



# RAIO®

USER INSTRUCTIONS  
RAIO BY SPECTRA

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# RAIO®

By Spectra.

Before installation, please read this documentation carefully.

The purpose of this user instruction with installation instructions is to provide an overview of the aspects important for safe installation and correct use of the RAIO heating system.

Safety advice:

Warning: to prevent overheating, never cover the heater!



Warning: the heater should NEVER be used if the panel is damaged, all damaged units should be returned.

Warning: Beware of electrocution hazard.

Always ensure that no electrical voltage is present on the power cable before fitting the plug or performing other work.

The RAIO panel must never be disassembled or opened, this will void the warranty.

Always place RAIO out of the reach of children, children should never be able to touch the device! Do not allow children to access the working device without supervision. Make sure that they cannot operate the device.

## Installation instructions:

Spectra always stipulates that RAIO should be installed by a licensed or qualified professional technician, knowledgeable in the laws and requirements for this type of work.

Always use the plug supplied, which connects to the power supply cable.

This plug must be correctly fitted to the power supply cable as indicated by the symbols on the back of the plug, it is not allowed to change this plug.

Do not disassemble the connector attached to the RAIO panel, it must be used at all times to ensure the warranty, disassembly will void the warranty.

Damages or defects resulting from failure to follow the precautions outlined in this document are not covered by Spectra's manufacturer's warranty and are the responsibility of the user.

Spectra shall never be liable for damage resulting from improper installation.

Before installing RAIO, always check that the available electrical installation, to which RAIO will be connected, complies with regulations such as the following : Belgium AREI- Netherlands NEN1010- Germany DIN-VDE0100- France NFC15-100. Or the regulations applicable in the country where RAIO is installed. Appreciate these above mentioned standards also during the installation of RAIO.

The available electrical supplies must be correct before RAIO is installed, refer to the available electrical file of the installation to which RAIO is to be connected.

The above advice also affects the operation of RAIO here, the thermostat or smart control should be installed according to these regulations and provided with adequate safety.

