Synco™ 700

Universal Controllers RMU7..B

- With yearly timeswitch
- Each type of controller is supplied with 5 different ventilation/air conditioning plants preprogrammed
- Freely configurable controller, for optimum adaptation to the relevant type of plant
- Modular expandable with option modules RMZ785, RMZ787 and RMZ788
- Menu-driven operation with separate operator unit (plug-in type or detached)
- Konnex bus connection for operation and process information

Use

For use on basic to complex ventilation, air conditioning and chilled water plants.
The universal controllers are designed to handle the following controlled variables: Temperature, relative/absolute humidity, pressure/differential pressure, airflow, indoor air quality and enthalpy.

Functions

Timeswitch and operating modes

- Yearly timeswitch with automatic summer-/wintertime changeover
- 7-day program (6 switching points per day) and yearly program for holidays/special days (16 periods)
- Selection of operating mode
  with local operator unit: auto, comfort, precomfort, economy and protection or via status inputs: Comfort, precomfort, economy and protection
- Room controller combination with multiple ventilation controllers or heating controllers via the Konnex bus. Exchange information such as room temperature, operating mode and setpoints
- Display of the current operating mode (comfort, precomfort, economy and protection), including the reason for it

Setpoints

- Depending on the sequence controller: Individually adjustable heating and cooling setpoints (or maximum and minimum setpoints) for comfort and precomfort modes
- Predefined room temperature setpoint with room unit or relative setpoint adjuster (passive)
- Depending on the sequence controller: Predefined setpoint with absolute remote setpoint adjuster (active or passive)
- Room temperature setpoint with summer and/or winter compensation
- Depending on the sequence controller: Setpoint shift depending on a sensor, selectable start and end points

Universal inputs

8 universal inputs for:

- Passive or active analog input signals of the following measured values (°C, %, g/kg, kJ/kg, W/m^2, bar, mbar, m/s, Pa, and ppm, Universal 000.0, Universal 0000, pulse)
- Digital input signals (potential-free contacts)

Additional I/Os through extension modules

Additional inputs and outputs to extend functionality.
Total max. 4 extension modules per RMU7..B can be connected.
Selection from:

- max. 1 universal module RMZ785 (8 universal inputs)
- max. 2 universal modules RMZ787 (4 universal inputs and 4 relay outputs)
- max. 2 universal modules RMZ788 (4 universal inputs, 2 relay outputs and 2 analog outputs)

Data acquisition

Pulse meter (for display only, not for billing purposes).
Two meters available to acquire consumption data.
Processes pulses from gas, hot water, low-temperature hot water, chilled water, electricity meters.

- Pulse metering (Wh, kWh, MWh, kJ, MJ, GJ, ml, l, m3, heating costs units, BTU, no unit)

Trend data display
Two independent trend channels available to log measured values for a set period.
KNX bus room temperature and outside air temperatures can be logged in addition to logical device inputs.

Control functions

- Sequence controller for 3 heating sequences (reverse acting) and 2 cooling sequences (direct acting), can be used as a controller providing P, PI or PID mode, or as a differential controller
- Controller can be configured as a room/supply air temperature cascade controller with limitation of the supply air temperature
- Each sequence can be assigned modulating control (modulating output, step switch, mixed air damper, heat recovery equipment) and a pump. Up to 3 sequences can act on the same analog control (e.g. priority cooling/dehumidification)
- General limitation function (minimum / maximum with PI mode per sequence controller, either as absolute limitation (e.g. for the supply air temperature or supply air humidity), or as relative temperature limitation (e.g. maximum limitation of the room/supply air temperature differential). Limitation acts on all sequences.
  Minimum limitation for switched on cooling (example: cooling with direct expansion cooler battery) can be set to a lower setpoint
- Sequence limitation function with PI mode per sequence controller, can be defined as minimum or maximum limitation. Limitation acts on a single sequence
  (e.g. heat recovery anti-icing protection or maximum limitation of the air heating coil's return temperature)
- Lock individual sequences by outside air temperature
- Messages about deviations of setpoint/actual value per sequence controller

Switching and supervisory functions

Fans

Control and monitor supply air and extract air fan with preselected command, preselected command feedback signal and operating hours meter.

- Single-speed fan (recirculated air operation possible)
- 2-speed fan (lock the second speed per outside air temperature)
- Speed-controlled fan, including pressure or volume flow controller

Pumps

Control and supervise up to 4 simple or twin pumps

- Pump kick
- Permanent ON for low outside air temperatures
- ON after last sequence controller or per operating mode
- Plant stop for pump fault depending on the outside temperature

Heat recovery

Control heat recovery

- Maximum economy changeover
- Efficiency monitoring
- Enabling relay for heat recovery

Mixed air damper

Control mixed air damper

- Maximum economy changeover
- Minimum position
- Startup and maximum position depending on the outside air temperature
- Mixed air damper temperature control at a constant setpoint (economizer)

Linear step switch

Control of up to 3 multistage aggregates, each with 1 **linear** step switch with a maximum of 4 relay outputs 1 analog output.

Binary step switch

Control of up to 3 multistage aggregates, each with 1 **binary** step switch with a maximum of 4 relay outputs 1 analog output.

Variable step switch

Control of 2 aggregates with a **variable** step switch with 6 or 4 steps and one analog output each.

