

Description of temperature controls

Combined bulb and capillary thermostat / cut-out with adjustable set points

These devices operate on the same principle as the control thermostats, but feature a double bulb, one used for the control, the other for the manual reset. They have an adjustment shaft for the control, and a manual reset button allows switch on again the safety electrical contact, when it opened after a temperature rise. The safety set point is factory fixed. The contacts are open on temperature rise only. They are mainly used in three-phase applications, although there are SPNO and DPNO versions.

There are versions of these devices with failsafe manual reset contact, but they have a strong drift when the ambient temperature of the head varies, up to 0.3 °C / °C. For example if there is a variation in ambient temperature of 10 °C on the thermostat head, the set point drift can be as 3 °C.

Combination controls with liquid expansion control thermostat and fail safe "boiling" manual reset cut out

These devices work by expansion of liquid for the temperature control, and use the boiling fail safe mechanism for the manual reset cut out. In this way they meet the more stringent security requirements, as both mechanisms are operating on different principles, and the ambient temperature drift on the manual reset cut out is eliminated. JPC uses this solution for its combined thermostats for explosion proof applications.

Thermal fuses (also called TCO, for Thermal Cut Off)

The Thermal cut-offs are composed of a mechanism opening an electrical contact at a given temperature and irreversibly, generally by melting a metal or plastic pellet. Their trigger point should be selected according to the normal operating temperature and sufficiently distant from the latter to avoid false triggering. Their installation is hard to perform. JPC has developed a range of 16A 250V cut-offs which are wired and silicone insulated. They allow easy mountings in pockets.

Electronic devices

Temperature sensors

The temperature sensors provide a signal which is a function proportional to the temperature. This signal may be a change in resistance (thermistors, Pt100) or a millivolt signal (thermocouple). The selection of a sensor depends on the required accuracy, the temperature range and dimensional and economic constraints. JPC has designed a simple and cheap range for integrators

Blind electronic thermostats

These products, developed by JPCI, provide a bridge between the electronic controls with digital display and the electromechanical thermostats of which they keep the setting ranges, mounting, current rating, on/off action, and with which they are generally interchangeable.

They are inexpensive, and allow measurements at larger distances than the bulb and capillary thermostats. They provide a greater accuracy and the ability to adjust the contact differential. Power supply 90-250VAC, output power relay 16A 250V.

Electronic limiter with manual reset

These products, developed by JPCI offer a simple solution when a safety system must be installed in addition to an electronic temperature control. These devices keep the setting ranges, fixing, electrical rating of the electromechanical thermostats with which they are generally interchangeable.

They are inexpensive, and allow measurements at distances larger than the bulb and capillary thermostats. Power supply 90-250V, 16A 250V output relay.

Electronic controls with digital display, Din rail mounting.

These controllers, developed by JPCI offer the same performance than blind electronic thermostats, but have a digital display of temperature, and are extremely simple to use. Power supply 90-250V, and 16A 250V output relay.

Electronic controls with measured temperature digital display, panel mounting, size 77 x 35mm.

Simple and intuitive to set and use, within the reach of non-professional users. 230V supply, relay output 10 or 16A, ON-OFF action.

Electronic controls with measured temperature digital display, panel mounting, size 48 x 25mm.

The smallest new generation of electronic temperature controls, multi-voltage, multi-sensors, PID and ON-OFF action and auto-tune. 3A relay and SSR control outputs. One alarm.

Electronic controls with measured value and set point temperature digital display, panel mounting, size 48 x 48mm.

The most efficient new generation electronic temperature controls, multi-voltage, multi-sensors, ON-OFF and PID action with auto-tune. 3A relay and SSR control outputs. One or two alarms.

Because of permanent improvement of our products, drawings, descriptions, features used on these data sheets are for guidance only and can be modified without prior advice

