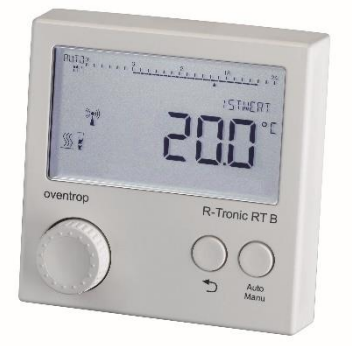
R-Tronic

System for Individual Room Temperature Control



The R-Tronic system for individual room temperature control with closed radio communication (proprietary) is used in stand-alone operation with wireless actuators to control radiators or in connection with a multi-channel wireless receiver to control surface heating systems.

The temperature setting as well as the storage of time programmes is carried out at the wireless thermostat. Power is supplied by batteries or a power supply unit (100 – 240 V).

Features

- Suitable for modernisation
- Improves the room climate
- Reduces energy consumption
- Cloud-independent solution

The following products can be connected to the R-Tronic wireless thermostats with proprietary radio communication (item no. 1150680/81):

	Item no.
mote 320 Wireless actuator	1150665
R-Con Multi-channel wireless receiver	1150770 – 73
R-Con T 2P Four-channel extension module	1150775
R-Con HC Extension module heating / cooling	1150774
FK-C F Wireless window contact	1153071

Product Details

R-Tronic Wireless Thermostats (proprietary radio communication)

Scope of Functions

The R-Tronic wireless thermostats feature a proprietary radio communication. The temperature setting as well as the storage of time programmes is carried out at the wireless thermostat.

Up to three heating phases and three setback phases with individual temperature settings can be stored for each day of the week.

The setpoint and actual temperature values of the room can be shown in the display. The actual temperature value is measured by an integrated temperature sensor.

The R-Tronic wireless thermostat enables the following additional functions:

- Boost mode for fast, short-term heating of the radiators
- Vacation mode for lowering the room temperature during longer absences
- Party mode, fixed desired temperature for up to 24 hours
- Child lock / Operation lock
- Valve protection function so that the valve does not get stuck
- Frost protection mode

The power supply is provided by the batteries supplied (3 V, 2 x LR6 / Mignon / AA (alkaline)). The battery life is approximately 2 years. Alternatively, it is possible to supply the device with power via an external flush-mounted or plug-in power supply unit (must be ordered separately, see accessories).

The R-Tronic RTF B wireless thermostat (item no. 1150681) additionally enables the measurement of relative humidity in %.

Range of application, installation and mounting

In battery operation, up to three participants can be taught-in to one R-Tronic wireless thermostat. In mains operation, up to eight participants can be taught-in.

The R-Tronic wireless thermostats can be surface-mounted (battery-operated) or flush-mounted (mains-operated).

Installation must be carried out in compliance with the relevant regulations and the enclosed operating instructions.

Technical Data

Radio frequency	868.3 MHz (proprietary radio frequency)
Transmission interval	10/ 30 minutes (winter/ summer)
Range	Depending on material and sources of interference (see "Notes on range")
Mode of operation	Type 1 (EN 60730-1)
Protection type	IP 20 (EN 60529)
Protection class	III – Protective extra-low voltage
Storage / Transport	-10...+65 °C, max. 70 % r.h., non-condensing
Ambient temperature	5...50 °C

RAL 9016 (traffic white)

LC display

	Item number	Measuring range T (°C)	Measuring accuracy at 25 °C	Measuring range r.h (%)	Measuring accuracy at 25 °C	W [mm]	H [mm]	D [mm]	Weight [kg]
	1150680 R-Tronic RT B	0...50 °C	± 1 K	-	-	85	85	35	0.17
	1150681 R-Tronic RTF B			0...100 %	± 4.5 % r.h.				0.16

mote 320 Wireless Actuator (proprietary radio communication)

The mote 320 wireless actuator is battery-operated and is used for room temperature control according to adjustable time programme. It only functions in combination with R-Tronic wireless thermostats.

Range of application, installation and mounting

Installation must be carried out in compliance with the relevant regulations and the enclosed operating instructions. The wireless actuators are installed without draining the heating water or interfering with the heating system.

The Oventrop wireless actuators must be mounted in vertical or horizontal position. When mounted vertically downwards, special circumstances (e.g. dripping water) can damage the actuators.

By pressing the button on the mounted actuator (for longer than 2 seconds), an adjustment run is carried out. Successful adjustment is signalled by the LED flashing green three times. The room temperature is only adjusted to the programmed desired temperature after the successful teach-in process to an R-Tronic wireless thermostat.

