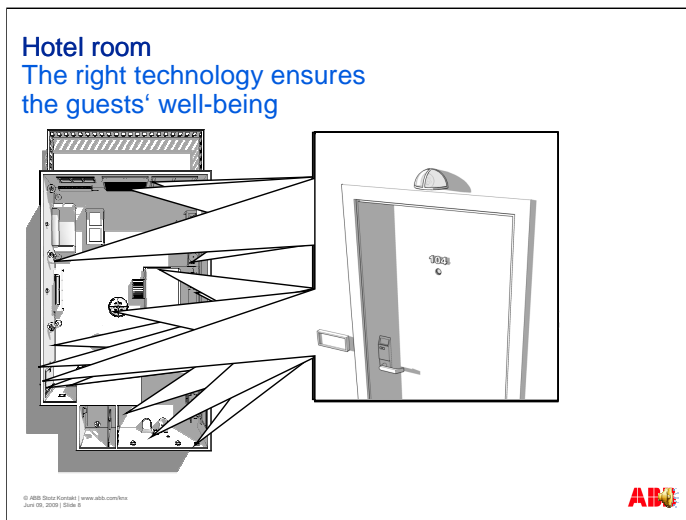
Display and transmission of messages to the reception, e.g. clean the room or an alarm signal.

Rapid localisation of malfunctions in rooms and easier room maintenance.

Hotel room



In the following example of a hotel room you can see the various applications of a modern electrical installation. We can look at these functions one by one.



Imagine you are in a hotel.

You enter the room and put your card in the card reader.

The hall lighting and the sockets switch themselves on and, at the same time, the reception receives the information that the room is now occupied.

You go into the bathroom and switch on the light.

After a few minutes the bathroom fan is switched on automatically.

For your safety an alarm signal switch has been installed in the bathroom, in case you should need help.

You can also switch on the ceiling lighting in the bedroom and living room if you need these.

Beside the armchair there is a reading lamp, which is plugged into a switchable socket.

The bedside lighting to the left and right of the bed can be switched off and on individually.

If you are already in bed and have forgotten to turn off one of the lights, the master switch will help you by switching off all the lights centrally. You don't even have to get out of bed.

If you have to get up in the middle of the night, you only have to turn your bedside lamp on. There's no need to use the master switch.

For shading the room, the blinds can be controlled conveniently from inside the room.

You can set the climate in the room individually, just as you like it. Behind the scenes the system ensures the correct control of the fan, the heating and the air-conditioning circuit valves, as well as any optional auxiliary heating.

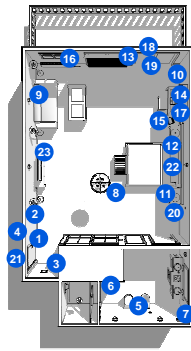
A condensed water sensor signal and a window contact signal can also be integrated. This ensures, in order to save energy, that the air-conditioning is switched off when the window is opened to air the room.

A fan-coil controller has settings for the desired temperature in the hotel room. The controller lets you adjust the temperature and the fan to your personal needs.

If you do not want to be disturbed or if you need room service, you can notify the reception just by pressing the button and this will also be displayed on door of your hotel room.

As you can see, the right technology ensures the comfort of the guests and enables the hotel operator to use the rooms efficiently.

Hotel room – functional overview



- | | |
|----------------------------|-------------------------------|
| 1 Key card reader | 13 Blinds (open/close) |
| 2 Sockets | 14 Fan (Settings 1, 2 and 3) |
| 3 Hall lighting | 15 Auxiliary electric heating |
| 4 Room occupied/
vacant | 16 Heating valve |
| 5 Alarm signal | 17 Cooling valve |
| 6 Bathroom light | 18 Drip tray sensor |
| 7 Blower bathroom | 19 Window contact |
| 8 Bedroom light | 20 Fan Coil controller |
| 9 Living room light | 21 Please do not disturb |
| 10 Switchable socket | 22 Master switch |
| 11 Bed light right | 23 Room service |
| 12 Bed light left | |

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Let's just summarise briefly: here you have an overview of the different functions.

