



Desigo™ RX

## Room units with PPS2 interface

**QAX30.1**  
**QAX31.1**

for use with:

- devices of the ranges Desigo RXC, RXB, RXL, and RXA (PPS2)
- Desigo PX Automation stations
- devices with a PPS2 interface

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- **Room temperature measurement**
  - **Room temperature setpoint adjuster**
  - **PPS2 interface to controller**
  - **Socket for commissioning and service tool or service terminal**

### Use

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The room units are used in rooms controlled by an individual room control system, to measure the room temperature, and, in the case of the QAX31.1, to adjust the room temperature setpoint.

They can also be used in conjunction with a Desigo PXC... automation station

The room units incorporate a socket for a commissioning and service tool or service terminal. This tool socket provides access via the PPS2 interface or via a bus system (e.g. LONWORKS® bus) to the connected individual room controller.

## Ordering

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

*Example:*

**30      Room units      QAX30.1**

## Equipment combinations

The room unit is suitable for use in conjunction with all controllers which incorporate a PPS2 room unit interface (e.g. Desigo RX, Desigo PX).

## Mechanical design

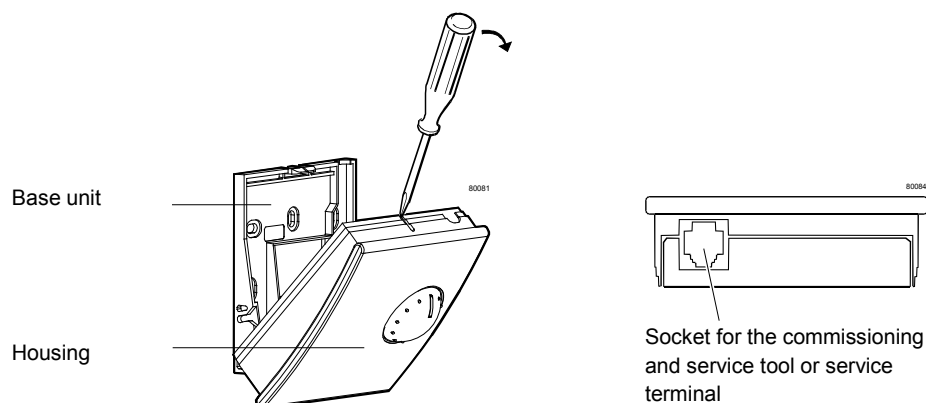
The room unit is designed for surface mounting (with knock-outs for cable entry from the top or bottom) or for mounting on a recessed conduit box with the cables connected from the rear.

The unit comprises a housing and base unit, connected by releasable snap-fittings.

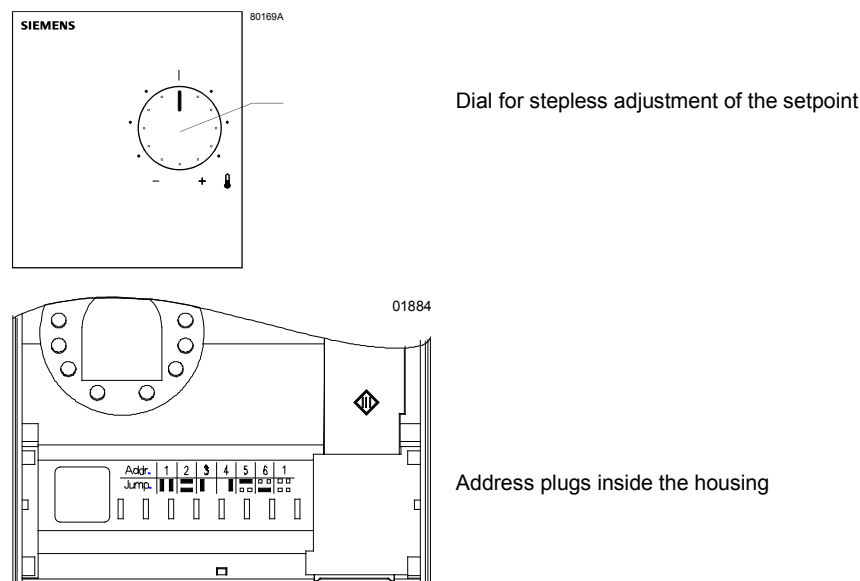
The base unit accommodates the screw terminals which have an integrated terminal strip.