Technical Data

Radio frequency	868.3 MHz (proprietary radio frequency)
Connection	Connection thread M 30 x 1.5
Power supply	3 V battery operation (2 x LR6 / Mignon / AA (alkaline))
Battery life	Approx. 2 years
Transmission interval	150 seconds
Range	Depending on material and sources of interference (see "Notes on range")
Protection type	IP 20 (EN 60529)
Protection class	III – Protective extra-low voltage
Storage / Transport	-10...+65 °C, max. 70 % r.h., non-condensing
Ambient temperature	5...50 °C

RAL 9016
(traffic white)

	Item number	Connection	Positioning force	Max. stroke	W [mm]	H [mm]	D [mm]	Weight [kg]
	1150665	Connection thread M 30 x 1.5	approx. 80 N	2.0 mm	51	51	86	0.21

R-Con Multi-Channel Wireless Receiver (proprietary radio communication)

Electronic multi-channel wireless receiver for room temperature control of up to 8 independent heating zones (surface heating) according to adjustable time programmes on the R-Tronic wireless thermostats.

The R-Con multi-channel wireless receiver functions in combination with the R-Tronic wireless thermostats (proprietary radio communication).

Operation is menu-driven on the R-Tronic wireless thermostat. All multi-channel wireless receivers have integrated on/off and PWM control for surface heating.

Item numbers 1150770 and 1150772 also have a logic module with integrated pump logic with adjustable pre- and post-run time as well as a burner logic for heat demand.

Range of application, installation and mounting

Installation must be carried out in compliance with the relevant regulations and the enclosed operating instructions. Thermal actuators (Aktor T 2P) with 24 V or 230 V can be connected to the channels (N/O contact with 4 A / 250 V AC each). For 24 V actuators, an external transformer is required for the power supply.

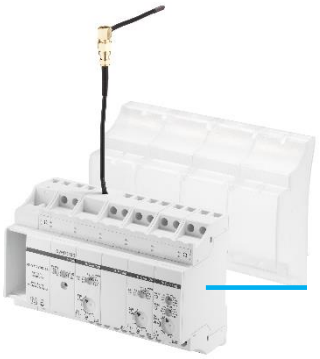
The receiver is mounted on a carrier rail or, alternatively, in the protective housing for the R-Con multi-channel wireless receiver (must be ordered separately, see accessories).

Technical Data R-Con Basic Module

Interfaces	RS 485 bus
Radio frequency	868 MHz
Power supply	230 V / 50...60 Hz
Secondary supply	12 V DC – 1 A (RS 485 bus)
Contacts	N/O contact(4 A / 250 V AC), potentially isolated from the power supply
Temperature control	Pulse width modulation (PWM) On/off control
Range	Depending on materials an interferance sources (see "Notes on range")
Stand-by loss	0.1 Watt
Mounting	Carrier rail DIN EN 60715 TH35

Technical Data R-Con Logic Module

Interfaces	RS 485 bus
Power supply	12 V DC (internal)
Connections	Pump connection Burner connection
Switching voltage	max. 250 V / 0 – 60 Hz (per N/O contact)
Switching current	10 A (per N/O contact)
Stand-by loss	0.1...0.6 Watt
Mounting	Carrier rail DIN EN 60715 TH35



RAL 9003
(pure white)

R-Con Multi-Channel Wireless Receiver

	Item number	Number of channels / N/O contacts	Actuators per channel	Logic module	Stand-by loss	Storage/ Transport temperature	Ambient temperature	W [mm]	H [mm]	D [mm]	Weight [kg]
	1150770	4 channels	4	Yes	1 Watt	-25...+70 °C	-20...+50 °C	246	58	18	0.56
	1150771	4 channels	4	No	1 Watt	-25...+70 °C	-20...+50 °C	164	58	18	0.34
	1150772	8 channels	4	Yes	1 Watt	-25...+70 °C	-20...+50 °C	328	58	18	0.48
	1150773	8 channels	4	No	1 Watt	-25...+70 °C	-20...+50 °C	246	58	18	0.40

R-Con T2 P Four-Channel Extension Module (proprietary radio communication)

The R-Con T2 P four-channel extension module is suitable for connection to R-Con multi-channel wireless receiver. The module provides four additional radio channels. Just like the R-Con multi-channel wireless receiver, the extension module has an on/off as well as a PWM control for surface heating.

RAL 9003 (pure white)

Range of application, installation and mounting

Installation must be carried out in compliance with the relevant regulations and the enclosed operating instructions. Thermal actuators (Aktor T 2P) with 24 V or 230 V can be connected to the channels (N/O contact with 4 A / 250 V AC each). For 24 V actuators, an external transformer is required for the power supply.

The module is mounted on a carrier rail or, alternatively, in the protective housing for the R-Con multi-channel wireless receiver (must be ordered separately, see accessories).

