



Master Room Unit

QAX810

for RRV817 Controllers

Multifunctional digital room unit as an installer and end-user interface for use with RRV817 temperature controllers for underfloor heating systems

Use

Plants

Room unit in combination with the RRV817 temperature controller for underfloor heating systems in:

- Apartments
- Detached houses
- Light commercial applications
- Conjunction with district heating schemes or local heat sources

Application

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

Functions

Primary functions

- Remote control and monitoring of an RRV817 controller
- Adjustments of master zone and additional zones by installer or user
- Room temperature acquisition in the master zone

Operator functions

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

Type summary

Type reference	Description	Compatible with*
QAX810	Master room unit	<ul style="list-style-type: none">• Zone room unit QAW810• Temperature controller RRV817

* Not suited for use with the Designo RX range of controllers

Product documentation

Document	Document number
Data sheet	N2723
Mounting Instructions	M2723
Operating Instructions	B2723
Declaration of conformity	T2723

Mechanical design

Type of unit

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

The unit consists of the following components:

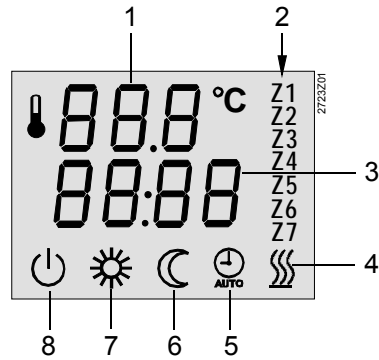
- Room unit with integrated electronics and operating elements
- Built-in temperature sensor
- Base with connection terminals for wall
- Operating buttons / slider
- Operating buttons behind cover

Operating elements



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

LCD display



- 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

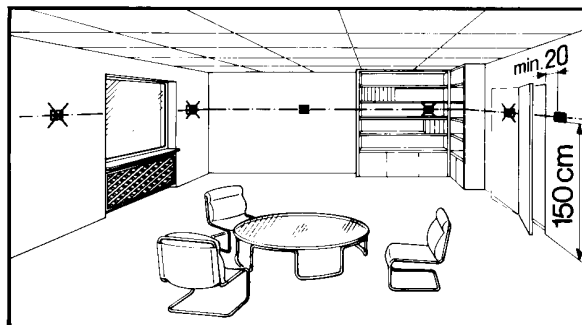
Engineering notes

Note on 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.
- Local regulations for electrical installations must be complied with.

Mounting and installation notes

The QAX810 should be mounted in a location where the air temperature can be acquired 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 observed.
- Only authorized staff may remove the QAX810 unit from its base.
- Do not mount in recesses, shelves, or behind curtains or doors.
- Refer to the Mounting Instructions included in the packaging box.

When mounting the unit, fit the base first and then make the electrical connections. To avoid damage during construction work, install the QAX810 only when construction works is completed. The QAX810 must be mounted on a flat surface and in compliance with local regulations.

Local regulations for installation must be observed



Note

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

Commissioning notes

Response on startup When powering up, the QAX810 will display all LCD symbols for approximately 2 seconds. The LCD will then revert to normal display. The time segments will be flashing if time of day needs to be set. Set time of day as per Operating Instructions. There will be a delay before operation commences due to polling of all values.

Sensor calibration Generally, there is no need to calibrate the sensor. However, the room temperature displayed can be calibrated if there is a deviation from the actual temperature measured by a certified thermometer.
The calibration function can be accessed by pressing the ▲ and ▼ buttons simultaneously for 2 seconds. The displayed value can then be readjusted, using the same buttons, in 0.5 K increments. The readjustment range is ±2 K.

Commissioning Initial application setup 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 at the top of the RRV817 controller. For setup details, refer to the Installation Instructions of the RRV817.

Technical data

Interfaces (S+, SG)	HCC bus	proprietary protocol
	Bus power supply voltage	DC 12 V, +10, -15% (supply RRV817 controller)
	Baud rate	9.6 kbit/s
	Room unit power consumption	2 VA

Permissible cable lengths	For bus communication	
	A ≥ 0.5 mm ²	max. 60 m
	A ≥ 1 mm ²	max. 100 m
	Type of cable	2-wire standard installation cable (unshielded)
Note: Twisted pair (unshielded) is recommended for enhanced immunity to external electromagnetic interference, e.g. in the vicinity of radio transmitters or variable speed drives		

Electrical connections (HB+, HB-)	Connection terminals	screw terminals
	For wires	0.6 mm dia. ... 2.5 mm ²

