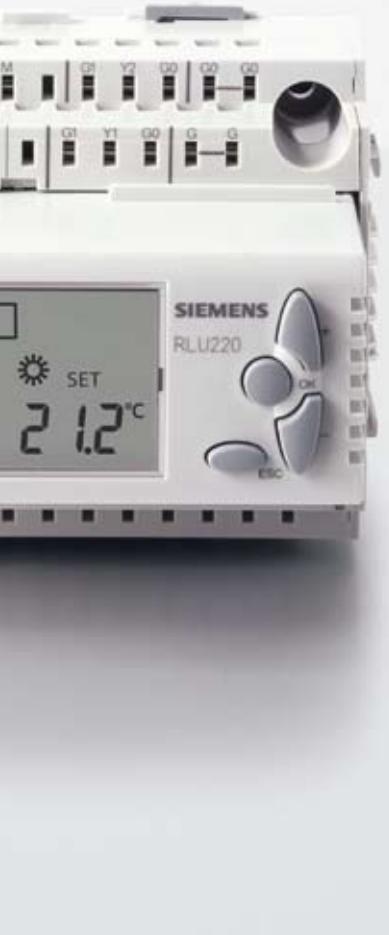


Synco 200 – Commissioning guide



Answers for infrastructure.

SIEMENS



Synco 200 – Commissioning guide

This guide provides basic instructions for configuring and starting the Synco™ 200 controllers. It contains tables showing all symbols and basic texts that are used with Synco 200. Additionally, all preprogrammed applications are shown as small plant diagrams, to help you to find the required controller and the corresponding number of preprogrammed application.

Summarized, this booklet provides you with all necessary basic information to commission the Synco 200 controllers in an easy, comfortable and efficient way.

If you need more detailed information, please refer to the Synco 200 basic documentation (Document No. CE1P3101en) or contact your local Siemens office.

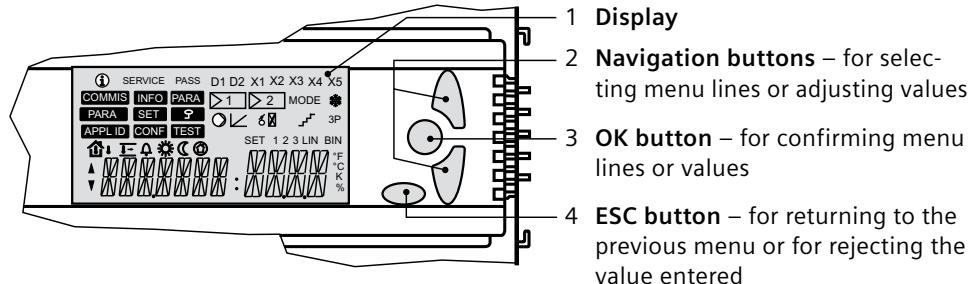
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Introduction

Operating elements and symbols

Operating elements



Symbols and characters on the display

	Info pages		Outside temperature
	Service level		Room temperature
	Password level		Supply air temperature
	Adjustable setpoint		Protection
	Navigation arrows		Room operating mode „Comfort“
	Fault		Room operating mode „Economy“
	Frost protection		Controller 1 (or 2)

Note: the enduser level is active when the display shows neither the service level nor the password level symbol.

Symbols and characters on the service and password level

	Commissioning		Info about inputs/outputs
	Parameter settings		Lock access
	Basic configuration		Adjustable value
	Extra configuration		Operating mode
	Wiring test		Frost protection
	Pump		Step switch
	Analog output		3-position output
	Mixing damper/Heat recovery		Lineary step switch
			Binary step switch

List of abbreviations

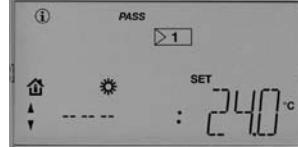
°C	Degrees Celsius	HEAT	Heating
°F	Degrees Fahrenheit	HREC	Mixing damper/Heat recovery
%OPEN	Outside temp-dependent open	INFO	Information inputs/outputs
0.0	Universal 000.0	IN X	Preselection external
0000	Universal 0000	INVALID	Caution! Invalid settings
0-10	0-10 V	INVERS	Inversion
2xNI	2 Ni1000 sensors	KICK	Kick period
3P	3-position	LABEL	Input identifier
3-POINT	3-position output	LIM	General limit controller
A	Basic type A room temp controller	LIM DHI	General limiter differential high
ACCESS	Access levels	LIM DLO	General limiter differential low
ACK	Fault acknowledgement	LIM MAX	General limiter limit value high
ACTING	Control loop with risk of frost	LIM MIN	General limiter limit value low
ACTTIME	Actuator running time	LIM TN	General limiter integral action time Tn
ADAP	Plant type adapted	LIM XP	General limiter P-band Xp
ALM OFF	Fan release relay	LOCK S1	[Sequence 1] outside temp-dependent locked
AO	Modulating output	LOCK S2	[Sequence 2] outside temp-dependent locked
APPID	Basic configuration	LOCK S4	[Sequence 4] outside temp-dependent locked
CAS/CON	Casc/const changeover input	LOCK S5	[Sequence 5] outside temp-dependent locked
CASC	Cascade	MAIN	Main controlled variable
CAUTION NEW	Caution! New configuration	MAINALM	Main controlled variable sensor error
CH OVER	2-pipe heating/cooling system	MAT	Mixed air temperature
CLOS	Closing	MAT XP	Mixed air temp P-band Xp
CLSD	Closed	MAT TN	Mixed air temp integral action time Tn
CMF	Comfort	MAX	Limitation max
CMP1D	[Setp compensation 1] delta	MAX POS	Positioning signal max
CMP1END	[Setp compensation 1] end	MAX VAL	Value high
CMP1STT	[Setp compensation 1] start	MECH 1	MECH input 1
CMP2D	[Setp compensation 2] delta	MECH 2	MECH input 2
CMP2END	[Setp compensation 2] end	MECHSET	MECH limit value
CMP2STT	[Setp compensation 2] start	MIN	Limitation min
CNST	Constant	MIN	Minimum
CO SEQ1	Change to sequence 1	MIN POS	Positioning signal min
CO SEQ2	Change to sequence 2	MIN VAL	Value low
CO SEQ4	Change to sequence 4	MODE	Operating mode
CO SEQ5	Change to sequence 5	NI	Passive Ni1000 Sensor
COMMIS	Commissioning	NO	No
CONFIG	Extra configuration	NO	None
COOL	Cooling	NORMPOS	Normal position
COOLER	Cooling coil valve	OFF	Off
CORR	Correction	OFF TN	Plant OFF Tn
CTL1	Controller 1	OFF XP	P-band Xp
CTL2	Controller 2	OFFTIME	Locking time
CTLOOP 1	Controller 1	OFF-Y	Load-dependent OFF
CTLOOP 2	Controller 2	OHM	
DIFF	Differential input	OK	
DIG	Frost protection unit	ON	On
DIG	Digital	ON DLY	Startup delay
DLY OFF	Switch-off delay	ON-OUTS	Outside temp-dependent ON
DMP	Mixed air damper	ON-Y	Load-dependent ON
DV ALM	Deviation message	OPEN	Opening
DV DLYH	Deviation message delay high	OPEN	Open
DV DLYL	Deviation message delay low	OPMODE	Preselected operating mode input
ECO	Economy	ORIG	Plant type original (not adapted)
ERC	Heat recovery equipment	OUTS	Outside temperature
FROST	Frost protection	OUTSIDE	Actual value outside temperature
FRST	Frost protection		

PASS	Password level	SERV	Service level
PASSWRD	Enter password	SET MAX	Comfort setpoint high
PASSWRD	Password	SET MAX	Economy setpoint high
PRIOR CH	Run priority changeover	SET MIN	Comfort setpoint low
PRT	Protection	SET MIN	Economy setpoint low
PT	Platin sensor	SETCLIM	Cooling setpoint limitation
PUMP 1	Pump 1	SETCOOL	Comfort cooling setpoint
PUMP 2	Pump 2	SETCOOL	Economy cooling setpoint
PUMP 3	Pump 3	SETHEAT	Comfort heating setpoint
REM1	[Controller 1] remote setpoint adjuster	SETHEAT	Economy heating setpoint
REM2	[Controller 2] remote setpoint adjuster	SETHLIM	Heating setpoint limitation
ROOM	Room temperature	SET-OFF	Plant OFF frost protection setpoint
ROOM	Actual value room temperature	SET-ON	Risk of frost limit
ROOM TN	Room influence Tn	SETPONT	Setpoints
ROOM XP	Room influence Xp	SETTING	Settings
S V1	Variable step switch 1	SHIFT	Universal shift
S V2	Variable step switch 2	SIGNALY	Measured value signal output
S1-OFF	[Step 1] OFF	SLIN	Linear step switch
S1-ON	[Step 1] ON	START OK	Caution! Plant starts
S2-OFF	[Step 2] OFF	STATUS	Device state
S2-ON	[Step 2] ON	STEP 1	Step 1
S3-OFF	[Step 3] OFF	STEP 2	Step 2
S3-ON	[Step 3] ON	STEP 3	Step 3
S4-OFF	[Step 4] OFF	STEP 4	Step 4
S4-ON	[Step 4] ON	STEP 5	Step 5
S5-OFF	[Step 5] OFF	STEP 6	Step 6
S5-ON	[Step 5] ON	STEP V1	Variable step switch 1
S6-OFF	[Step 6] OFF	STEP V2	Variable step switch 2
S6-ON	[Step 6] ON	STEPBIN	Binary step switch
SAT	Supply air temperature	STEPLIN	Linear step switch
SBIN	Binary step switch	STOP OK	Caution! Plant stops
SEQ	Sequence limiter controller	STRATGY	Control strategy
SEQ MOD	Type of limitation	STUP-TI	Startup time
SEQ SEL	Sequence selection	SU DMAX	Maximum limitation supply air delta
SEQ SET	Sequence limiter limit value	SU DMIN	Minimum limitation supply air delta
SEQ XP	Sequence limiter P-band Xp	SU MAX	Supply air limit value max
SEQ TN	Integral action time Tn	SU MIN	Supply air limit value min
SEQ1	Sequence 1	SUM-D	Summer compensation delta
SEQ1 P	[Sequence 1] pump	SUM-END	Summer compensation end
SEQ1 TN	[Sequence 1_] Tn	SUM-STT	Summer compensation start
SEQ1 TV	[Sequence 1_] Tv	SW-VERS	Software version
SEQ1 XP	[Sequence 1_] Xp	TIMEOUT	Control timeout
SEQ1 Y	[Sequence 1] load	TOOLING	Operation locked
SEQ2	Sequence 2	TYPE	Type
SEQ2 P	[Sequence 2] pump	TYPE	Identification
SEQ2 TN	[Sequence 2_] Tn	U	Basic type U universal controller
SEQ2 TV	[Sequence 2_] Tv	UNIT	Unit
SEQ2 XP	[Sequence 2_] Xp	USER	User level
SEQ2 Y	[Sequence 2] load	VALUES	Inputs/outputs
SEQ4	Sequence 4	WIN-D	Winter compensation delta
SEQ4 P	[Sequence 4] pump	WIN-END	Winter compensation end
SEQ4 TN	[Sequence 4_] Tn	WIN-STT	Winter compensation start
SEQ4 TV	[Sequence 4_] Tv	WIRING TEST	Wiring test
SEQ4 XP	[Sequence 4_] Xp	XP	P-band Xp
SEQ4 Y	[Sequence 4] load	YES	Yes
SEQ5	Sequence 5	YES	Acknowledgement manual
SEQ5 P	[Sequence 5] pump	YES3	Acknowledgement automatic 3x
SEQ5 TN	[Sequence 5_] Tn		
SEQ5 TV	[Sequence 5_] Tv		
SEQ5 XP	[Sequence 5_] Xp		
SEQ5 Y	[Sequence 5] load		

