



## Master room unit for RRV817 controllers QAX810

2 wire bus connection

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**Multifunctional, digital room unit for installer and end-user interface with RRV817 underfloor heating controllers.**

### Use

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**Use**

Room unit in combination with an RRV817 controller for underfloor heating plants in:

- Residential apartments
- Residential single house
- Light commercial applications
- In conjunction with district-heating scheme or local heat generator

**Application**

Zone 1 (master zone) room unit for use with RRV817 controllers in water-based heating plants.

### Functions

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**Primary functions**

- Remote control and monitoring of an RRV817 controller
- Setting adjustments of master zone and additional zones by installer and user
- Room temperature measurement of master zone

**Operator functions**

- Time clock operation
- Comfort temperature setpoint adjustment
- Energy saving temperature setpoint adjustment
- Auto timer selection
- Zone selection and settings
- Display of time, operating mode, temperature and setpoints for all zones

## Type summary

<i>ASN</i>	<i>Type reference</i>	<i>Compatible with</i>
QAX810	Room unit	RRV817, QAW810

Note: Not usable with Desigo RX range of controllers.

## Mechanical design

**Type of unit** The QAX810 is the installer/OEM/end-user master MMI for RRV817 controllers.

The unit consists of the following components:

- Room unit with integrated electronics and operating elements
- Internal temperature sensor
- Base for wall mounting with the connection terminals
- Operator interface buttons/switch (high use)
- Operator interface buttons behind door (low use)

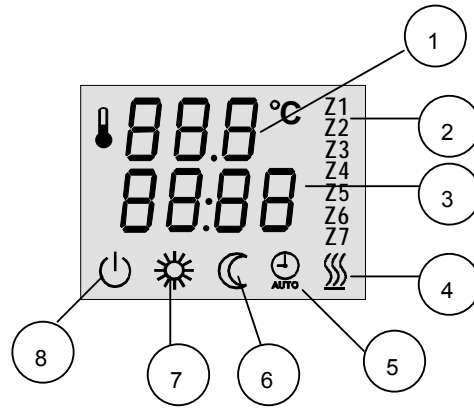
## Operating elements



## Legend

- 1 LED for zone valve command status (heat output status at the RRV817)
- 2 LCD display with EL backlight for control and monitoring of operation modes, setpoints, zone conditions etc
- 3 Setpoint and value adjustment
- 4 Operating mode selection switch for QAX810 – Comfort, energy saving and auto timer
- 5 Operation mode selection for other zones
- 6 Auto timer schedule setting
- 7 Setting confirmation
- 8 Zone selection
- 9 Time setting
- 10 System standby

## LCD display



### Legend

- 1 Actual temperature
- 2 Zone indication
- 3 Time display
- 4 Heating 'On'
- 5 Auto timer mode
- 6 Energy saving mode
- 7 Comfort mode
- 8 System off

## Commissioning notes

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### Response on start-up

When powering up, the QAX810 will display all LCD icons for approximately 2 seconds. It will then revert to normal display. The time segments will be blinking if time needs to be set. Set time as per operation instructions. There will be a delay before operation commences due to polling of all values.

### Sensor calibration

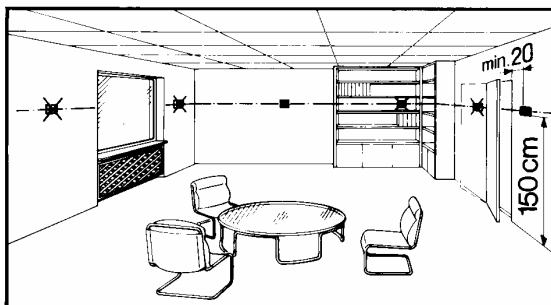
Generally there is no need to calibrate sensor; however the displayed room temperature on the LCD can be calibrated if there is any discrepancy from the actual temperature measured by a certified thermometer. The calibration function can be accessed by pressing the  $\blacktriangle$  and  $\blacktriangledown$  buttons simultaneously for 2 seconds. The displayed value can then be adjusted, using the same buttons, in 0.5K steps. The adjustment range is +/- 2K.

### Commissioning

Initial application set-up of the RRV817 controller to match the connected heat generation and zone equipment is made by the selection of dip switch positions. Dip switches are located on the top of the RRV817 controller. Refer to RRV817 installation/commissioning guide for set-up details.

## Mounting and installation notes

The QAX810 should be mounted in a location where the air temperature can be measured as accurately as possible without getting adversely affected by direct solar radiation or other heating or cooling sources..



- Mounting height is about 1.5 m above the floor.
- The unit can be fitted to a recessed conduit box.
- The specified ambient conditions must be complied with.
- Only authorized staff may disconnect the QAX810 unit from base plate.
- Do not mount in recesses, shelves, behind curtains or doors.
- Refer to mounting instructions included in packaging box.

When mounting the unit, fix the base-plate first and then make the electrical connections. To avoid any damage during construction works only install QAX810 unit when all construction works have been completed. The QAX810 must be mounted on a flat surface and in compliance with local regulations.