Logic functions

Two freely configurable logic function blocks are available to process multiple logically linked universal input variables.

- Configurable logic functions
- Adjustable switch-on and switch-off delay and minimum switch-on and switch-off time
- Operating switch (auto, off, on), configurable for manual control

Additional timeswitch

Additional timeswitch with 6 daily switch-on or switch-off times.

- Operating switch (auto, off, on), configurable for manual control

Demand-dependent ventilation (CO_2/VOC)

Demand-dependent ventilation (CO_2/VOC), acting on the air dampers or the variable speed/multispeed fans.

Frost protection

2-stage frost protection function (modulating/2-position) or frost protection thermostat (heating sequences delivering 100 % output, fans switched off).

- Frost protection and 3 frost protection monitors

Preheating function

Preheating function is available

Sustained mode

- Sustained heating and cooling mode during occupied or unoccupied periods

Night cooling

Night purging during unoccupied periods in the summer

Heating/cooling demand

- Output of heat and cooling demand signal (relay and DC 0..10 V)
- Collect, evaluate and forward heat and cooling demand from and via the KNX bus

Can also be configured:

- Modeling output (e.g. for demand-dependent setpoint shift of a refrigeration machine)
- Relay output (e.g. to switch-on/switch-off a refrigeration machine)
- Demand-dependent setpoint shift acting on a primary controller
- Adjustable setpoint increase for use with primary controller

Switching heating/cooling

If a 2-pipe system (heating/cooling) is used, you can switch heating/cooling via a digital or analog input, via an operating mode switch (auto, heating, cooling), by date or via the KNX bus. The heating/cooling signal can be sent to the KNX bus or issued via a relay.

Fault messages

Fault indication with red LED, acknowledgement with button.

The following options are available:

- 2 relay outputs as fault message relay
- 10 universal inputs as fault message inputs
- 4 predefined fault inputs (filter supervision, fire shutdown, "supply air smoke extraction" and "extract air smoke extraction")

Bus functions

- Remote operation of Konnex functions with RMZ792 bus operating unit
- Room operator unit with the relevant functions
- Indication of fault status messages delivered by other devices on the bus
- Delivery of a common fault status message from all devices on the bus to a fault relay
- Time synchronization
- Passing on and adoption of outside temperature signal
- Sending or receiving the yearly timeswitch schedule (holidays/special days) from some other controller
- Sending or receiving the 7-day program or the yearly program for the holidays/special days of any other controller
- Generating and sending a demand signal (hot water, chilled water) to the primary controller or the hot water/chilled water source
- Receiving and evaluating refrigeration demand signals if configured as a primary controller or hot water/chilled water source
- Common control strategy of a ventilation controller with a heating controller or multiple ventilation controllers to control of the same room

Service and operating functions

- Outside temperature simulation
- Wiring test
- Data backup
- Display of setpoints, actual values and active limitations

Type summary

Controller

Type	*Universal inputs*	*Positioning outputs*	*Switching outputs*	*Open control loop*	*Default languages*
RMU710B-1	6	2	2	1	de, fr, it, es
RMU720B-1	8	3	4	2	de, fr, it, es
RMU730B-1	8	4	6	3	de, fr, it, es
RMU710B-2	6	2	2	1	de, **en**, fr, nl
RMU720B-2	8	3	4	2	de, **en**, fr, nl
RMU730B-2	8	4	6	3	de, **en**, fr, nl
RMU710B-3	6	2	2	1	sv, fi, no, da
RMU720B-3	8	3	4	2	sv, fi, no, da
RMU730B-3	8	4	6	3	sv, fi, no, da
RMU710B-4	6	2	2	1	pl, cs, sk, hu, ru, bg
RMU720B-4	8	3	4	2	pl, cs, sk, hu, ru, bg
RMU730B-4	8	4	6	3	pl, cs, sk, hu, ru, bg
RMU710B-5	6	2	2	1	ro, sl, sr, hr, el, tr
RMU720B-5	8	3	4	2	ro, sl, sr, hr, el, tr
RMU730B-5	8	4	6	3	ro, sl, sr, hr, el, tr

Accessories

	Name	*Type*	*Data sheet*
Operator / service units	Operator unit, plug-in type	**RMZ790**	N3111
	Operator unit, detached	**RMZ791**	N3112
	Service tool	**OCI700.1**	N5655
Option modules	Universal module with 8 universal inputs	**RMZ785**	N3146
	Universal module with 4 universal inputs and 4 relay outputs	**RMZ787**	N3146
	Universal module with 4 universal inputs, 2 relay outputs and 2 analog DC 0...10 V outputs.	**RMZ788**	N3146
	Module connector for detached extension modules	**RMZ780**	N3138

Ordering and delivery

When ordering, please provide the name and type reference of the controller, for example, Universal controller **RMU730B-2**.
The devices listed under “Accessories“ must be ordered as separate items.
Each controller is supplied as follows:

- Complete with 5 standard applications plus one empty application each of basic types A, P, C and U (configuration must be adapted)
- With operating languages (refer to "Type summary")

Equipment combinations

For equipment combinations, refer to "Product range description: Synco™ 700", or to the document covering the selected application.

