

3.1.1 FIXED TEMPERATURE BIMETAL THERMOSTATS



Fixed temperature bimetal thermostats are devices whose temperatures are factory fixed, and which have no set point access by the user. They are used, depending on the model, as control devices or safety. The contacts can be slow make or break or snap action, control or reset, normally open, normally close or SPDT. Almost all contact options described above are possible. These devices are divided in two major groups: those sensitive to the current (which are smaller) and those insensitive to the current.

The most common ranges are set from 20 to 180 ° C.

However, models with ceramic case can be made up to 450 ° C, and waterproof models to -30 ° C

3.1.2 ADJUSTABLE BIMETAL THERMOSTATS

They are adjustable by screwdriver or shaft. Their main applications are in small appliances (deep fryers, irons).

They are always control type devices, using a bimetal strip.

Common temperature ranges are from 20 to 300 ° C.

They are current sensitive or insensitive depending on models.

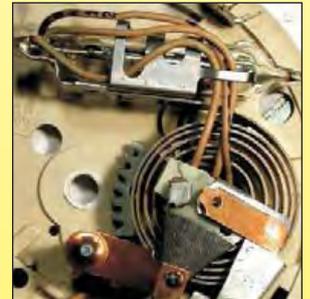
Models with current sensitive bimetal or heated by a resistance, are used in energy regulators.



3.1.3 SPIRAL BIMETAL THERMOSTATS

Bimetallic spirals have been widely used for the production of thermostats. This system is now abandoned by European manufacturers, as it required using a mercury bulb contact, or a slow break contact. There are still only a few manufacturers in the USA, for 110V applications.

These bimetallic spirals (helicoil style) are still used in some air duct thermostats (Called airstats).



3.2 BIMETALLIC EXPANSION THERMOSTATS

3.2.1 CARTRIDGE THERMOSTATS

These control devices, adjustables, slow break, have a very high precision, and the lowest possible differential for a mechanical thermostat: less than 1/10 ° C. In general, they are mounted in a 15.8mm dia. bore.

However, because of their slow break, generating radio interferences in 230V, their use in Europe is marginal, restricted to uses in some laboratory hotplates. Common temperature ranges are from 20 to 300 ° C.



3.2.2 CONTACT THERMOSTATS

These control devices, adjustable, slow break, have a very high precision, and low differential: less than 1 ° C. They are mounted on a flat wall, fixed by 2 screws .

However, because of their slow break, generating radio interferences in 230V, their use in Europe is marginal, restricted to uses in some laboratory hotplates or when low differential are sought. Common temperature ranges are from 20 to 250 ° C.