Commissioning

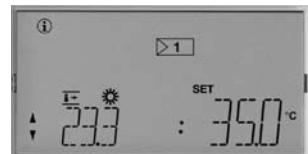
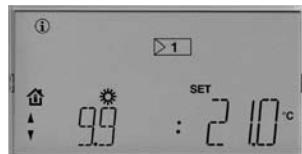
Access level overview

How to get into the different access levels

User level	Service level	Password level
Access to info pages and setpoint menu	Access to info pages and setting menus	Access to all menus
Press OK + ESC	Press OK + ESC	Press OK + ESC
		
Menu overview (see page 8)	Menu overview (see page 10)	<p>Press OK</p>  <p>Select 2 Press OK</p> 

Navigation overview – user level

Info pages



Info pages show actual values,

Setpoint menu



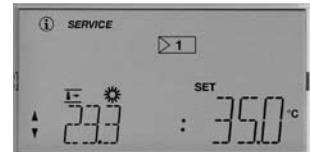
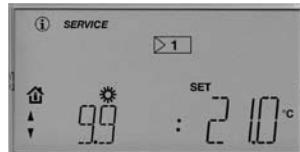
SET to define setpoints
(see page 18)



setpoints, fault messages and other user relevant data (see page 20)

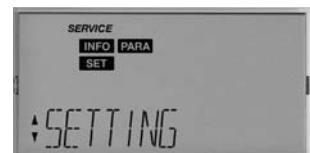
Navigation overview – service level

Info pages



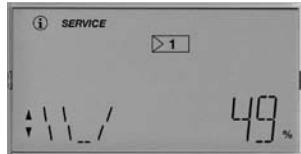
Info pages show actual values,

Setting menus



INFO shows all inputs and outputs (see page 17)

PARA to define parameters (see page 16)



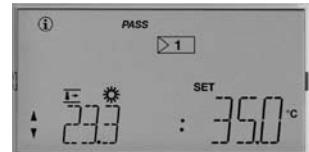
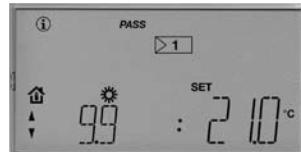
setpoints, fault messages and other user relevant data (see page 20)



SET to define setpoints
(see page 18)

Navigation overview – password level

Info pages



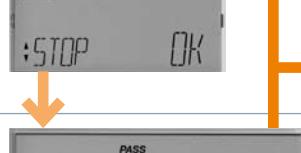
Info pages show actual values,

Setting menus



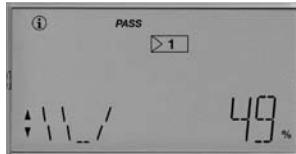
INFO shows all inputs and outputs (see page 17)

Commissioning menus (see page 16)



PARA to define parameters

SET to define setpoints



setpoints, fault messages and other user relevant data (see page 20)



PARA to define parameters
(see page 16)



SET to define setpoints
(see page 18)



APPL ID to choose an application



CONF to define configuration



TEST to check inputs and to simulate outputs

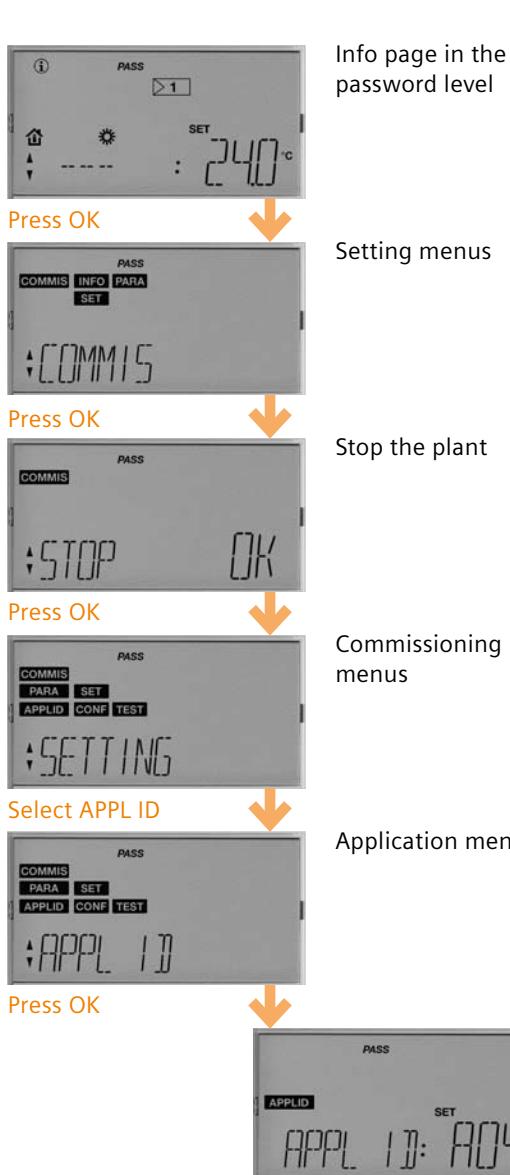
Getting started

1 How to get into the password protected area

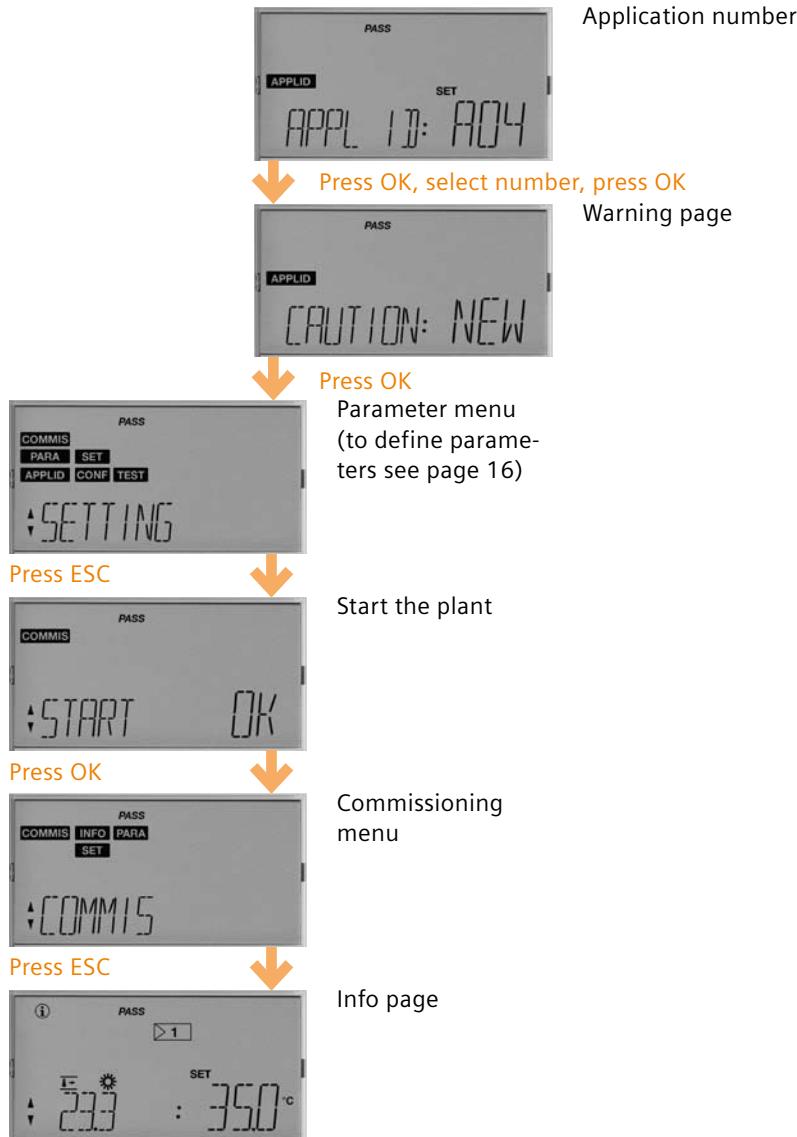
Press OK + ESC



2 How to select a preprogrammed application (APPL ID)



3 How to start a preprogrammed application



4 How to adjust configuration and settings

- How to define parameters (PARA), setpoints (SET), applications (APPL ID)
- How to adjust a standard application (CONF)
- How to test inputs and outputs (TEST)

Menus in COMMIS

Parameter menu:

Select PARA



...to define parameters

Press OK



Select an input or a function

Setpoint menu:

Select SET

(see page 18)



...to define setpoints

Press OK



Define the heating setpoint

Application menu:

Select APPL ID

(see page 14)



...to select an application

Press OK



Select a number

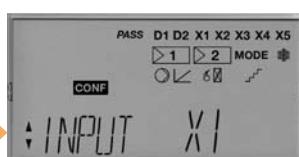
Configuration menu:

Select CONF



...to adjust or define an application

Press OK



Select an input or a function

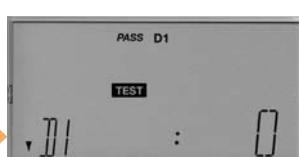
Wiring test menu:

Select TEST



...to test inputs and outputs

Press OK



Select an input or a function

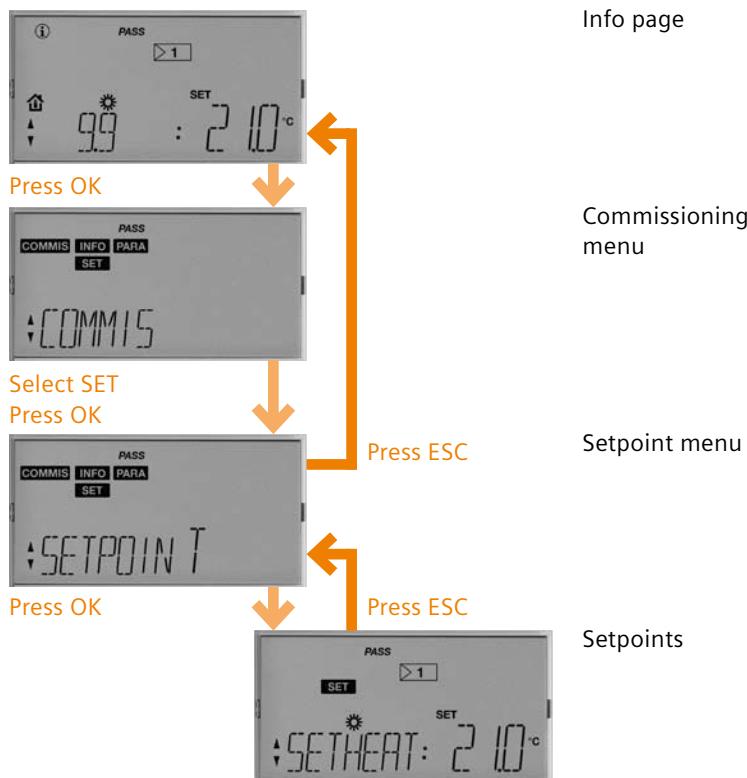
5 How to check inputs and outputs (INFO)

(only in password or service level)

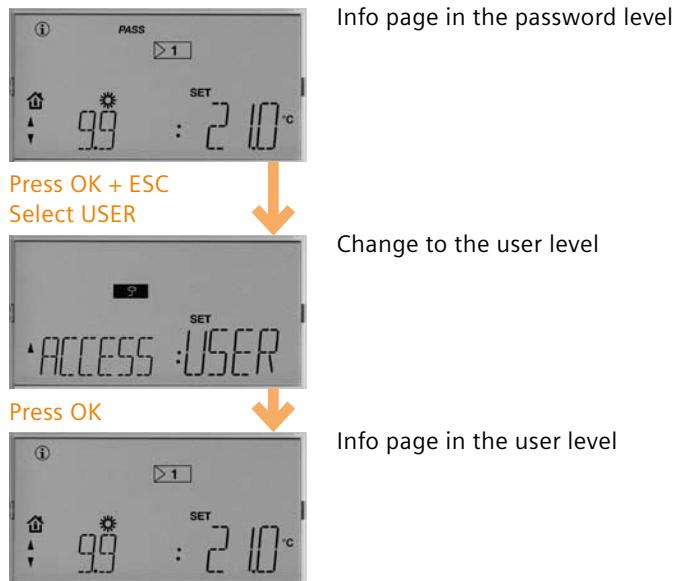
This menu allows you to look up all input and output values to check your plant.