Product documentation

Name	*Ordering number*
Product range description: Synco™ 700	**CE1S3110en**
Basic Documentation: Universal Controllers RMU710B, RMU720B, RMU730B	**CE1P3150en**
Installation Instructions (G3150xx): RMB795, RMS705, RMU7..B	**74 319 0591 0**
Operating Instructions de, **en**, fr, nl (B3144x2): Universal controller RMU7..B.	**74 319 0350 0**
Data sheet: Konnex bus	**CE1N3127en**
Basis documentation: Communication via Konnex bus	**CE1P3127en**
CE Declaration of conformity: HVAC Controls Synco™ 700 Range	**CE1T3110xx**
Environmental product declaration	**CE1E3110en01**

Technical design

Each type of controller has 5 applications of ventilation / air conditioning plants preprogrammed. Some of them require extension modules.
When commissioning a plant, the relevant plant type must be entered. All associated functions, terminal assignments, settings and displays will then automatically be activated, and parameters not required will be deactivated.
In addition, each type of universal controller has 4 empty applications loaded:

- 1 for basic type A (ventilation controller)
- 1 for basic type P (primary air handling)
- 1 for basic type C (demand-dependent chilled water controller)
- 1 for basic type U (universal controller)

Using the operator unit RMZ790 or RMZ791, the controller permits:

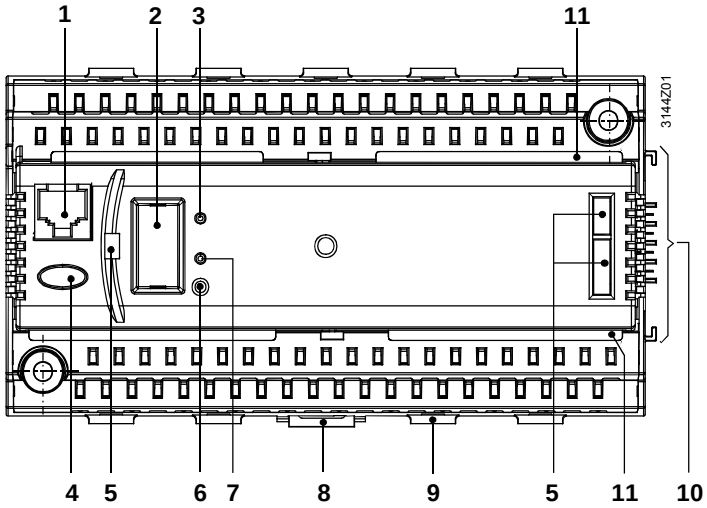
- Activation of a preprogrammed application
- Modification of a preprogrammed application
- Free configuration of applications
- Optimization of the controller settings

For operating actions of the functions, refer to the Basic Documentation CE1P3150en.

Version

The universal controller consists of terminal base and controller insert. It has a plastic housing with the printed circuit boards, 2 terminal levels and accommodates the connecting elements (electrical and mechanical) for one extension module (refer to "Accessories").
It can be mounted on a top hat rail conforming to EN 60 715-TH35-7.5, or on a wall.
The controller is operated either with the plug-in type or detached operator unit (refer to "Accessories").

Operating, display and connecting elements



Legend

1 Connection facility for the service tool (RJ45 connector)
2 Removable cover with connection facility for the operator unit
3 LED "RUN" device operating status display; with the following meanings:
LED lit: Supply voltage, no fault in application and periphery
LED off: No supply voltage or application fault / periphery
4 Button "🔔" with LED (red) displays a fault status message and its acknowledgement; meanings as follows:
LED blinking: Fault status message, ready to acknowledge
LED lit: Fault status message still pending but not yet reset
LED off: No fault status message
Press button: Acknowledge or reset fault
5 Openings for plug-in type operator unit RMZ790
6 Programming button "Prog": Learning button to changeover between the normal mode and the addressing mode to assume the physical device address (requires tool to operate)
7 Programming LED "Prog" to display normal mode (LED off) or addressing mode (LED on) to assume physical device address
8 Catch for fitting the controller to a top hat rail
9 Fixing facility for a cable tie (cable strain relief)
10 Electrical and mechanical connection elements for extension module
11 Rest for the terminal cover

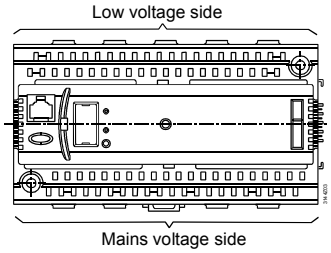
Engineering notes

⚠

- AC 24 V voltage required to power the controller. It must meet requirements for SELV/PELV (safety extra low-voltage)
- The transformers used must be safety isolating transformers featuring double insulation to EN 60 742 or EN 61 558-2-6; they must be suited for 100 % duty
- Fuses, switches, wiring and earthing must be in compliance with local regulations
- Sensor wires should not be run parallel to mains carrying wires that power fans, actuators, pumps, etc.
- It is recommended to use the standard applications provided. Specific plant situations may require certain adaptations
- Total max. 4 extension modules per RMU7..B can be connected.
Select from 1 RMZ785, 2 RMZ787 or 2 RMZ788