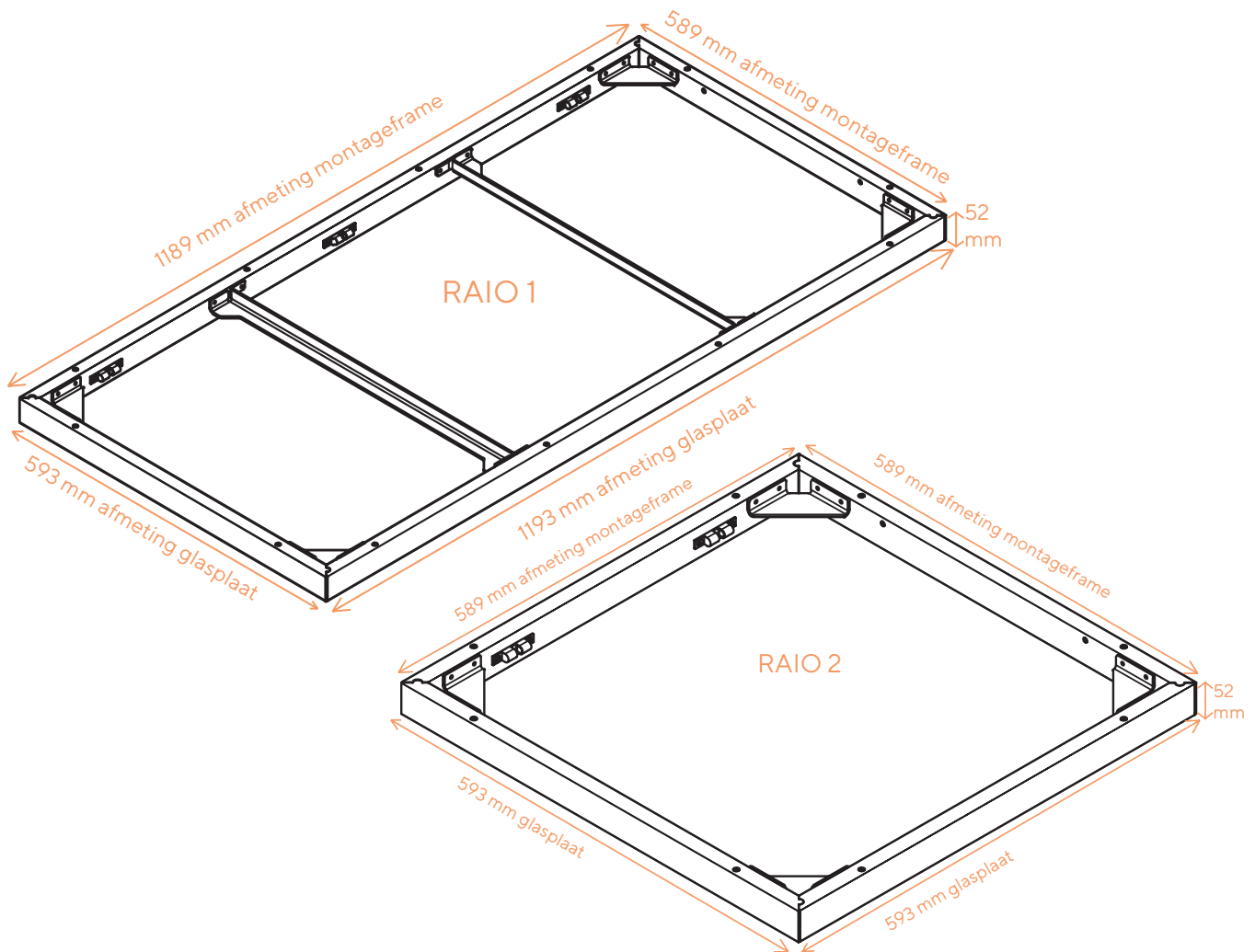
On page 7 you will find all the information to register your panel for an extended warranty of up to 5 years.

- The minimum height between the floor and RAIO should be 1.2 m.
- Never place RAIO over water features or in places where RAIO may fall into water ( e.g. over a bathtub, swimming pool...)
- Never install where there may be direct contact with water.
- RAIO has an IP rating of 54 this means it may be installed in zone 2 in humid areas.
- Use RAIO only with 230 volts.
- Best results are achieved when RAIO is mounted against the ceiling centered in the room you wish to heat.
- Never use RAIO if damage is found, always check for visible defects or damage before use. If damage is found, RAIO should always be returned to Spectra.
- Use RAIO only for heating rooms.
- Always place RAIO out of the reach of children, children should never be able to touch the device! Do not allow children to access the working device without supervision. Make sure they cannot operate the device.
- RAIO should never be covered on the glass side so that no materials come in contact with the device in operation.
- Never place RAIO near flammable materials or liquids.
- Always make sure RAIO is at least 20 cm away from other objects.
- Never touch the RAIO when the unit is activated, the surface temperature can reach 130°C.
- RAIO must be installed on a surface strong enough to support its weight.

**Where is RAIO best placed.**

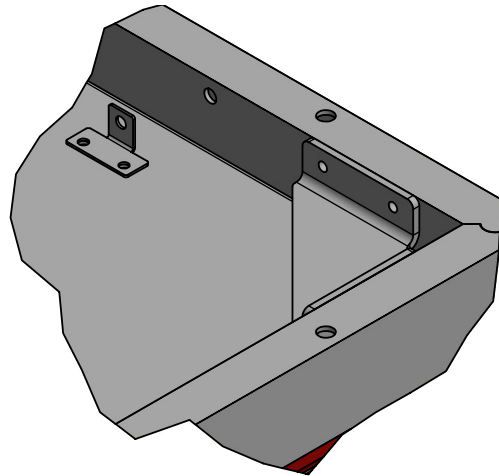
- RAIO is a heating appliance that works by means of radiant heat, make sure that these heat rays can reach as many hard objects in the room as possible in order to optimally heat this room, always try to center RAIO against the ceiling in the room.
- For the best effect, always place RAIO in the location in the room where you are most present for the best comfort feeling.
- Objects placed in front of RAIO will be heated, always try to avoid this. These objects prevent the heat radiation from spreading optimally throughout the room.
- When fixing, one should always keep in mind the accidental breaking of the glass so that people are not in danger of getting the damaged glass on them.
- Make sure that furniture and other objects are at least 50 cm away from the front and sides. Otherwise, extra heat will build up between them which can damage RAIO.
- For the best application and energetic result, the transmission calculation should be observed.