6 How to define setpoints (SET) (in all levels)

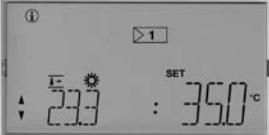
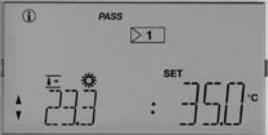
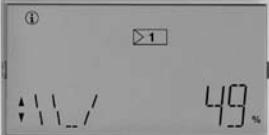
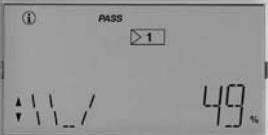


7 How to protect your settings by selecting the user level



Info pages overview

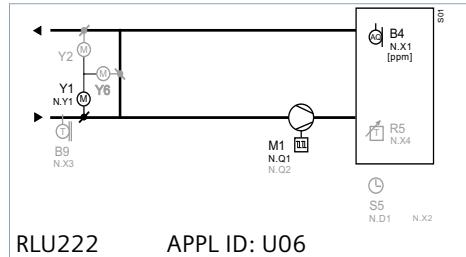
Number and content of the info pages depend on the loaded application

User level	Service and password level	Description
		Shows actual room temperature and setpoint
		Shows actual supply air temperature and calculated setpoint or temperature limits
		Shows all configured sequences. The active sequence flashes
		Shows the outside temperature
		Shows the status of the analog outputs in [V]. Y1=3V, Y2=0V, Y3=not used
		Shows the status of the relay outputs Q1...Q3. (I=closed, O=open). Q1=closed, Q2=open, Q3=open
		Shows the status of the relay outputs Q4...Q6. (I = closed, 0 = open)
		This page only appears if the plant works fine. Otherwise a fault message is displayed.

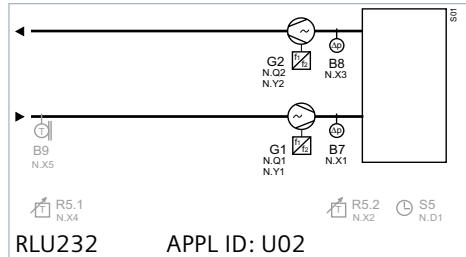
Preprogrammed Applications

Air handling applications

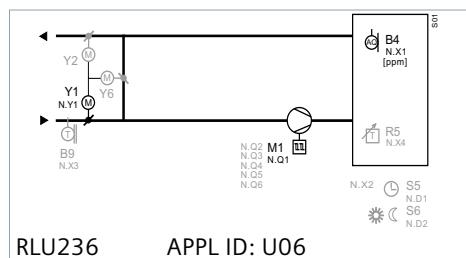
Air pressure and air quality control



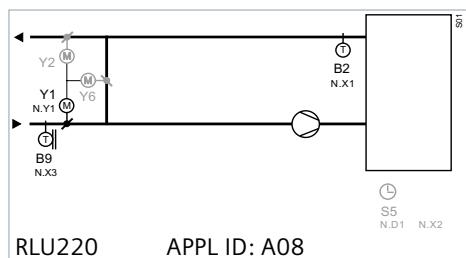
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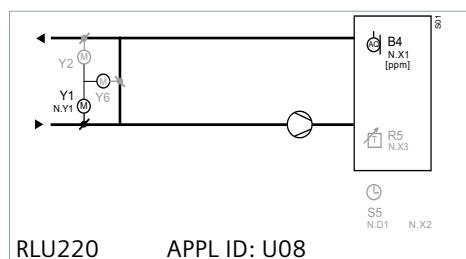
RLU232 APPL ID: U02



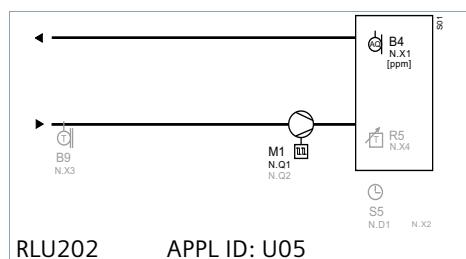
RLU236 APPL ID: U06



RLU220 APPL ID: A08

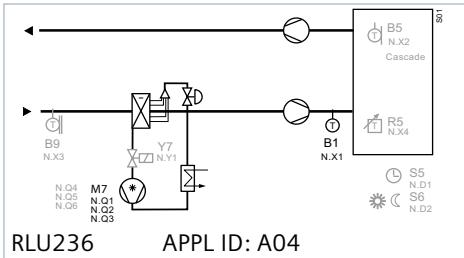
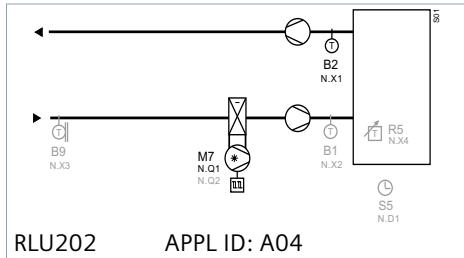
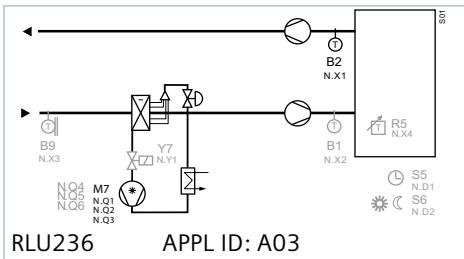
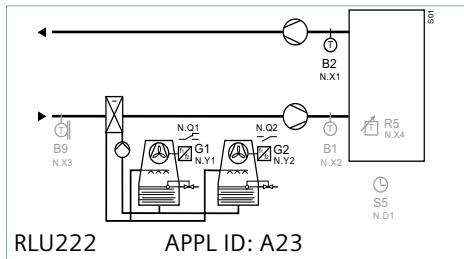
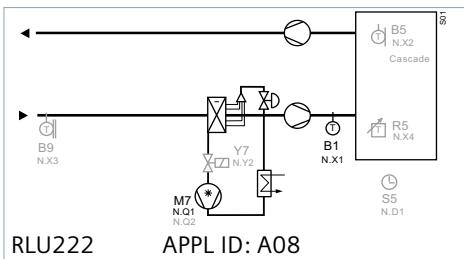
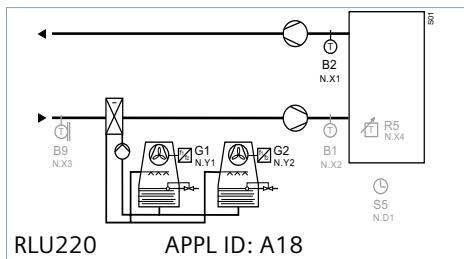
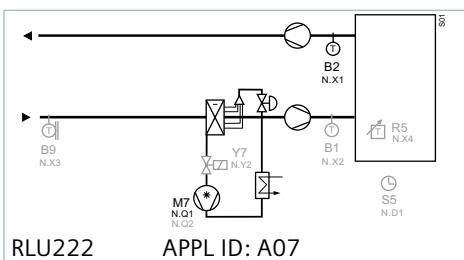
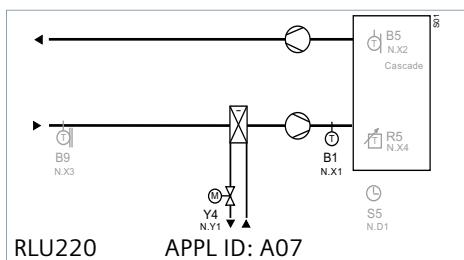
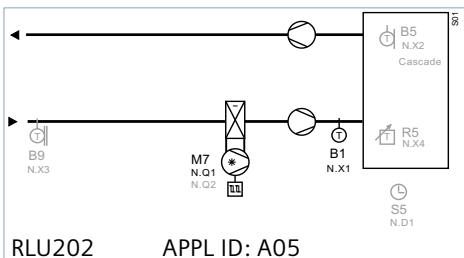
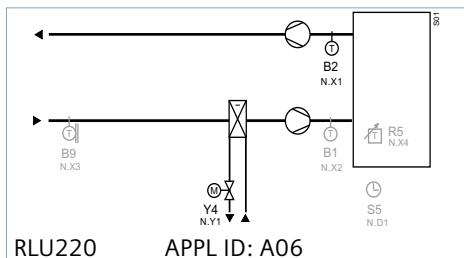