Mounting and installation notes

- Controllers and extension modules are designed for:
  - Mounting in a standard cabinet as per DIN 43 880.
  - Wall mounting on an existing tophat rail (EN 50 022-35x7.5).
  - Wall mounting using two fixing screws.
  - Flush panel mounting.
- Not permitted in wet or damp spaces. The permissible environmental conditions must be observed
- If the controller is not operated inside a control panel, use the detached operator unit RMZ791 in place of the plug-in type operator unit RMZ790
- Disconnect the system from the power supply prior to mounting and installation the controller
- **The controller insert may not be removed from the terminal base!**
- If extension modules are used, they must be attached to the right side of the controller in the correct order in accordance with the internal configuration
- The extension modules require no wiring between themselves or to the controller; the electrical connections are made automatically when attaching the modules. If it is not possible to arrange the extension modules side by side, the first of the detached modules must be connected to the last previous module or to the controller using the RMZ780 module connector. In that case, the cumulated cable length may not exceed 10 m



- All connection terminals for protective extra low-voltage (sensors, data bus) are located in the upper half of the unit, those for mains voltage (actuators and pumps) at the bottom
- Each terminal (spring cage terminal) can only accommodate one solid wire or one stranded wire. Cables must be stripped to 7 to 8 mm to connect. To introduce the cables into the spring cage terminals and to remove them, a screw driver size 0 or 1 required. Cable strain relief can be provided with the help of the fixing facility for cable ties
- The controller mounted on a top hat rail together with modules can only be removed from the rail after the module directly attached to the controller has been removed
- The controller is supplied complete with installation instructions and operating instructions

Commissioning notes

- Using the operator unit RMZ790 or RMZ791, or the service tool, staff trained by HVAC Products and having the required access rights can change the configuration and the parameters online or offline at any time
- During the commissioning process, the application is deactivated and the outputs are in a defined off state. This means that no process and alarm signals will then be delivered to the bus
- On completion of the configuration, the controller automatically makes a new start
- When leaving the commissioning pages, the peripheral devices connected to the universal inputs (including the extension modules) are automatically tested and identified. If a peripheral device is missing, a fault status message will be delivered
- The operator unit can be removed and plugged in or connected while the controller is operating
- If adaptations to specific plants are required, they must be recorded and the documentation kept inside the control panel
- For the procedure to be followed when starting up the plant for the first time, refer to the installation instructions

General notes

Maintenance	The universal controller RMU7..B is maintenance free (no battery changes, no fuses). The housing may only be cleaned with a dry towel.
Repair	The universal controller cannot be repaired on site.
Disposal	The universal controller is subject to Directive 2002/96/EG (WEEE, Waste of Electrical and Electronic Equipment).

"The device is considered electronics device for disposal in terms of European Directive 2002/96/EG (WEEE) and may not be disposed of as domestic garbage.
The corresponding national, legal regulations must be observed and the device must be disposable via the appropriate channels. Observe all local and applicable laws."

Technical data

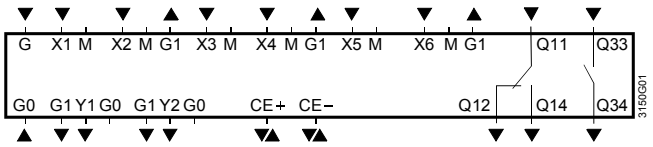
Power supply (G, G0)	Rated voltage	AC 24 V ±20 %
	Safety extra low-voltage (SELV) / protective extra low-voltage (PELV) to	HD 384
	Requirements for external safety isolating transformer (100 % ED, maximum 320 VA) to	EN 60 742 / EN 61 558-2-6
	Frequency	50/60 Hz
	Power consumption (excl. modules)	12 VA
	Supply line fusing	max. 10 A
Functional data	Clock reserve	48 hours typical, min. 12 hours.
Universal inputs	Number	refer to "Type summary"
Measured value inputs (X…)	Sensors	
	Passive	LG-Ni 1000, T1, Pt 1000 2x LG-Ni 1000 (averaging) 0…1000 Ω,
	Active	DC 0...10 V
Status inputs (X...)	Contact sensing	
	Voltage	DC 15 V
	Current	5 mA
	Requirements for status contacts	
	Signal coupling	potential-free
	Type of contact	maintained contact
	Insulating strength against mains potential	AC 3750 V to EN 60 730
	Requirements for pulse contacts	Screened cable recommended
	Signal coupling	potential-free
	Type of contact	Pulse contact
	Mechanical transmitter (reed contract)	
	Maximum pulse frequency	25 Hz
	Minimum pulse length	20 ms (with max. 10 ms bounce length)
	Electronic transmitter	
	Maximum pulse frequency	100 Hz
	Minimum pulse length	5 ms
	Insulating strength against mains potential	AC 3750 V to EN 60 730.
	Perm. resistance	
	Contacts closed	max. 200 Ω
	Contacts open	min. 50 kΩ
Outputs	Number of positioning and switching outputs	refer to "Type summary"
Positioning outputs Y	Output voltage	DC 0...10 V
	Output current	±1 mA
	Max. load	continuous short-circuit
⚠ Switching outputs AC 230 V (Q1x...Q7x)	External supply line fusing	
	Non-renewable fuse (slow)	max. 10 A
	Automatic line cutout	max. 13 A
	Release characteristic	B, C, D to EN 60 898

