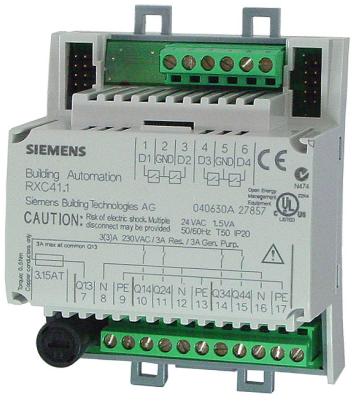
DESIGO™ RXC

Extension module for the control of blinds

RXC41.1

Extension to the RXC30.1 / RXC31.1 room controller



The RXC41.1 extension module is used in conjunction with an RXC30.1 or RXC31.1 room controller for the control of blinds in individual rooms.

- **Control of two electric motors for blinds**
- **Application software downloadable into RXC30.1 / RXC31.1 basic module**
- **Plug-in connection to RXC30.1 / RXC31.1 basic module for power supply and data**
- **Volt-free relay contacts for motor control**
- **Built-in fine-wire fuse for protection of the relay contacts and motors**

Application

The RXC41.1 module acts as an I/O extension to the basic RXC30.1 / RXC31.1 room controller. The input/output configuration is optimised for the control of two electric motors to operate blinds.

The RXC30.1 / RXC31.1 basic room controller and the RXC41.1 extension module are connected electrically and (when the terminal covers are fitted) mechanically to form a single unit. If required, this can be supplemented with a second RXC41.1 module or an additional RXC40.1 extension module for the control of lighting.

For operation, either conventional momentary-contact switches, or integrated operating units with a bus connection may be used.

The application software for the complete unit, comprising the basic module and the extension module(es) is downloaded into the RXC30.1 / RXC31.1 room controller. Where the RXC30.1 / RXC31.1 controller is loaded with basic application OOO30 / OOO31, test functions for the RXC41.1 extension module are also available.

Functions

The functioning of the RXC41.1 extension module is defined by the application software downloaded into the RXC30.1 / RXC31.1 room controller.

For a detailed description of functions, refer to the DESIGO RXC applications library (V1: CA2A3810, V2: CA110300).

Types

RXC41.1	Extension module for the control of blinds
RXZ40.1	Accessories: Terminal covers

Ordering

When ordering, please specify the quantity, product name and type code.

The RXZ40.1 terminal covers are supplied in packs of 10 pairs and must be ordered separately.

Example:

30	**Extension module for the control of blinds**	**RXC41.1**
30	**Pairs of terminal covers**	**RXZ40.1**

Compatibility

The RXC41.1 extension module is always used in conjunction with an RC30.1 or RXC31.1 room controller (data sheet 3840). If required, a second RXC41.1, or an RXC40.1 extension module for lighting control (data sheet 3842) can be added. Possible combinations and the associated applications are described in the DESIGO RXC applications library (V1: CA2A3810, V2: CA110300).

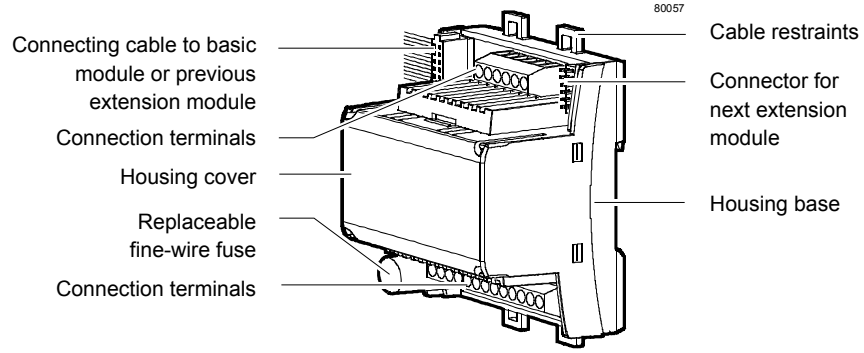
For operation, either conventional momentary-contact switches or the flexible room units, QAX50.1 or QAX51.1 may be used.