RLU220 APPL ID: U08

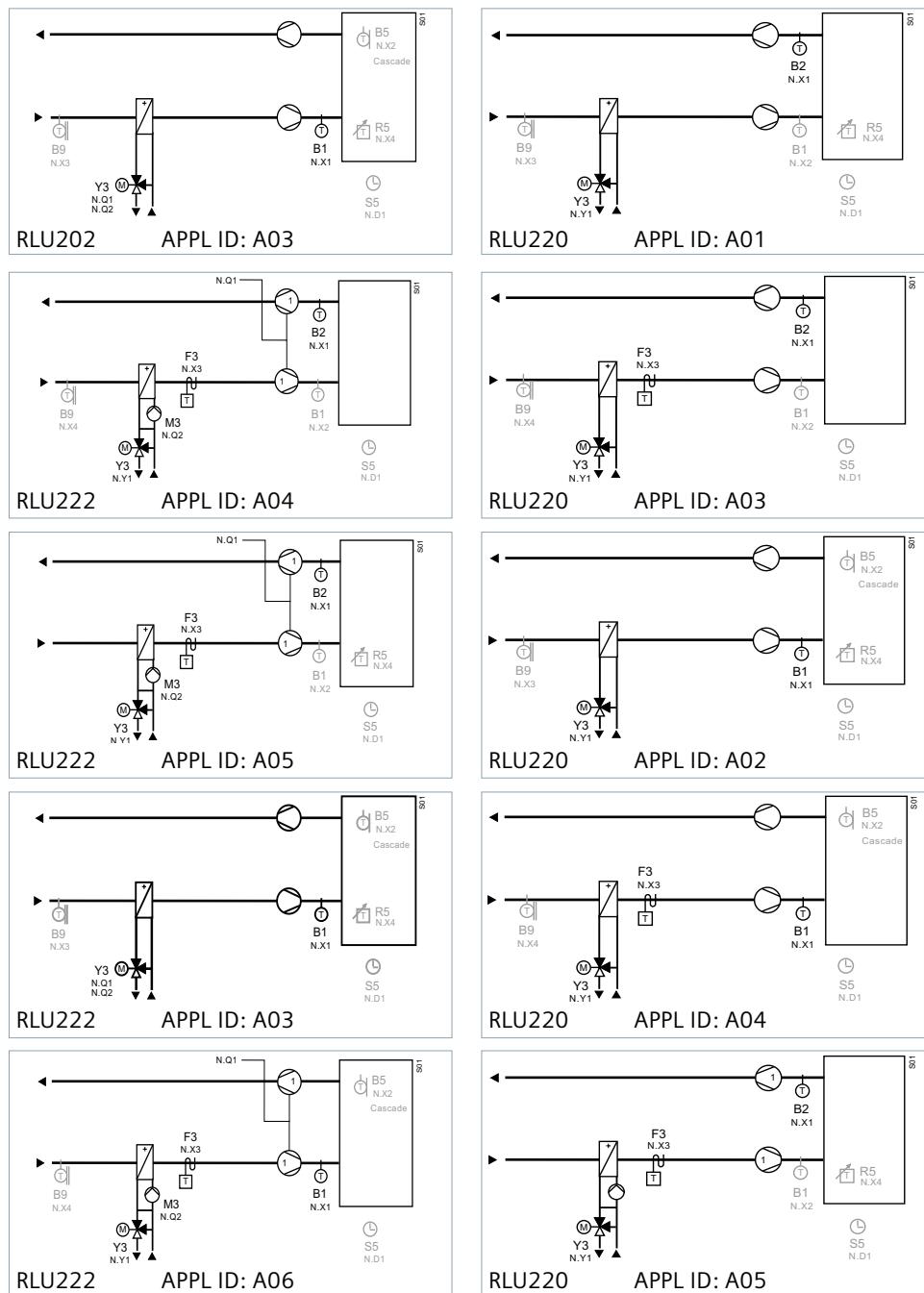


RLU202 APPL ID: U05

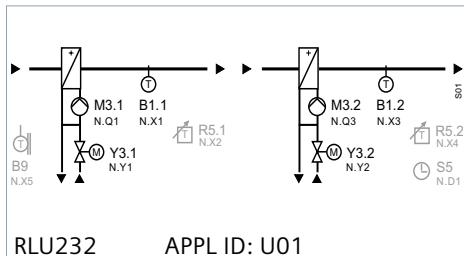
Temperature control: Cooling coil



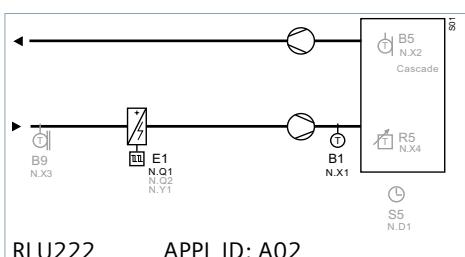
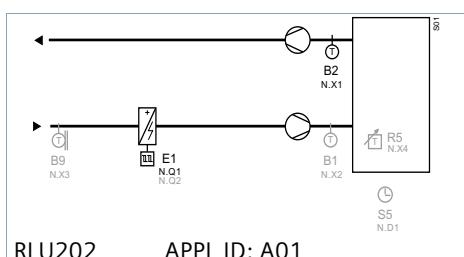
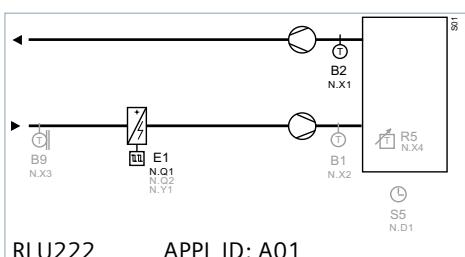
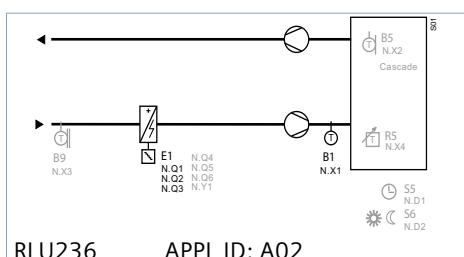
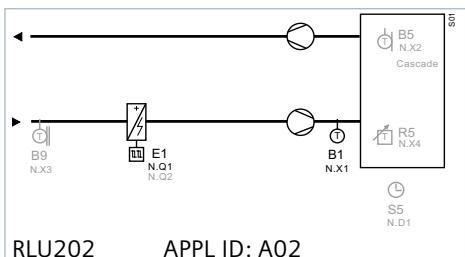
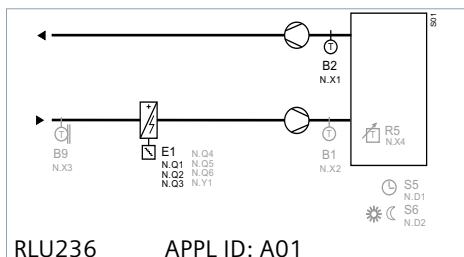
Temperature control: Heating coil, water (1)



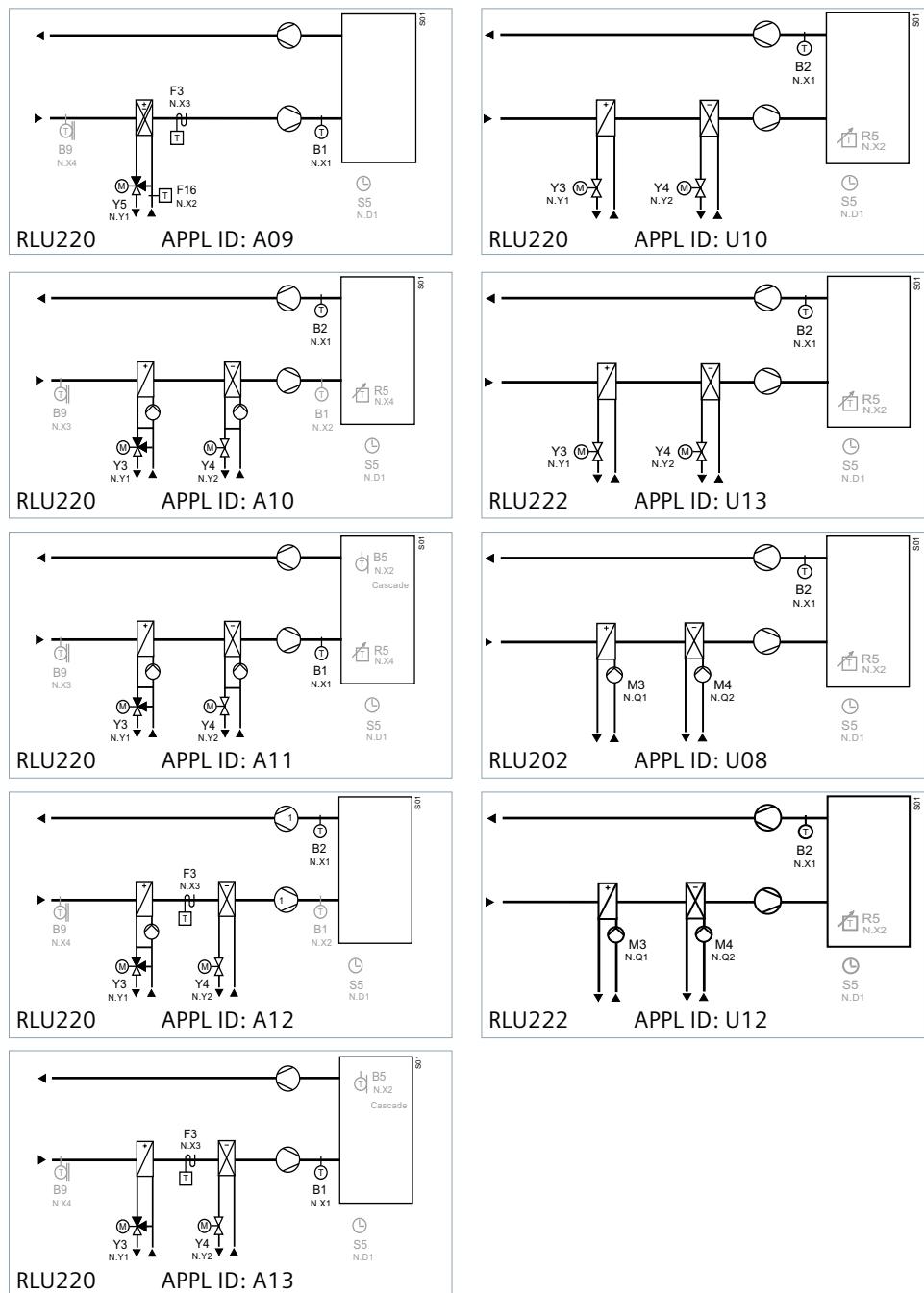
Temperature control: Heating coil, water (2)



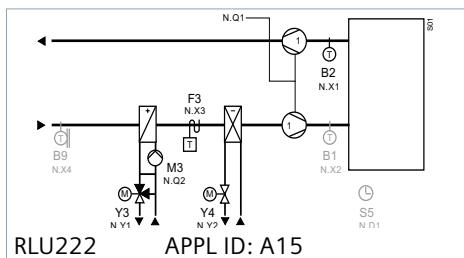
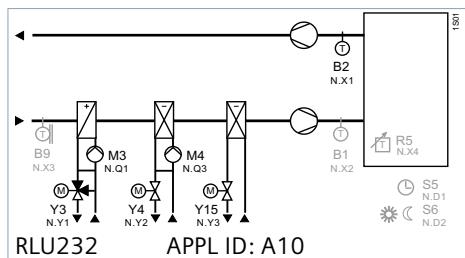
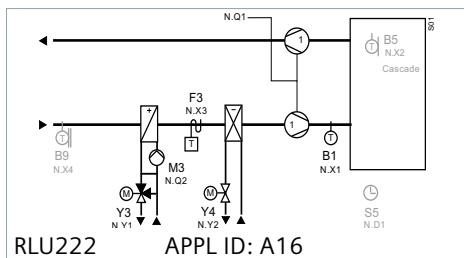
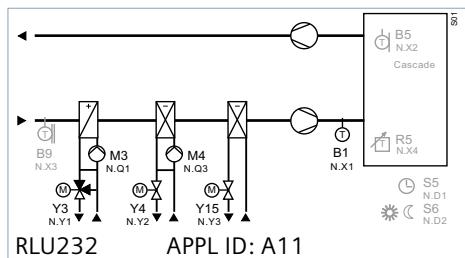
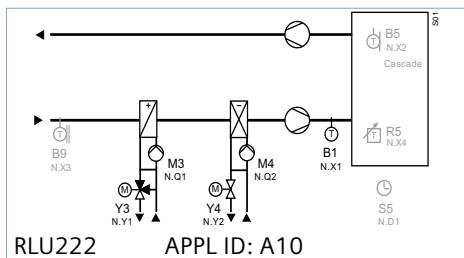
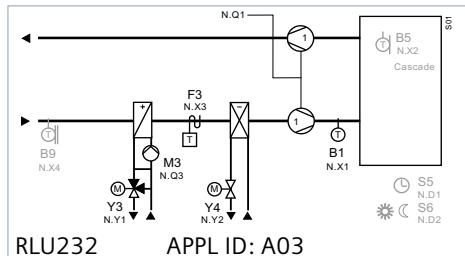
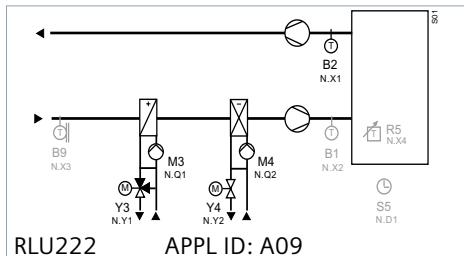
Temperature control: Heating coil, electric



