

Trane SEN01114

Trane SEN01114 Flame Sensor Instruction Manual

Model: SEN01114 | Brand: Trane

1. INTRODUCTION AND OVERVIEW

This manual provides essential information for the proper installation, operation, and maintenance of the Trane SEN01114 Flame Sensor. The Trane SEN01114 is a genuine OEM (Original Equipment Manufacturer) part designed to detect the presence of a flame in your HVAC furnace, ensuring safe and efficient operation. This sensor is constructed with Nikrothal 80 material, known for its durability and high-temperature resistance.

Proper functioning of the flame sensor is critical for the safety and reliability of your heating system. Please read these instructions thoroughly before proceeding with any installation or maintenance.

2. SAFETY INFORMATION

WARNING: Failure to follow these safety instructions could result in property damage, personal injury, or death.

- Always disconnect all electrical power to the furnace or HVAC unit before installing, servicing, or removing the flame sensor.
- Turn off the gas supply to the furnace before beginning any work.
- Wear appropriate personal protective equipment (PPE), such as gloves and eye protection.
- HVAC systems operate with high voltage and gas. If you are not comfortable or qualified to perform this installation, contact a certified HVAC technician.
- The flame sensor operates in high-temperature environments. Allow the furnace to cool completely before handling any components.

3. PACKAGE CONTENTS

Verify that your package contains the following item:

- 1 x Trane SEN01114 Flame Sensor

4. SETUP AND INSTALLATION

This section outlines the general procedure for replacing a flame sensor. Specific steps may vary slightly depending on your furnace model. Refer to your furnace's service manual for detailed instructions.

1. **Prepare the Furnace:** Ensure all electrical power and gas supply to the furnace are completely shut off. Allow the furnace to cool down if it has been recently operating.
2. **Locate the Flame Sensor:** The flame sensor is typically located in the burner assembly, positioned in the path of the flame. It is usually a single metal rod with a ceramic insulator, secured by one or two screws.
3. **Disconnect Wiring:** Carefully disconnect the electrical wire connected to the existing flame sensor. Note its orientation for reinstallation.
4. **Remove Old Sensor:** Using a properly sized nut driver or wrench, remove the screw(s) securing the old flame sensor. Gently pull the sensor out of its mounting bracket.
5. **Install New Sensor:** Insert the new Trane SEN01114 Flame Sensor into the mounting bracket. Ensure it is seated correctly and oriented in the same manner as the old sensor. Secure it with the screw(s), tightening them firmly but do not overtighten.
6. **Connect Wiring:** Reconnect the electrical wire to the new flame sensor. Ensure the connection is secure.
7. **Restore Power and Gas:** Once the new sensor is securely installed and wired, restore the gas supply and then the electrical power to the furnace.
8. **Test Operation:** Initiate a heating cycle to verify that the furnace ignites and operates correctly. Observe the flame for stable operation.



Image: Trane SEN01114 Flame Sensor. This image shows the typical appearance of the flame sensor, featuring a metal rod designed to extend into the flame path and a ceramic base for insulation, with an electrical connector at the end.

5. OPERATING PRINCIPLES

The Trane SEN01114 Flame Sensor operates on the principle of flame rectification. When a flame is present, it ionizes the air between the sensor rod and the grounded burner assembly. This ionization allows a small electrical current to flow through the flame, which is then detected by the furnace's control board. The control board interprets this current as proof of flame, allowing the gas valve to remain open and the heating cycle to continue. If the flame sensor does not detect a flame, the control board will shut off the gas supply to prevent uncombusted gas from accumulating, ensuring safety.

6. MAINTENANCE

Regular maintenance of your flame sensor can help prevent common furnace issues and extend its lifespan.

- **Cleaning:** Over time, carbon buildup can accumulate on the flame sensor rod, insulating it and preventing it from detecting the flame effectively. It is recommended to gently clean the sensor rod annually (or as needed) using fine-grit sandpaper or a Scotch-Brite pad. Do not use steel wool, as it can leave conductive particles.

- **Inspection:** During cleaning, inspect the ceramic insulator for cracks or damage. Also, check the electrical wire and connector for any signs of wear, corrosion, or loose connections. Replace the sensor if any damage is observed.

7. TROUBLESHOOTING

If your furnace is experiencing issues related to ignition or flame detection, the flame sensor may be a contributing factor. Always ensure power and gas are off before inspecting components.

Symptom	Possible Cause	Solution
Furnace attempts to ignite but fails (short ignition)	Dirty or faulty flame sensor	Clean the flame sensor rod (see Section 6). If the issue persists, replace the sensor.
Furnace ignites, runs for a short period, then shuts off (double start)	Intermittent flame signal due to dirty or failing sensor	Clean the flame sensor rod. Check electrical connections. If problem continues, replace the sensor.
Furnace does not ignite at all, but other components (blower) may run	Completely failed flame sensor or wiring issue	Check wiring for secure connection. Test the sensor for continuity (if qualified). Replace the sensor if it is confirmed faulty.

If troubleshooting steps do not resolve the issue, it is recommended to contact a qualified HVAC technician for further diagnosis and repair.

8. SPECIFICATIONS

Feature	Detail
Model Number	SEN01114
Brand	Trane
Material	Nikrothal 80
Mounting Type	Flange Mount
Specific Uses	Flame Sensor for HVAC Furnaces
Upper Temperature Rating	1200 Degrees Celsius
Product Dimensions (L x W x H)	9 x 6 x 5 inches
Item Weight	0.01 Ounces
Manufacturer	Trane
UPC	123456789999

9. WARRANTY AND SUPPORT

As a genuine OEM part, the Trane SEN01114 Flame Sensor is covered by Trane's standard warranty for replacement parts. For specific warranty details, claims, or technical support, please refer to the

documentation provided with your furnace or contact Trane customer service directly. Keep your purchase receipt as proof of purchase.

For further assistance, visit the official Trane website or consult a certified Trane service professional.