Note

If different types of extension module are used, they must be arranged in the following order: RXC30.1 / RXC31.1 → RXC40.1 → RXC41.1

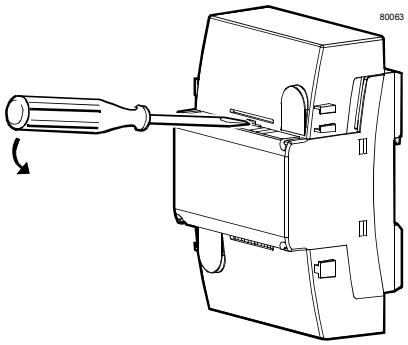
Mechanical design

The RXC41.1 extension module consists of a housing base, a housing cover and the printed circuit board with connection terminals. The module also has a ribbon cable and connector for connection to the RXC30.1 / RXC31.1 basic controller (or the preceding extension module) and a connector base into which a further extension module may be plugged. The motors and relay contacts for control of blinds are protected by a replaceable fine-wire fuse.



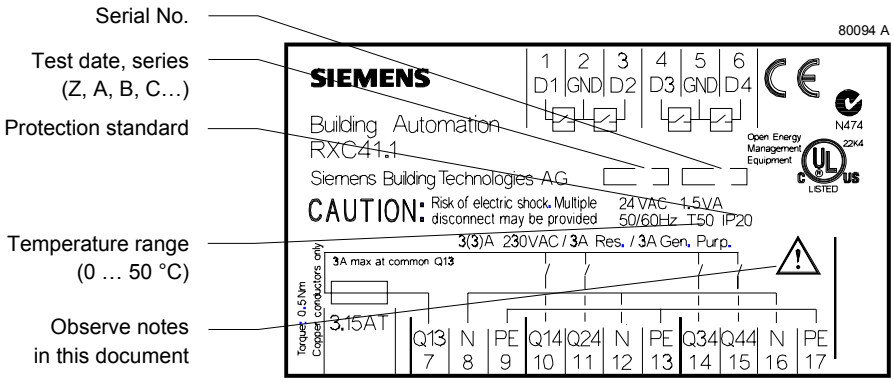
Terminal covers

Terminal covers (RXZ40.1) are available as an option, to protect the connection terminals from physical contact and dirt. These covers also provide strain relief for the cable to the RXC30.1 / RXC31.1 controller. When fitting the terminal covers, make sure that they lock into position correctly.



Removing the terminal cover

Label

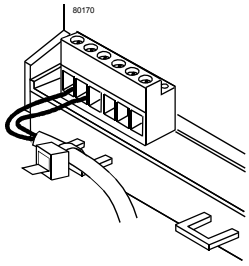


Connection terminals

The connection terminals are not detachable. To avoid incorrect wiring, terminals which can be connected to AC 230 V (relay outputs) are physically separate from the other terminals. They are arranged so that in normal circumstances, all incoming and outgoing cables can be connected without crossing.

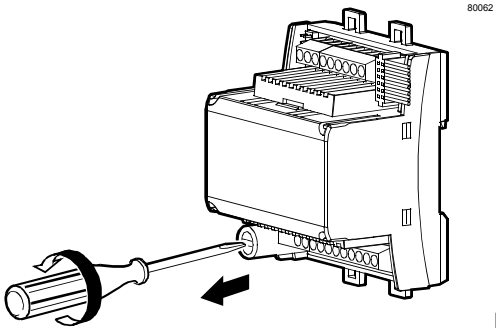
Note!

The cable restraints on the housing base *must* be used for the connections to terminals 7 … 17 (AC 230 V).



Built-in fine-wire fuse

To protect the volt-free relay contacts and motors for control of the blinds, the module incorporates a built-in replaceable fine-wire fuse.