The solution

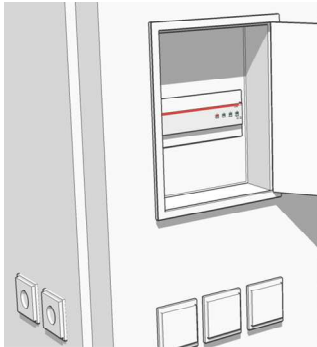


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Today, all these options and functions can be performed simply and economically with the intelligent building control ABB i-bus KNX and the Room Master ...

Room Master Learning Objectives



In this learning module you will get information about:

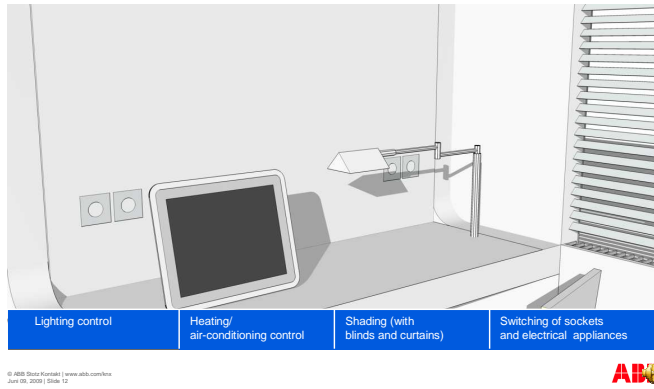
- Room automation
- The functions of room automation at a glance
- The different versions and product details
- The market potential and customer value

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- Let's move on to the functions of the Room Master.

Key functions of the Room Master



The Room Master provides the following key functions:

- Lighting control
- Heating and air-conditioning control
- Room shading with blinds or curtains
- It also has the option of switching sockets and other electrical appliances

Types of Room Master

New scope in room automation opens up a new market segment.



Room Master Basic RM/S 1.1



Room Master Premium RM/S 2.1

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The two versions of the Room Master open a new range of applications for room automation. The Room Master Basic RM/S 1.1 and the Room Master Premium RM/S 2.1

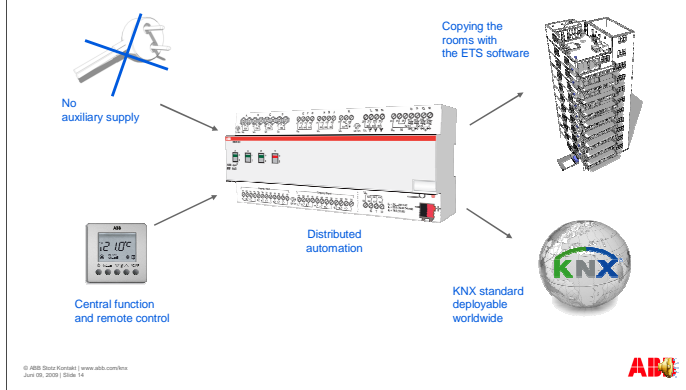
were developed specifically to control single rooms, providing more comfort, together with ease of planning and structured wiring systems.

The Room Master has been preconfigured for the typical applications in hotel rooms and apartments and can be installed more cheaply and more quickly than a combination of separate modular devices.

The Room Master's monitoring and report functions convey messages from the hotel guests straight to the reception. This means optimised procedures.

The Room Master provides new scope in room automation and opens up a new market segment.

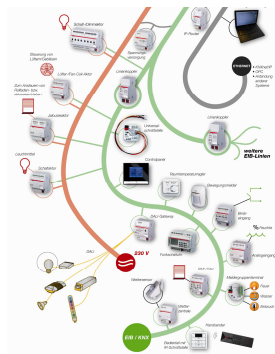
Advantages in planning & installation



Even at the planning stage the Room Master offers many advantages:

- An auxiliary supply, for example, is not required, as the energy is supplied by the KNX bus system.
- Central functions can be performed easily by the KNX bus.
- With the KNX's Engineering Tool Software, in short ETS, it is very easy to copy the devices.
- Installing the Room Master allows distributed room automation.
- The KNX standard can be used worldwide.

