

TST SERIES

BIMETAL THERMOSTAT

USER • INSTALLATION • MAINTENANCE MANUAL



Scope:

TST Series fixed-temperature bimetal thermostats; NO/NC contacts, N10 (G1/2") and N11 (M22×1.5) process connections, with standard brass or Y-code aluminium housing options.

Document

User Manual

Language

English

Revision / Date

00 / 24.09.2026

Read this manual before installing, commissioning or servicing the product.

1. PURPOSE AND APPLICATION

TST Series Bimetal Thermostats are designed to open or close an electrical circuit when the temperature reaches a selected fixed switching point. They can be used in hydraulic power units, lubrication systems, cooling systems and industrial applications requiring temperature-dependent equipment control.

Product options

- Contact type: NO (Normally Open) or NC (Normally Closed)
- Switching temperature: 35°C to 120°C
- Process connection: N10 = G1/2"; N11 = M22×1.5
- Housing: standard brass; aluminium with Y code
- Mounting orientation: position-independent
- Electrical connection: DIN 43650-A / EN 175301-803, 2 terminals + PE

2. SAFETY WARNINGS

WARNING:

The values stated in the technical documentation are tested maximum ratings. Contact PNOTOL for applications outside these limits. Avoid operating the product without pressure or under impact loads; provide suitable filtration to extend its service life.

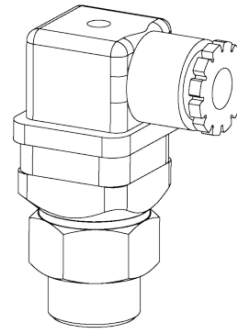
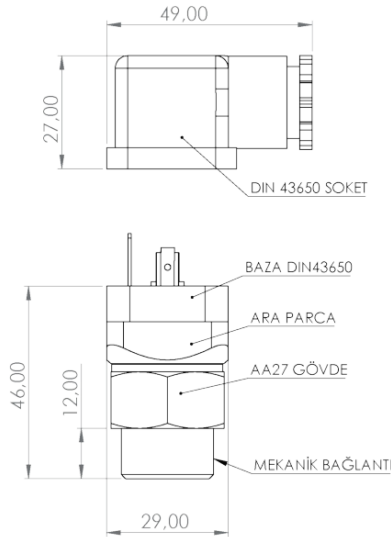
- Installation and electrical connection must be carried out by qualified personnel familiar with the applicable system safety rules.
- Depressurize the system and disconnect the electrical supply before installation, removal or wiring.
- Do not exceed the maximum operating pressure of 10 bar or the specified electrical limits.
- Avoid impacts to the connector, cable or housing; hold the product by its wrench flats.
- A protective earth (PE) connection must be used.
- No tightening torque is stated in the technical documentation. Use a torque suitable for the relevant connection standard and avoid overtightening.

3. INSTALLATION

1. Check the ordering code: housing type, NO/NC contact, process connection and switching temperature must suit the application.
2. Fully depressurize the system and isolate the electrical power supply.
3. Clean the process connection surface. Use a G1/2" thread for N10 or M22×1.5 for N11.
4. Start the thread by hand. Do not cross-thread.
5. Tighten using the 27 mm wrench flats. Do not apply force to the DIN connector or plastic base.
6. The product may be installed in any orientation. Position the cable and connector to avoid mechanical stress, impacts and fluid accumulation.
7. After installation, check the process connection for leaks.

Note:

The datasheet does not specify the sealing method or tightening torque for the process connection. These must be selected according to the process fluid, port standard and connection material.



MEKANİK BAĞLANTI	
SİPARİŞ KODU	DİŞ ÖLÇÜSÜ
N10	G1/2"
N11	M22X1,5

Drawing terms: DIN 43650 connector • DIN base • Adapter • 27 mm wrench flats

Mechanical connection • N10: G1/2" • N11: M22×1.5

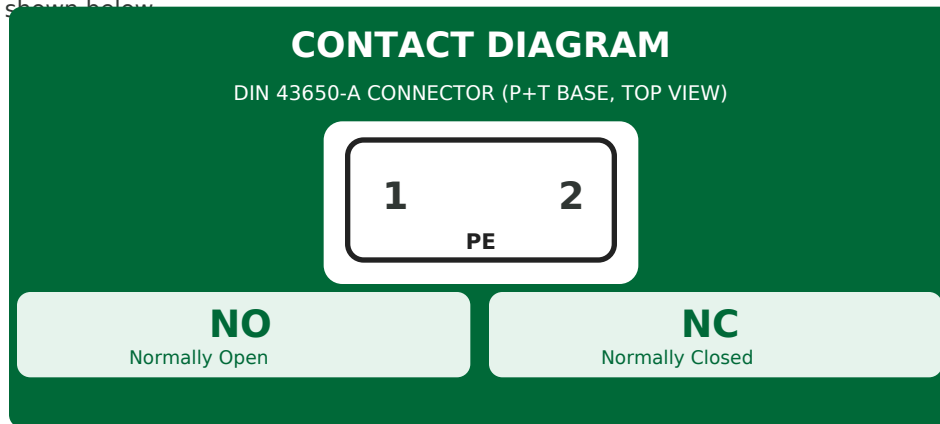
4. ELECTRICAL CONNECTION

The TST Series uses a P+T base. Electrical connections are made via a DIN 43650-A connector using terminals 1 and 2 and a protective earth (PE) terminal.