Replacing the fine-wire fuse

Communication

The RXC41.1 extension module communicates via a serial bus connection (the PE bus) with the RXC30.1 / RXC31.1 controller. The PE bus connections are looped through the module to the connection socket for the next extension module.

There is no direct connection to the LON bus.

Disposal

The unit contains electric and electronic components and must not be disposed of with domestic waste.

The local and actual regulations must be observed.

Engineering notes

The RXC41.1 can be used only in conjunction with an RXC30.1 / RXC31.1 basic module (and possible additional extension modules). The plug-in connection between the basic module and the extension modules incorporates both the communications and the power supply. The power supply is limited to a maximum of two extension modules.

Signal inputs

The cables for signal inputs D1 … D4 (SELV) must be routed separately from the AC230 V cables and must comply with SELV requirements. The low voltage and mains voltage must not be routed in the same cable.

STOP **Note!**

Only volt-free pulsed momentary-contact switches may be connected to the signal inputs.

AC 250 V volt-free relay outputs

Cable sizing for motorised blinds depends on the connected load and the local installation regulations. Neutral and protective conductors are looped on the controller so that there is no need for external terminals. The cables must be secured with cable restraints.

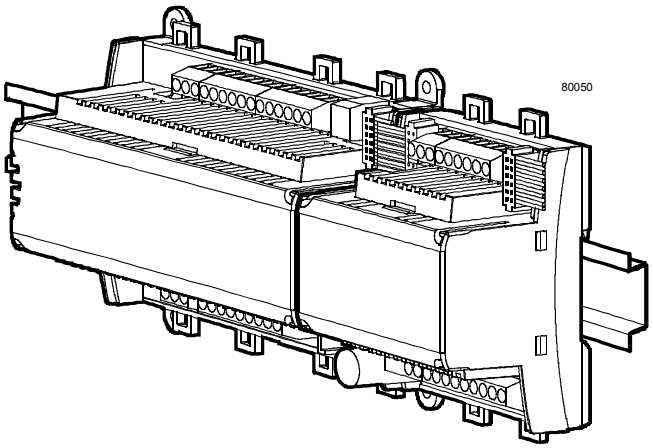
STOP **Note!**

The volt-free relay outputs are protected by an integral fine-wire fuse with a nominal current of 3.15 A. The maximum load per module (for both motors together) is therefore restricted to 3A.

An interlock makes outputs Q14 / Q 24 and Q34 / Q44 mutually exclusive. To protect the cables, the circuits must be fused in accordance with local regulations.

Mounting

The RXC41.1 extension module is mounted together with the RXC30.1 / RXC31.1 basic module and any additional extension modules on a DIN rail (type EN50022-35x7.5).



When mounting, note the following:

- The controller should not be freely accessible after mounting
- Ensure adequate air circulation to dissipate heat generated during operation.
- Easy access is required for service personnel
- Local installation regulations must be observed.

The mounting instructions are printed on the controller packaging.

Commissioning

The notes in the technical documentation for the RXC30.1 / RXC31.1 room controller (data sheet 3840, 3844) apply equally to a combination comprising the RXC30.1 / RXC31.1 and the RXC41.1 extension module.

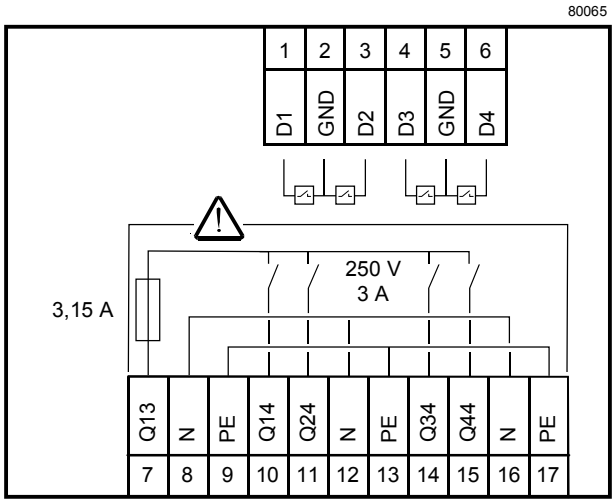
STOP **Note!**

The controller is not protected against accidental connection to AC 230 V on the SELV side.