	Relay contacts	
	Switching voltage	max. AC 250 V min. AC 19 V
	AC current	max. 4 A res., 3 A ind. (cos φ = 0.6)
	At 250 V	min. 5 mA
	At 19 V	min. 20 mA
	Switch-on current	max. 10 A (1 s)
	Contact life at AC 250 V	Guide value
	At 0.1 A res.	2 x 10^7 cycles
	At 0.5 A res.	4 x 10^6 cycles (N. O.) 2 x 10^6 cycles (changeover)
	At 4 A res.	3 x 10^5 cycles (N.O.) 1 x 10^5 cycles (changeover)
	Red. factor at ind. (cos φ = 0.6)	0.85
	Insulating strength	
	Between relay contacts and system electronics (reinforced insulation)	AC 3750 V, to EN 60 730-1
	Between neighboring relay contacts (operational insulation) Q1⇔Q2; Q3⇔Q4; Q5⇔Q6⇔Q7	AC 1250 V, to EN 60 730-1
	Between relay groups (reinforced insulation) (Q1, Q2) ⇔ (Q3, Q4) ⇔ (Q5, Q6, Q7).	AC 3750 V, to EN 60 730-1
Power supply external devices G1	Voltage	AC 24 V
	Power	max. 4 A
Interfaces	Konnex bus	
	Type of interface	Konnex-TP1
	Bus loading number	2,5
	Bus power supply (decentral., can be switched off)	25 mA
	Power failure of short duration to EN 50 090-2-2	100 ms with 1 extension module
	Extension bus	
	Connector specification	4 contacts SELV / PELV
	Number of plug-in cycles	max. 10
	Service tool connection facility	RJ45 connector
Permissible cable lengths	For passive measuring and positioning signals	(measuring errors can be corrected on the "Settings / Inputs" menu)
	Type of signal	
	LG-Ni 1000, T1	max. 300 m
	Pt 1000	max. 300 m
	0…1000 Ω	max. 300 m
	Contact sensing (status and impulse contacts).	max. 300 m.
	For DC 0...10 V measuring and control signals	refer to Data Sheet of the signal delivering device
	For Konnex bus	max. 700 m
	Type of cable	2-core without screening, twisted pairs.
	For switching outputs (Q1x…Q7x)	Max. 300 m.
Electrical connections	Connection terminals	Spring cage terminals
	For wires	Ø 0,6 mm ... 2.5 mm^2
	For stranded wires without ferrules	0.25 ... 2.5 mm^2
	For stranded wires with ferrules	0.25 ... 1.5 mm^2
	Konnex bus connection	Non-interchangeable.
Degrees of protection	Degree of protection of housing to IEC 60 529	IP 20 (when mounted)
	Safety class to EN 60 730	device suited for use with equipment of safety class II
Ambient conditions	Operation to	IEC 60 721-3-3
	Climatic conditions	class 3K5
	Temperature (housing and electronics)	0...50 °C
	Humidity	5...95 % r. h. (non-condensing)
	Mechanical conditions	class 3M2
	Transport to	IEC 60 721-3-2
	Climatic conditions	class 2K3
	Temperature	−25...+70 °C
	Humidity	<95 % r. h.
	Mechanical conditions	class 2M2
Classifications to EN 60 730	Mode of operation, automatic controls	type 1B
	Degree of contamination, controls' environment	2
	Software class	A
	Rated surge voltage	4000 V
	Temperature for ball-pressure test of housing	125 °C

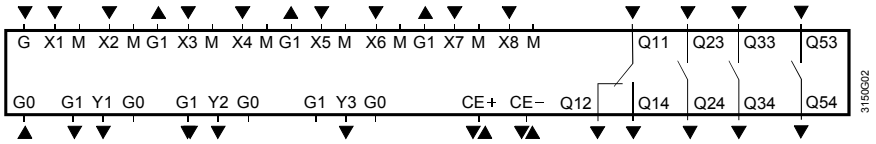
Materials and colors	Terminal base	Polycarbonate, RAL 7035 (light-grey)
	Controller insert	Polycarbonate, RAL 7035 (light-grey)
	Packaging	Corrugated cardboard
Standards	Product safety	
	Automatic electrical controls for household and similar use Applications	EN 60 730-1
	Special requirements for energy controllers	EN 60 730-2-11
	Electromagnetic compatibility	
	For use in industrial and domestic environments	
	Immunity	EN 60 730-1
	Emissions	EN 60 730-1
	Home and Building Electronic System (HBES)	EN 50 090-2-2
	CE Conformity to	
	EMC directive	2004/108/EC
	Low voltage directive	2006/95/EC
	-conformity to	
	Australian EMC Framework	Radio communication act 1992
	Radio Interference Emission Standard	AS/NZS 3548
	Environmental compatibility	
	The environmental product declaration CE1E3110en01 contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal)	SO 14001 (Environment) ISO 9001 (Quality) SN 36350 (Environmentally compatible products) 2002/95/EC (RoHS)
Weight	Excl. packaging	0,49 kg