- Always mount the mounting frame 100% level against the ceiling or wall, make sure the mounting frame stays with the RAIO panel where it was delivered with.
- Mount this mounting frame with the correct plugs and screws intended for the surface to which you wish to attach RAIO. Make sure this surface can support the weight.
- One should attach all mounting points per mounting frame.
- The screws and dowels used should be predestined to bear the weight, ensure durable fastening! Minimum diameter thickness of 5 mm screws ( weight RAIO is listed in the specifications).

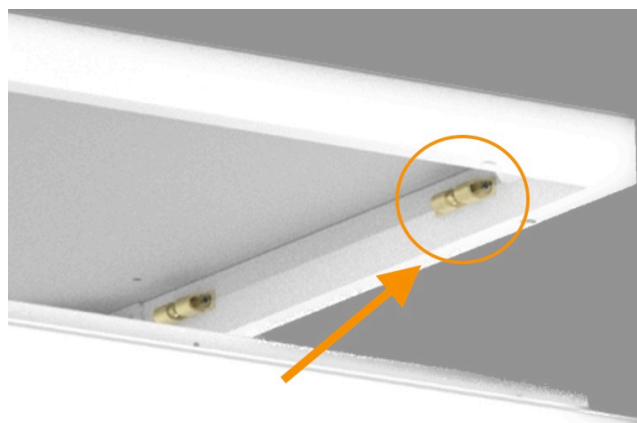


- The provided connector can now be mounted to the room power cable. Make sure there is no electrical voltage on the power cable, do not connect this connector with RAIO yet.
- If you need to install a relay (thermostat receiver) it comes between the power cable and the supplied connector as an interruption (switch) for detailed information on how to install a relay look at the wiring diagrams.

- Once the mounting frame is attached and the connector is mounted on the power cable with or without a relay thermostat receiver, the steel cables of the mounting frame can be clipped to RAIO in the pre-designated plates with the round holes on the back of RAIO, at the level of the connector (see example drawing below where the cables are to be attached)



- Now connect the connector of the power cable with the connector on RAIO. Always make sure that no electrical voltage is present on this power cable.
- Now the panel can be slowly snapped shut. Make sure the steel cables and hooks rest flat on the back of the panel, and make sure they do not get between the panel and the mounting frame. Make sure that enough pressure is applied, once you want to snap RAIO into the mounting frame so that these clamps definitely engage!
- Press RAIO firmly into the mounting frame with sufficient pressure!
- Always check that RAIO is properly engaged in the mounting frame.
- Once these steps are performed correctly, RAIO is mounted.
- If RAIO needs to be disassembled, a small flathead screwdriver can be used to gently wedge between the mounting frame and the profile on the back of the glass plate, which will release RAIO from the clamps. CAUTION that RAIO is always supported and cannot suddenly fall down



- The panel must be adjusted when mounting to the snapper snap system. A flathead screwdriver can be used to adjust the snapper clips by tightening the screws.
- For the RAIO1 surface mount model, the additional screws and caps that are additionally supplied in the box are used as finishing touches. These screws are used for the mechanical attachment of the mounting frame to the heating panel. This is done at the end of the installation through the holes on the side of the mounting frame and after the heater panel has been snapped into place. The caps provide an aesthetic finish to seal the holes along the side of the mounting frame.