Technical data

Power supply	Supply voltage The module receives its power (SELV to HD 384) from the basic controller	
	Power consumption (from RXC30.1 / RXC31.1)	Max. 1.5 VA
Inputs		
Signal inputs D1 … D4 (for volt-free momentary contact switches)	Quantity	4
	Contact voltage (SELV to HD 384)	DC 33 V
	Contact current	DC 8 mA
	Contact transfer resistance	Max. 100 Ω
	Contact insulation resistance	Min. 50 kΩ
Outputs		
⚠ Relay outputs Q14 … Q44	Quantity	2 x 2
	Relay type	Single pole
	Contact rating with AC voltage	
	Switching voltage	Max. AC 250 V, min. AC 19 V
	Nominal current, resistive / inductive	Max. AC 3A
	Making current 200 ms half-time	Max. 20 A
	Switching current at AC 29 V	Min. AC 10 mA
	Contact rating with DC voltage	
	Switching voltage	Max. DC 250 V, min. DC 5 V
	Switching current at DC 5 V	Min.DC 100 mA
	Switching capacity	Max. 20 W
	Inductive load L/R	Max. 7 ms
	Relay output protection	
	Integral fine-wire fuse	3.15 A (slow blow)
Interface		
to RXC30.1 / RXC31.1 basic module and other extension modules	Interface type	Serial bus (for power supply and data)
Cable connections	Connection terminals (screw terminals)	Stranded or solid conductors 0.25 … 2.5 mm^2 or 2 x 1.5 mm^2 (exposed conductor: max. 7mm)
	Connecting cable to basic module	10-core ribbon cable
	Single cable lengths	See also installation guide, CA110334
	Signal inputs D1…. D4	Max. 100 m with diameters ≥ 0.6 mm
	Relay outputs Q14 … Q44	Depends on load and local regulations
Housing protection standard	Protection standard to EN 60529	IP20
Protection class	Suitable for use in systems with protection class I or II	
Ambient conditions	Operation	Class 3K5 to IEC 60721-3-3
	Temperature	0 ... 50 °C
	Humidity	< 85 %rh
	Transport	Class 2K3 to IEC 60721-3-2
	Temperature	– 25 ... 65 °C
	Humidity	< 95 %rh
Industry standards	Product safety	
	Automatic electronic controls for household and similar use	EN 60730-1
	Special requirements for energy controllers	EN 60730-2-11
	Electromagnetic compatibility	
	Interference immunity	EN 50082-2
	Emitted interference	EN 50081-1
	Meets requirements for **CE** marking:	
	EMC Directive	89/336/EEC
	Low Voltage Directive	73/23/EEC
Dimensions	See dimension diagrams	
	Width in DIN modular spacing units	4.5
Weight	Excluding packaging	0.16 kg

Connection terminals



Signal input for volt-free momentary-contact switches

D1	1	Signal input
GND	2	Signal ground
D2	3	Signal input
D3	4	Signal input
GND	5	Signal ground
D4	6	Signal input

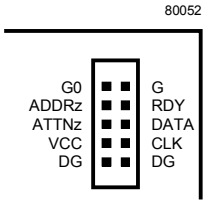
Relay outputs

Q13	7	Common contact for Q14 … Q44
N	8	Neutral conductor, max. AC 250 V
PE	9	Protective earth conductor
Q14	10	N/O contact AC max. 250 V, 3 A
Q24	11	N/O contact AC max. 250 V, 3 A
N	12	Neutral conductor, max. AC 250 V
PE	13	Protective earth conductor
Q34	14	N/O contact AC max. 250 V, 3 A
Q44	15	N/O contact AC max. 250 V, 3 A
N	16	Neutral conductor, max. AC 250 V
PE	17	Protective earth conductor

Note!

