Flexible Process Instrumentation Temperature Control

Intertec recently launched an explosion-proof smart programmable controller for precise temperature regulation of process instrumentation and analyzer enclosures in hazardous environments. The Smart Controller 2.0 boasts:

- The ability to control the temperature of equipment or the surrounding air in an enclosure or cabinet very accurately.
- The flexibility to set up and monitor as many as 31 controllers in 1 branch of a network.
- A digital proportional-integral-derivative (PID) design for a high level of accuracy and functionality.
- 3 temperature sensors, one of which is integrated in the controller housing for measuring local cabinet temperature; while another is embedded in the heater itself, with a temperature-sensitive fuse, to ensure that its surface temperature can never exceed the specified T rating; whereas the third intrinsically safe KTY silicon temperature sensor is mounted at the end of a cable, which can be freely positioned in the instrument enclosure or embedded in the equipment that has to be kept at a constant temperature.
- A built-in bi-color LED indicator that acts as a useful local diagnostic aid by showing any deviation from the set point temperature, while additionally highlighting the occurrence of any heater error.

- Modbus RTU communications protocol over an RS-485 serial network to facilitate easy integration with existing process control systems when operating as a remote terminal unit.
- A new suite of PC software and LabView VI drivers that enable a wide set of attributes to be programmed, including the controller's P and I terms, a user-defined ramp for temperature increase against time and the heater's temperature limit, in addition to an easy-to-use data logging function, which provides a graphical record of temperature values retrieved over time from each controller.
- The capacity to be used as a temperature monitor, providing a digital output when the temperature is within a user-defined range.
- An aluminum enclosure with an IP66 protection rating.
- A switching capacity of up to 10 A, enabling it to be used with explosion-proof heaters with power ratings as high as 2,300 W, depending on the ambient and required enclosure/equipment temperatures and the heater supply voltage.
- Compatibility for use with any explosion-proof electric heater from Intertec's extensive range of heaters.
- Compliance with international explosion-proof standards, including ATEX, IEC, CSA C/US and GOST.

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