

## ST-520RV

### Smart Thermostat Receiver

(Wireless Two-Zone Receiver)

#### User and Installation Manual

The ST-520RV Smart Receiver is a wireless two-zone actuator designed for managing heating and cooling systems, or heating and Domestic Hot Water (DHW), in combination with the ST-520/R Smart Thermostat. It functions as a wireless receiver, receiving commands from the ST-520/R thermostat and activating the connected systems via two independent relays.

Its flexibility allows it to adapt to various installations, as it can be used either for heating and cooling control or for heating and DHW, providing comprehensive control and automation.

The ST-520RV is a reliable and versatile solution for installations that require intelligent thermal load management, offering energy efficiency and full automation through the ST-520/R.

#### Key Features

- ✓ Long-range wireless communication for a stable connection with the ST-520/R thermostat.
- ✓ Reliable operation in multi-zone systems, ideal for installations with multiple zones.
- ✓ Support for multiple thermostats in a shared setup (Master/Slave mode).
- ✓ Remote management of HVAC systems via the ST-520/R for maximum convenience.

#### ST-520RV Functions

- **Wireless Thermostat Receiver:** Acts as an intermediary between the ST-520/R and the heating/cooling system, receiving and executing the thermostat's commands.
- **Two-Zone Management:** Equipped with two independent relays, allowing it to be used for either heating and cooling, or for heating and DHW (Domestic Hot Water) in installations without cooling.
- **Repeater Function:** The ST-520RV can also operate as a signal repeater, enabling the connection of thermostats located out of range to extend the wireless communication coverage.

*The ST-520RV Smart Thermostat Receiver is the ideal solution for wireless heating and cooling control, offering flexibility, stable communication, and support for multi-zone systems. It is designed to work seamlessly with the ST-520/R, enabling reliable and precise remote management of HVAC systems.*

### Technical Specifications – ST-520RV

|                             |  |
|-----------------------------|--|
| Operating Voltage           | 230Vac 50/60Hz                                       |
| Two Independent Relays      | Relay 1 [Q12 - Q14]NO / Relay 2 [Q21 - Q24]NO        |
| Maximum Relay Contact Load  | 8(2)A  |
| Communication Range         | Up to 100 meters in open space                       |
| Communication Frequency     | 2.4GHz (ESP-NOW)                                     |
| Input 1 and Input 2 (SELV)  | Input 1 [I16 - I17]NC / Input 2 [I26 - I27]NO (SELV) |
| Operating Temperature Range | -10°C to 50°C  |
| Protection Rating           | IP20   |
| Mounting                    | Wall-mounted   |

### Electrical Wiring Diagram

Wiring diagram for different heating and cooling systems



### LED Status Indicators

| LED Indicator    | Device Status                     |
|------------------|-----------------------------------|
| 🟡 Green Flashing | Searching for ST-520/R thermostat |
| 🟢 Green Steady   | Device Connected                  |
| 🔴 Red Steady     | Heating activated [Q21 – Q24]     |
| 🔵 Blue Steady    | Cooling activated [Q12 – Q14]     |

## Applications

The ST-520RV can be used for wireless control of:

- Gas or electric boilers
- Underfloor heating with pumps or valves
- Convector and electric radiators
- Fan coils and HVAC units
- Domestic Hot Water (DHW) boilers

## Settings & Operating Configuration

### Pairing the ST-520RV (Smart Thermostat Receiver) with the ST-520/R Smart Thermostat

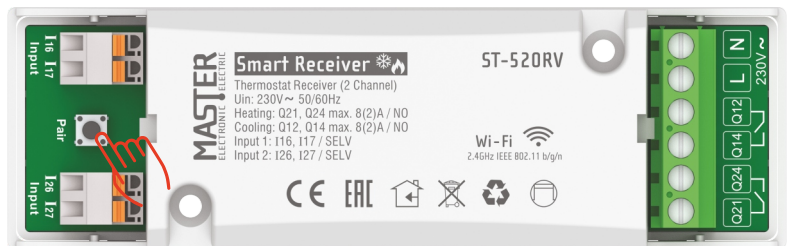
The ST-520RV (Smart Thermostat Receiver) communicates with the ST-520/R thermostat via the ESP-NOW wireless protocol at a frequency of 2.4 GHz, offering stable and reliable long-range communication.



#### Pairing Steps

1. Go to the menu Advanced Settings > Configuration > Gear Connection, and activate the "Wireless" pairing option under the "Thermostat" section.  
Select the "Gear" icon and press the "Pair" button.

2. Put the ST-520RV (Smart Thermostat Receiver) into pairing mode by pressing the "Pair" button on the device until the indicator light starts flashing green.



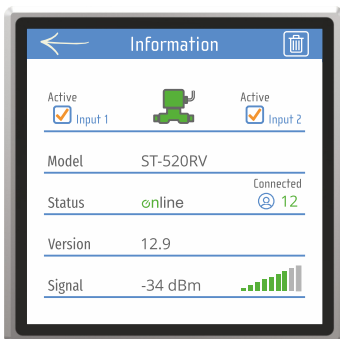
3. Device Detection & Registration

The thermostat will detect the ST-520RV and display a successful pairing message on the screen.

4. Connection Complete

The ST-520RV is now connected and ready to receive commands from the ST-520/R thermostat.

Note: After the initial pairing, communication remains active even in the event of a power outage, without requiring re-pairing.



#### Managing Connected Devices

Tapping on an ST-520RV (Smart Thermostat Receiver) in the list of connected devices opens the "Device Information" screen, where the following options appear:

- Active: Enable/disable the two independent inputs, Input 1 and Input 2, suitable for connecting window magnetic contacts and presence sensors in the space.
- Delete ST-520RV: To remove a connected ST-520RV (Smart Thermostat Receiver) that is no longer needed, press and hold the trash bin icon (Delete) in the upper right corner of the screen for 4 seconds. The ST-520-RV will be removed from the list of connected devices.
- Return to the previous screen: Tap the Back arrow in the upper left corner to return to the previous menu.

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## EU Declaration of Conformity

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We hereby declare that the radio equipment of the product ST-520RV, manufactured by AR. TSITSIKAS & CO G.P., complies with the essential requirements and relevant provisions of the following European Union directives: **2014/30/EE (EMC), 2014/35/EE (LVD), 2014/53/EE (RED)**.

The full text of the EU Declaration of Conformity is available at the following internet address: <https://www.master-electric.gr/downloads>



- The technical specifications, features, and availability of the product ST-520RV are subject to change without prior notice.
- The manufacturer reserves the right to modify the product, firmware, and accompanying Android and iOS applications for improvement purposes, without any obligation to inform previous purchasers.
- When the product reaches the end of its life cycle, it must be disposed of in accordance with national legislation and environmental protection requirements.

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