

Application Story

KS 98-2

Multi-Function Humidity Device

The KS98-2, PMA's new multi-loop controller, is designed for applications that require PID (Proportional- Integral-Derivative) control, process monitoring, sequence control, data logging and alarms. This controller is a complete solution in a single unit. It offers hardware flexibility, easy creation of applications and programmable functionality. It also helps to reduce programming, installation costs and control cabinet space.

One popular application is environmental chambers. An environmental chamber is an enclosed area where different environmental factors can be set, such as temperature and humidity, for carrying out experiments. This application requires multi-loop process control instrumentation with accurate humidity measurement.



Multi-Function Humidity Device

Implementation

The flexibility of the KS89-2 multi-function controller supports measurement of various process variables that can be regulated through PID control. Humidity is one variable that is commonly used in laboratory and testing applications where accurate and stable humidity levels are often needed.

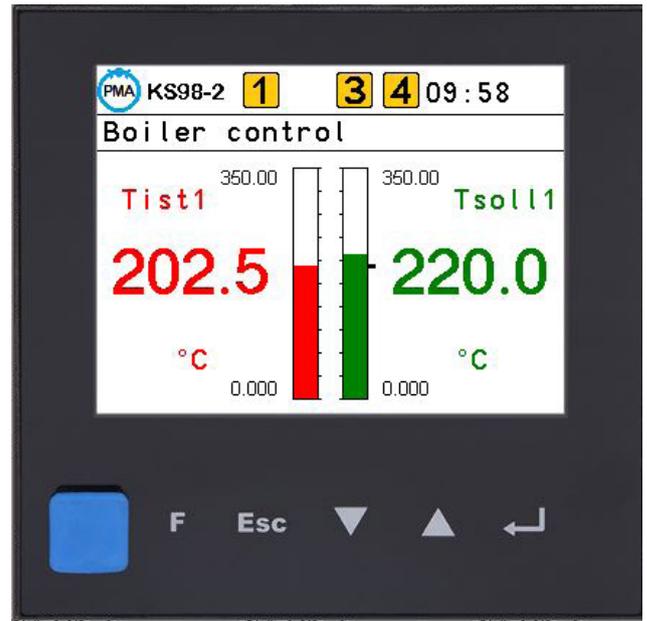
One common way to calculate humidity is through wet and dry bulb temperature measurements. The wet bulb temperature is determined from air with 100% relative humidity by water evaporating into it. The dry bulb measurement is the air temperature within the enclosure. The two values are then used by KS98-2 to calculate the current relative humidity value for chamber and can be controlled as necessary to reach the application setpoint. The dry bulb temperature measure is also being used for control of the chamber temperature.

Some humidity sensors have standardised outputs such as 4-20mA, as an alternative method of transmitting humidity values, this is also supported by KS98-2.

Configuration

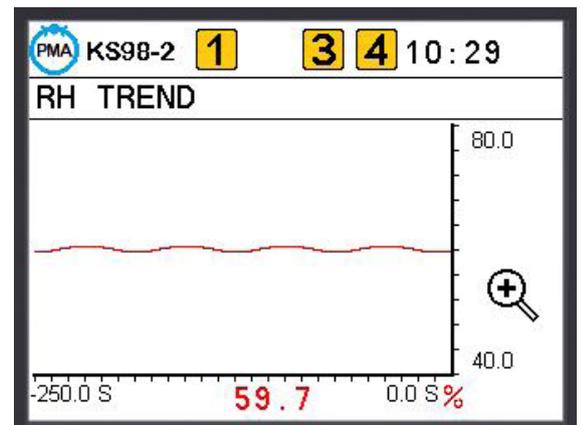
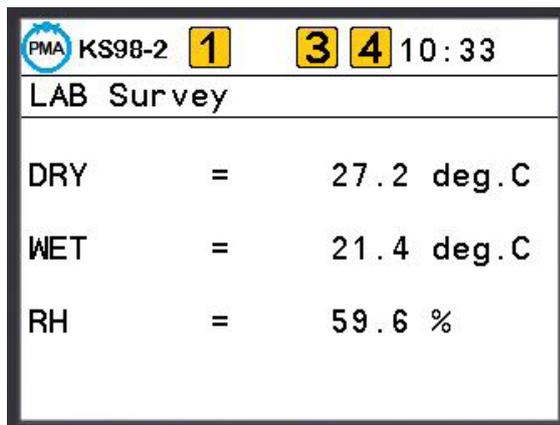
PMA designed the KS98-2 with flexible hardware, programmable functionality, and a customisable interface. These features allow users to simplify automation in their process control applications. A standard USB cable is required to connect to and program the device.

This controller has a high-contrast, full-graphic, colored operating screen display with text display, trend display, and bar graphs. This display allows users to process values, define the sequence controller, and regulate humidity through a custom interface.



Unlimited Versatility

This multi-function controller offers a sophisticated library of function blocks, enabling customers to develop their custom configuration. Ethernet connectivity and function block programming is available, providing full remote visibility of the lines and required data from the processes. The KS98-2 controller benefits from having a fully modular I/O structure to compile analogue and digital inputs and outputs for the application.



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