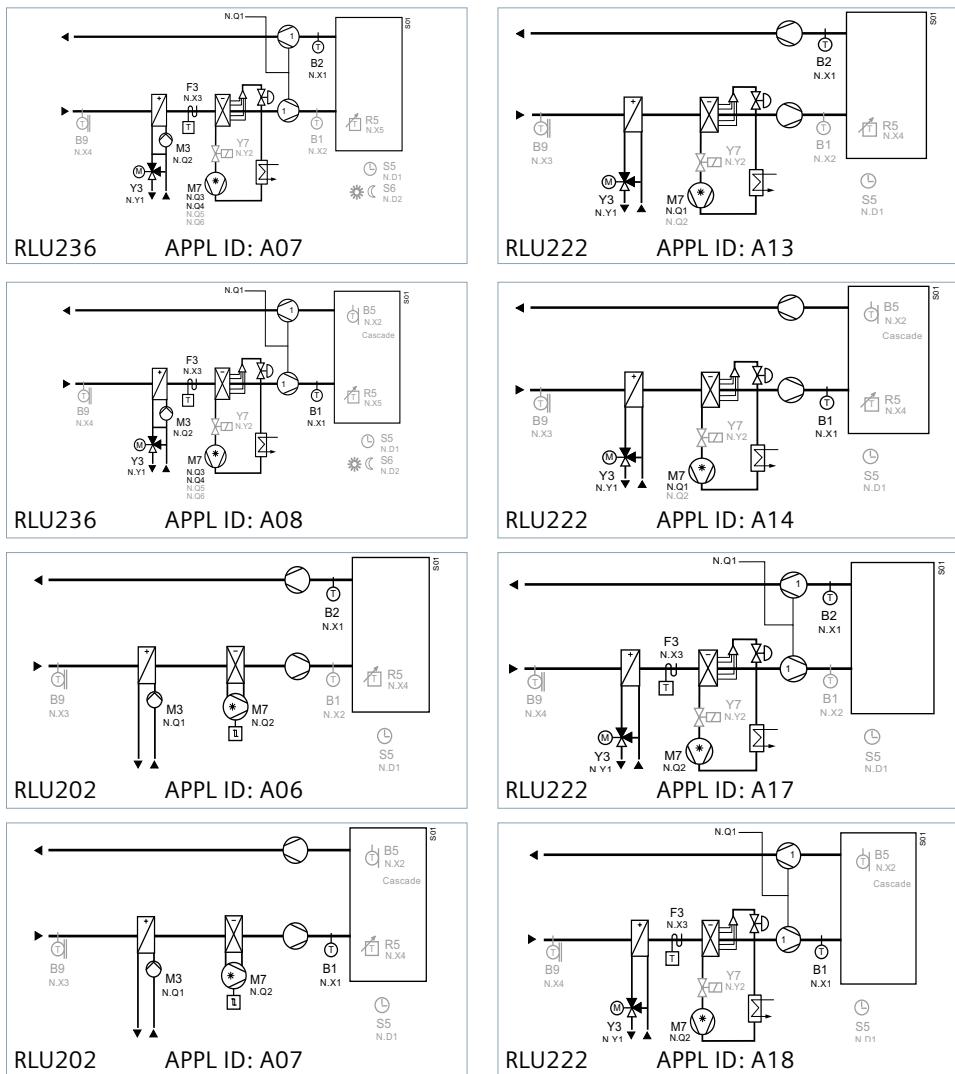
Temperature control: Heating + cooling coil, water (1)



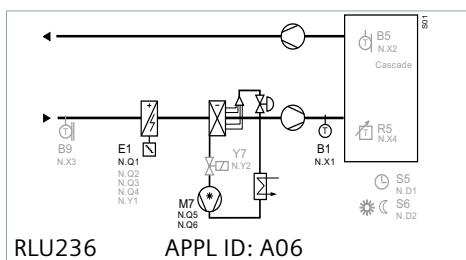
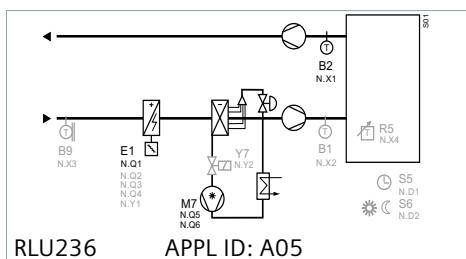
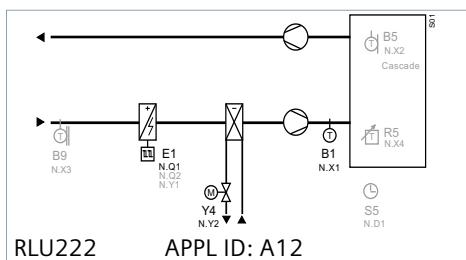
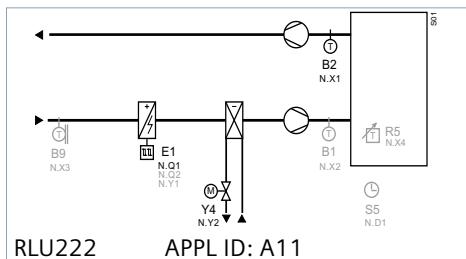
Temperature control: Heating + cooling coil, water (2)



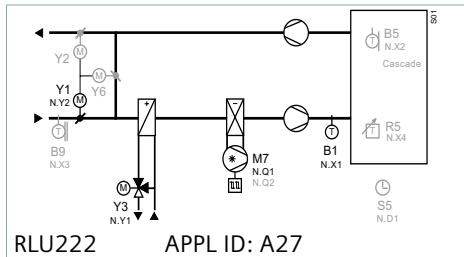
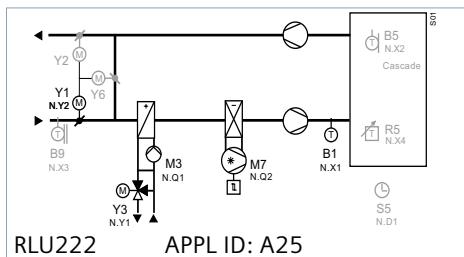
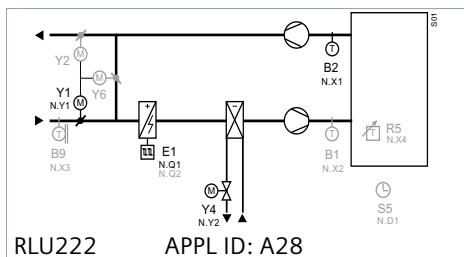
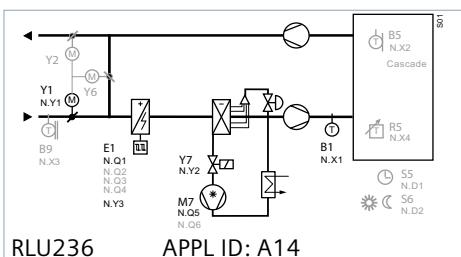
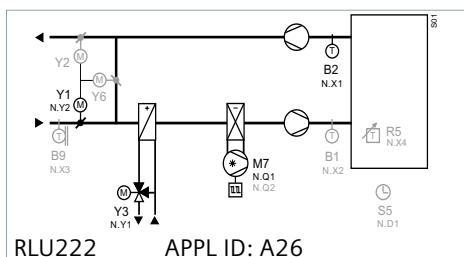
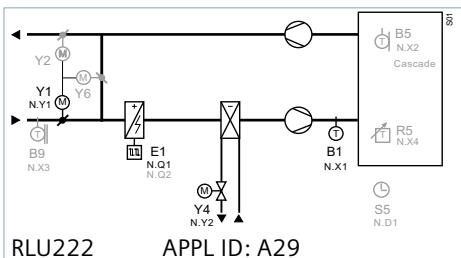
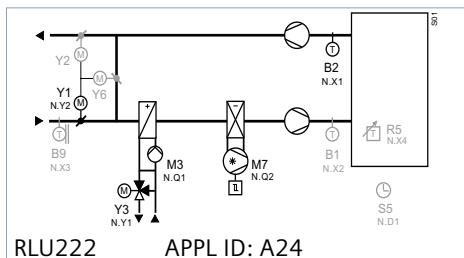
Temperature control: Heating + cooling coil, DX cooler



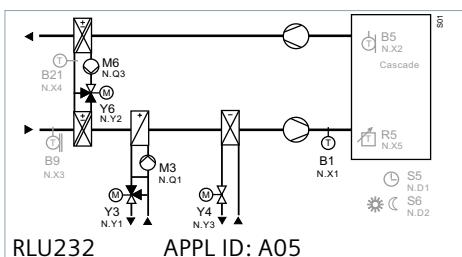
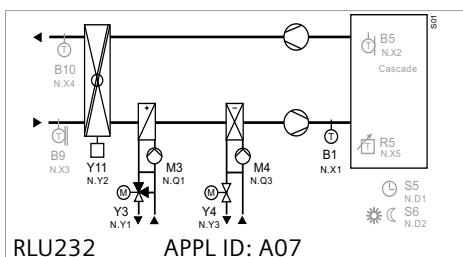
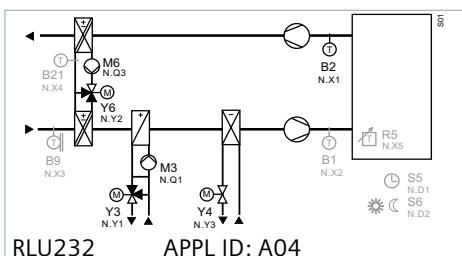
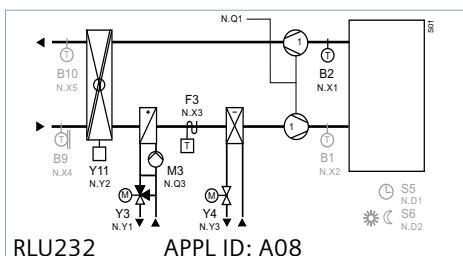
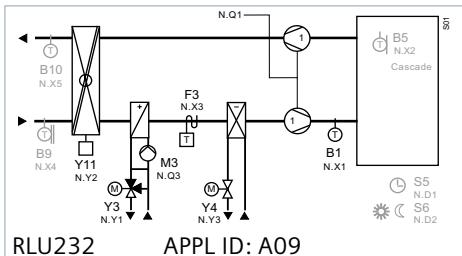
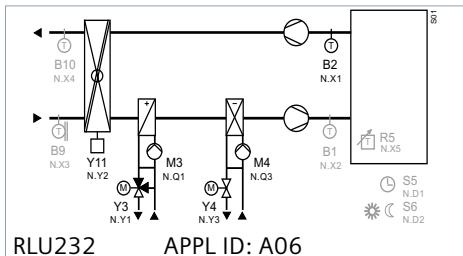
Temperature control: Heating + cooling coil, electric heater