The housing accommodates a printed circuit board, room temperature sensor element, setpoint adjuster, plug-in connectors and a socket for the commissioning and service tool or service terminal.

Both the housing and base are made of plastic.



## Operator controls and indication



## Disposal

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The device is classified as waste electronic equipment in terms of the European Directive 2012/19/EU (WEEE) and should not be disposed of as unsorted municipal waste.

The relevant national legal rules are to be adhered to.

Regarding disposal, use the systems setup for collecting electronic waste.

Observe all local and applicable laws.

## Engineering notes

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The device receives its power from the connected controller via the PPS2 interface (extra low voltage). Only one room unit may be connected to a RX... room controller.

A maximum of 5 room units may be connected to a PXC... automation station (they are identified by different settings of their address plugs)

A twisted-pair cable is required for the connection to the controller. Designo RX uses four-core cables, Designo PX uses two-core cables (see the respective installation guides). Screening is not required.

## Mounting

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- The room unit is suitable for wall-mounting and for mounting on a recessed conduit box.
- Do not mount in recesses, shelves, behind curtains or doors, or above or near heat sources.
- Avoid exposure to direct sunlight or draughts.
- The electrical wiring conduit must be sealed where it joins the room unit, to prevent the occurrence of draughts in the conduit which could affect the sensor.
- The specified ambient conditions must be complied with.
- Mounting instructions are printed on the room unit packaging.
- A mounting kit is included with the unit.

## Installation notes

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Local installation regulations must be observed.



**Note!**

**The room unit is not protected against connection to AC 230 V.**

## Commissioning notes

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### Response on start-up

After an interrupt of the PPS2 interface the communication will only be re-established when the connected controller polls the PPS2 addresses. The duration of the corresponding cycle is:

RXA: 10 sec; RXB, RXL and RXC: 3 min; PX: 30 sec.

## Technical data

Supply voltage	Operating voltage range	DC 12...15 V (SELV) DC 12...15 V class 2 (US)	
	The room unit receives its power from the connected controller, via the PPS2 interface		
Function data	Power consumption (from controller)	Max. 0.10 VA	
	Temperature sensor		
	Measuring element	NTC resistor	
	Measuring range	0 ... 40 °C	
	Response time	≤ 8 min	
	Accuracy (5 ... 30 °C)	± 0.5 K	
	Accuracy (25 °C)	± 0.25 K	
	Setpoint correction		
	Correction range (determined by controller)	max. ± 12 K (default ± 3 K)	
	Accuracy over full correction range	10 %	
Interfaces	Type of interface between controller and room unit	PPS2 (point-to-point interface, Version 2)	
	Baud rate	4.8 kbit/s	
Cable connections	Connection terminals (screw terminals)	Stranded or solid conductors 0.8 ... 2.5 mm <sup>2</sup>	
	Single cable length controller – Room unit	See Installation guidelines: Desigo RXC: CA110334, Desigo RXB & RXL: CM110381 Desigo RXA: CA2Z3884 Desigo PX: CA110396 2-core or 4-core, twisted pairs, unscreened	
	Connecting cable for service tool	Off-the-shelf, max. 3 m	
	Housing protection	IP 30 to EN 60529	
	Protection class	III to EN 60730-1	
Ambient conditions	IEC 721	Operation	Transport
	Ambient air conditions	Class 3K5	Class 2K3
	Temperature	0 ... 50 °C	– 25 ... 70 °C
	Humidity	< 85 %rH	< 95 %rH
	Mechanical conditions	Class 3M2	Class 2M2
Standards, directives and approvals	Product standard	EN 60730-1	Automatic electrical controls for household and similar use
	Electromagnetic compatibility (Applications)		For use in residential, commerce, light-industrial and industrial environments
	EU conformity (CE)		CA2T1741xx *)
	UL certification (US)		UL916, <a href="http://ul.com/database">http://ul.com/database</a>
	RCM-conformity (EMC)		A5W00005055 *)
	EAC conformity		Eurasia conformity
Environmental compatibility	Product environmental declaration (contains data on RoHS compliance, materials composition, packaging, environmental benefit, disposal)	A6V10736277_en--_a *)	
	See "Dimensions"		
Dimensions	Housing front, dial	NCS S 0502-G, ≈ RAL 9003 signal white	
	Housing, base unit	RAL 7035 light grey	
Weight	Excluding packaging	0.12 kg	

\*) The documents can be downloaded from <http://siemens.com/bt/download>.