## Specifications RAIO.

RAIO 1 : 900 W / 4 A / 230 V / 120 cm x 60 cm x 2.7 cm (LxWxD ) incl. mounting frame 5.2 cm thickness - 13.3 kg total weight.

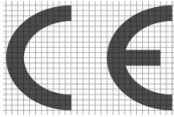
RAIO 2 : 450 W / 1.95 A / 230 V / 60 cm x 60 cm x 2.7 cm (LxWxD) incl. mounting frame 5.2 cm thickness - 6.5 kg total weight.

RAIO is primarily classified as being electrical equipment and complies with the relevant regulations below:

Low voltage directive 2014/35/EU

EMC Directive 2014/30/EU

RoHS Directive 2011/65/EU



CE- certification.



RAIO is maintenance-free.

If one wishes to polish RAIO, the appliance should be completely shut down, always allow the appliance to cool down completely.

Always ensure that RAIO does not come into direct contact with water or allow water to enter the unit.

The glass surface can be polished with a damp cloth and glass cleaner, never with a wet cloth. Dry the glass with a dry cloth after.

Never use caustic or harsh cleaning products. This may cause irreversible damage to the device which is not covered by the warranty.

### Storage.

RAIO should always be stocked or stored in the original packaging in which RAIO is delivered, in a dry, moisture and frost-free location. RAIO should always be stored vertically on the thin short side of the package on a flat surface, without stacking or storing anything of weight on top of it.

### Warranty.

The legal factory warranty on electronic devices including RAIO heating panels is 2 years from the invoice date. If you register the RAIO heating panel through the link below, the factory warranty will be increased to 5 years. If this registration has not taken place within two years from the invoice date, it is not possible to benefit from the 5-year warranty. For defects within two years (if registered 5 years) from the invoice date, Spectra will reimburse shipping costs for return of the RAIO panels. After this period, these shipping costs of defective goods are for the end user. To take advantage of this warranty, the purchase invoice should always be presented along with the serial number on the nameplate. If problems are detected, always contact Spectra bv directly before taking any action. Spectra bv. Centrum-zuid 1111 – 3530 Houthalen-Helchteren, Belgium.

Glass breakage before, after or during installation is not covered by this warranty. Care should be taken when handling this glass heating unit.

There will be no claim under the warranty if the following points are noted:

- Opening or disassembling the RAIO panel.
- Disassembling the plug attached to RAIO.
- Failure to use the plug provided.
- Connect RAIO to electrical power sources other than 230Volt.
- Any other damage due to faulty installation.
- Improper storage or stocking of RAIO.
- Water damage and overheating.

### EXTEND WARRANTY UP TO 5 YEARS

Email to [contact@raio.be](mailto:contact@raio.be) your name, the serial number of all panels whose warranty you wish to extend and attach a scan or clear photo of the purchase invoice. You will receive confirmation of registration from us.

### Disposal and recycling RAIO.

If one wishes to discard RAIO after use, one may return all RAIO panels to Spectra bv free of charge. The shipping costs of these discarded RAIO panels are for the sender. RAIO is 100% recyclable and will be fully recycled by Spectra after dismantling.

### Life expectancy RAIO.

The life expectancy of RAIO is very long under normal conditions and normal use as prescribed.

**In which countries may I use RAIO?**

All countries within the European Union.

**What is the difference between RAIO1 and RAIO2?**

RAIO 1 is a more powerful heater with 900 watts compared to RAIO 2 which has a heating power of 450 watts. RAIO 1 is best used for living rooms and bedrooms, often larger spaces, while RAIO 2 is better for a smaller space in the home such as a hallway.

RAIO 1: 900 W / 4 A / 230 V / 120 cm x 60 cm x 2.7 cm (LxWxD) incl. mounting frame 5.2 cm thickness - 13.3 kg total weight. Space to be heated up to 20 m<sup>2</sup>.

