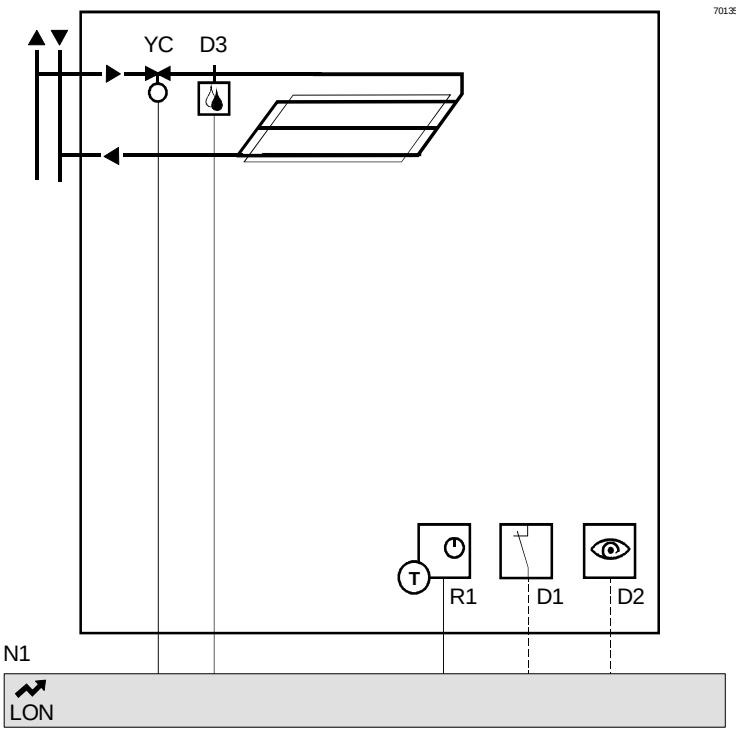
Chilled ceiling

CLC01

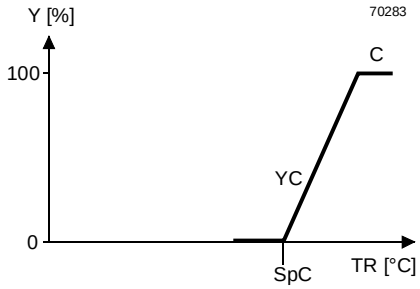
- **Cooling with chilled ceiling**
- **Modulating control of heating/cooling valve**
- **Dew point monitoring**

Plant diagram



N1 Room temperature controller
R1 Room unit with temp. sensor
D1 Window switch
D2 Occupancy sensor
D3 Dew point sensor
YC Cooling valve

Sequence diagram



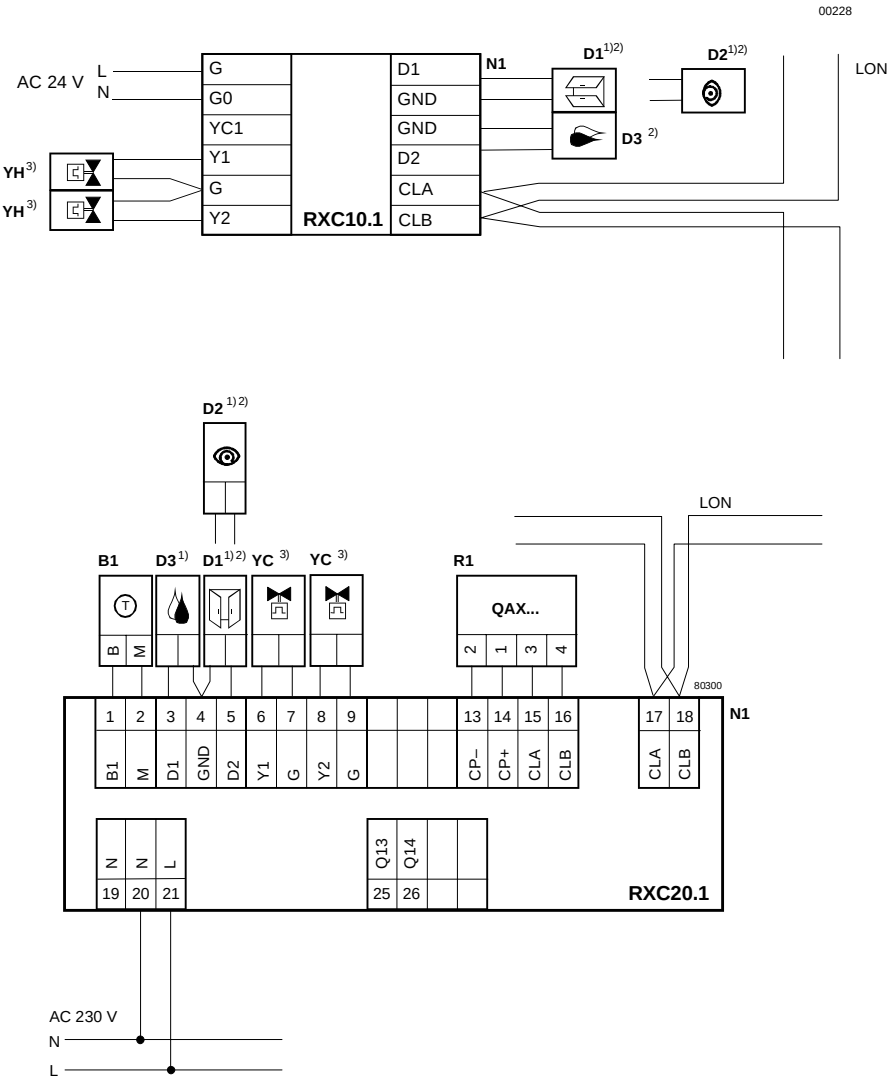
Y Output signal
TR Room temperature
SpC Effective cooling setpoint
C Cooling sequence
YC Cooling valve