What is KNX?



- World's leading bus system
- Connects all electrical functions
- One bus line
- Standardized system for intelligent networking
- EN 50090, EN 13321-1, ISO/IEC 14543-3
- Sales to date: > 10 million products
- Tight network of specialists
- Minimum planning, installation and wiring expense
- Almost unlimited upgrading possible



Maybe you are wondering now what exactly KNX is. Well,

ABB i-bus ® KNX is part of the world's leading installation bus system, KNX.

All the devices in this innovative system communicate with each other by a bus line which is laid in addition to the current supply lines.

This means that in both residential and in commercial buildings, all the electrical functions, such as lighting, illumination and blind control as well as heating, ventilation and room climate regulation, are interconnected by the bus system.

KNX evolved from the fusion of important bus systems, including the well-known EIB (European Installation Bus), which has been on the market with great success since 1992. KNX is the first global standardised system for the intelligent networking of electric installations for home and building automation, and is standardised in EN 50090, EN 13321-1 und ISO/IEC 14543-3.

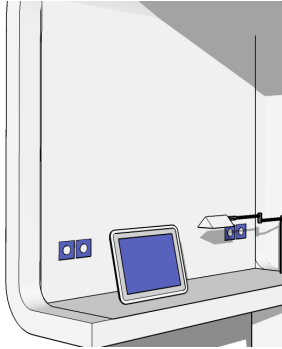
Thousands of buildings all over the world have been equipped with over 10 million KNX products.

A tight network of highly-qualified specialists guarantees expert planning, commissioning and maintenance worldwide.

KNX reduces the volume of planning, installation and cabling.

The system can be extended almost without limit and new functions can be integrated at any time.

Room Master Learning Objectives



In this learning module you will find out about :

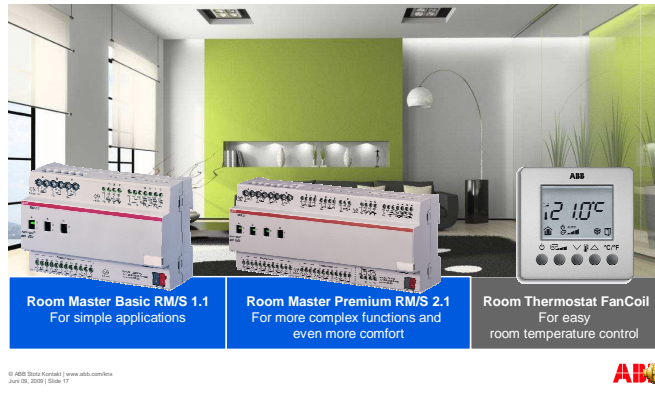
- Room automation
- The functions of room automation at a glance
- **The different versions and product details**
- The market potential and customer value

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Let's take a detailed look now at the different types.

Product overview



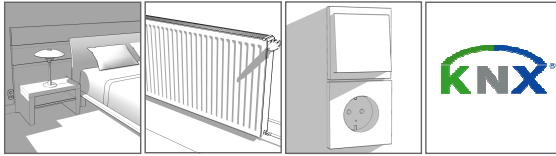
The Room Master is available in 2 versions.

The Room Master Basic RM/S 1.1 is intended for simpler applications which automate the basic functions of a room.

The Room Master Premium RM/S 2.1 has more inputs and outputs which allow additional functions for more extensive room automation.

The room temperature can be adjusted easily using the room thermostat fan coil with display

Room Master Basic (RM/S 1.1)



RM/S 1.1, 8 modules, MDRC

- Lighting control
- Control of heating and air-conditioning systems
- Switching of sockets and appliances
- Supplied by the KNX bus

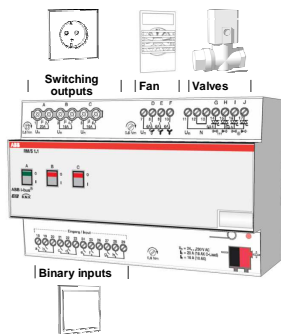


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Here you have the the Room Master Basic RM/S 1.1 an. It is a modular device with a width of 8 modules which performs the functions of controlling the lighting, controlling the heating and air-conditioning systems and the switching of sockets and electrical appliances. The energy supply for the device is through the KNX bus with a current of 12 mA