RAIO 2: 450 W / 1.95 A / 230 V / 60 cm x 60 cm x 2.7 cm (LxWxD) incl. mounting frame 5.2 cm thickness - 6.5 kg total weight. Space to be heated up to 10 m<sup>2</sup>.

**What is the wattage of my RAIO panel?**

- RAIO 1 = 900 watts.
- RAIO 2 = 450 watts.

**Which RAIO panel do I need?**

- This depends entirely on the room you wish to heat as well as the insulation value of this room. We recommend RAIO 1 for rooms of 15 to 20 m<sup>2</sup>, RAIO 2 for rooms smaller than 10 m<sup>2</sup>.

**What is radiant heat, and is it safe?**

- RAIO works through radiant heat, this ensures that in the room all hard objects are heated. All these objects such as the walls and floor of this room give the heat back. RAIO, Portuguese for sun, works like the sun. Once the hard objects are heated they reflect the heat. This is in contrast to other heating methods where one needs to heat the entire air in the room. Radiant heat is perfectly safe to use. This has also been tested according to the prescribed standard EMC Directive 2014/30/EU.

**Are there any maintenance costs associated with RAIO?**

- No, RAIO is completely maintenance-free.

**What warranty is provided on my RAIO?**

- The legal factory warranty on electronic appliances including RAIO heating panels is 2 years from the date of invoice. This can be extended to 5 years by registering the panel (see p7).

**When am I not entitled to warranty?**

- The warranty will not be offered if the RAIO panels have not been properly used or installed as described in the user manual.
- The warranty will also be void if you yourself have dismantled the RAIO panel in any way.

**Do I have to pay return shipping costs from RAIO under the warranty period?**

- If defects occur within two years of the invoice date, Spectra will refund these shipping costs.
- Two years (5 years if registration) after the invoice date, shipping costs are for the end user.



What should I do in case of damage or a non-working product within the 5-year warranty period?

- You should always contact Spectra bv before taking any action, Spectra bv. Centrum-zuid 1111 – 3530 Houthalen-Helchteren Belgium – e-mail: [contact@raio.be](mailto:contact@raio.be)

A part is missing from my RAIO panel, what should I do?

- Contact us and we will send the missing goods directly to you.: [contact@raio.be](mailto:contact@raio.be)

How do I report problems or damage incurred during shipping?

- Please send us a picture of the damaged goods and packaging along with the purchase invoice at e-mail address: [contact@raio.be](mailto:contact@raio.be)

What should I do if I no longer wish to use RAIO or if I want to recycle the RAIO panel?

- You may return RAIO to Spectra bv free of charge. Shipping costs are for the sender. Spectra will take care of proper recycling, RAIO will be 100% recycled.

## Dealers in Belgium:

**BE-Sanitair**  
Zavelheide 7B- 2200 Herentals  
[www.be-sanitair.be](http://www.be-sanitair.be)  
+32 14553582

**GM-projects bvba**  
Diestersteenweg 287A - 3680 Maaseik  
[www.gm-projects.be](http://www.gm-projects.be)  
+32493455258

**Bollen Energy**  
Waterrijstraat 5C- 3900 Pelt  
[www.bollen-energy.be](http://www.bollen-energy.be)  
+32 11369369

**IZI COOL**  
Doenaertstraat 6 - 8500 Kortrijk  
[izicool.be](http://izicool.be)  
+32 56 92 10 80

**D&D Electro**  
Kaulillerweg 62- 3990 Peer  
[www.dd-electro.be](http://www.dd-electro.be)  
+32 11635433

**RS badkamers**  
Schaapschuur 1 bus 2 - 1790 Affligem +32 53 89 56 50  
Buke 39 bus 1 - 9620 Zottegem +32 93 96 45 90  
Gentstraat 77 bus 1 - 9800 Deinze +32 92 74 27 01  
[rsbadkamers.be](http://rsbadkamers.be)

