

Non-display Solid-state Sanitary Temperature Transmitter

Catalog Numbers 837TH-N1x, 837TH-N2x

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Safety Considerations

- Read this document for information on installation, handling, mounting, general product specifications, and operation of this product. These installation instructions contain important information on handling the instrument.
- Working safety requires that all safety instructions and work instructions are observed.
- Observe the relevant local accident prevention regulations and general safety regulations for the range of use of the instrument.
- The installation instructions are part of the product and must be kept in the immediate vicinity of the instrument and readily accessible to skilled personnel at any time.
- Skilled personnel must have carefully read and understood the operating instructions before any work begins.
- The Bulletin 837TH-N is a resistant thermometer, which is used as a general-purpose thermometer for the measurement of temperature. The device has been safely built with state-of-the-art technology and meets the applicable requirements and EC directives. It can, however, be a source of danger if used incorrectly or for anything other than the designated use.
- Qualified individuals are required to install and commission this device. Failure to comply results in personal injury or equipment damage.
- During mounting, make sure that the sealing faces at the instrument and the measuring point are clean and undamaged.
- **Safety Installation Considerations:** Before installation, commissioning and operation, be sure that the appropriate temperature transmitter has been selected in terms of range of measurement, design, and specific conditions of measurement.

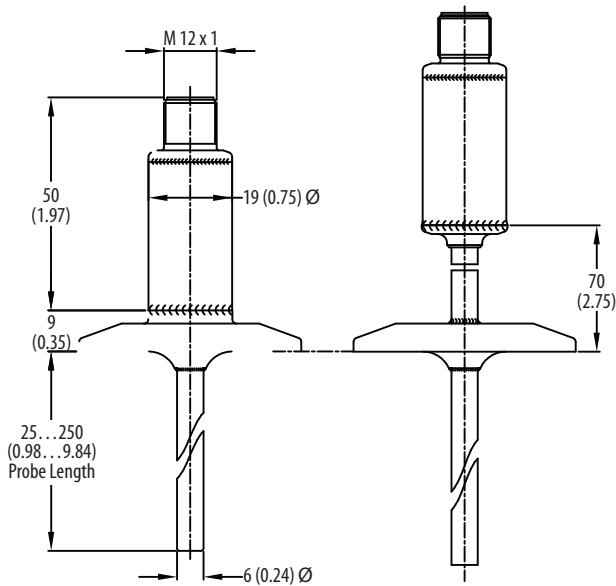
Qualified Personnel

Qualified personnel are required to conduct the described work and to recognize the potential hazards. They are able to implement the work that is described and independently recognize potential hazards. Their technical training, knowledge of measurement and control technology, and their experience and knowledge of the country-specific regulations, current standards, and directives allows them to install this product.

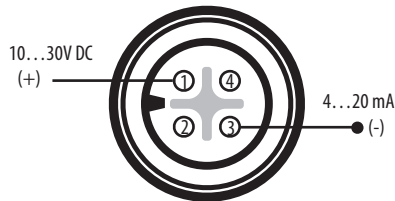
Specifications

Attribute	837TH-N1x, 837TH-N2x
Output Signals	
Signal	4...20 mA
Load	≤ (power supply - 10V) 23 mA
Switch on time	< 4 s
Accuracy Data	
Measurement deviation of the transmitter per IEC 60770	±0.25K
Total measurement deviation according to IEC 60770	Measurement deviation of the measuring element plus the transmitter
Sensor current	< 0.3 mA (self-heating can be ignored)
Temperature error at -40...+85 °C (-40...+185 °F) in rate temperature range	0.1% span/10 KTa (span range is 20...300 K)
Non-linearity	≤ ±0.1% of span ±0.2% for measuring <0 °C (32 °F)
Reference Operation Conditions (Per IEC 61298-1)	
Temperature range	-30...+250 °C (-22...+482 °F) -30...+150 °C (-22...+302 °F)
Humidity	5...95% (according to IEC 60654-1)
Mounting position	As required
Power supply	10...30V DC
Measurement Range	
Temperature range	Standard: -50...+150 °C (-58...+302 °F) Extended Temperature: -50...+250 °C (-58...+482 °F)
Operating Conditions: Environment	
Ambient temperature	-40...+85 °C (-40...+185 °F)
Storage temperature	-40...+85 °C (-40...+185 °F)
Humidity	100% r. h., condensation allowed (IEC 60008-2-30 var 2)
Shock resistance	50 g (1.76 oz) 6 ms, 3 axis, 3 faces, 3 times for each face (IEC 60068-2-27, mechanical)
Reverse polarity protection	Analog + vs. Analog -
Ingress protection (per IEC 60529)	IP67 - M12 x 4 pin
Timing Response	Pt1000, 2-wire, DIN EN 60751/Class A
Response Time	T05 < 5 s (per DIN EN 60751) T09 < 10 s (per DIN EN 60751)

Dimensions [mm (in.)]



Wiring Diagram



Connection Cables

- M12x1 straight connector: catalog number 889D-F4AC-2
- M12x1 right angle connector: catalog number 889D-R4AC-2

Process Connection

Attribute	Value
Measurement element	Pt1000/Class A
Process connection (3A Certified)	Thread <ul style="list-style-type: none"> • 3/4 in. Tri-clamp • 1 1/2 in. Tri-clamp • 2 in. Tri-clamp

Commissioning



ATTENTION: Before commissioning, the temperature transmitter must be visually inspected.

- Fluid leakage is indicative of damage.
- Only use the temperature transmitter if it is in perfect condition where safety is a concern.

Making the Mechanical Connection

- While mounting, make sure that the sealing faces at the instrument are clean and undamaged.
- Only screw in or unscrew the instrument via the spanner flats and to the prescribed torque with an appropriate tool.
- The correct torque depends on the dimensions of the process connection and the gasket used (form/material).
- When you screw in or unscrew the temperature transmitter, do not use the housing as a contact surface.

Dismantle and Disposal

Dismantle: Let the instrument cool down sufficiently before you dismantle it.



BURN HAZARD: Residual media in the dismantled temperature transmitter can result in a risk to people, the environment, and equipment. Take sufficient precautionary measures.

Disposal: Incorrect disposal can put the environment at risk.

Dispose of instrument and packaging materials in an environmentally compatible way and in accordance with the country-specific waste disposal regulations.

Rockwell Automation Support

Use the following resources to access support information.

Technical Support Center	Knowledgebase Articles, How-to Videos, FAQs, Chat, User Forums, and Product Notification Updates.	https://rockwellautomation.custhelp.com/
Local Technical Support Phone Numbers	Locate the phone number for your country.	http://www.rockwellautomation.com/global/support/get-support-now.page
Direct Dial Codes	Find the Direct Dial Code for your product. Use the code to route your call directly to a technical support engineer.	http://www.rockwellautomation.com/global/support/direct-dial.page
Literature Library	Installation Instructions, Manuals, Brochures, and Technical Data.	http://www.rockwellautomation.com/global/literature-library/overview.page
Product Compatibility and Download Center (PCDC)	Get help determining how products interact, check features and capabilities, and find associated firmware.	http://www.rockwellautomation.com/global/support/pcdc.page

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Waste Electrical and Electronic Equipment (WEEE)



At the end of life, this equipment can be collected separately from any unsorted municipal waste.

Rockwell Automation maintains current product environmental information on its website at <http://www.rockwellautomation.com/rockwellautomation/about-us/sustainability-ethics/product-environmental-compliance.page>.

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