Internal diagrams

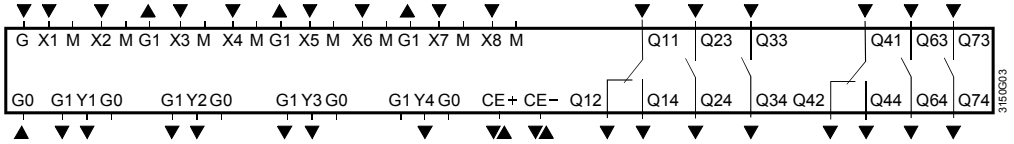
RMU710B



RMU720B



RMU730B



Legend

G, G0	Rated voltage AC 24 V
G1	Output voltage AC 24 V for powering external active sensors, signal sources, monitors or setting units
M	Measuring neutral for signal input
G0	System neutral for signal output
X1...X8	Universal signal inputs for LG-Ni 1000, 2x LG-Ni 1000 (averaging), T1, Pt 1000, DC 0...10 V, 0...1000 Ω (setpoint), 1000...1175 Ω (rel. setpoint), pulse, contact sensing (potential-free)
Y1...Y4	Control or status outputs, analog DC 0...10 V Q...
Q2x/3x/5x/6x/7x	Potential-free relay outputs (N.O. contact) for AC 24...230 V
Q1x/4x	Potential-free relay outputs (changeover) for AC 24...230 V
CE+	Konnex bus data line, positive
CE−	Konnex bus data line, negative

Notes

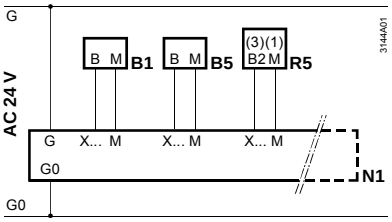
Each terminal (spring cage terminal) can only accommodate one solid wire or one stranded wire. Double terminals are internally interconnected.

Connection diagrams

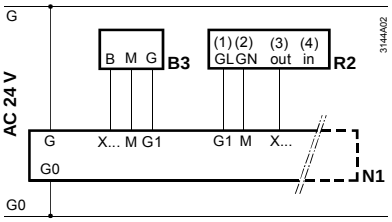
Examples:

Connections on the measuring side

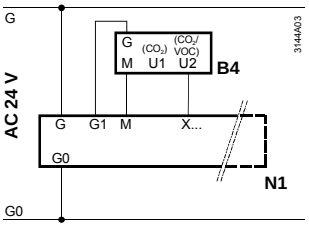
Connection diagram 1: Measuring section with passive main and auxiliary sensors and passive signal source

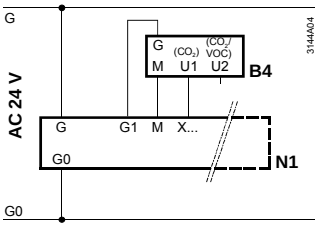


Connection diagram 2: Measuring section with active sensor and active signal source



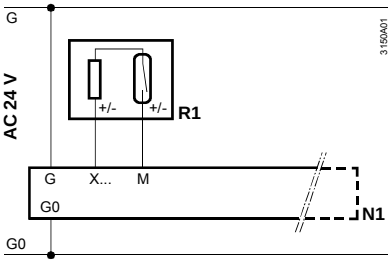
Connection diagrams 3 and 4: Measuring section with CO_2/VOC- and CO_2 evaluation.





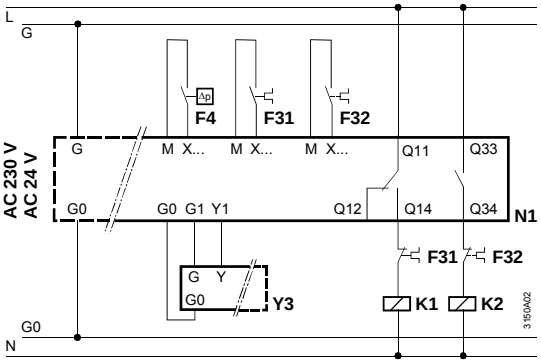
Connections on the control and monitoring side

Connection diagram 5: Measuring section with pulse transmitter



Recommendation: Use shielded wires

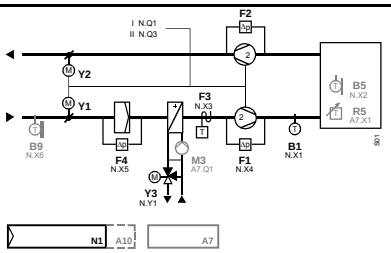
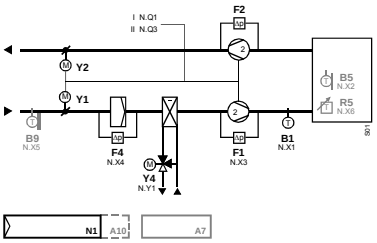
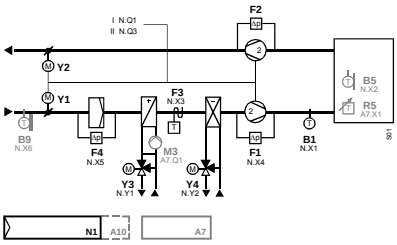
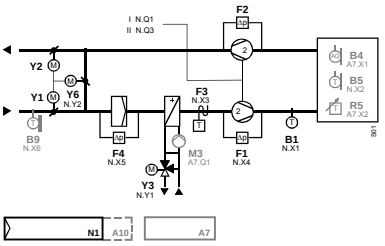
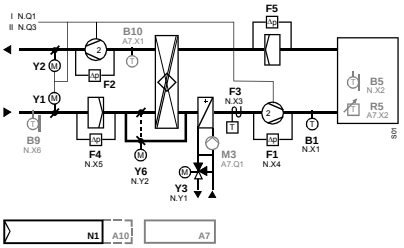
Connection diagram 6:

