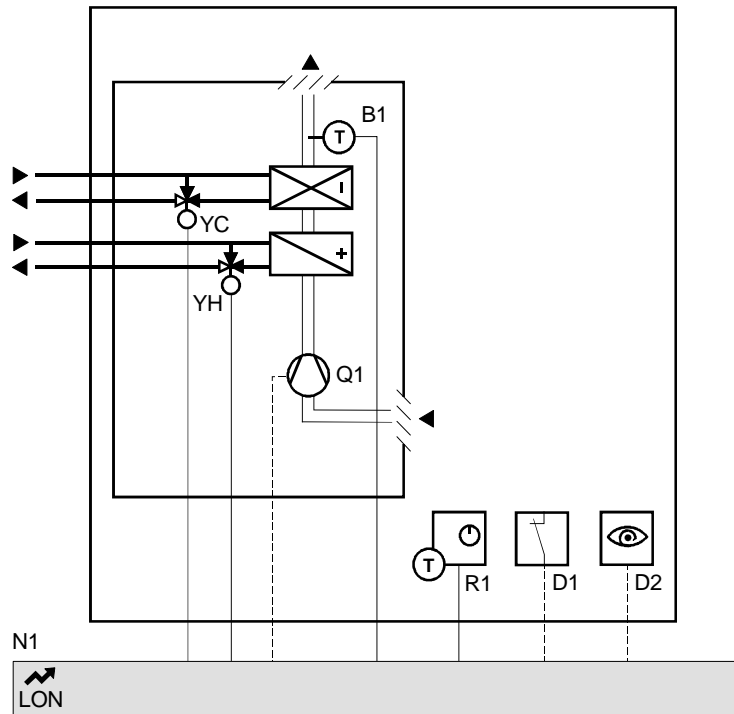


Fan coil with four-pipe system and room supply air cascade

FNC08

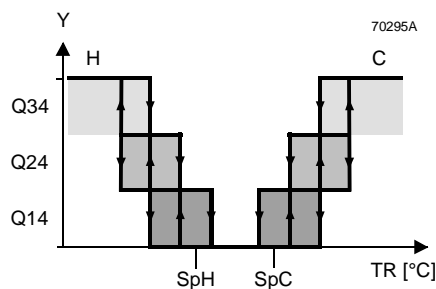
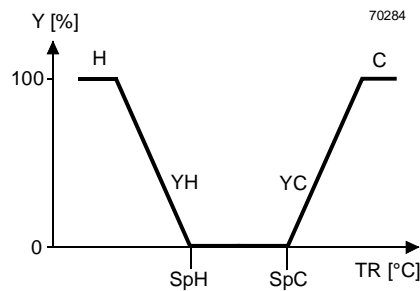


- Heating and cooling with LTHW and CHW resp.
- Modulating control of heating and cooling valve
- Room supply air cascade
- Automatic or manual fan control



- N1 Room temperature controller
- R1 Room unit with temp. sensor
- B1 Supply-air temperature sensor
- D1 Window switch
- D2 Occupancy sensor
- Q1 Fan (1 ... 3-speed)
- YH Heating valve
- YC Cooling valve

Operating diagrams



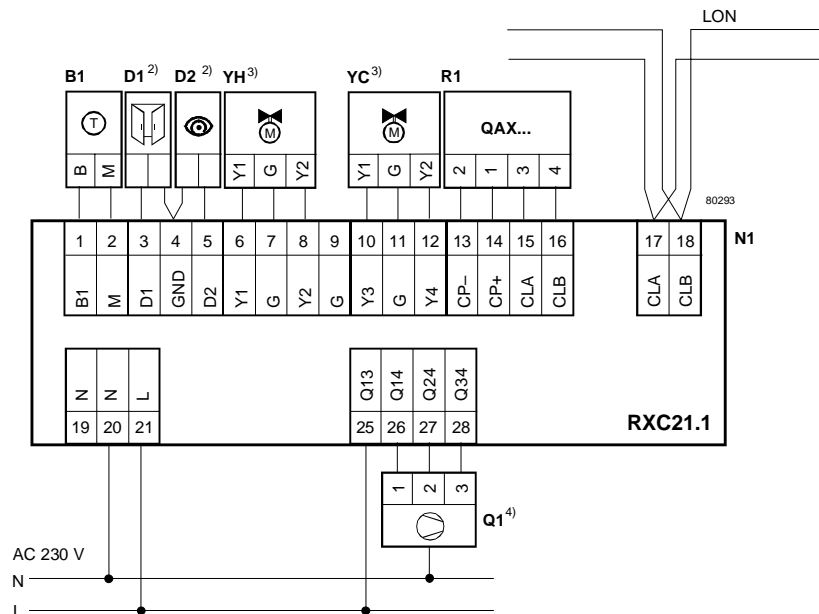
- Y Output signal
- TR Room temperature
- SpH Effective heating setpoint
- SpC Effective cooling setpoint
- H Heating sequence
- C Cooling sequence
- YH Heating valve
- YC Cooling valve
- Q14 Fan speed 1
- Q24 Fan speed 2
- Q34 Fan speed 3

Functions

For details refer to the “FNC” description of functions at the beginning of this section (CA2A3816E00). Application FNC08 includes the following functions:

