

## PF600-1 Temperature Monitoring Function

Application Note

### Temperature Monitoring Function in the PF600-1

In this application note, you will find information on the temperature monitoring function of the PF600-1.

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### Temperature Monitoring Function in the PF600-1 Calibration of the Temperature Monitor

#### THE TEMPERATURE MONITOR

When powered, a voltage is generated across the shutdown pins which is an approximate indication of internal temperature. The monitored point is close to a critical power device near the center of the baseplate, and is a representative hot spot for the whole unit.

Within the range of 40°C to 110°C, the relationship can be represented by:

$$T = 225 - 58V + 4.3V^2$$

Where: **T** is the temperature expressed in degrees Celcius, and  
**V** is the open circuit voltage across the shutdown pins in Volts.

The following linear approximation can be employed over the more limited range 70°C to 110°C:

$$T = 187 - 32V.$$

(The limits and probable error for these relationships have yet to be determined, tests having so far been limited to a small number of samples.)

#### THERMAL PROTECTION

When the indicated voltage falls to about 2.5V (nominally 105°C to 110°C), the unit switches off its main output. When the unit has cooled sufficiently, it will restart automatically. The output may not fall immediately to zero, nor rise immediately to full voltage. If thermal tripping could occur in an application, it is necessary to ensure that this behavior will not harm the powered equipment.