

## 2.5 MULTIPLES CONTACTS

### 2.5.1 CHANGE OVER CONTACTS (SPDT, for: single pole double throw)

The changeover contact is a contact with three terminals. They are a common, a normally closed contact and a normally open contact. During actuation, the contact switches from one position to another. This allows for example to switch off the heating and simultaneously turning on ventilation

### 2.5.2 SIMULTANEOUS CONTACTS

Simultaneous contacts are independent contacts, with synchronous action.

This is particularly important in cutting a three-phase circuit devices, because the cut of the three phases must be done at the same time

### 2.5.3 STAGGERED CONTACTS

These contacts are operated by the same measuring system, but at different temperatures.

### 2.5.4 NEUTRAL ZONE CONTACTS

These contacts are parts of the staggered contacts, but with no electrical action between their set points. Their particular application is the air conditioning or refrigeration.

For example the contact # 1 switches off the heating at 100 ° C, the contact # 2 will turn on the vent at 120 ° C. Between these two temperatures, no action will be required: this is the neutral zone

### 2.5.5 ADJUSTABLE DIFFERENTIAL CONTACTS

The differential is the temperature difference existing between the moment the device actuates (opens) a contact and when, as a result of the drop in temperature resulting from its opening action, it resets.

Depending on the type of contact, these differentials can have huge span.

The adjustable differential is a system that allow the user to change it.

For technical reasons and cost, adjustable differential mechanism is reserved for industrial type systems using gas expansion.

### 2.5.6 MIXED CONTACTS

Mixed contacts by means of a combination of different systems above.

The most common combination is a control and a reset contact, or or a control and and a one shot contact.

### 2.5.7 FLAMEPROOF CONTACTS

A flameproof contact is a contact does not allow the electric arc that it produces to ignite an explosion outside its enclosure.

The electrical arc is not deleted.

There is a difference between the devices whose only the electrical contact is protected and those whose entire mechanism is protected.

### 2.5.8 FLAMEPROOF ENCLOSURE CONTACTS

In these devices only the mechanism of the electrical contact is protected by a flameproof enclosure. The electrical connections are made at the end of a cable secured to the casing of the contact area and must be made outside the hazardous area, or in a suitable connection box.

This solution provides small devices, and low cost.

### 2.5.9 FLAMEPROOF ENCLOSURES

Flameproof enclosures are massive envelopes where the entire device is enclosed. Electrical connections can be made inside the envelope.

## 3. THERMOSTATS TYPES

### 3.1 BIMETAL THERMOSTATS

It is currently the thermostats family where quantities are the most important. Numerous configurations exist, and the current trend is simplification and footprint reduction.

