



Operating Manual

Radon Echo
0-10 V

REC
2B20540



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1. APPLICATION AREA

The Operating Manual contains technical data, installation- and wiring instructions for the radon based motor controller REC.

The 2Best REC is a radon sensor with an analogue control output suited to easily and quickly upgrade ventilation systems to incorporate contamination based ventilation. It can control external consumers with a power supply of 6 V to 30 V DC with its easy to switch thresholds.

The 2Best REC supports a wide variety of standard ventilation units and systems in housing, cellars, storage, air dehumidification, and radon decontamination in all types of buildings and usage. Simple design and easy commissioning make him flexible and reliable.

2. WARRANTY & LIABILITY

2Best Trust Hungary KFT grants a two-year warranty for fabrication errors on parts of the product. Maintenance and repair may only be performed by authorized personnel.

Warranty ceases in case of:

- Unauthorized or improper usage, maintenance, or repair
- changes to the product performed improperly or by unauthorized personnel

3. DELIVERY CONTENT

- 1x motor controller

4. TECHNICAL DATA

TECHNICAL DATA

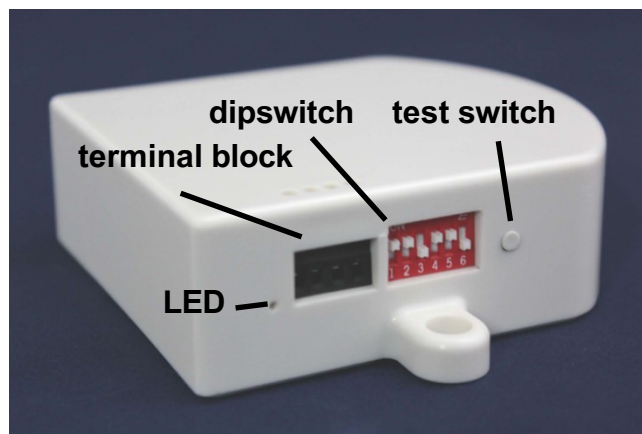
power supply	6 .. 30 VDC
control output	0 .. 10 VDC
electrical data	60 mA; 0.7 .. 2.0W
lower threshold values	25 .. 300 Bq/m ³
lower threshold increments	25 Bq/m ³
upper threshold values	400 .. 1300 Bq/m ³
upper threshold increments	200 / 300 Bq/m ³
measurement method	pulsed ion chamber
accuracy	> 85%
sensitivity	< 0.02 Bq/m ³
intervall	10 minutes
value method	moving average 1 hour

DIMENSIONS



W x H x D: 126 x 87 x 107 mm

5. OPERATION



LED

The indicator light on the side of the device indicates its status. The table shows the possible states and their indicator sequence.

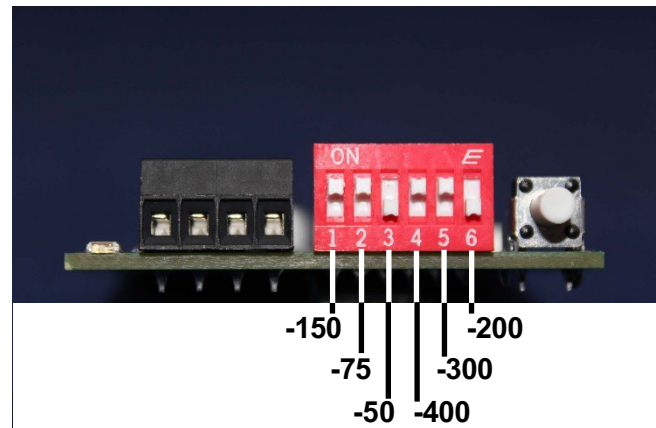
color / sequence	status
continuous green	controller active, values under threshold
flashing green and yellow	controller error
continuous yellow	controller active, values above threshold

DIPSWITCH

Via dipswitches on the side of the device, the lower and upper thresholds can be set. Upon reaching the lower threshold, a voltage is applied to the analogue control output. The voltage is linear until it reaches 10 V on a contamination equal to the upper threshold.

These are the standard values:

Lower threshold: 300 Bq/m³
Upper threshold: 1,300 Bq/m³



picture: Lower Threshold 75 Bq/m³, Upper Threshold 600 Bq/m³

You can manipulate the threshold values by adjusting the dipswitches. The left three switches correspond to the lower threshold, the right three switches to the upper threshold.

Please note, that both thresholds will be adjusted downwards.

EXAMPLES

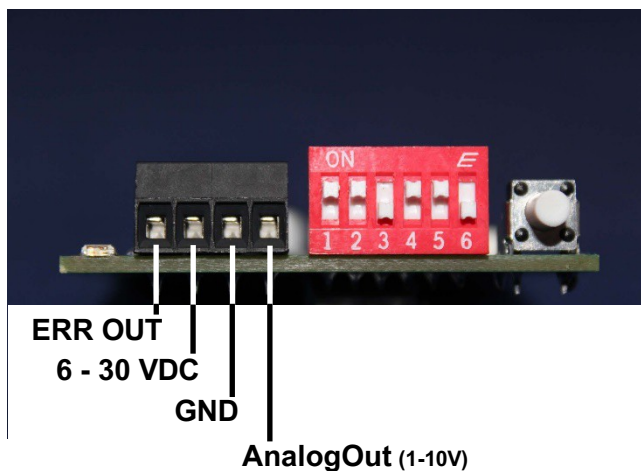
lower threshold	switch sequence 1 2 3	upper threshold	switch sequence 4 5 6
300	OFF OFF OFF	1300	OFF OFF OFF
250	OFF OFF ON	1,100	OFF OFF ON
225	OFF ON OFF	1000	OFF ON OFF
175	OFF ON ON	900	ON OFF OFF
150	ON OFF OFF	800	OFF ON ON
100	ON OFF ON	600	ON ON OFF
75	ON ON OFF	700	ON OFF ON
25	ON ON ON	400	ON ON ON

TEST SWITCH

A white test switch on the side of the device can be used to confirm correct operation of the controller. When pressed, the LED indicates testing mode with a continuous yellow light and a voltage of 5V DC is applied on the analogue control output.

TERMINAL BLOCK

Wire connections are protected against polarity reversal.



Wire connections are, as shown above, from left to right:

ERR OUT: Low resistance in normal operation, high resistance in case of error.

6 - 30 VDC: voltage input for ventilation units with an appropriate power supply

GND: ground

AnalogOut: Analogue control output for 1 - 10 V control wire.

6. SAFETY INSTRUCTIONS

1. Disconnect all electrical parts from power grid completely before any installation, maintenance, or repair work! Wait for all fans and lights to shut off!
2. All installed parts must be visually inspected before electrical installation!
3. Controllers or ventilation units may not be operated in fire or explosion hazardous environments!
4. Ventilation systems must be ensured to not cause gas recirculation or reverse currents.
Disregard endangers life!

7. CONTACT



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