Danfoss RX1-S V2 RF Receiver and Boiler Relay Installation Guide

Contents

Danfoss RX1-S V2 RF Receiver and Boiler Relay

Product Information

The RX1-S V2 RF Receiver & Boiler Relay is a radio equipment type TPOne -RF + RX1-S V2 that is compliant with directive 1999/5/EC. The product is manufactured by Danfoss A/S and can be used for controlling heating systems.

Installation Guide
The user guide for the product can be downloaded from heating.danfoss.com. Below are the installation steps for the product:

1. The installation should be done by an authorized electrician.
2. Install the room thermostat at approximately 1.5 meters above the floor and avoid placing it in direct sunlight, draught or other heat sources such as TV's.
3. Decide on the location of the RX1-S V2 receiver ensuring a minimum space of 30cm from the boiler housing. There must be no large metal objects such as boiler cases or other large appliances in line of sight between the thermostat and the receiver as this will prevent RF communication.
4. Remove and mount the RX1-S V2 backplate directly to the wall or on a wall box and wire it as required for application.
5. Locate hooks at the top of RX1-S V2 into the top of the backplate and lower it into position and tighten the retaining screw. Switch on mains power to start RF pairing.
6. Loosen the lower retaining screw of the thermostat and carefully remove the backplate.
7. Insert 2x AA Alkaline batteries to front part taking care to insert correctly as indicated. Check RF connection between the thermostat and RX1-S V2 receiver before fixing it in its final position.
8. Mount the backplate directly to the wall or on a wall box. The backplate included within the product packaging must be used forinstallation.
9. Locate hooks at the top of the front part into the top of the backplate and lower it into position and tighten the

retaining screw.

Dimensions and Wiring
Refer to fig. 4 for dimensions and fig. 5 for wiring diagram on page 45.

RF Pairing
The following are the steps to pair the RX1-S V2 receiver and thermostat:

1. Ensure power to RX1-S V2 receiver is switched on and batteries are inserted into the thermostat.
2. Put the thermostat in pairing mode, see thermostat installation guide.
3. Press both PROG and CH buttons on RX1-S V2 until button LEDs flash.
4. If pairing is successful RF icon on thermostat will stop flashing and remain on.
5. If pairing is not successful try moving thermostat to an alternative position and retry.

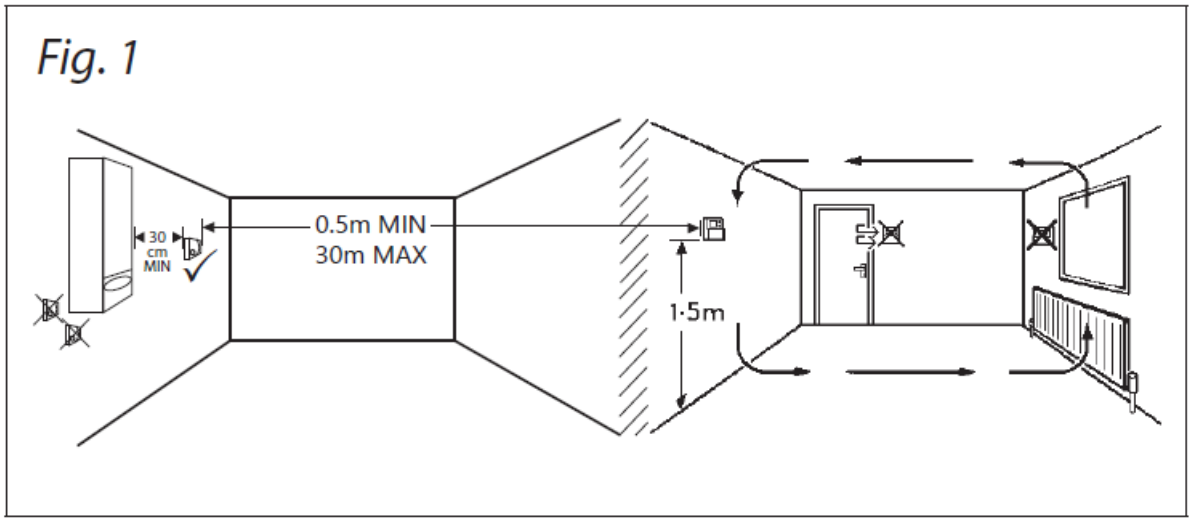
Legacy – RF Pairing
Use this guide when replacing the RF receiver only, where existing room thermostat is reused. If both products are changed follow normal pairing procedure, see 3.1 RF Pairing, page 5.

