

Dwyer TE-DFG-B0444-00

Dwyer® Series TE Duct and Immersion Temperature Sensor User Manual

Model: TE-DFG-B0444-00

1. INTRODUCTION

The Dwyer® Series TE Duct and Immersion Temperature Sensor is designed for precise temperature monitoring in various HVAC and industrial applications. This sensor can effectively measure air or water temperature within building management systems or air handler units. Its versatile design allows for both flanged duct installation to monitor supply or return air and immersion applications for hot or chilled water lines.

This manual provides essential information for the proper installation, operation, and maintenance of your Series TE temperature sensor to ensure optimal performance and longevity.

2. SPECIFICATIONS

Product Specifications

Feature	Detail
Model	TE-DFG-B0444-00
Accuracy	±0.22°C @ 25°C (±0.4°F @ 77°F)
Operating Temperature Limits	-40 to 302°F (-40 to 150°C)
Probe Length	4 inches
Output Type	10K Ohm Type II Thermistor
Cable Rating	Plenum option includes UL listed plenum cable. Standard units come with 4" leads with an integral terminal block.
Housing Material	Meets UL, 94 V-O polycarbonate plastic
Weight	5.3 ounces

3. SETUP AND INSTALLATION

Proper installation is crucial for the accurate and reliable operation of the Series TE sensor. Follow these guidelines carefully.

3.1 General Considerations

- Ensure power is disconnected from the system before beginning installation.
- Select a mounting location that provides an accurate representation of the air or water temperature to be measured. Avoid areas with direct drafts, heat sources, or extreme vibrations.
- The sensor housing features multiple knockouts for easy conduit access from any side.
- The 1/4 turn lid is secured with a chain to prevent loss during installation.

3.2 Duct Installation (Flanged Sensors)

1. **Prepare the Duct:** Drill a hole in the ductwork appropriate for the sensor probe diameter. Ensure the hole is clean and free of burrs.
2. **Mount the Sensor:** Position the sensor flange against the ductwork, aligning the probe with the drilled hole. Secure the flange to the duct using appropriate screws or fasteners (not included).
3. **Wiring:** Open the sensor housing by turning the lid. Connect the sensor leads to the integral terminal block. Refer to your building management system or controller's wiring diagram for correct connections.
4. **Seal the Opening:** Ensure a tight seal between the sensor flange and the duct to prevent air leakage.

3.3 Immersion Installation (with Compression Fittings)

Immersion sensors are typically used for monitoring hot or chilled water lines. Thermowells are recommended for these applications but are not strictly required.

1. **Prepare the Pipe:** Install a suitable thermowell or a fitting that accommodates the sensor probe and compression fitting into the water line.
2. **Insert Sensor:** Insert the sensor probe into the thermowell or fitting.
3. **Secure with Compression Fitting:** Use the supplied compression fitting to secure the sensor probe in place, ensuring a watertight seal.
4. **Wiring:** Open the sensor housing. Connect the sensor leads to the integral terminal block. Consult your system's wiring diagram for proper connections.



Figure 1: Dwyer Series TE Duct and Immersion Temperature Sensor. This image shows the grey sensor housing with a metal probe extending downwards. The housing has mounting flanges on the sides and a removable lid secured by a small chain. A label on the lid indicates the model number and brand.

4. OPERATION

Once installed and wired correctly, the Dwyer Series TE sensor operates passively by providing a resistance output corresponding to the measured temperature. This output is then read by a compatible building management system (BMS) or digital controller.

- The sensor continuously measures temperature within its operating limits.
- The 10K Ohm Type II Thermistor output changes resistance based on temperature fluctuations.
- Ensure your connected controller is configured to interpret the 10K Ohm Type II thermistor signal correctly for accurate temperature readings.

5. MAINTENANCE

The Dwyer Series TE temperature sensor is designed for long-term, reliable operation with minimal maintenance. However, periodic checks can help ensure continued accuracy and performance.

- **Cleaning:** Periodically inspect the sensor probe for any accumulation of dust, dirt, or debris, especially in duct applications. Clean gently with a soft, dry cloth if necessary. Avoid using abrasive cleaners or solvents.
- **Connections:** Verify that all electrical connections remain secure and free from corrosion.
- **Physical Inspection:** Check the sensor housing and probe for any signs of physical damage.
- **Recalibration:** While the sensor is factory calibrated, if significant discrepancies in readings are observed, consult a qualified technician for recalibration or replacement.

6. TROUBLESHOOTING

If you experience issues with your Series TE temperature sensor, refer to the following common troubleshooting steps:

Troubleshooting Guide

Problem	Possible Cause	Solution
Inaccurate Temperature Readings	Incorrect sensor type selected in controller.	Verify controller is configured for 10K Ohm Type II Thermistor.
	Poor sensor placement (e.g., near heat source/draft).	Relocate sensor to a more representative area.
	Loose or corroded wiring connections.	Check and secure all wiring connections.
	Sensor damage.	Inspect sensor for damage; replace if necessary.
No Reading / Open Circuit	Broken wire or connection.	Check continuity of wiring from sensor to controller.
	Faulty sensor.	Test sensor resistance; replace if out of specification.
Fluctuating Readings	Electrical interference.	Ensure proper grounding and shielding of wiring.
	Unstable air/water flow.	Verify stable conditions at the measurement point.

If the problem persists after attempting these solutions, contact Dwyer technical support for further assistance.

7. WARRANTY INFORMATION

Dwyer Instruments, Inc. warrants all products manufactured by them to be free from defects in material and workmanship for a period of one (1) year from date of shipment from the factory. For full warranty details and conditions, please refer to the official Dwyer Instruments, Inc. warranty statement available on their website or contact customer service.

8. TECHNICAL SUPPORT AND CONTACT

For technical assistance, product inquiries, or to report issues, please contact Dwyer Instruments, Inc. support:

- **Website:** www.dwyer-inst.com
- **Phone:** Refer to the contact section on the official Dwyer website for regional phone numbers.
- **Email:** Refer to the contact section on the official Dwyer website.

When contacting support, please have your product model number (TE-DFG-B0444-00) and a detailed description of the issue ready.

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ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

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.

Submit question