Room Master Basic - Inputs/Outputs



Overview	Number
Inputs	
Binary by contact scanning	8
Outputs	
Switching contact 16 A C-load	1
Switching contact 10 A (10 AX)	2
Switching contact 6 A	3
Electronic 0.5 A	4

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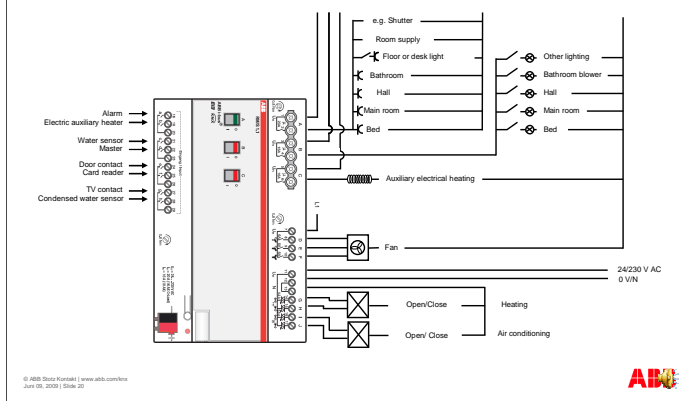
In the following pictures you can see the connections of the Room Master Basic.

It has switching outputs for lighting and socket circuits, ventilators and valves.

Switches and buttons can be connected by the binary inputs and an optional, manually-operated function is available for the 10 Ampere and 16 Ampere relays.

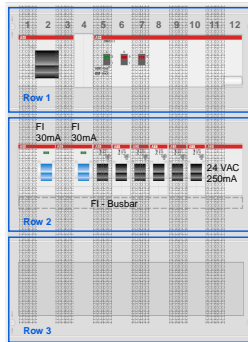
Another look at the overview shows you the number of inputs and outputs of the Room Master Basic at a glance. The electronic outputs are provided for the control of the actuators for the heating and air-conditioning systems.

Room Master Basic – Details (example)



Here you see one possible configuration of the inputs and outputs of the Room Master Basic for a hotel room. The lighting, alarm, sockets and fan functions can all be performed by the Room Master.

Room Master Basic – Configuration Distribution Board (Example)



Row 1:

- 1 - 3 Main switch
- 4 Free
- 5 - 12 Room Master

Row 2:

- 1 - 4 FI (RCD)
- 5 (6A) Power supply (Bell transformer)
- 6 (16A) Socket circuit
- 7 (10A) Lighting circuit + blinds
- 8 (10A) Electric heating / Aux. output
- 9 (6A) Fan Coil (HVC)
- 10 (16A) Socket circuit
- 11 - 12 Bell transformer(TS24/8-12-24)

Row 3: (Option)

- 1-12 Free

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With its compact design the Room Master Basic can be installed easily in any distribution board. It provides the same range of functions which would otherwise have to be provided by several individual devices.

Yes Click
(continue)

No Click
(repeat)

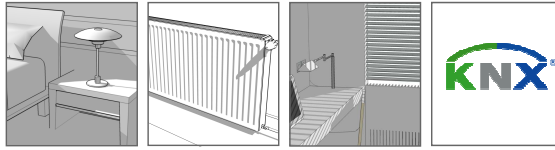


- A KNX device controls all the room functions
- Compact design (8 modules, MDRC)
- 8 binary inputs, 6 switching outputs, control for fan coils
- Combinable with different push button designs

- The Room Master is a KNX device for all vital room functions
- It has a compact design with 8 modules, MDRC.
- It has 8 binary inputs, 6 switching outputs and a control for fan coils



Room Master Premium (RM/S 2.1) Room Master Premium



RM/S 2.1, 12 modules, MDRC

- Lighting control
- Heating and air-conditioning control
- Shading with blinds or curtains
- Switching of sockets and appliances
- Supplied by the KNX bus



