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Strataa Controls Inc. Canada

# Installation, Operation & Maintenance Manual for (2511TG Model) Bimetal Thermometer

**Reference Standards**
EN 13190
Dial Thermometers

## 1. General Information

Please read these operating instructions before commissioning the thermometers. These operating instructions contain information on mounting, commissioning, and maintenance. Besides these operating instructions you should also observe existing standards, supplementary technical data, specifications, and additional certificates.

Designated use: The bimetal thermometer is used mostly in the process industry to monitor and control the temperature of the process. www.strataa.com

## 2. Transport and Storage

The thermometers must be kept dry and clean during storage and transportation. Avoid shocks and vibrations. Protect the thermometers from direct sunlight, dust, insects, humidity and other aggressive atmospheres.

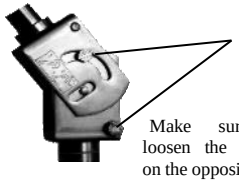
We recommend that, for temperatures around the dew point (±1 °C around 0 °C), you always use liquid damping. The packaging material is transparent in order to prevent any enclosed accessories getting lost.
Permissible storage temperature:
0 °C … +60 °C

## 3. Safety Instructions

++ The appropriate national safety regulations must be observed when installing, commissioning and operating these devices.
++ Serious injury and/or damage can occur if the appropriate regulations are not observed.
++ Only appropriately qualified personnel should work on these instruments.

Installation using a spanner

When mounting a rotatable and inclinable bimetal thermometer, specific instructions must be followed. In order to set the indicator to the desired position, the following steps must be taken:
1. The lock nut or union nut must be loosened at the process connection. The hexagon bolts and slotted screws at the swivel joint must be loosened.



Loosen

Make sure to loosen the screws on the opposite side

++ Position the indicator as required, tighten the hexagon bolts and slotted screws, and finally tighten the lock nut or union nut firmly.
++ If a thermowell is used, the stem must not be allowed to touch the bottom of the thermowell.

## 4. Ambient Conditions

Thermometers that do not meet with case ingress protection (IP 65) must be protected from humidity and other aggressive atmospheres.

Observe the following points during sensor installation:

If possible, the whole length of the sensor should be exposed to the temperature to be measured.

In pipe lines or other measuring points the temperature probe should be directed as far towards the flow as possible.
When using thermowells they must be filled with a thermal contact medium in order to reduce the heat transfer resistance between the outer wall of the sensor and the inner wall of the thermowell.
For filled devices, ensure that the medium temperature remains below 50 °C. The reason: At temperatures over 50 °C, the filling fluid in the stem can cloud or change color and in some cases, catch fire.
Before installing the probe, check whether the probe material used (specified in the delivery note) is chemically resistant/neutral to the medium being measured. This also applies to thermowells.

Heat conduction errors occur when the size, volume or area of the medium to be measured is very small, so that the temperature probe becomes noticeable as a thermal mass. Heat conduction errors may also occur when the insertion length is not sufficient, or when the instrument mounting fittings are attached to a good heat conductor (e.g. metal plates) and the temperature difference between them and the medium to be measured is very high.

## 5. Troubleshooting Measures

Bimetal thermometers are maintenance free instruments according to their basic design. As measuring instruments, their measuring accuracy should be checked at application-specific intervals. The wear condition of probes exposed to a permanent thermal stress (even if this stress is very low), and of electro-mechanical contacts exposed to vibratory stress, must be checked from time to time. If any visible damage is found, the instrument must be replaced.

## 6. Indicator check

Indicator checks should only be carried out in comparison with a more accurate instrument or, if possible, with a calibrated instrument. The temperature during the check must remain constant. Fluctuating temperatures may lead to reading errors caused by the different response times of the probes.

For thermometers without protective sleeves, a minimum waiting time of 10 minutes, for temperature equalization, should be observed, provided the appropriate immersion length is adhered to.

For thermometers with protective sleeves, a minimum waiting time of at least 15 minutes, for temperature equalization, should be observed, provided the appropriate immersion length is adhered to.

## 7. Indicator correction

Any interference with or modification to the instrument will invalidate the warranty!
Indicator corrections on bimetal thermometers only be carried out by the manufacturer or in adequately equipped workshops by qualified persons.
The micro adjustment mechanism built into the pointer should only be operated using a screwdriver, and only if the thermometer has been damaged due to improper handling, severe shocks, during transport, etc.
When correcting an indication error using the micro-adjustment mechanism, a calibrated thermometer must be used for comparison. Subsequently, the thermometer must be checked at several temperature points.

## 8. Maintenance Instructions

The instruments require no maintenance or servicing. The indicator function should be checked once or twice every 1 month. For this the instrument must be disconnected from the process and checked using a temperature calibrator. The instruments should be cleaned with a damp cloth, moistened with soap solution. When cleaning the inside of the terminal box, the mains power must be disconnected. All parts must be dry before the power is reconnected.

## 9. Repairs

Repairs are only to be carried out by the manufacturer.

## 10. Disposal

Disposal of instrument components and packaging materials should be in accordance with the respective waste treatment and disposal regulations of the region or country to which the instrument is supplied.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