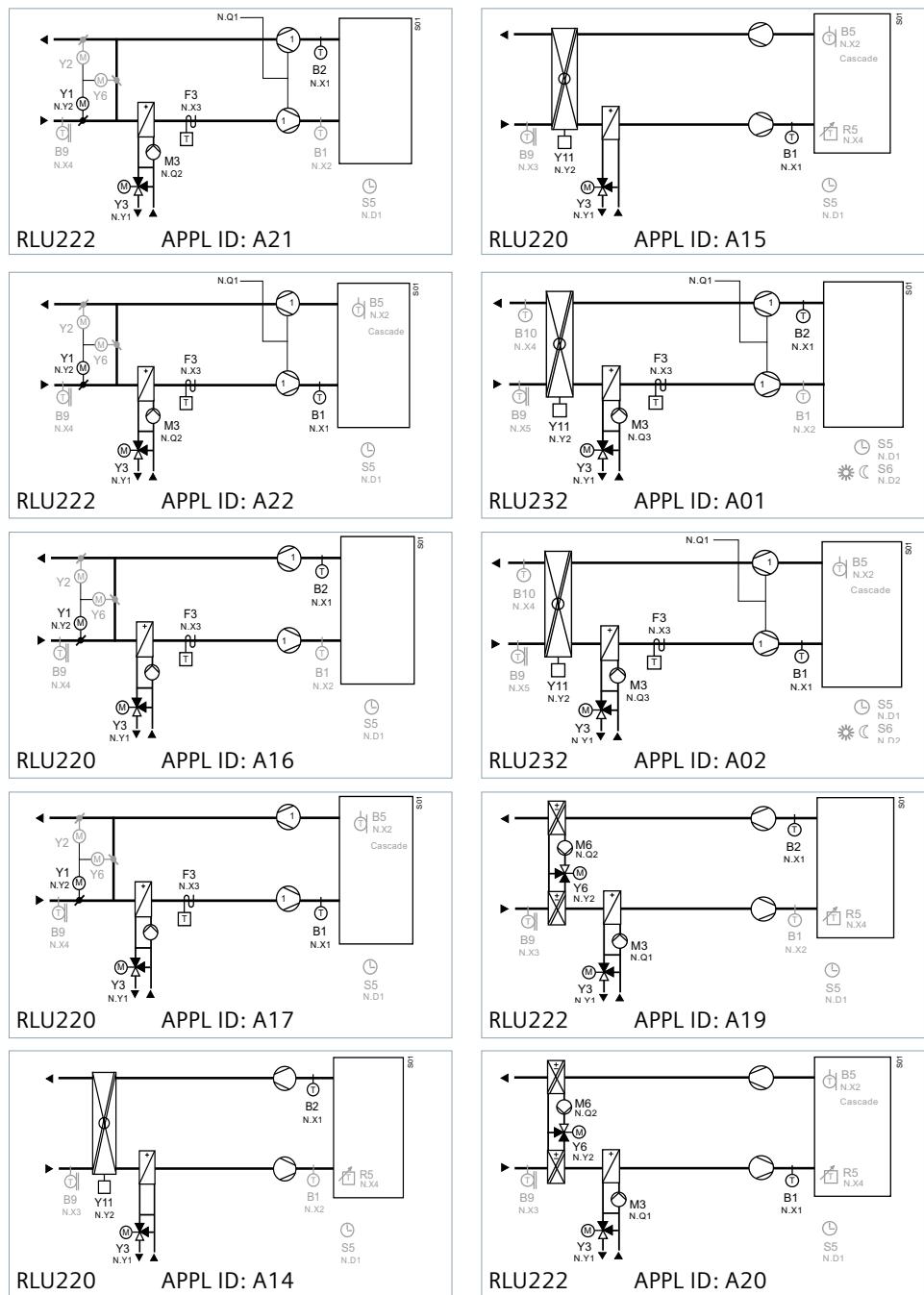
Temperature control: Heating + cooling coil + mixing dampers



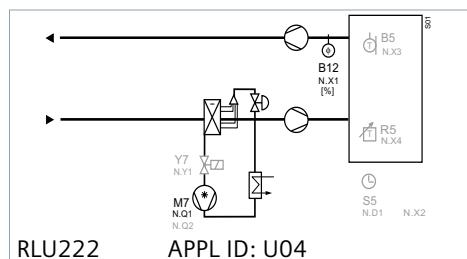
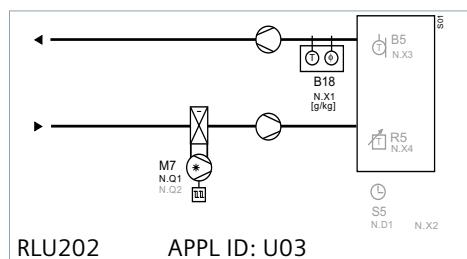
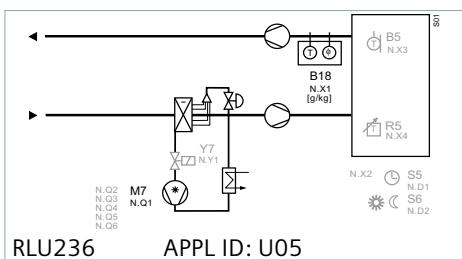
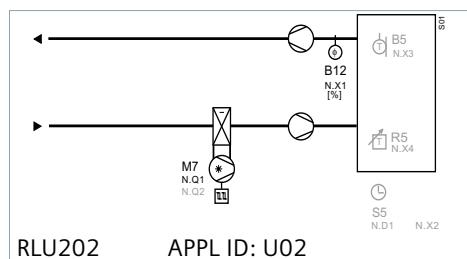
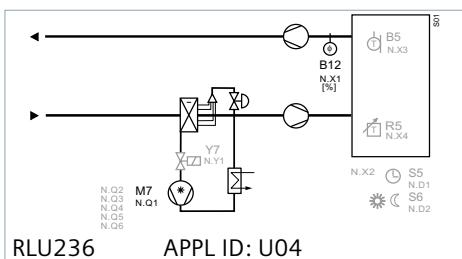
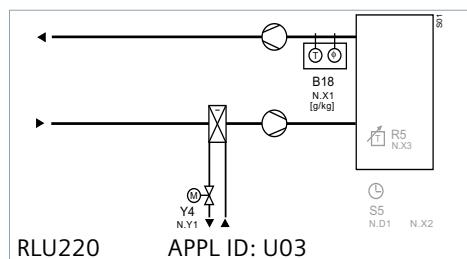
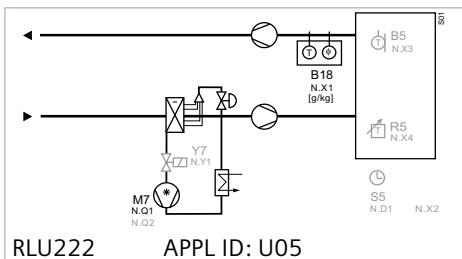
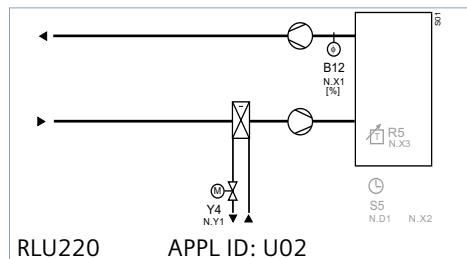
Temperature control: Heating + cooling coil + heat recovery



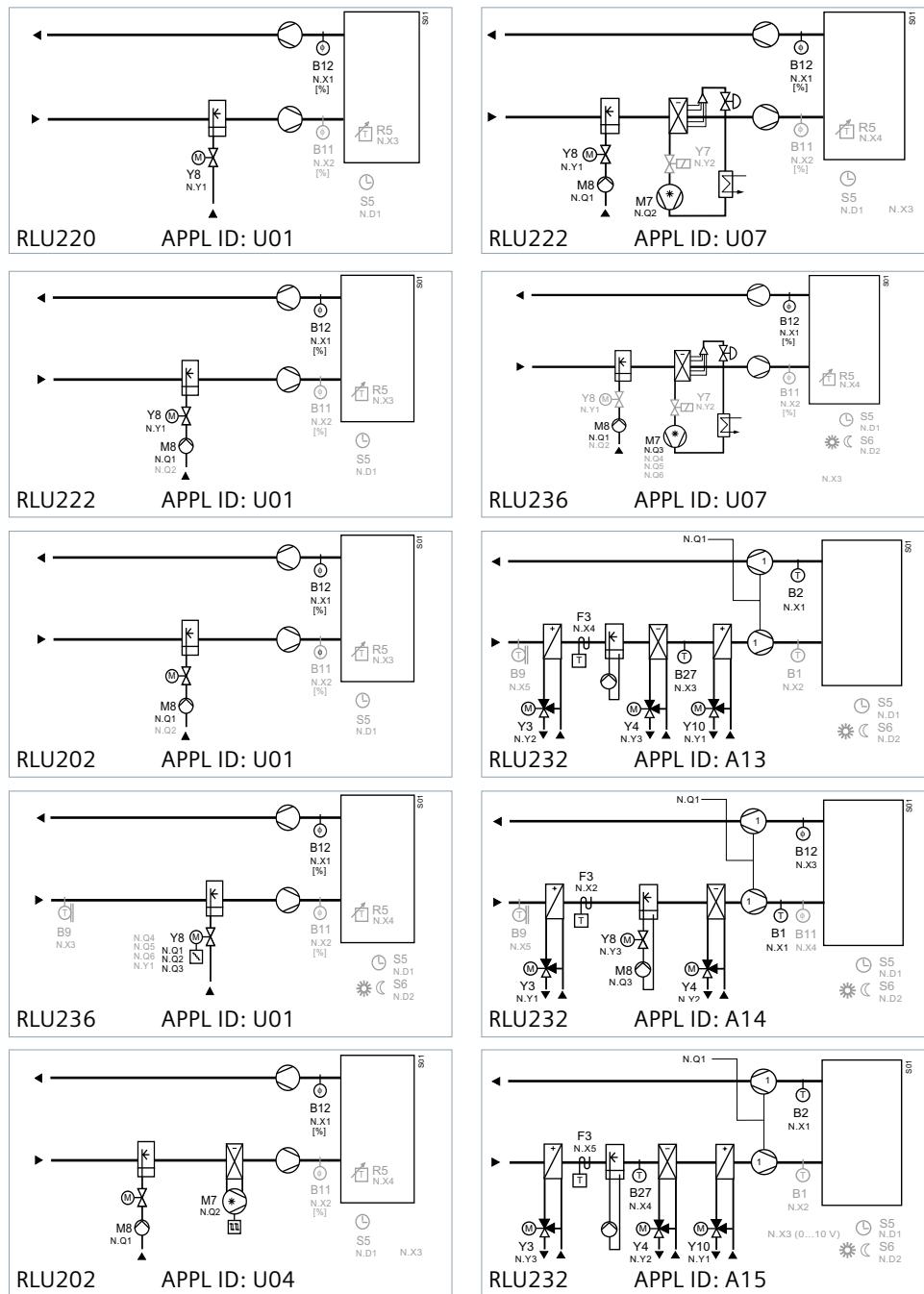
Temperature control: Heating coil + mixing dampers/heat recovery