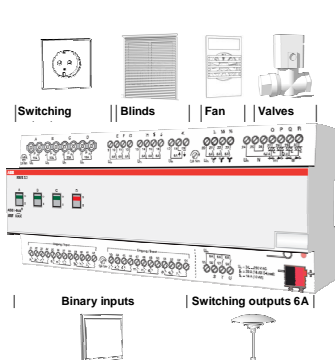
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Now let's look at the Room Master Premium RM/S 2.1 more closely. It is also a DIN-rail device but this time with 12 modules. The Room Master's functions include:

Lighting control, heating and air conditioning control, room shading with blinds or curtains and switching of sockets and appliances. The power to the Room Master Premium is also supplied by the KNX bus with a current supply of maximum 24 mA. (Please bear this in mind in your planning)

Room Master Premium - Inputs/Outputs



Overview	Number
Inputs	
Binary by contact scanning	18
Outputs	
Switching contact 16 A C-load	3
Switching contact 10 A (10 AX)	1
Switching contact 6 A	12
Electronic 0.5 A	4
Change-over contact 6 A (blinds)	1

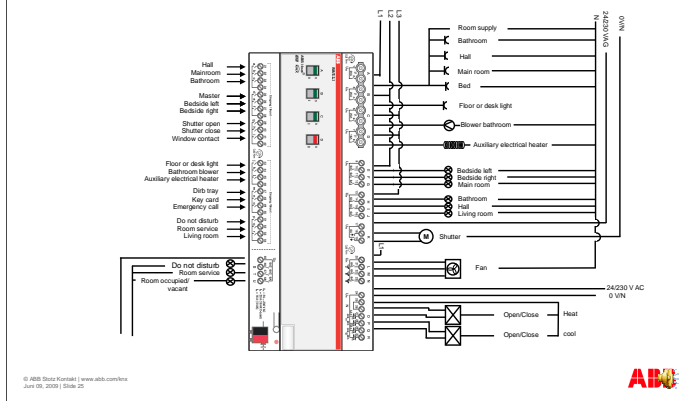
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The Room Master Premium provides the same basic functions as the Room Master Basic but additional functions can be performed because there are more inputs and outputs.

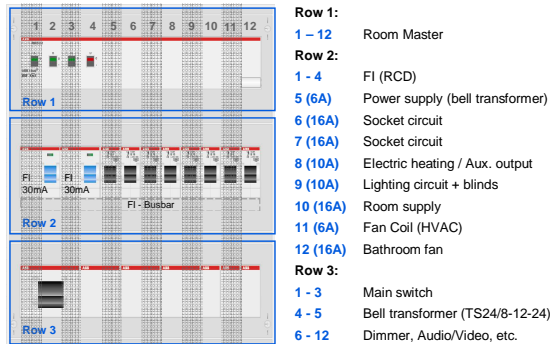
The following overview shows the number of inputs and outputs of the Room Master Premium. The change-over contact is for controlling the blinds or shutters. Using a change-over contact ensures that the blinds or curtains can only be raised or lowered.

Room Master Premium – Details (example)



Here you can see again one possible configuration for the inputs and outputs of the Room Master for a hotel room. As with the Room Master Basic the lighting, alarm, sockets and fan functions can be implemented. In addition the change-over contact controls the blinds and there are binary inputs and outputs available for room occupation and the service display.

Room Master Premium - Configuration Distribution Board (Example)



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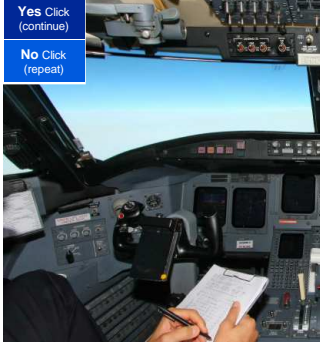
This is one possible configuration of the distribution board for the Room Master Premium.

In row 2 are the residual circuit breaker (RCD) and the circuit breaker.

In row 3 is the main switch for the room. It is also possible to install other modules e.g. a dimmer next to this switch.