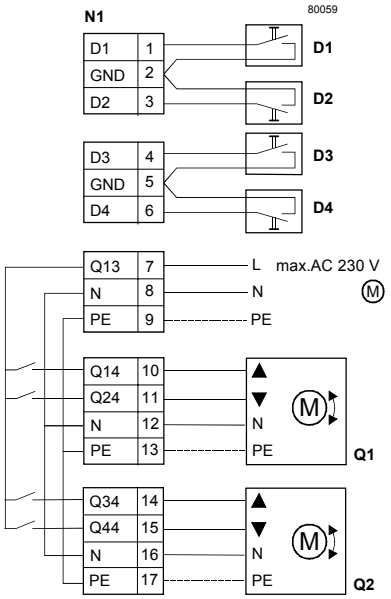
- **Observe the technical data for the relay outputs: max. AC 250 V, 3 A**
- **Local installation regulations must be observed.**

Connector for extension modules



G0	Ground	G	AC 24 V
ADDRz	Module address	RDY	Handshake
ATTNz	Handshake	DATA	Data
VCC	DC 5 V	CLK	Clock
DG	Electronics ground	DG	Electronics ground

Connection diagrams



N1 RXC41.1
D1 ... D4 Volt-free momentary contact switches
Q1, Q2 Electric motors for blinds

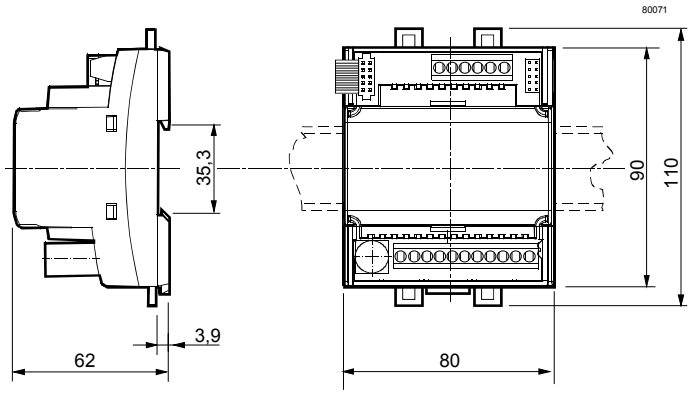
Note!

Parallel connection of blind motors to one output must be avoided, as this can damage the motors.
The maximum load per module (for both motors together) is restricted to 3A.

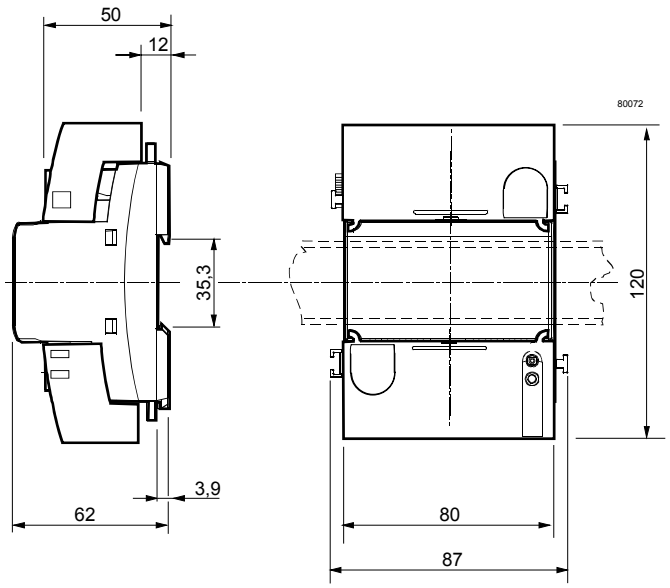
Dimensions

All dimensions in mm

Without terminal covers



With terminal covers



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Subject to change