Local installation regulations must be observed.

 **Note!**

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

## Technical data

Interfaces	HCC bus	Proprietary
	Baud rate	9.6 kbit/s
	Permissible cable length	Max. 60m where $A \geq 1.0\text{mm}^2$ Max. 100m where $A \geq 1.5\text{mm}^2$
	Cable type	2-wire standard installation cable (unshielded)
	<b>Note:</b> Twisted pair (unshielded) is recommended for enhanced immunity to external electromagnetic interference, for example, in the vicinity of radio transmitters or frequency inverters	
Protection	Safety class	III to EN 60730 (when mounted correctly)
	Degree of protection	IP 30 to EN 60529
Environmental conditions	Operation	IEC 721-3-3 class 3K 5
	Temperature	0...50 °C
	Humidity	< 85 % r.h. (non condensing)
	Transport	IEC 721-3-2 class 2K 3
	Temperature	-25...60 °C

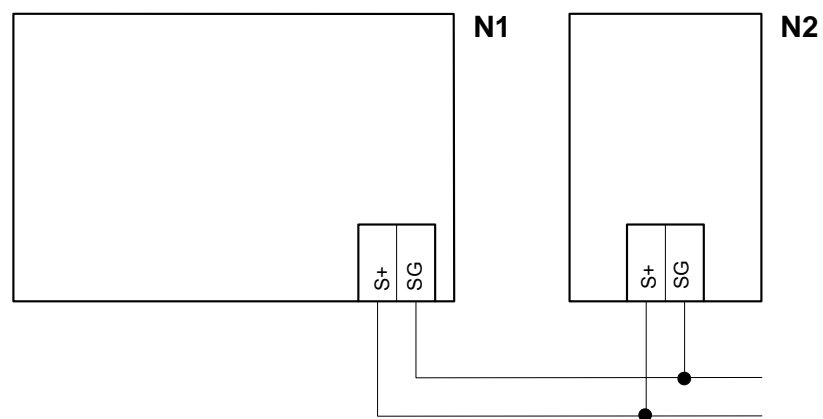
Standards	Humidity	< 95 % r.h. (non condensing)
	Storage	IEC 721-3-1 class 1K 3
	Temperature	-25...60 °C
	Humidity	< 95 % r.h. (non condensing)
	CE-conformity	
	EMC directive	89/336/EEC
	Immunity and Emissions	EN 60730-1, EN 50081-1, EN 61000-6-2
	Low-voltage directive	73/23/EEC
	Electrical safety	EN 60730-1, EN 60730-2-9
	N474 conformity to	
Australian EMC Framework	Radio communication act 1992	
Radio Interference Emission Standard	AS/NZS 4251.1	
Room temperature measurement	Measuring range	0...49 °C
	Setpoint range	5...35 °C
	Maximum power	2VA
	Accuracy at 20°C	± 0.5K max.
	Temperature calibration range	± 3.0K max in step of 0.5K.
	Room temperature display resolution	0.5K
Other features	Software class	A to EN 60 730
	Weight	Approx. 0.1 Kg

## Notes

### Product liability

- The products may only be used in building services plant and applications as described above.
- When using the products, all requirements specified under "Technical data" must be observed.
- The local regulations for electrical installation must be complied with.

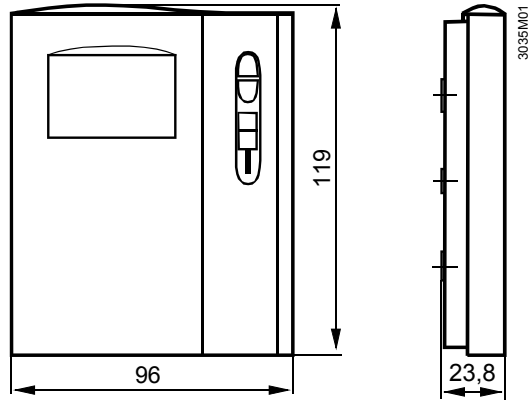
## Connection diagram



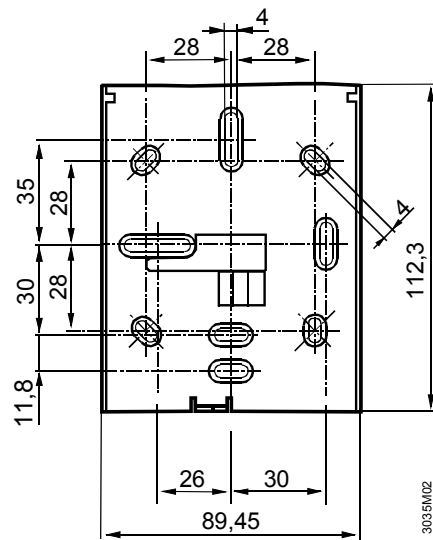
N1            RRV817 controller  
 N2            QAX810 master room unit  
 S+, SG        Communication bus

## Dimensions

### Controller



### Baseplate



Dimensions in mm