1. Ensure the power to RX1-S V2 receiver is switched on and batteries are inserted into the thermostat.
2. Put the thermostat in pairing mode, see thermostat installation guide.
3. Press and hold the PROG button on the RX1-S V2 until… (text cut off)

Installation Steps

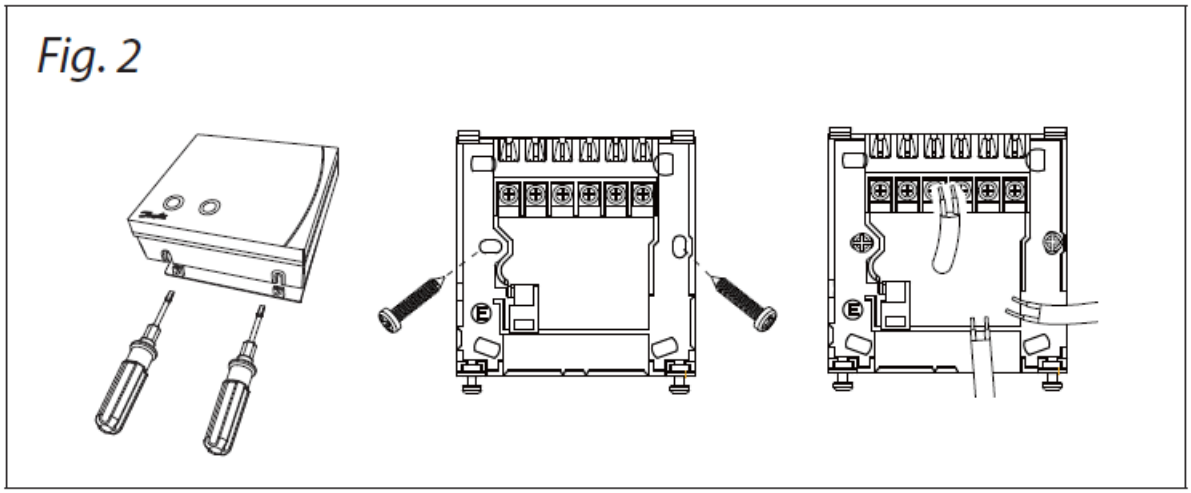
User Guide can be downloaded from: heating.danfoss.com.
Instructions below include thermostat installation and pairing to RX1-S V2.

1. Installation must be done by an authorized electrician.
2. The room thermostat should be installed at approx. 1.5 m above floor and where the effects of sunlight, draught or other heat sources (eg. TV's) are avoided, see fig. 1 on page 44.
3. Decide location of RX1-S V2 receiver, ensuring a minimum space of 30cm from boiler housing. There must be no large metal objects, such as boiler cases or other large appliances, in line of sight between the thermostat and the receiver as this will prevent RF communication, see fig. 1 on page 44.

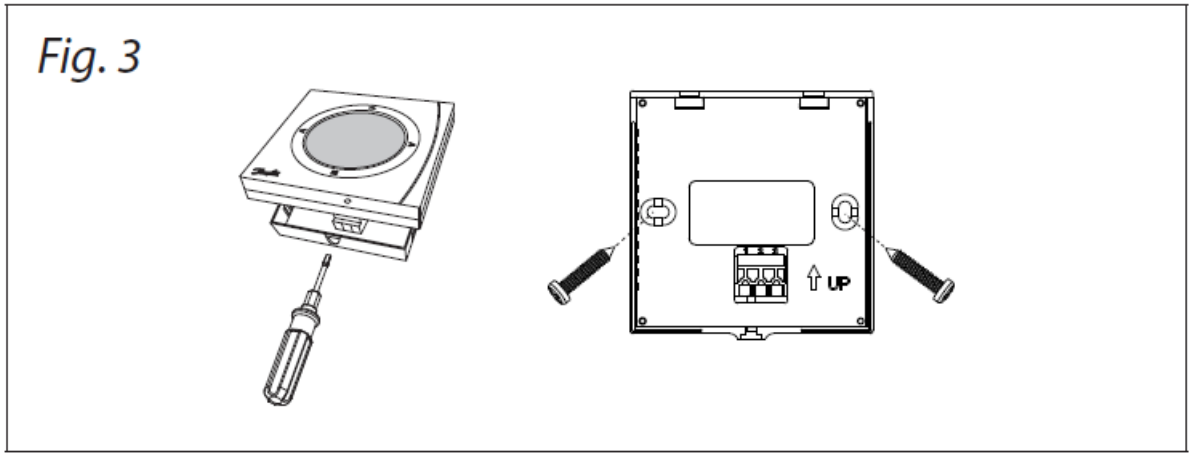


4. Remove and mount RX1-S V2 back plate direct to wall or on wall box, and wire as required for application, see

fig. 2 on page 44.



5. Locate hooks at top of RX1-S V2 into top of back plate and lower into position and tighten retaining screw. Switch on mains power to start RF pairing.
6. Loosen lower retaining screw of thermostat and carefully remove back plate, see fig. 3 on page 44.



7. Insert 2x AA Alkaline batteries to front part taking care to insert correctly as indicated. Check RF connection between Thermostat and RX1-S V2 Receiver before fixing in final position, see 3.1, RF Pairing.
8. Mount back plate direct to wall or on a wall box. The back plate included within the product packaging must be used for installation.
9. Locate hooks at top of front part into top of back plate and lower into position and tighten retaining screw.