Degrees of protection	Degree of protection of housing to IEC 60 529	IP 30
	Safety class to EN 60 730	device suited for use with equipment of safety class II

Environmental conditions	Operation to	IEC 721-3-3
	Climate conditions	class 3K5
	Temperature (housing and electronics)	0...50 °C
	Humidity	5...95 % r. h. (non-condensing)
	Mechanical conditions	class 3M2
	Transport to	IEC 721-3-2
	Climate conditions	class 2K3
	Temperature	-25...+70 °C
Humidity	<95 % r. h.	
Mechanical condition	class 2M2	

Classification to EN 60 730	Mode of operation, automatic controls	type 1B
	Degree of contamination, controls Environment	2
	Rated surge voltage	4000 V
	Software class	A

Materials and colors	Top housing	Polycarbonate, RAL 9003 (signal-white)
	Bottom housing and base plate	Polycarbonate, RAL 7035 (lightgrey)
	Packaging	corrugated cardboard

Norms and standards	Product safety	
	Automatic electrical controls for household and similar use	EN 60 730-1
	Special requirements for temperature sensing controls	EN 60 730-2-9
	Electromagnetic compatibility	
	Immunity domestic section, light industry	EN 61 000-6-1
	Emissions domestic section, light industry	EN 61 000-6-3
	CE-conformity	
	EMC directive	89/336/EEC
	Low-voltage directive	73/23/EEC
	N474 conformity to	
Australian EMC framework	Radio Communication Act 1992	
Radio interference emission Standard	AS/NZS 4251.1	

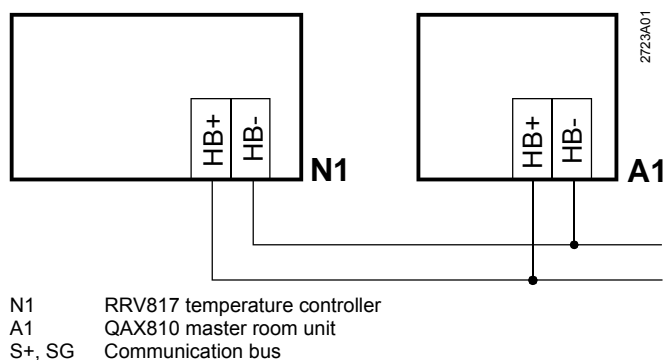
Room temperature measurement	Measuring range	0...49 °C
	Setpoint range	5...35 °C
	Accuracy at 20 °C	max. ±0.5 K
	Temperature calibration range	max. ±3.0 K in increments of 0.5 K
	Room temperature display resolution	0.5 K

Weight	Excluding packaging	approx. 0.1 kg
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Notes

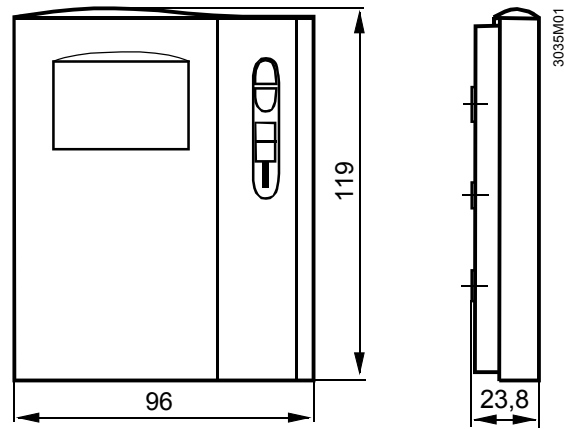
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Connection diagram

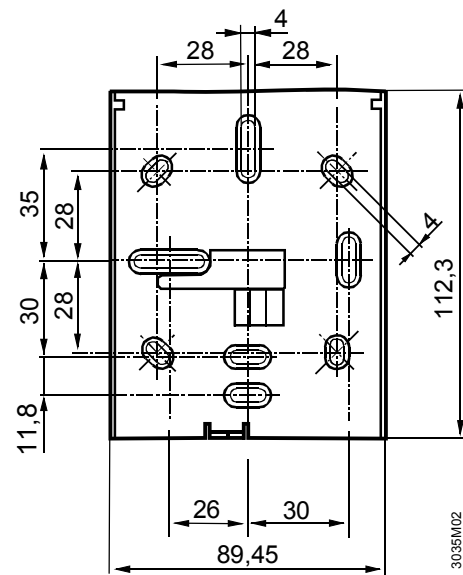


Dimensions

Controller



Base



Dimensions in mm