

LUNA RE

Room controller for air- and waterborne climate systems



QUICK FACTS

- LUNA RE is a versatile room controller that handles both heating, cooling and airflow
- Support for day and night modes that can be easily controlled via external signals such as presence detectors or switches – or integrated with building systems via Modbus RTU
- Support for thermal actuators or 0–10 V-controlled actuators and fans. Can control everything from valves and dampers to EC fans and Swegon's CCO valve

Technical description

Variants

LUNA RE is available in three variants:

- LUNA RE-1, with mounted cable for connection to the LUNA KK connection card
- LUNA RE-S, with screw terminal
- LUNA RE-CCO, for connection to the CCO-kit

LUNA RE is a versatile room controller for room-specific temperature and variable air volume (VAV) control. With the standard RS-485 connection, you can connect the controller to any system that supports the Modbus RTU protocol.

The bus is galvanically isolated from the other electronics in the controller.

The controller supports actuators that have a 0...10 V or PWM control signal, for example, thermal actuators, dampers and fans.

If the room has a fan coil with an EC motor, the controller can control the fan speed directly with the 0...10 V output signal. The controller adjusts the fan speed automatically.

Users cannot adjust the speed from the user interface. If the system has 3-speed fans, install a FCRY 3 relay module between the fan and the controller to control the fan speed. One 0...10 V output is reserved for VAV control. The controller can control the reserved output using the cooling signal. You can also configure one 0...10 V output to control a 6-way valve.

The controller detects temperature with an internal or external NTC10 sensor (terminals included). Alternatively, you can connect a door/window contact or a condensation switch to the external temperature sensor terminals.

The controller has day and night operating modes. You can use an external card switch, occupancy detector or the Modbus communication to switch between the operating modes.

You can configure the controller settings using the LUNA T-CU commissioning tool or via Modbus.

Operating modes

The controller has day and night operating modes. You can use an external card switch, occupancy detector or the Modbus communication to switch between the operating modes.

Technical data

Controller

Supply	24 V AC/DC (22–28 V) < 2 VA	
	Note: Only the DC functions work when using DC supply voltage. To get full functionality, use AC supply	
Setpoint	Day mode	18–26 °C, *22 °C, ±3 °C
	Night mode	Day mode setpoint range or frost guard function (8...50 °C, *17 °C)
Dead zone	Day mode	0,2–3 °C, *0,2 °C
	Night mode	0–10 °C, *6,0 °C
Proportional band	1–32 °C, *1 °C	
Integration time	50–5000 s, *300 s	
Internal temperature measurement		
	Range	0–50 °C
	Accuracy (25 °C)	±0,5 °C
Inputs	Resistive input	External temperature sensor (NTC 10) input or digital input for door/window contact or condensation switch
Outputs	Voltage outputs	4 x 0–10 V DC, 2 mA
	PWM-outputs	2 x triac output (switched to 0 V, 24 Vac / 1 A) for thermal actuators. The PWM period is adjustable (20...1200 s, *20 s)
Communication	Modbus RTU	
	Bus speed	19200* bit/s
	Data bits	8
	Parity	even*
	Stop bits	1
Appliance class	Unit load	1/8 UL
	(IEC 60664-1)	III
Operating conditions	Temperature	0–50 °C
	Humidity	0–85 %rH (non-condensing)
Wiring terminals	Storage temperature	–20–70 °C
	Type	Tilted screw terminals
	Suitable wire	0,2–1,5 mm², stripping length 5 mm
Housing	Tightening torque	0,6 Nm
	Protection class	IP20
	Materials	ABS-plastic
	Mounting	on the wall surface or on a flush mounting box (60 mm hole distance)
Dimensions	(b x h x d) (w x h x d)	87 x 86 x 33 mm
* factory setting		



Figure 1. Configuration tool, LUNA T-CU

Accessories

Configuration tool	LUNA T-CU
Power supply	24 Vac/dc, < 1 VA
IP protection class	IP20
Ambient temperature	0...50 °C
Product dimensions	86 x 86 x 32 mm
Materials	ABS plastic
EAN13	6419767020642

EU-direktives

2014/30/EU	Electromagnetic Compatibility (EMC)
2011/65/EU	Restriction of Hazardous Substances (RoHS2) Directive.
(EU) 2015/863	Commission Delegated Directive, amending Annex II to Directive 2011/65/EU.

UK regulations

S.I. 2016 No. 1091	Electromagnetic compatibility regulations
S.I. 2012 No. 3032	The restriction of the use of certain hazardous substances in electrical and electronic equipment regulations

Standards

EN 61000-6-3:2007/ A1:2011	Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments.
EN 61000-6-2:2006	Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments.

Wiring



WARNING: Device wiring and commissioning can only be carried out by qualified professionals. Always make the device wirings in de-energised electricity network.



WARNING: This product is appliance class III product according to IEC 60664-1. The product may only be connected to SELV (separated extra low voltage) electricity network.