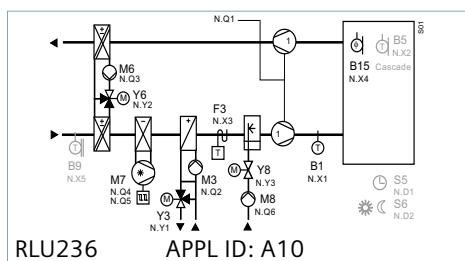
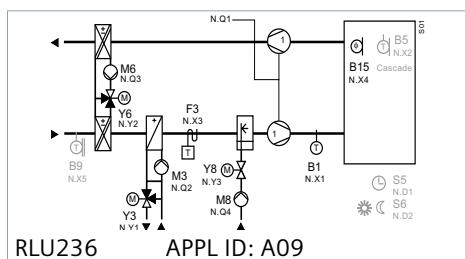
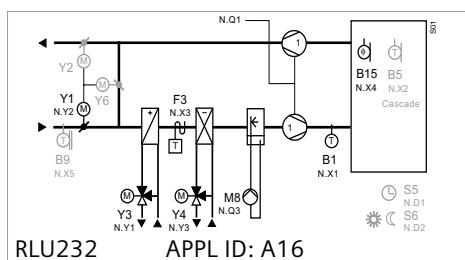
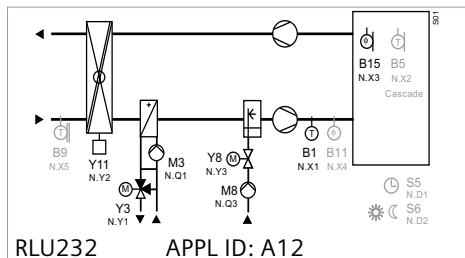
Humidity control: Dehumidifier



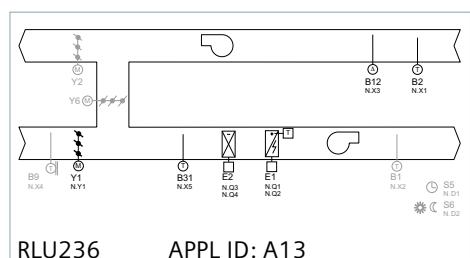
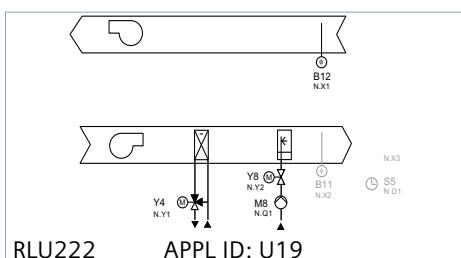
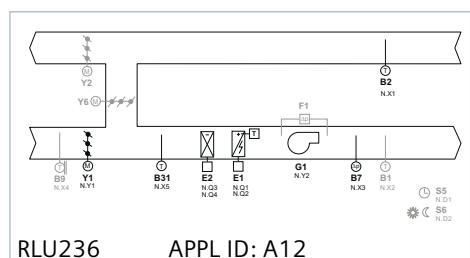
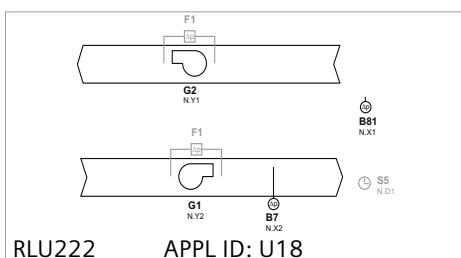
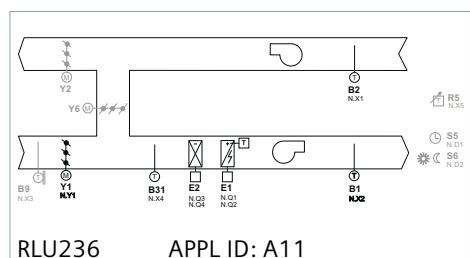
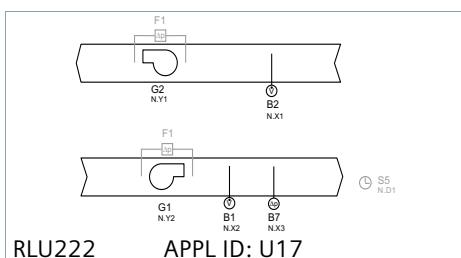
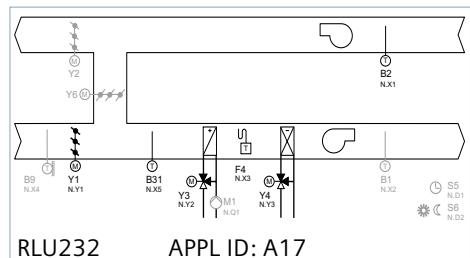
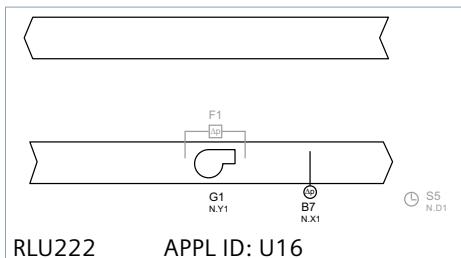
Humidity control: Humidifier



Temperature and humidity control: Heating + cooling coil + mixing dampers/heat recovery + humidifier

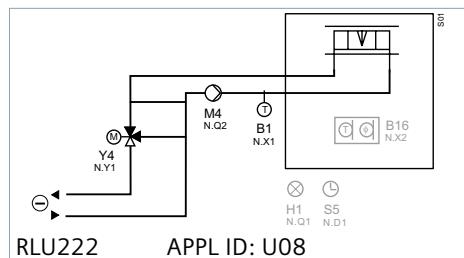


Applications for Asian and American regions

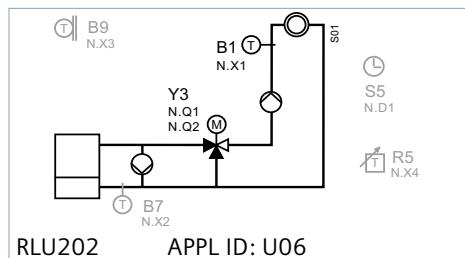


Heating/Cooling applications

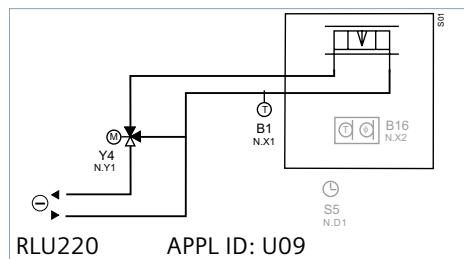
Temperature and differential temperature control



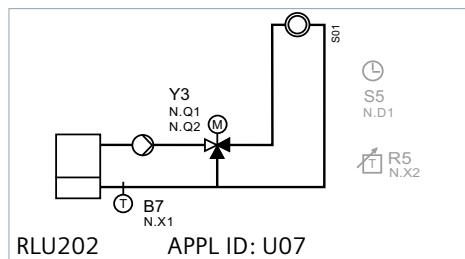
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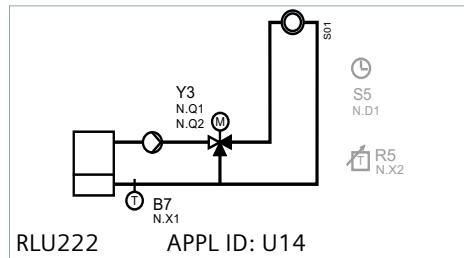
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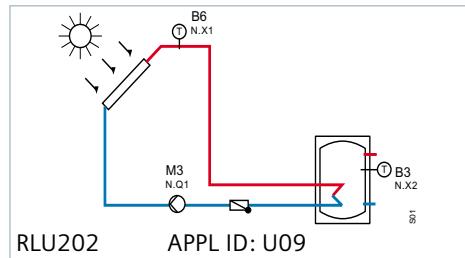
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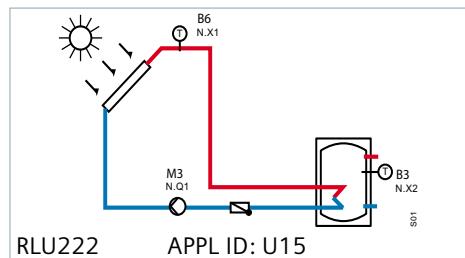
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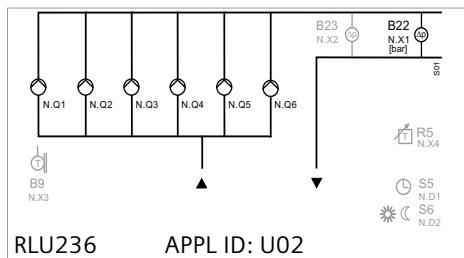
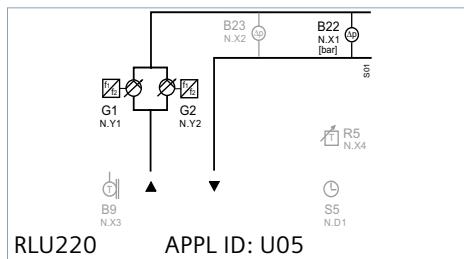
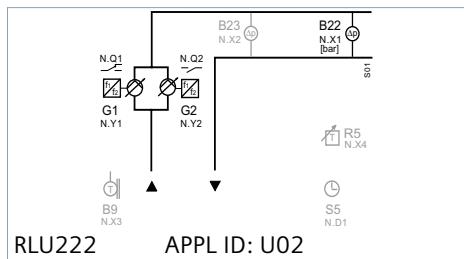
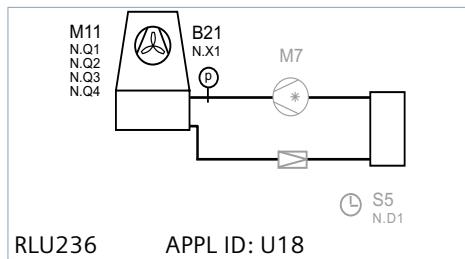
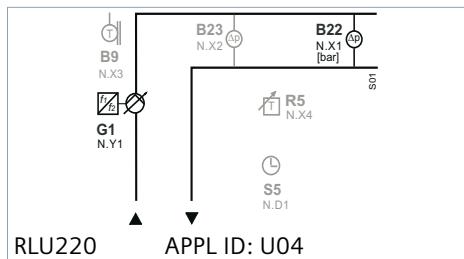


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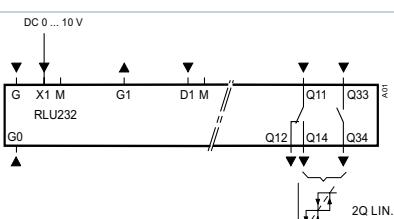
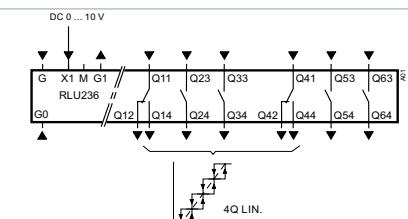
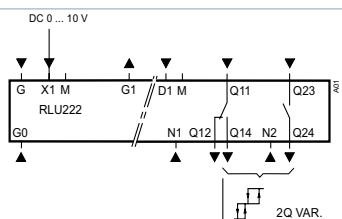
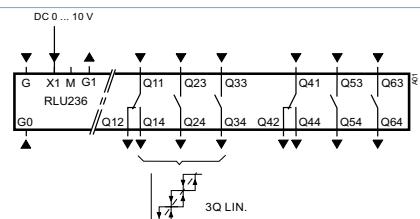
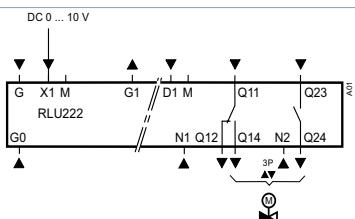
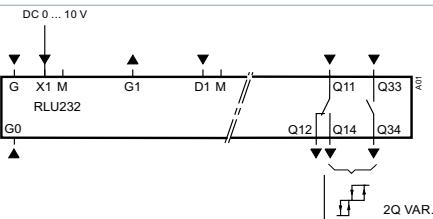
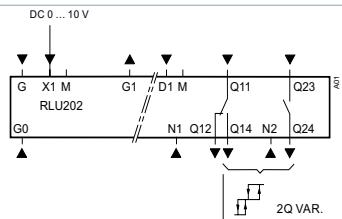
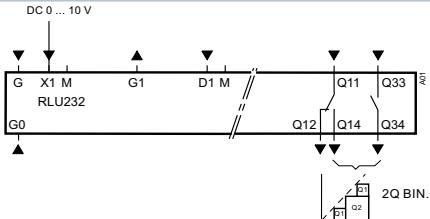
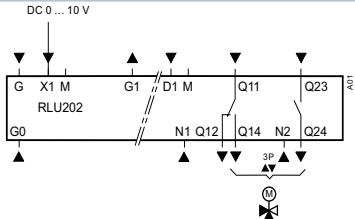