**De Tichelaar**  
Rijksweg 521 - 3630 Maasmechelen  
[www.detichelaar.be](http://www.detichelaar.be)  
+32 89 76 58 69

**Russell Woods/Tymer Building**  
Kerkstraat 13 - 2970 's Grevenwezel  
[www.russellwoods.eu](http://www.russellwoods.eu)  
+32 36 85 21 44

**Deback Electrics**  
Nijverheidslaan 1 - 8552 Zwevegem-Moen  
[www.deback-electrics.be](http://www.deback-electrics.be)  
+32 472 34 84 94

**Steylaerts**  
Schollebeekstraat 29- 2500 Lier +32 34821353  
Hoogkamerstraat 308 - 9140 Temse +32 37 11 04 04  
[www.steylaerts.be](http://www.steylaerts.be)

**Ecosol+**  
Ambachtslaan 1065 - 3990 Peer  
[www.ecosolplus.be](http://www.ecosolplus.be)  
+32 11791487

**Vanbaelen Energietechnieken**  
Hoogstraat 36 - 3670 Meeuwen-Gruitrode  
[www.vanbaelen-energietechnieken.be](http://www.vanbaelen-energietechnieken.be)  
+32 11 79 26 63

**Elgo Electrics**  
Keitelweg 2105 - 3990 Peer  
[www.elgo.be](http://www.elgo.be)  
+32 11 72 53 51

**Vandebosch BVBA**  
Maaseikerbaan 75 - 3600 Genk  
[www.vandebosch.be](http://www.vandebosch.be)  
+32 89381604

**Elveco BV**  
Rode Kruisstraat 15a - 3920 Lommel  
[elvecobv.be](http://elvecobv.be)  
+32 11 55 15 66

**Ventimec**  
Kolonel Begaultlaan 71 - 3012 Leuven  
[www.ventimec.be](http://www.ventimec.be)  
+32 16 23 39 74

**EP-technieken**  
Neringstraat 10 - 2360 Oud-Turnhout  
[www.eptechnieken.be](http://www.eptechnieken.be)  
+32 14657983

**Verisol**  
Klaverbladstraat 12 - 3560 Lummen  
[verisol.be](http://verisol.be)  
+32 13 29 45 76

**Gardeos**  
Staatsbaan 75A - 3545 Halen  
[www.gardeos.be](http://www.gardeos.be)  
+32 13 48 01 34

**Dealers in The Netherlands:**

**Energie Neutraal**  
Baileystraat 2E - 8013 RV Zwolle  
[www.nrgneutraal.nl](http://www.nrgneutraal.nl)  
+31 854018435

**Get Smart**  
Horsterweg 34 - 5975 NB Sevenum  
[www.getsmarthome.exoape.eu](http://www.getsmarthome.exoape.eu)  
+31 619419383

**JaRo Elektro Service**  
Maria Stuartlaan 35 - 5361LA Grave  
[www.jaro-elektro.nl](http://www.jaro-elektro.nl)  
+31 651129270

**Michiels alles onder een dak**  
Hollandseweg 21A - 5712 RM Someren  
[www.michiels-someren.nl](http://www.michiels-someren.nl)  
+31 493492320

**SmeetsLedLighting**  
Bergstraat 13 - 6129CX Urmond  
[www.smeetsledlighting.com](http://www.smeetsledlighting.com)  
+31 629555293

**Villa Hendrik**  
Keizer Otto 7 - 1276 LA Huizen  
[www.villahendrik.nl](http://www.villahendrik.nl)  
+31 355 25 88 88

## Manufacturer data:

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Belgium

Tel: +32 11 397 585

Mail: [contact@raio.be](mailto:contact@raio.be)

Web: [RAIO.BE](http://RAIO.BE)

Find wiring diagrams, technical charts and installation video  
via the following QR-code on our website: [raio.be/installatie](http://raio.be/installatie)

