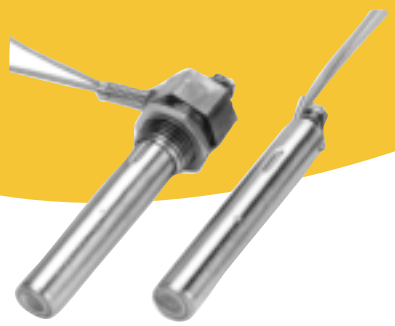
Cartridge Type Thermostat

Code No.: 312-301, 302, 303, 304



THERMOSPEED

8 Cranfield Road, Lostock, Industrial Estate
Lostock, Bolton, Lancs. BL6 4SB.
Telephone: 01204 675006 Fax: 01204 675010
E-mail: catalogue@thermospeed.co.uk

312-301, 302, 303, 304

THERMOSWITCH controllers control temperatures as low as –100°F (-73°C) and as high as 1100°F (593°C with the proven dependability of over 50 years service to satisfied customers.

Fast response

Because the outer shell of the THERMOSWITCH controller is the active sensing member, and not merely a housing, response to temperature change is almost instantaneous.

Close control

The controller's shell and strut arrangement has "anticipation" characteristics which substantially reduce the amount of overshoot and undershoot during conditions of rapid temperature change. Anticipation is produced by an inherent time lag between the shell and internal struts, which causes the shell to "lead" the struts by an interval that varies directly with the rate of temperature change. With rapid temperature rise, the shell exerts a larger net force on the struts and tends to pull them apart sooner than if the temperature were rising slowly. The result is several degrees or more of anticipation which helps produce closer control.

Extreme sensitivity

The strut and contact assembly operates by slow make and break. This means that every temperature change, no matter how small causes a corresponding change in the spacing between the electrical contacts. Therefore contact action can be produced by a very small temperature change, which accounts for the THERMOSWITCH controller's excellent resolution sensitivity of 0.1°F (0.05°C).

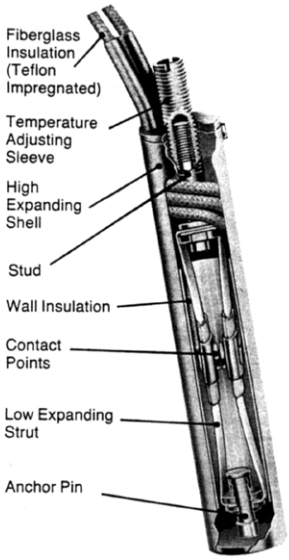
Vibration resistance

Since the strut assembly is assembled under tension or compression, a properly installed unit has excellent vibration and resistance and will provide the best possible control under difficult physical conditions.

Agency approved

Various models are listed or component recognised by Underwriters Laboratories (UL) and certified by the Canadian Standards Association (CSA).

Diagram



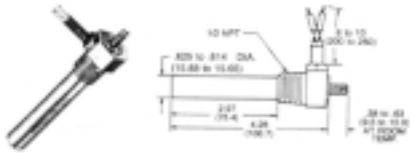
Operating Principle

The THERMOSWITCH controller is a strut-and-tube type thermostat comprised of two basic parts : the outer shell made of high-expanding metal and the strut assembly made of low-expanding metal.

A pair of electrical contacts is mounted on the strut assembly and installed in the shell under tension or compression. Because each end of the strut assembly is mechanically connected to the ends of the shell, a net change in force is produced on the low-expanding strut assembly as the high-expanding shell expands or contracts with changing temperature. The temperature at which the contacts "make" or "break" can be regulated by a temperature adjusting sleeve. This adaptation of the differential-expansion principle gives several important control advantages.

312-301 & 312-303

The basic element of all THERMOSWITCH controllers. Has all the desirable features of the ideal thermostat - high sensitivity, wide adjustment range, small size, rugged construction, vibration resistance, and low cost. This unit can be inserted into a .625 in (15.88mm) reamed hole. Approximate weight is 2.5 ounces (70 grams).



312-302 & 312-304

Has all the internal features of the Cartridge Type above plus the addition of a standard pipe thread for mounting purposes. Approximate weight is 2.5 ounces (140 grams).

Applications

- Hydraulic Laminating Presses
- Livestock Watering Fountains
- Label Adhesive Applicators
- Paint Drying Equipment
- Typesetting Machines
- Air Conditioning Units
- Hot Stamp Printers
- Vending Machines
- Deep Fat Cookers
- Textile Platens
- Waffle Irons