Yes Click
(continue)

No Click
(repeat)



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- A KNX device control all room functions
- Compact design (12 modules, MDRC)
- 18 Binary inputs, 16 switching outputs, control for fan coils, 1 change-over contact blinds/shutters



- The Room Master is a KNX device for all vital room functions
- It has a compact design (12 modules, MDRC)
- It has 18 binary inputs, 16 switching outputs, a control for fan coils and a change-over contact for blinds or shutters

Basic vs. Premium – a comparison



Inputs	RM/S 1.1	RM/S 2.1
Binary by contact scanning	8	18
Outputs		
Switching contact 16 A C-load	1	3
Switching contact 10 A (10 AX)	2	1
Switching contact 6 A	3	12
Electronic 0.5 A	4	4
Change-over contact 6 A	-	1

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Here again is a comparison of the inputs and outputs of the Room Master Basic and Room Master Premium .

Room Thermostat Fan Coil with Display – 6138/11



The room thermostat fancoil was developed specifically for use with the Room Master, whereby great emphasis was placed on it being simple to operate for users anywhere in the world.

The device sets the room temperature according to the user's wishes.

The desired temperature can be raised or lowered just by pushing two buttons.

If the fan has to be set manually, this is also done by pushing one of the buttons.

To make things even easier for the user, he can choose between a display in Fahrenheit or Celsius.

Room Thermostat Fan Coil with Display – 6138/11



The display has the following symbols.

On the left, the presence of a guest is shown.

The fan symbol shows which of the three fan settings the guest has selected.

The guest can also see the temperature and he can adjust this to suit his personal needs.

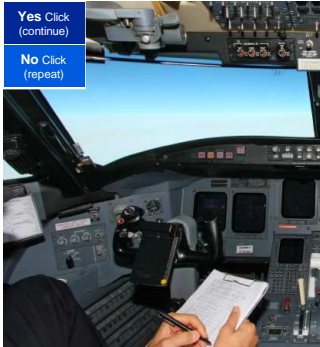
The Window symbol shows whether a window is open or closed. If the window is open the temperature is lowered in order to save energy.

Room Master Premium - Memorize

Have you understood everything so far?

Yes Click
(continue)

No Click
(repeat)



What we have learnt so far?

- A KNX device for all vital room functions
- Can be used worldwide
- Supplied by the KNX bus
- Pre-parametrised functions
- Combination with other KNX devices possible

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Let's make a quick summary here to reinforce what we have learnt so far:

- The Room Master is a KNX device for all vital room functions
- It can be used anywhere in the world
- It is supplied by the KNX bus
- The functions are already pre-parameterised
- And the Room Master can be combined with other KNX devices

Have you understood everything? Please click on "No" if you would like to repeat the chapter, or "Yes" to continue.

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Juni 09, 2009 | Seite 33

- Room automation
- The functions of room automation at a glance
- The different types and product details
- **Market potential and customer value**



32

Market potential of the Room Master



- New hotels and medical facilities are being built constantly all over the world.
- Existing hotels are generally renovated after 10 years
- The Room Master can be integrated perfectly in these markets
- Energy efficiency requirements generate increased market potential

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The market potential of the Room Master is considerable, because new hotels and medical facilities are being built constantly all over the world.

Many existing hotels are renovated, mostly after 10 years, and the Room Master can be integrated perfectly into the refurbishment of the hotels.

The market potential will continue to grow because of the the energy efficiency requirements imposed on buildings

Sales arguments for the Room Master



- Extremely versatile
- Comfort for projects with single rooms, particularly in hotels
- Easily combined with other ABB i-bus® KNX components
- Good cost-performance ratio
- Compact device with many functions

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The Room Master is extremely versatile and provides a wide range of applications for the electrical installation in projects with single rooms, particularly in hotels. If additional functions are needed, the Room Master can be combined easily with other proven KNX components.

The good cost-performance ratio and the compact design are obvious advantages over other solutions.

Further information



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You can find more information on the Room Master on our homepage: www.abb.com/knx

And you can also download our latest product range overview there.

Power and productivity
for a better world™



We have now come to the end of the presentation and I hope I have been able to make the Room Master and all its qualities interesting listening for you. Thank you for taking part in this learning module.