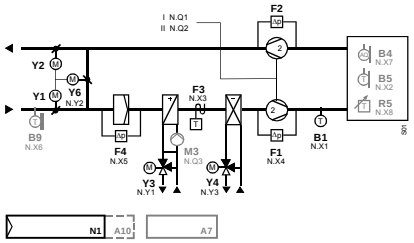
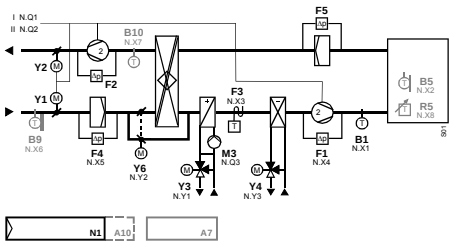
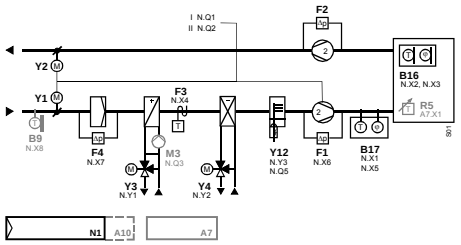
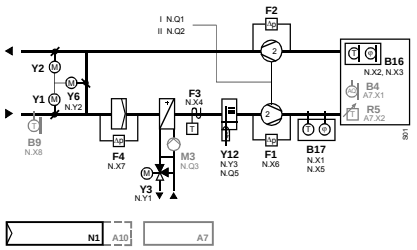
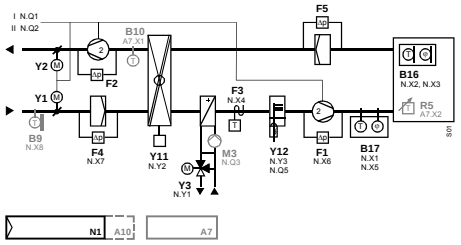


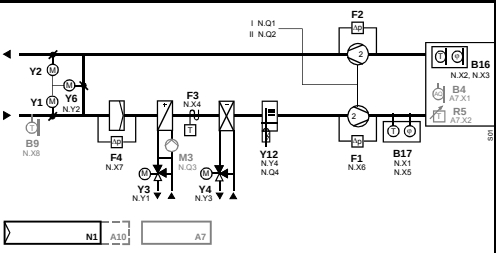
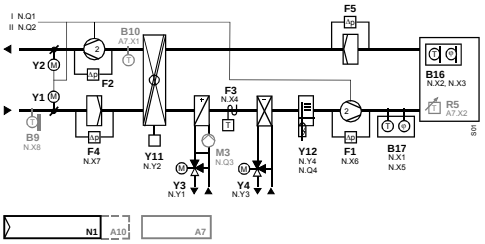
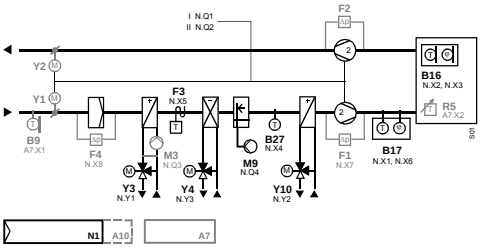
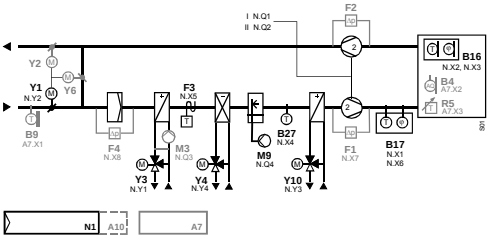
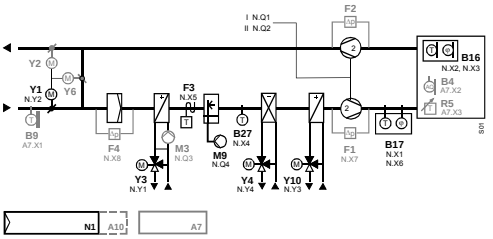
Legend to the connection diagrams 1 through 6

N1	Universal controller RMU7..B	F3	Overcurrent trigger contact
B1	Supply air temperature sensor QAM2120...	F4	Differential pressure sensor QBM81...
B3	B3 Frost sensor QAF63.2/QAF63...	K1, K2	Motor contactor for fan
B4	CO_2 sensor QPA2000	R1	Reed pulse transmitter
B4	CO_2/VOC sensor QPA2002/QPA2002D	R2	Setpoint adjuster BSG61
B5	Room temperature sensor QAA24	R5	Setpoint shifting unit BSG21.5
		Y3	Actuating device for heating