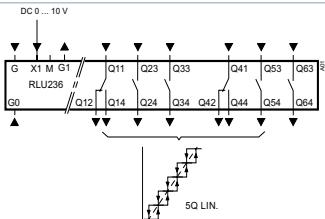
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Differential pressure control, liquid

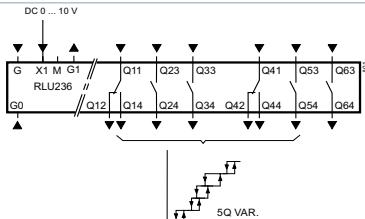


Special applications

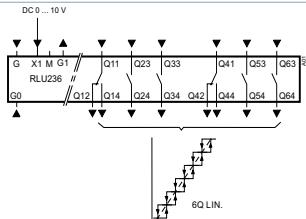




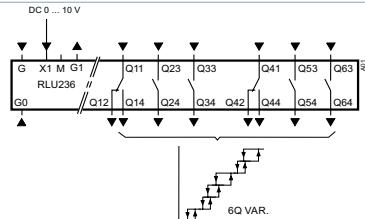
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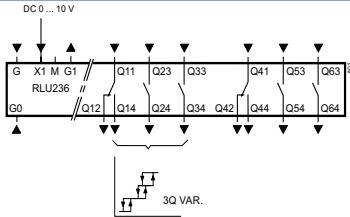
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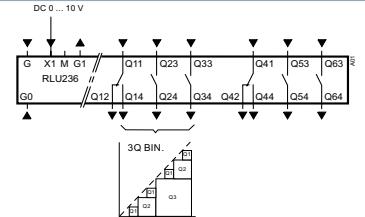
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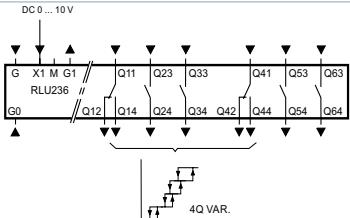
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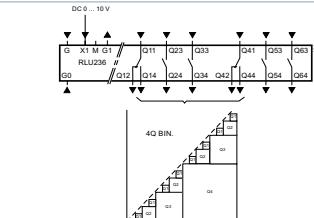
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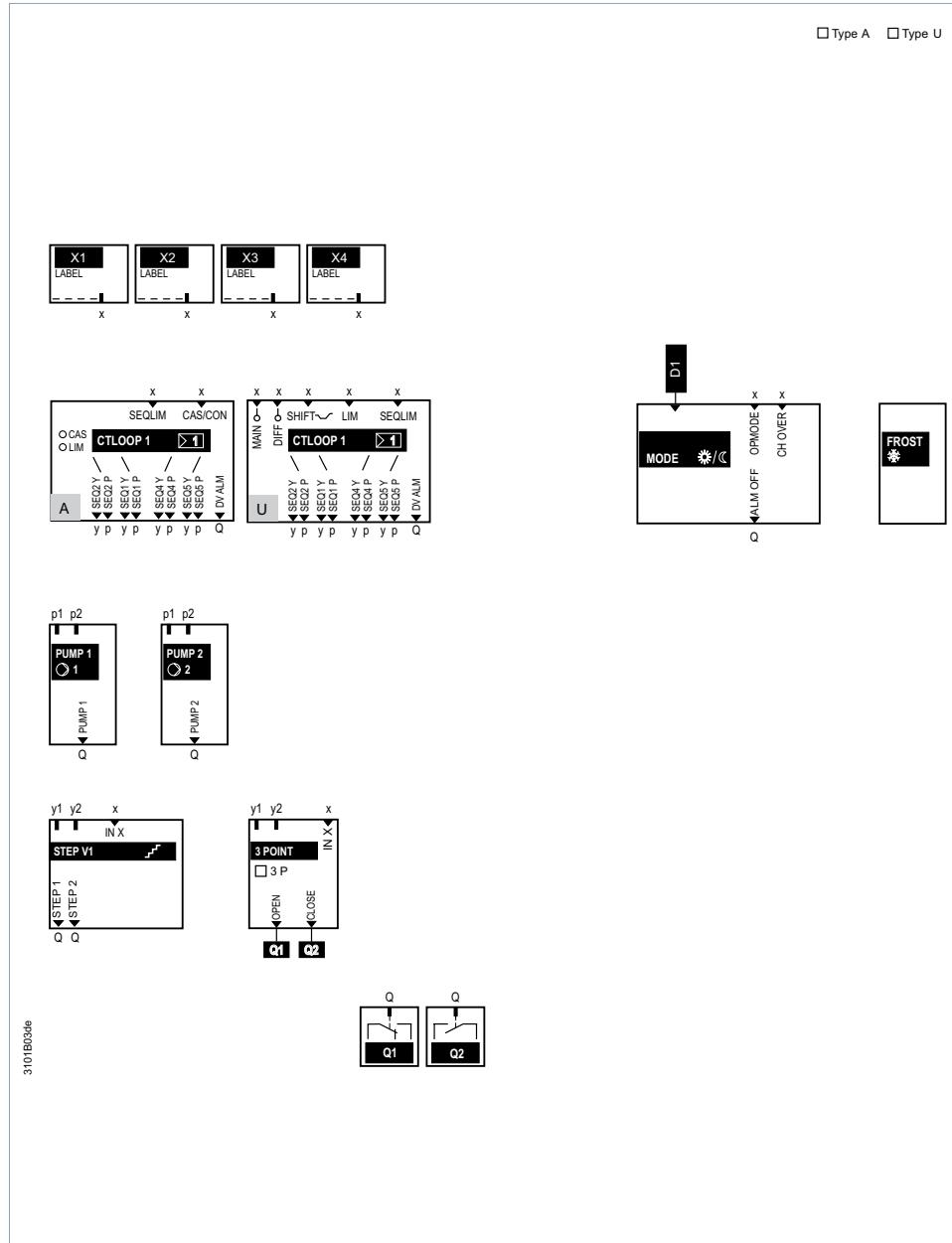


RLU236 APPL ID: U17

Configuration diagrams

RLU202

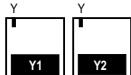
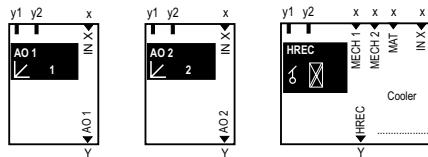
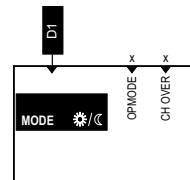
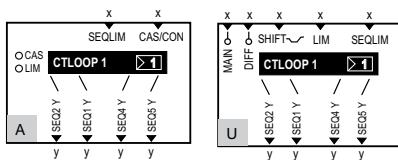
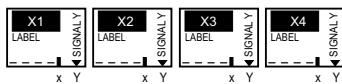
A only in basic type A U only in basic type U



RLU220

A only in basic type A U only in basic type U

Type A Type U

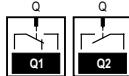
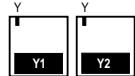
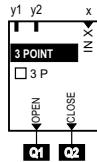
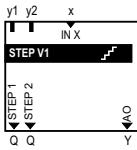
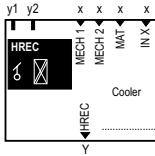
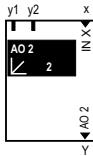
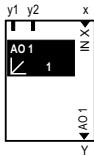
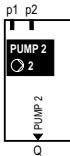
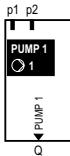
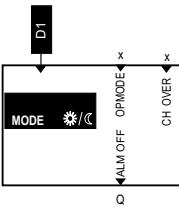
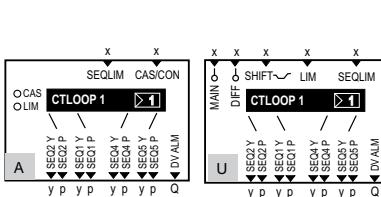
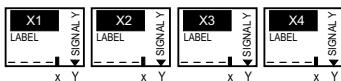


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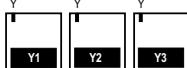
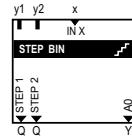
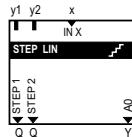
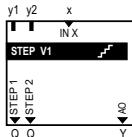
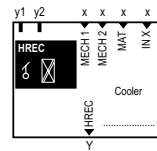
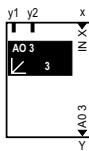
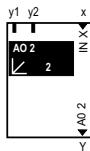
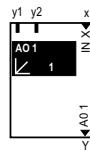
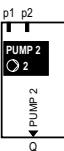
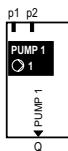
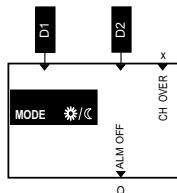
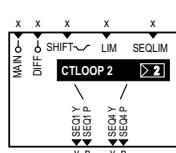
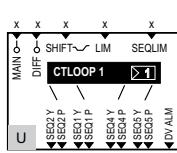
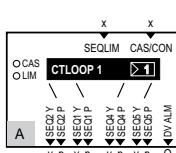
A only in basic type A U only in basic type U

Type A Type U



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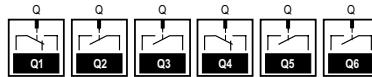
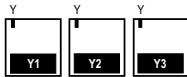
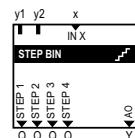
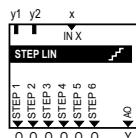
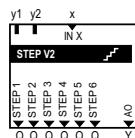
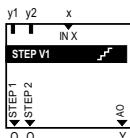
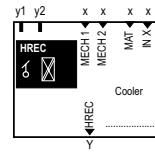
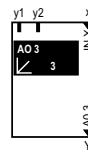
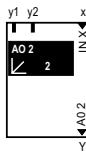
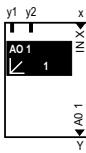
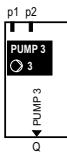
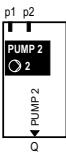
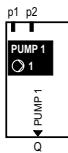
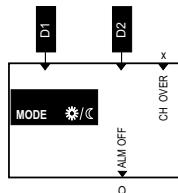
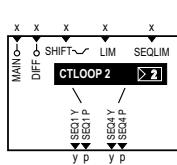
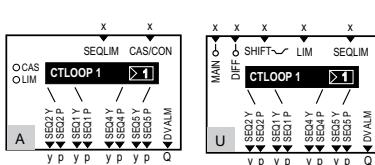
Type A Type U



RLU236

A only in basic type A U only in basic type U

□ Type A □ Type U



Notes

Notes

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The information in this document contains general descriptions of technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract.

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