Function	Brief description	See CA2A3816E00
Four-pipe system	<ul style="list-style-type: none"> – PID control – Two proportional control sequences, heating and cooling – Control of motorised valve actuators (AC 24 V, 3-position) – Room supply air cascade – Valve exercising feature 	6.1 6.3 6.7 6.8
Fan control	<ul style="list-style-type: none"> – Single speed (RXC20.1) or 1...3 speeds (RXC21.1), automatic or – Manual with room unit 	7
Temperature measurement	<ul style="list-style-type: none"> – Room temperature sensor and – Supply-air temperature sensor 	5 6.7
Operating modes	<ul style="list-style-type: none"> – <i>Comfort, Stand-by, Economy and Building protection</i> – Change of operating mode via ⏻/Auto switch on room unit, occupancy sensor, window contact or central command 	2, 3
Setpoint adjustment	<ul style="list-style-type: none"> – Locally via room unit or via central command 	4
General functions	<ul style="list-style-type: none"> – Occupancy sensor – Window switch – Master/slave operation – Boost, night cooling – etc. 	2.2, 8.4 2.2, 8.4 8.2 8.6, 8.7
Room units	<ul style="list-style-type: none"> – Available with temperature sensor, setpoint adjuster, ⏻/Auto switch and fan speeds, LCD display 	9
Compatible controllers	FNC08 can be used in conjunction with the RXC21.1	

Connection diagram



- 2) Type of operation (N/O or N/C) can be selected
- 3) Do not exceed the max. simultaneous load on outputs Y1 ... Y4: max. 9.5 VA (see data sheet 3834).
- 4) Do not connect the fans in parallel (or use cut-off relays).

List of equipment

Ref.	Description	Type	Data sheet
N1	Room temperature controller	RXC21.1	3834
R1	Room unit	QAX30.1 QAX31.1 QAX32.1 QAX33.1 QAX34.1 QAX39.1	1741 1741 1641 1642 1645 1646
	Wireless room unit Receiver	QAX90.1, QAX91.1 RXZ90.1	1643 1644
B1	Supply-air temperature sensor	QAM22 QAP22...	1771 1831
D1	Window contact ²⁾	Third-party device	–
D2	Occupancy sensor ²⁾	Third-party device	–
Q1	Single-speed or 3-speed fan	Third-party device	–
YH	Motorised heating valve, 3-position control ³⁾	SQS81 SSB81...	4575 4891
YC	Motorised cooling valve, 3-position control ³⁾	SQS81 SSB81...	4575 4891

2) Type of operation (N/O or N/C) can be selected

3) Do not exceed the max. simultaneous load on outputs Y1 ... Y4: max. 9.5 VA (see data sheet 3834).

Configuration

The parameters below are available with application FNC08. They are set in the RXT10.1 commissioning and service tool in the **Device, Configure, Settings** menu option.

Menu	Parameter	Values/range	Basic setting	
Temperature setpoints	Comfort heating	10 ... 35 °C	21 °C	
	Comfort cooling	10 ... 35 °C	24 °C	
	Stand-by heating	10 ... 35 °C	19 °C	
	Stand-by cooling	10 ... 35 °C	28 °C	
	Economy heating	10 ... 35 °C	15 °C	
	Economy cooling	10 ... 35 °C	35 °C	
	Building protection heating	10 ... 40 °C	12 °C	
	Building protection cooling	10 ... 40 °C	40 °C	
	Min. supply-air temperature	>10 °C Comfort cooling	16 °C	
Fan control	Fan speeds	– Manual – Single-stage – 2-stage – 3-stage	Three-stage	
	Min. run-time	1 ... 10 min	6 min	
Sequences	Valve type	– SQS81 – SSB81... – Third-party device	SSB81...	
Room unit	Sensor correction	– 3 ... 3 K	0 K	
	Setpoint adjustment range	± 0 ... 10 K	3 K	
	Display of heating/cooling symbol		Enabled	
	Temperature unit	°C or °F	°C	
	Temperature display in normal mode	None / room temp. / setpoint	room temp.	
	Temperature display in setpoint shift mode	Absolute or relative	Absolute	
General functions	Occupancy override time	0 ... 90 min	30 min	
	Receive heartbeat	0 ... 105 min	60 min	
	Send heartbeat	0 ... 105 min	45 min	
	Occupancy sensor Type of operation:	Digital input 1 or 2		No occ. sensor
		Room occupied: Contact open or closed		Closed
		Switch-off delay	0 ... 90 min	5 min
		Switch-on delay	0 ... 90 min	5 min
	Window switch Type of operation:	Digital input 1 or 2		No window switch
		Window closed: Contact open or closed		Closed
	Master/slave	Master or Slave	Master	
	Heating demand signal		Enabled	
	Cooling demand signal		Enabled	
	Morning boost		Enabled	
	Night cooling		Enabled	
	Service LED		Enabled	
Reset shift		Disabled		
LONMARK bindings	See the sections headed "LonMark network variables" and "LonMark binding templates"			

Ordering

Room controllers may be ordered either with the application described above or with the appropriate basic application. Please state the quantity, DESIGO RXC device name, type code and application. Example 1

Example 1

15 RXC21.1 individual room controllers with application FNC08 RXC21.1/FNC08

Notes

- The controllers will be delivered with the basic settings shown above.
- Minimum order quantity: 10 controllers

Example 2

2 RXC21.1 room controllers

RXC21.1 / 00021

Notes

- The controllers will be delivered with the basic application
- The application can be loaded into the controllers by means of the RXT10.1 tool
- Minimum order quantity: 1 controller