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› METER STAR Outdoor Heater Replacement Thermocouple with M8 x 1 End Connection Nuts, 0.4 Meter Length, and M6 x 0.75 Head Thread Instruction Manual

METER STAR Universal Thermocouple M8x1 / M6x0.75

METER STAR Outdoor Heater Replacement Thermocouple Instruction Manual

Model: Universal Thermocouple M8x1 / M6x0.75

1. PRODUCT OVERVIEW

This METER STAR universal thermocouple is designed as a replacement part for various outdoor gas patio heaters. It plays a crucial role in the safety system of your heater by detecting the pilot flame. If the flame extinguishes, the thermocouple signals the gas valve to close, preventing gas leakage.

Key Features:

- Universal thermocouple with M6x0.75 thread on the head.
- Total wire length of 0.4 meters (40 cm).
- Features 6.3mm flat terminal ends for tilt switch connections.
- Includes M8 x 1 end connection nuts for the gas valve.
- Constructed from ROHS standard copper and brass materials for high temperature resistance.



Image 1: Overview of the METER STAR universal thermocouple, showing the main body, wires, and connection nuts.

2. SPECIFICATIONS

Feature	Specification
Thermocouple Head Thread	M6 x 0.75
End Connection Nuts	M8 x 1 (for gas valve)
Total Wire Length	0.4 Meters (40 cm)
Tilt Switch Terminal Type	6.3mm Flat Terminal
Material	ROHS standard copper and brass
Open Valve Time	Less than 10 seconds
Package Dimensions	4.49 x 3.27 x 0.31 inches
Item Weight	0.95 ounces



Image 2: Detailed view showing the M6*0.75 thread, 6.3mm flat terminals, and wire lengths (red wire 30cm, other wire 20cm, total length 41cm).

3. INSTALLATION GUIDE

Safety First: Before attempting any installation or replacement, ensure your patio heater is completely turned off, disconnected from its gas supply, and has cooled down. Always wear appropriate safety gear, such as gloves and eye protection.

1. **Access the Burner Assembly:** Depending on your heater model, you may need to remove the outer casing or access panel to reach the burner and existing thermocouple.
2. **Disconnect the Old Thermocouple:**
 - Carefully disconnect the two flat terminal wires from the tilt switch. Note their original positions.
 - Unscrew the M8 x 1 nut connecting the thermocouple to the gas valve.
 - Remove the M6 x 0.75 threaded tip from its mounting bracket near the pilot light.
3. **Compare and Prepare the New Thermocouple:** Compare the new METER STAR thermocouple with the old

one. Ensure the dimensions, especially the M6x0.75 head thread and M8x1 end connection, are compatible. If the new thermocouple's thread is slightly narrower, you may need to use washers from the old unit to ensure a secure fit, as noted by some users.

4. Install the New Thermocouple:

- Insert the M6 x 0.75 threaded tip into its mounting position near the pilot light. Secure it with the provided nuts, ensuring it is positioned correctly to be enveloped by the pilot flame.
- Connect the M8 x 1 end nut to the gas valve. Tighten securely but do not overtighten.
- Connect the two flat terminal wires (6.3mm) to the tilt switch. Ensure correct polarity if specified by your heater's manual, though typically these connections are not polarity-sensitive.

5. **Reassemble and Test:** Reassemble any removed panels. Reconnect the gas supply and perform a leak test using soapy water on all gas connections. Follow your heater's instructions for lighting and testing the pilot and main burner. The heater should stay lit after the pilot has been held for the recommended time (typically less than 10 seconds for this thermocouple).

4. OPERATING PRINCIPLES (AFTER REPLACEMENT)

Once the thermocouple is correctly installed, the patio heater's safety system will function as intended:

- When the pilot flame is lit, it heats the tip of the thermocouple.
- The heated thermocouple generates a small electrical current, which signals the gas valve to remain open, allowing gas to flow to the main burner.
- If the pilot flame goes out for any reason, the thermocouple cools down, stopping the electrical current.
- This loss of current causes the gas valve to close, shutting off the gas supply to both the pilot and main burner, preventing unburnt gas from accumulating.

The specified "Open valve time less than 10s" indicates that the thermocouple should generate sufficient current to hold the gas valve open within 10 seconds of being heated by the pilot flame.

5. MAINTENANCE

The METER STAR thermocouple is designed for durability. Regular maintenance primarily involves ensuring its cleanliness and proper positioning:

- **Inspection:** Periodically inspect the thermocouple tip for any soot buildup or corrosion. A clean thermocouple ensures efficient heat transfer and reliable operation.
- **Cleaning:** If soot is present, gently clean the thermocouple tip with a soft brush or fine sandpaper. Avoid bending or damaging the tip.
- **Positioning:** Ensure the thermocouple tip remains properly positioned within the pilot flame. It should be fully enveloped by the flame for optimal performance.
- **Wire Integrity:** Check the thermocouple wires for any signs of fraying, cuts, or damage. Damaged wires can lead to intermittent operation or failure.

6. TROUBLESHOOTING

If your patio heater is not functioning correctly after replacing the thermocouple, consider the following:

- **Heater Lights, but Does Not Stay Lit:**
 - **Thermocouple Position:** Ensure the thermocouple tip is fully immersed in the pilot flame. Adjust its

position if necessary.

- **Connections:** Verify all connections (gas valve nut, tilt switch terminals) are secure and clean. Loose connections can interrupt the electrical signal.
- **Gas Valve Issue:** Although less common with a new thermocouple, a faulty gas valve might not be holding open.
- **Pilot Flame Strength:** A weak pilot flame may not adequately heat the thermocouple. Check for blockages in the pilot orifice.
- **No Pilot Flame:**
 - **Gas Supply:** Confirm the gas tank has fuel and the valve is open.
 - **Igniter:** Check if the igniter is sparking. If not, the igniter or its wiring may be faulty.
 - **Pilot Orifice:** A clogged pilot orifice can prevent gas flow to the pilot.
- **Heater Does Not Ignite:**
 - Review the steps for "No Pilot Flame" and "Heater Lights, but Does Not Stay Lit."
 - Ensure the tilt switch is correctly connected and functioning.

If troubleshooting steps do not resolve the issue, consult a qualified technician or refer to your specific heater's service manual.

7. SAFETY INFORMATION

Always adhere to the safety guidelines provided with your outdoor patio heater. When working with gas appliances and replacement parts:

- Ensure adequate ventilation when operating gas appliances.
- Never operate a heater indoors or in enclosed spaces.
- Regularly check for gas leaks using a soapy water solution.
- Keep flammable materials away from the heater.
- Do not modify the heater or its components beyond manufacturer specifications.
- If you smell gas, immediately turn off the gas supply, ventilate the area, and do not operate any electrical switches or open flames.

8. WARRANTY AND SUPPORT

For warranty information or technical support regarding your METER STAR replacement thermocouple, please contact the manufacturer directly through their official channels or the retailer from whom the product was purchased. Keep your purchase receipt as proof of purchase.

METER STAR Contact Information:

- Refer to the packaging or the METER STAR brand store on Amazon for the most current contact details.
- Online Store: [METER STAR Store](#)

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Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

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