## Connection terminals

The tool socket on the room unit provides access to the connected individual room controller via the commissioning and service tool or the service terminal.

The bus cable (Terminals 3 and 4) is therefore looped to the tool socket (Pins 1 and 2). The bus cable is not affected by the room unit.

For connection of a service terminal, the PPS2 interface (Terminals 1 and 2) is also connected to the tool socket.

### Terminal layout



#### PPS2 interface, supply voltage

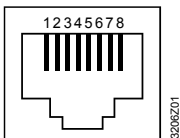
CP+ 1 Device supply, Data PPS2 (pos.)  
CP- 2 Device supply, Data PPS2 (neg.)

#### Bus connection (looped to tool socket)

C+ 3 With LONWORKS® bus (Designo RXC): CLA  
C- 4 With LONWORKS® bus (Designo RXC): CLB  
5 ... 8 Not used

### Tool socket

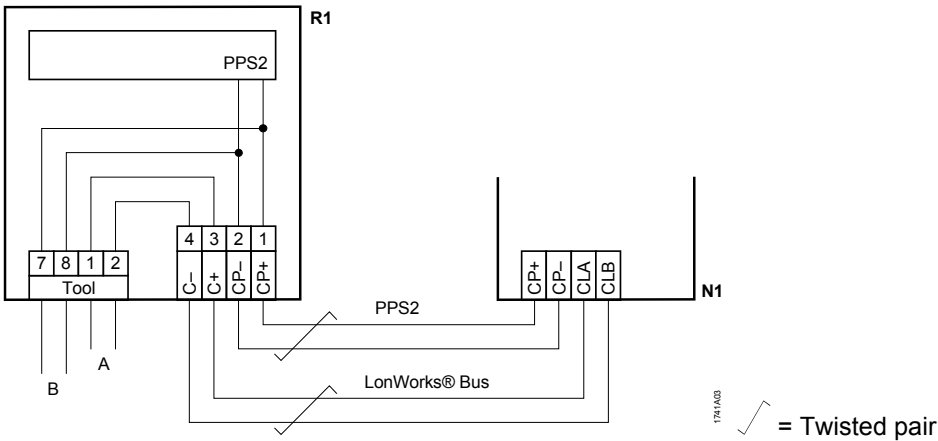
Standard type RJ45 tool socket.



With LONWORKS® bus (Designo RXC): CLA  
With LONWORKS® bus (Designo RXC): CLB  
Not used  
Not used  
Not used  
Not used  
CP+ Data PPS2  
CP- Data PPS2

## Connection diagram (Example: RXC)

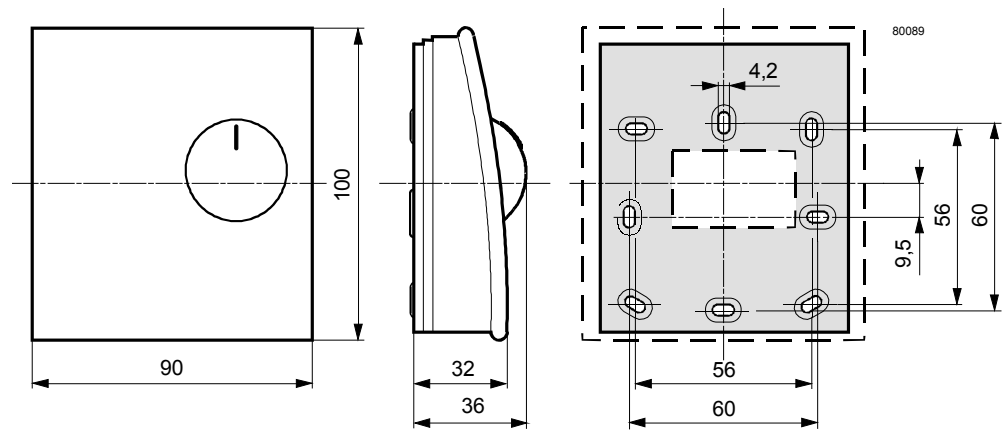
The following example shows the room unit connected to a Designo RXC room controller:



- R1 Room unit QAX30.1  
N1 Room controller RXC...  
A Connection for RXT10 commissioning and service tool  
B Connection for service terminal with PPS2 interface

## Dimensions

All dimensions in mm



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