Functions

For details refer to the “CLC” description of functions at the beginning of this section (CA2A3815E00). Application CLC01 includes the following functions:

Function	Brief description	See CA2A3815E00
Proportional cooling sequence	– PID control – Proportional control sequence, cooling – Control of thermic valve actuators (AC 24 V, PWM) – Valve exercising feature	6.1 6.4 6.6
Dew point sensor	– Dew point sensor to prevent condensation formation	6.5
Operating modes	– *Comfort, Stand-by, Economy* and *Building protection* – Change of operating mode via ⏻/Auto switch on room unit, occupancy sensor, window contact or central command	2, 3
Setpoint reset	– Locally via room unit or via central command	4
Temperature measurement	– Via room unit or passive temperature sensor	5
General functions	– Occupancy sensor – Window switch – Master/slave operation – Night cooling – etc.	2.2, 7.4 2.2, 7.4 7.2 7.7
Room units	– Versions available with temperature sensor, setpoint adjuster, ⏻/Auto switch and LCD display	8
Compatible controllers	CLC01 can be used in conjunction with RXC10.1 and RXC20.1	

Connection diagrams



List of equipment

Ref.	Description	Type	Data sheet
N1	Room temperature controller	**RXC10.1** **RXC20.1**	3830 3834
R1	Room unit	**QAX30.1** **QAX31.1** **QAX32.1** **QAX34.1** **QAX39.1**	1741 1741 1641 1645 1646
	Wireless room unit Reciever	**QAX90.1, 91.1** **RXZ90.1**	1643 1644
B1	Room temperature sensor	**QAA24**	1721
D1	Window contact 1) 2)	Third-party device	–
D2	Occupancy sensor 1) 2)	Third-party device	–
D3	Dew point sensor 1) ***Please provide AC24V supply!***	**QFX21**	1551
YC	Thermic cooling valve, 2-position (PWM) control 3)	**T3W..., T4W...** **STE72** **STE71.1** **STA71**	4829 4873 4874 4877

1) Type of operation (N/O or N/C) can be selected
2) **Either** an occupancy sensor **or** a window contact may be connected (but not both)
3) Note the output load for Y2: max. 9.5 VA (see RXC20.1, data sheet 3834)

Configuration

The parameters available with application CLC01 are shown below. 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 cooling*	10 ... 35 °C	24 °C
	Stand-by cooling	10 ... 35 °C	28 °C
	Economy cooling	10 ... 35 °C	35 °C
	Building protection cooling	10 ... 40 °C	40 °C
Sequences	*Valve type*	– STE71.1 – STE72	STE71.1
Room unit	*Sensor correction*	– 3 ... 3 K	0 K
	Setpoint reset 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	Digital input 1 or 2	No occ. sensor
	Type of operation:	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	Digital input 1 or 2	No window switch
	Type of operation:	Window closed: Contact open or closed	Closed
	Dew point sens	Digital input 1 or 2	No dew point sensor
	Type of operation:	Condensation: Contact open or closed	Closed
	Master/slave	Master or Slave	Master
	Cooling demand signal		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

15 RXC20.1 individual room controllers with application CLC01 RXC20.1/CLC01

Notes

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

Example 2

2 RXC20.1 room controllers RXC20.1 / 00020

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