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CHUNYE TH200

User Manual for CHUNYE TH200 Temperature Transmitter Module

Model: TH200 | Brand: CHUNYE

1. Introduction

The CHUNYE TH200 Temperature Transmitter Module is designed for installation in connection heads, converting temperature parameters into standard signal outputs for seamless integration with control systems. This module is engineered for high reliability and durability in industrial environments.

Key Features:

- **Signal Conversion:** Capable of converting temperature (Pt 100 resistance input) into a standard 4-20mA output signal, facilitating communication and data processing with control systems.
- **High Reliability:** Designed with high protection levels and durability for stable operation in complex and harsh industrial environments.
- **Long-distance Transmission:** Enables long-distance transmission of sensor-collected signals to control systems.
- **Easy Installation and Maintenance:** User-friendly design reduces maintenance costs and downtime in industrial production processes.

2. Setup and Installation

Proper installation is crucial for the optimal performance of the TH200 module. Follow these steps carefully.

2.1 Unpacking and Inspection

Upon receiving the TH200 module, carefully unpack it and inspect for any signs of damage during transit. Ensure all components are present.



Figure 2.1: Product packaging for the TH200 module, displaying manufacturing and certification details. Note the serial numbers and

model identifiers: Q1, SYSN/L1003986, 1P7NG32111NN00.

2.2 Module Overview

Familiarize yourself with the module's components and connection points before proceeding with installation.

Figure 2.2: Top view of the TH200 module, highlighting the terminal block for electrical connections. This view shows the general layout for installation within a connection head.

Figure 2.3: Bottom view of the TH200 module, illustrating its compact design suitable for head mounting.

2.3 Wiring Connections

The TH200 module accepts a Pt 100 resistance input and provides a 4-20mA output. Refer to the diagram below for correct wiring.

Figure 2.4: Wiring diagram for the TH200 module. Connect the Pt 100 sensor to the designated input terminals and the 4-20mA output to your control system. Ensure proper polarity for power supply and signal lines.

- **Input (Pt 100):** Connect your Pt 100 resistance temperature detector to the appropriate terminals as indicated in the diagram (typically terminals 3, 4, 5 for 3-wire connection).
- **Output (4-20mA):** Connect the output terminals (e.g., 1 and 2) to your control system's analog input. Observe polarity.
- **Power Supply:** The module is powered via the 4-20mA loop. Ensure your control system provides the necessary voltage for loop power.

Important: Always ensure power is disconnected before making any wiring connections to prevent electrical shock or damage to the module.

3. Operating Instructions

Once properly installed and wired, the TH200 module operates automatically, converting the Pt 100 sensor's resistance into a proportional 4-20mA current signal.

3.1 Power-Up and Initialization

After completing all wiring, apply power to the 4-20mA loop. The module will initialize and begin transmitting the temperature signal.

3.2 Signal Interpretation

The 4-20mA output signal corresponds to the measured temperature range. Typically, 4mA represents the lower end of the temperature range, and 20mA represents the upper end. Refer to your system's documentation for scaling the 4-20mA signal to actual temperature values.
For example, if the module is configured for a 0-100°C range:

- 4mA = 0°C
- 12mA = 50°C

- 20mA = 100°C

The module is factory-calibrated. No user calibration is typically required for standard operation.

4. Maintenance

The CHUNYE TH200 Temperature Transmitter Module is designed for low maintenance. However, periodic checks can ensure continued reliable operation.

- **Visual Inspection:** Periodically inspect the module and its connections for any signs of corrosion, loose wiring, or physical damage.
- **Cleaning:** If necessary, gently clean the exterior of the module with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Connection Integrity:** Ensure all terminal screws are securely tightened.
- **Recalibration:** Under normal operating conditions, recalibration is not typically required. If accuracy issues are suspected, consult a qualified technician or the manufacturer.

Safety Note: Always disconnect power to the module and associated circuitry before performing any maintenance or inspection.

5. Troubleshooting

This section provides guidance for common issues you might encounter with the TH200 module.

Problem	Possible Cause	Solution
No 4-20mA output signal.	No power to the loop. Incorrect wiring. Faulty Pt 100 sensor. Module failure.	Verify loop power supply. Check all wiring connections against the diagram (Figure 2.4). Test the Pt 100 sensor independently. If all else fails, the module may be faulty and require replacement.
Inaccurate temperature readings.	Incorrect Pt 100 wiring. Sensor not properly installed in process. Scaling error in control system. Sensor damage or degradation.	Recheck Pt 100 connections (3-wire connection is critical for accuracy). Ensure the sensor is correctly positioned to measure the process temperature. Verify the 4-20mA scaling in your control system. Inspect and test the Pt 100 sensor.
Intermittent signal.	Loose connections. Electrical interference.	Tighten all terminal screws. Ensure proper grounding and shielding of signal cables. Avoid running signal cables near high-power lines.

If the problem persists after attempting these solutions, contact CHUNYE customer support for further assistance.

6. Specifications

Parameter	Value
Model Number	SITRANS TH200 (CHUNYE)
Output	4-20mA HA--RT
Input	Pt 100 resistance
Certification	IECEE, CCC, ISO
Application	Water, Oil, Air Pressure Measurement (General Industrial Temperature Measurement)
Color	Blue/Green
Package Dimensions	1.18 x 0.79 x 0.39 inches
Item Weight	1.1 pounds
Assembly Required	No
Number of Pieces	1

7. Warranty and Support

7.1 Warranty Information

CHUNYE products are manufactured to high quality standards. For specific warranty terms and conditions, please refer to the documentation included with your purchase or contact CHUNYE customer support.

7.2 Customer Support

If you have any questions, require technical assistance, or encounter issues not covered in this manual, please contact CHUNYE customer support. Have your product model number (TH200) and any relevant serial numbers ready when contacting support.
For the most up-to-date contact information, please visit the official CHUNYE website or refer to your purchase documentation.

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