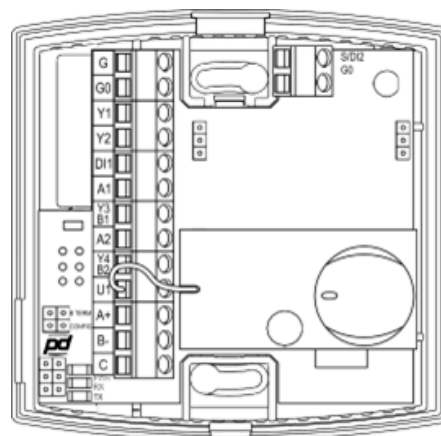


CAUTION: The product may only be connected to overvoltage category I or II electricity network according to IEC 60664-1. Use external overvoltage protection if the device is connected to the overvoltage category III electricity network.



CAUTION: Extra care should be taken when mixing full and half rectified devices in same AC electricity network. If the outputs are not isolated, connected devices could be damaged.

Important: The supply voltage source must be the same in the transmitter and in the connected devices.



G	24 V AC/DC supply
Note: Only the DC functions work when using DC supply voltage. To get full functionality, use AC supply.	
G0	0 V
Y1	VAV control output, 0...10 V DC, < 2 mA
Y2	Fan speed output, 0–10 V DC, < 2 mA
DI1	Digital input, PIR / card switch for day/night mode change
A1	Cooling output, 24 V AC, 1 A (PWM, switched to 0 V)
Y3/B1	Cooling output or 6-way valve control output, 0...10 V DC, < 2 mA
A2	Heating output , 24 V AC, 1 A (PWM, switched to 0 V)
Y4/B2	Heating output, 0–10 V DC, < 2 mA
U1	Not in use
A+	Modbus RTU, RS-485.
B-	Note: The terminal C is galvanically isolated.
C	

S/DI2 External temperature sensor (NTC 10) input or digital input for door/window contact or condensation switch.

G0 0 V

The nominal tightening torque for wire terminal screws is 0.6 Nm.



Important: Do not use excessive force when you tighten the wiring terminal screws.



CAUTION: Ensure that all covers are closed before you connect the supply voltage to the product. Do not remove the covers when the supply voltage is connected.

Note: You can use the unused inputs and outputs to transfer other measurement data and control information over the Modbus network.

Dimensions

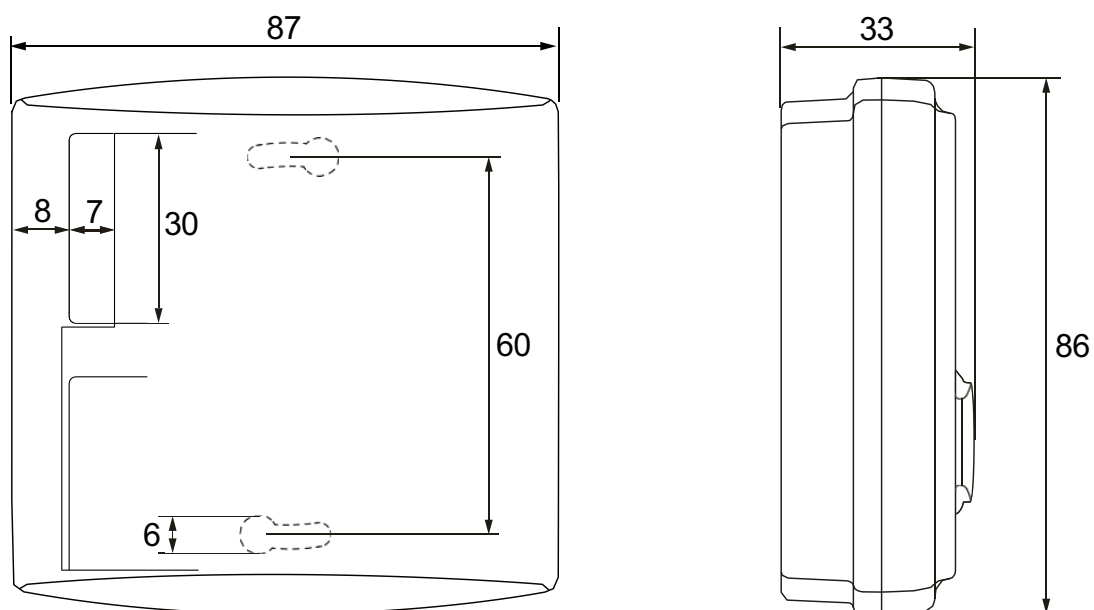


Figure 2. Dimensional drawing - LUNA RE

Specification

Product

Room controller	LUNA	-e	RE-1
Version:			
With mounted cable for connection against connection card LUNA KK			

Room controller	LUNA	-e	RE-S
Version:			
With screw terminal			

Rumsregulator	LUNA	-e	RE-S
Version:			
For connection to the CCO-kit			

Accessories

Configuration tool	LUNA e	T-CU
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Specification text

Example of a specification text according to VVS AMA.

Swegon's room controller for air and waterborne indoor climate systems.

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Ordering examples

- Room controller	LUNA e RE-1	XX st
- Room controller	LUNA e RE-S	XX st
- Room controller	LUNA e RE-CCO	XX st

Accessories

- Configuration tool	LUNA e T-CU	XX st
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Documentation

The following documentation can be downloaded from our website www.swegon.com

LUNA RE Instructions for use

LUNA RE Wiring instructions

LUNA RE Building Materials Declaration

LUNA RE CE Declaration