

OUMIFAND QDW90A

OUMIFAND QDW90A Pressure Transmitter User Manual

Model: QDW90A (0-1bar Output 0-10V Variant)

1. INTRODUCTION

This manual provides essential instructions for the safe and effective use of the OUMIFAND QDW90A Pressure Transmitter. The QDW90A series is designed for precise pressure measurement in various industrial applications, offering multiple output signals including 4-20mA, 0-10V, 0-5V, and RS-485. This specific manual refers to the 0-1bar, 0-10V output variant. Please read this manual thoroughly before installation and operation to ensure optimal performance and safety.

2. SAFETY INFORMATION

Adherence to the following safety guidelines is crucial for preventing injury and damage to the device:

- Always disconnect power to the system before performing any installation, wiring, or maintenance procedures.
- Ensure proper grounding of the transmitter and associated equipment to prevent electrical hazards.
- Do not exceed the specified pressure range or power supply voltage for the device. Over-pressure or incorrect voltage can lead to permanent damage.
- Installation and wiring should only be performed by qualified and experienced personnel familiar with industrial electrical and pressure systems.
- Wear appropriate personal protective equipment (PPE), such as safety glasses and gloves, during installation and maintenance.
- Avoid exposing the transmitter to corrosive substances or extreme environmental conditions beyond its specified operating limits.

3. PRODUCT OVERVIEW

The OUMIFAND QDW90A Pressure Transmitter is a robust and reliable device engineered for accurate pressure sensing. Its design incorporates high-quality materials and advanced technology to ensure precision and durability in demanding industrial environments. The transmitter converts measured pressure into a standardized electrical signal for monitoring and control systems.



Figure 1: General view of the OUMIFAND QDW90A Pressure Transmitter.

Key features and internal components include:

- **Housing:** Constructed from SS304/SS316 material for anti-corrosive properties, ensuring longevity in harsh conditions.
- **Pressure Port:** High-strength adhesive design provides high pressure resistance and leak-proof sealing.
- **Core Body:** Features an imported diffusion silicon chip for instantaneous response (8ms) and a pure copper core with a high melting point for high temperature resistance.
- **Electronics:** Advanced circuitry provides 0.2% FS high precision and strong anti-interference capabilities.
- **Anti-Damping Design:** Resistant to 300% instantaneous impact, enhancing durability.

- **Electrical Connector:** PVE engineer plastic, flame retardant and pressure resistant, ensuring safe electrical connections.



Figure 2: Exploded view illustrating the internal components and materials of the QDW90A Pressure Transmitter.

The QDW90A is suitable for a variety of working conditions, including constant pressure water supply, hydraulic systems, vacuum negative pressure, and air pressure testing.



Figure 3: Application examples for the QDW90A Pressure Transmitter in various liquid and gas systems.

4. SPECIFICATIONS

Parameter	Value
Model Number	QDW90A
Brand	OUMIFAND
Pressure Range (Current Variant)	0-1 bar
Output Signal (Current Variant)	0-10V
Available Output Signals	4-20mA, 0-10V, 0-5V, RS-485
Power Supply	12-36VDC
Accuracy	0.25% FS

Parameter	Value
Linearity	≤0.01% FS
Long-term Stability	0.2% FS/year, ≥10 years
Response Time	0.05s
Shell Protection	IP65
Operating Temperature	-20°C to 60°C
Full Load Consumption	2W
Load Capacity	500Ω
Material	SS304, SS316 (anti-corrosive)
Country of Origin	China
Item Weight	50 Grams

5. SETUP

5.1. Mounting

Select a mounting location that is stable, free from excessive vibration, and within the specified operating temperature range (-20°C to 60°C). Ensure the pressure port is correctly sealed to the process connection to prevent leaks. Use appropriate thread sealant if necessary. Avoid overtightening the transmitter during installation to prevent damage to the threads or housing.

5.2. Wiring

The QDW90A series supports various output signals. Ensure you connect the transmitter according to its specific output type (e.g., 0-10V for this variant) and your system's requirements. Always refer to the wiring diagram provided with your specific unit if available. General wiring guidelines are as follows:

- For 0-10V / 0-5V Output (3-wire connection):**
 - Connect the positive power supply (12-36VDC) to the designated power input terminal.
 - Connect the negative power supply (Ground) to the designated ground terminal.
 - Connect the signal output terminal to the input of your receiving device (e.g., PLC, display).
- For 4-20mA Output (2-wire connection):**
 - Connect the positive power supply (12-36VDC) to the designated power input terminal.
 - Connect the signal/power negative terminal to the input of your receiving device, completing the loop.
- For RS-485 Output (4-wire connection):**
 - Connect the positive power supply (12-36VDC) to the designated power input terminal.
 - Connect the negative power supply (Ground) to the designated ground terminal.
 - Connect the Data A terminal to the A input of your RS-485 master device.
 - Connect the Data B terminal to the B input of your RS-485 master device.