Dimensions and Wiring

See fig. 4 for dimensions and fig. 5 for wiring diagram on page 45.

Fig. 4

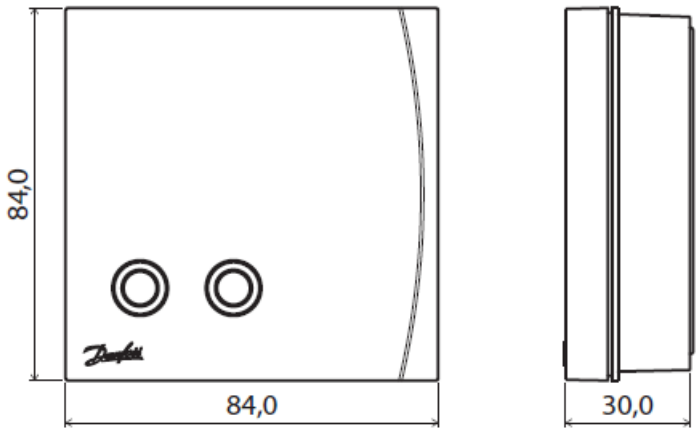
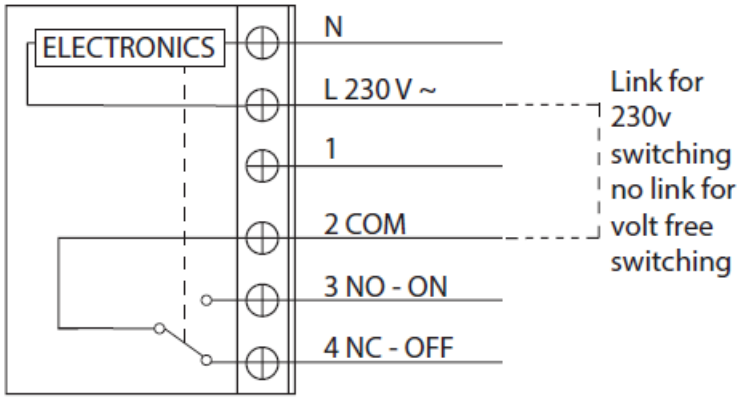


Fig. 5



RF Pairing

1. Ensure power to RX1-S V2 receiver is switched on and batteries are inserted into thermostat.
2. Put the thermostat in pairing mode, see thermostat installation guide.
3. Press both PROG and CH buttons on RX1-S V2 until button LEDs flash.
4. If pairing is successful RF icon on thermostat will stop flashing and remain on.
5. If pairing is not successful try moving thermostat to alternative position and retry.

Legacy – RF Pairing

Use this guide when replacing the RF receiver only, where existing room thermostat is reused.
If both products are changed follow normal pairing procedure, see 3.1 RF Pairing, page 5.

1. Ensure the power to RX1-S V2 receiver is switched on and batteries are inserted into the thermostat.
2. Put the thermostat in pairing mode, see thermostat installation guide.
3. Press and hold the PROG button on the RX1-S V2 until the PROG button LED (green) turns on.
4. If pairing is successful RF icon on thermostat will stop flashing and remain on.
5. If pairing is not successful, try moving thermostat to alternative position and retry.

Thermostat Error Codes

Display	Description
E1	Sensor Failure
EE	EEPROM Failure
Lo	Measured temperature below 0 °C
Hi	Measure temperature above 50 °C
E3	RF Pairing Failed
E4	RF Signal Lost
E5	RF Hardware Failure
E6	Real Time Clock Failure(TP5001RF Only)

Technical Specifications

Specifications	RX1-S V2
Operating	Product is designed for continuous use
Operating Voltage	230 Vac 50/60 Hz
Output	Volt free
Operating temperature range	0 °C to 40 °C
Switch rating	3A (1) at 250 Vac
Switch type	1x SPDT Type 1B
Terminals	max 2.5 mm2 wires
IP rating	IP30 (installed)
Construction	EN60730-1
Pollution Degree Rating	Degree 2
Rated impulse voltage	4 kV
Ball pressure test	75 °C
Dimensions	H84 x W84 x D30
Software classification	A
Operating Frequency	433.100-434.750 MHz
Maximum radio-frequency power transmitted	10 dBm

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Documents / Resources

	Danfoss RX1-S V2 RF Receiver and Boiler Relay [pdf] Installation Guide RX1-S V2 RF Receiver and Boiler Relay, RX1-S V2, RF Receiver and Boiler Relay, Receiver a nd Boiler Relay, Boiler Relay, Relay

References

- Engineering Tomorrow | Danfoss
- Danfoss - Engineering Tomorrow in United Kingdom and Ireland | Danfoss
- Danfoss Climate Solutions for heating | Efficient solutions for superior comfort | Danfoss
- Danfoss Salg Danmark | Danfoss
- Danfoss Deutschland | Klima | Kälte | Heizung | Antriebe | Hydraulik | Danfoss
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