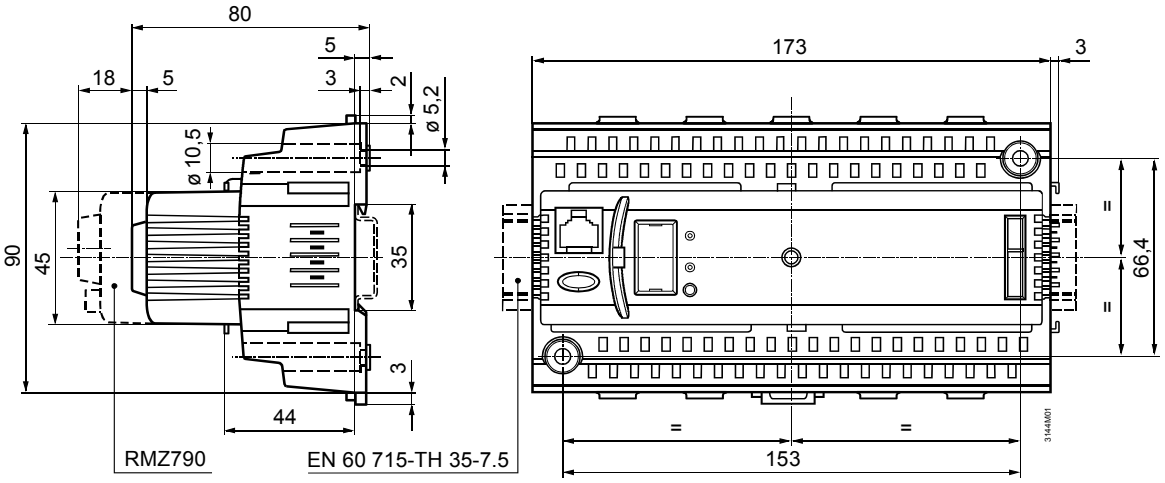
Overview of the preprogrammed standard applications

Controller	*Plant type*	*Application number/description*	*Plant diagram*
RMU710B	**A01**	ADA001 U1B HQ Supply air temperature control with hot water air heating coil. *Variant:* Room (extract)/supply air temperature cascade control with minimum and maximum limitation of the supply air temperature.	
	A02	ADB001 U1B HQ Supply air temperature control with chilled water air cooling coil. *Variant:* Room (extract)/supply air temperature cascade control with minimum and maximum limitation of the supply air temperature.	
	A03	ADC001 U1B HQ Supply air temperature control with hot water heating coil and cold water cooling coil. *Variant:* Room (extract)/supply air temperature cascade control with minimum and maximum limitation of the supply air temperature.	
	A04	AEA001 U1B HQ Supply air temperature control with mixing air dampers and hot water heating coil in sequence. *Variant:* Room (extract)/supply air temperature cascade control with minimum and maximum limitation of the supply air temperature.	
	A05	ADAE01 U1B HQ Supply air temperature control with plate heat recovery system and hot water air heating coil in sequence. *Variant:* Room (extract)/supply air temperature cascade control with minimum and maximum limitation of the supply air temperature.	

Controller	*Plant type*	*Application number/description*	*Plant diagram*
RMU720B	**A01**	AEC001 U2B HQ Supply air temperature control with mixing air dampers and cold water cooling coil in sequence. *Variant:* Room (extract)/supply air temperature cascade control with minimum and maximum limitation of the supply air temperature.	
	A02	ADCE01 U2B HQ Supply air temperature control with plate-type heat recovering, hot water heating coil and cold water cooling coil in sequence. *Variant:* Room (extract)/supply air temperature cascade control with minimum and maximum limitation of the supply air temperature.	
	A03	ADFB01 U2B HQ Supply air temperature control with hot water heating coil and cold water cooling coil. Room humidity control with steam humidifier. *Variant:* Room (extract)/supply air temperature cascade control with minimum and maximum limitation of the supply air temperature.	
	A04	AEDB01 U2B HQ Supply air temperature control with mixing air dampers and hot water heating coil in sequence. Room humidity control with steam humidifier. *Variant:* Room (extract)/supply air temperature cascade control with minimum and maximum limitation of the supply air temperature.	
	A05	ADDP01 U2B HQ Supply air temperature control with thermal wheel heat recovery system and hot water air heating coil in sequence. Room humidity control with steam humidifier. *Variant:* Room (extract)/supply air temperature cascade control with minimum and maximum limitation of the supply air temperature.	

Controller	*Plant type*	*Application number/description*	*Plant diagram*
RMU730B	**A01**	AEFB01 U3B HQ Supply air temperature control with mixing air dampers and cold water cooling coil in sequence. Room humidity control with steam humidifier. *Variant:* Room (extract)/supply air temperature cascade control with minimum and maximum limitation of the supply air temperature.	
	A02	ADFP01 U3B HQ Supply air temperature control with rotating heat recovery device, hot water heating coil and cold water cooling coil in sequence. Room humidity control with steam humidifier. *Variant:* Room (extract)/supply air temperature cascade control with minimum and maximum limitation of the supply air temperature.	
	A03	ADZA01 U3B HQ Room (extract air)/supply air temperature cascade control with minimum and maximum limitation of the supply air temperature, with hot water air reheater and chilled water air cooling coil in sequence. Room humidity control with spray humidifier (release). Dewpoint temperature control (supply air humidity constant) with hot water air preheating and cold water air cooler in sequence.	
	A04	AEZH01 U3B HQ Room (extract air)/supply air temperature cascade control with minimum and maximum limitation of the supply air temperature, with hot water air reheater and chilled water air cooling coil in sequence. Room humidity control with spray humidifier (release). Dewpoint temperature control (constant supply air humidity) with mixed air dampers, hot water air preheater and chilled water air cooling coil in sequence.	
	A05	AEZH02 U3B HQ Room (extract air)/supply air temperature cascade control with minimum and maximum limitation of the supply air temperature, with mixed air dampers, hot water air reheater and chilled water air cooling coil in sequence. Room humidity control with spray humidifier (release) and cold water air cooling. Dewpoint temperature control (constant supply air humidity) with hot water air preheater.	

Dimensions



Dimensions in mm

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