

Re: Extended temperature range for PCD operation, i.e Peaks of 65°C

TO WHOM IT MAY CONCERN

Brochures and user manuals for the PCD product families specify a temperature during operation of 0...55°C or 0...40°C depending on the position in which the device is mounted.

This range includes a comfortable safety margin. It is also determined by a number of factors, such as the constraints applied by UL approvals (Underwriters Laboratories Inc), the length of operation between two breakdowns, etc.,

Extended temperature range

Saia Burgess Controls (SBC) gives its agreement to operation across the extended range of -20 ... +75°C, on condition that the user takes account of the influences and responsibilities explained below.

This is based on the experience made during the Type Acceptance Tests where samples are systematically put in a 'Run In' at 85°C for 48h (with function monitoring) and on the search on temperatures limits that have demonstrated perfect operation throughout the range of -25 ... 85°C.

This extended temperature:

- includes the Product Range PCD7.D457Vxxx, .D410Vxxx and .D412Dxxx however up to 70°C.
- but excludes the other HMI products due to the common LCD-Units having stronger limitation.

Influences and user responsibilities

It is known that the failure rate for an electronic device depends on the service temperature. A rule of thumb states that a 10°C rise in the service temperature accelerates failure mechanisms by a factor of 2.

If the temperature is raised temporarily (peaks of 65°C) for a few hours, days or even weeks in summer, the influence on breakdown rate remains negligible. However, if these are permanent conditions the user must accept that more frequent failures may be possible.

It is also advisable to follow the recommendations below:

- maintain the lowest possible ambient temperature,
- mount the device in the best position to promote natural ventilation.
- avoid placing it in a location where heat accumulates or exposing it to heat sources (sun) directly on the device or on the cabinet.

For the negative temperature range, the case is different: the phenomena of condensation and ice formation must be scrupulously avoided. The influence on the length of service life then becomes negligible.

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