Verify all connections for continuity and correct polarity before applying power. Improper wiring can damage the transmitter or the receiving equipment.

5.3. Power Supply

Connect the transmitter to a stable DC power supply within the 12-36VDC range. Ensure the power supply can provide sufficient current for the transmitter's operation (Full Load Consumption: 2W). Fluctuations in power supply voltage can affect measurement accuracy.

6. OPERATING INSTRUCTIONS

Once the OUMIFAND QDW90A Pressure Transmitter is correctly installed and wired, apply power to the device. The transmitter will immediately begin measuring the applied pressure and outputting the corresponding electrical signal.

- **Signal Monitoring:** Monitor the output signal using a compatible receiving device such as a Programmable Logic Controller (PLC), a digital display unit, or a data logger. Ensure your receiving device is configured to correctly interpret the 0-10V signal (for this variant) or other output types.
- **Pressure Interpretation:** The output signal is directly proportional to the measured pressure within the specified range (0-1 bar for this variant). For a 0-10V output, 0V typically corresponds to 0 bar, and 10V corresponds to 1 bar. Consult your system's documentation for specific scaling.
- **RS-485 Communication:** For RS-485 models, ensure that the communication parameters (baud rate, parity, data bits, stop bits, device address) are correctly configured on both the transmitter and the master device to establish proper data exchange.

The QDW90A offers a fast response time of 0.05s, providing near real-time pressure readings.

7. MAINTENANCE

Regular maintenance helps ensure the long-term accuracy and reliability of your pressure transmitter.

7.1. Regular Inspection

Periodically inspect the transmitter for any visible signs of damage, such as cracks in the housing, corrosion, or loose electrical connections. Ensure the pressure port remains clear of any debris or blockages that could affect pressure transmission.

7.2. Cleaning

Clean the exterior of the transmitter with a soft, damp cloth. Do not use abrasive cleaners, solvents, or harsh chemicals that could damage the IP65-rated housing or electrical components. Ensure no liquid enters the electrical connection area.

7.3. Calibration

For critical applications requiring high accuracy, periodic calibration by a qualified technician is recommended. The frequency of calibration depends on the application's requirements, operating conditions, and industry standards. The QDW90A boasts a long-term stability of 0.2% FS/year and a stability of ≥ 10 years, but regular checks are still advisable for precision applications.

8. TROUBLESHOOTING

If you encounter issues with your OUMIFAND QDW90A Pressure Transmitter, refer to the following troubleshooting guide:

8.1. No Output Signal

- **Check Power Supply:** Verify that the power supply is connected correctly and providing the specified voltage (12-36VDC).
- **Inspect Wiring:** Ensure all wiring connections are secure, correct, and free from damage. Check for proper polarity.
- **Pressure Range:** Confirm that the applied pressure is within the transmitter's specified operating range (e.g., 0-1 bar).
- **Receiving Device:** Ensure the receiving device (PLC, display) is powered on and configured to accept the transmitter's output signal.

8.2. Incorrect or Unstable Readings

- **Pressure Source:** Verify that the pressure source is stable and accurately measured by a known reference.
- **Pressure Port:** Check for any blockages, air bubbles (in liquid applications), or leaks in the pressure connection.
- **Environmental Factors:** Ensure the operating temperature is within the specified range. Extreme temperatures can affect accuracy.
- **Electromagnetic Interference (EMI):** If readings are unstable, check for nearby sources of strong EMI. Ensure proper grounding and shielded cables if necessary.
- **Receiving Device Configuration:** Double-check the scaling and input type configuration on your receiving device.

8.3. Leaks at Pressure Connection

- **Tightness:** Ensure the transmitter is securely tightened to the process connection.
- **Sealant:** Use appropriate thread sealant (e.g., PTFE tape) if required for your application.
- **Damage:** Inspect the threads of both the transmitter and the process connection for any damage.

If problems persist after performing these checks, contact technical support.

9. WARRANTY AND SUPPORT

For detailed warranty information regarding your OUMIFAND QDW90A Pressure Transmitter, please refer to the terms and conditions provided at the point of purchase or contact your supplier directly. Keep your purchase receipt and the product model number (QDW90A) readily available when seeking support.

For technical assistance, troubleshooting beyond this manual, or inquiries about product specifications, please contact OUMIFAND customer support or your authorized distributor. Contact information can typically be found on the product packaging or the manufacturer's official website.