Technical Data

Item number	1150775
Interfaces	RS 485 bus
Power supply	12 V DC (internal)
Number of radio channels	4
Contact	4 N/O contacts (4 A / 250 V AC), potentially isolated from the power supply
Stand-by loss	0.1 Watt
Mounting	Carrier rail DIN EN 60715 TH35
Protective type	IP 20 (EN 60529)
Housing dimensions	18 x 82 x 58 mm (W x H x D)
Storage / transport temperature	-25...+70 °C
Ambient temperature	-20...+50 °C

R-Con HC Extension Module Heating/Cooling (proprietary radio communication)

The R-Con HC extension module is suitable for connection to R-Con multi-channel wireless receivers. The module is used to switch between heating and cooling mode via a change-over input.

In addition, the R-Con HC module has an input for dew point monitoring. This interrupts cooling mode when the dew point is exceeded.

RAL 9003 (pure white)

Range of application, installation and mounting

Installation must be carried out in compliance with the relevant regulations and the enclosed operating instructions. The module is mounted on a carrier rail or, alternatively, in the protective housing for the R-Con multi-channel wireless receiver (must be ordered separately, see accessories).

Technical Data

Item number	1150774
Interfaces	RS 485 bus
Power supply	12 V DC (internal)
Digital input (K 1/2) **Digital input (K 3/4)**	N/C / N/O contact (potential-free)
Stand-by loss	0.1 Watt
Mounting	Carrier rail DIN EN 60715 TH35
Protection type	IP 20 (EN 60529)
Housing dimensions	18 x 82 x 58 mm (W x H x D)
Storage / transport temperature	-25...+70 °C
Ambient temperature	-20...+50 °C

FK-C F Wireless Window Contact

The FK-C F wireless window contact is solar-powered and sends a radio signal to the R-Tronic wireless thermostats when the window is operated (open / closed). The R-Tronic wireless thermostats must be mains-operated. The solar-powered energy store ensures maintenance-free operation.

The unit consists of a wireless sensor module and a magnet.

Range of application, installation and mounting

Installation must be carried out in compliance with the relevant regulations and the enclosed operating instructions.

Technical Data

Item number	1153071
Interfaces	EnOcean (868.3 MHz)
EnOcean Equipment Profile	EEP D5-00-01
Power supply	Solar-powered, light intensity at least 400 lxh (lux hours) per day, alternative energy supply via backup battery
Protection type	IP 40 (EN 60529)
Dimensions	
Housing:	79 x 23,4 x 18.6 mm (W x H x D)
Magnet:	20 x 10 x 1.5 mm (W x H x D)
Color	White, similar to RAL 9010
Storage / transport temperature	-20...+60 °C
Ambient temperature	-20...+60°°C

Notes on range

The radio range in buildings depends on the geometric shapes of the object and the room and is also limited. The materials that lie between the sensor and the receiver and possible sources of interference are also decisive.

A so-called radio shadow forms behind metal objects. Therefore, it may be necessary to position the R-Tronic wireless thermostat appropriately so that no radio shadow can form in the direction of the mote 320 wireless actuators.

The following table shows how much materials reduce the radio range in the direction of propagation compared to a line-of-sight connection.

Material	Range reduction
Wood, gypsum, uncoated glass without metal	approx. 0 – 10 %
Brickwork, wooden or plasterboard walls or walls made of pressboard	approx. 5 – 35 %
Reinforced concrete	approx. 10 – 90 %
Metals	Up to 100 %

Accessories

Cover frame

For covering flush-mounted boxes (milling hole up to Ø 83 mm), cover 88 x 88 mm, RAL 9016 (traffic white)

	Suitable for	Item number
	R-Tronic wireless thermostats	1150693

Wireless repeater (EnOcean)

For amplification of the EnOcean radio telegrams to increase the radio range, 230 V, 50 Hz, flush mounting

	Suitable for	Item number
		1153060

Flush-mounted power pack unit with wall bracket

For converting battery-operated R-Tronic wireless thermostats to an external power supply 100 – 240 V AC, 50 – 60 Hz

	Suitable for	Item number
	R-Tronic wireless thermostats	1150692

Plug-in power supply unit with table stand

For converting battery-operated R-Tronic wireless thermostats to an external power supply 100 – 240 V AC, 50 – 60 Hz

	Suitable for	Item number
	R-Tronic wireless thermostats	1150694

Antenna extension

With SMA screw terminal, antenna length 1 m, surface mounting, white glossy (RAL 9003)

	Suitable for	Item number
	R-Con multi-channel wireless receivers	1150777

Protective housing with carrier rail

Alternative to mounting in the cabinet, 230 V, surface mounting

	Suitable for	Item number
	R-Con multi-channel wireless receivers	1150776

EN-12101-11506-DB-V2407 – Februar 2024

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