- Disconnect the power supply before wiring.
- Connect the switching circuit across terminals 1 and 2.
- Connect the protective earth conductor to terminal PE.
- Rated voltage: 250 VAC, 50/60 Hz.
- Maximum current: 10 A @ 250 VAC; minimum current: 1 mA @ 12 VDC.
- Contact resistance: $\leq 50 \text{ m}\Omega$. Protection rating: IP65.

5. CONTACT OPERATING PRINCIPLE

The switching temperature is a fixed value defined by the product ordering code. It cannot be adjusted in the field. The NO and NC contact behaviour is shown below.



Operating condition	Contact 1-2
NO - below set temperature	1-2 open
NO - above set temperature	1-2 closed
NC - below set temperature	1-2 closed
NC - above set temperature	1-2 open

Switching tolerance is $\pm 3^\circ\text{C}$ and typical temperature differential is approximately 15°C . Actual switching behaviour may depend on the temperature at the sensing point and the thermal dynamics of the system.

6. COMMISSIONING

8. Verify that the mechanical connection is secure and leak-tight.
9. Confirm that the DIN 43650-A connector is correctly installed and the PE connection has been made.
10. Check that the electrical load is within the specified current and voltage limits.
11. Start the system in a controlled manner.
12. Change the temperature toward the selected setpoint and observe the contact state. Verify NO or NC behaviour against the contact diagram.
13. Confirm that switching occurs within the $\pm 3^{\circ}\text{C}$ tolerance. If abnormal operation is observed, stop the system and recheck the connections.

7. PERIODIC INSPECTION AND MAINTENANCE

The technical documentation does not prescribe a fixed maintenance interval. Inspection frequency should be determined according to operating time, temperature, vibration/impact levels, process fluid and environmental conditions.

- Inspect the connector, cable gland and cable for loosening or damage.
- Check the process connection for leakage, loosening or corrosion.
- Check the housing and plastic parts for impacts, cracks or deformation.
- Check system filtration and prevent the product from being exposed to contamination.
- Test contact switching periodically. Remove the product from service if significant instability or out-of-tolerance operation is observed.
- Do not open or modify the internal mechanism in the field; contact PNOTOL if a fault occurs.

8. TROUBLESHOOTING

Symptom	Check / Corrective action
Contact does not switch	The set temperature may not have been reached; the wrong NO/NC version may have been selected; terminal 1-2 wiring or the load circuit may be incorrect. Check the model code, actual temperature and connections.
Contact operates in reverse	NO and NC versions have different operating logic. Check the contact type in the ordering code.
Switching occurs too early / late	Allow for the $\pm 3^{\circ}\text{C}$ switching tolerance and approximately 15°C differential. Verify the temperature at the actual sensing location.
Leak at process connection	Depressurize the system; check the threaded connection and sealing method used. Do not operate the product if the connection is damaged.
Moisture / contact problem at connector	Disconnect power; inspect the DIN 43650-A connector assembly, cable entry and terminals.
Housing or connector damaged	Remove the product from service and do not continue using it.

9. TECHNICAL DATA

Parameter	Value
Contact type	NO or NC
Rated voltage	250 VAC, 50/60 Hz
Maximum current	10 A @ 250 VAC
Minimum current	1 mA @ 12 VDC
Contact resistance	≤ 50 mΩ
Electrical connection	DIN 43650 / EN 175301-803, 2 terminals + PE
Protection rating	IP65
Electrical life	100,000 cycles
Switching temperature	35°C to 120°C
Standard setpoints	35 / 40 / 50 / 60 / 70 / 80 / 90 / 100 / 110 / 120°C
Switching tolerance	±3°C
Reset temperature	-20°C to +100°C
Typical temperature differential	Approximately 15°C
Maximum ambient temperature	205°C
Process connection	N10: G1/2" • N11: M22×1.5
Mounting type	Threaded process connection
Mounting orientation	Position-independent
Max. operating pressure	10 bar
Wrench size	27 mm

Note: The above values have been reproduced from the supplied TST Series Technical Document (TR).

10. ORDERING CODE SUMMARY

Code	Description
TST	Model – Thermostat
(Blank)	Brass housing – standard
Y	Aluminium housing
NO	Normally Open
NC	Normally Closed
N10	G1/2"
N11	M22×1.5
35 ... 120	Switching temperature (°C)

Example: TST Y NC N11 70

11. STORAGE AND DECOMMISSIONING

- Store the product in a dry, clean environment protected against impacts; protect the process thread and electrical connections from contamination.
- Depressurize the system and disconnect electrical power before removing the product.
- Dispose of damaged or decommissioned products in accordance with applicable local electrical and metal waste regulations.

DOCUMENT NOTICE:

This manual must be used together with the TST Series Technical Document (TR). Contact PNOTOL regarding special applications, chemical compatibility, tightening torque or operation outside the stated limits where these are not defined in the technical documentation.