White Paper: Save Space and Costs with Today's Compact Panel Meters Featuring Versatile Control Options

Summary:

Panel meter development has remained relatively static the last few years, often consisting of no more than your average spin-off product releases. With the overall market focusing on new products with more advanced capabilities, many companies are hesitant to invest money into products, such as panel meters, that don't fit into areas of extreme growth or necessarily promise large returns. So where does this leave panel meters? In order to make panel meters a viable option for today's businesses, new, cost-efficient devices with more advanced capabilities were needed—and all in a smaller package to realize today's miniaturization trend.

History:

Historically, the majority of panel meter sales have come from MRO customers who buy in small quantities for stand-alone systems. The devices are simply used to read and display a value for a wide range of applications, including conveyor speed, water pressure, part counts and material weights. However, the market has expanded to include new applications that use panel meters not only to display information, but also as convenient means for local control and as a component in redundant back-up systems.

Challenge:

Local displays can provide line workers with production status information, from production target numbers to current machine speed. In addition to keeping workers informed, these panels can display tangible production goals, which may encourage more efficient speeds and increase overall productivity.

Simple machine control is another reason why local displays are important. Workers can make adjustments in real-time in response to changing conditions, keeping the entire process running as efficiently as possible. Plus, since existing maintenance staff can

support the equipment, a programming engineer is no longer required for PLC support, resulting in important time and cost savings.

For applications in which safety concerns are a main priority, panel meters can be used in addition to PLCs as part of a redundant system. In an assembly line application, a PLC controls the speed of a conveyor, ensuring that the conveyor doesn't exceed the set maximum speed. If PLC failure occurs, however, there is no way to control this speed, sometimes resulting in serious and expensive production malfunctions. To diminish the risks associated with PLC failure, many machine builders connect a panel meter to the system, programming it to provide a local readout of speed to the operator and cut-off power to the conveyor if the case of an over-speed occurrence. Additionally, allowing both the PLC and the panel meter control of the machine ensures continuous operations, even if one of the devices fails.

Previous Solutions – and Shortcomings

Since panel meters can now be used for a wider variety of applications, a cost-efficient, smaller meter featuring advanced capabilities was required. To meet today's miniaturization trend, panel meters for applications such as temperature indication and On/Off control are available in a 1/32 or 1/16 DIN package. While the overall height and width dimensions are very reasonable, the display allowed by this small package is not easily read—even from a nominal distance—making the 1/32 DIN package an inadequate solution. Plus, most of these small panel meters simply offer display capability, making the larger 1/8 DIN package the only choice for control applications.

A Comprehensive Solution: Red Lion's CUB5 Series Panel Meters

In order to meet display and control requirements as well as size and cost restrictions, a new, more versatile panel meter was needed. A recent product release of an innovative panel meter series has provided answers to many of these shortcomings. Red Lion's CUB5 Series delivers a flexible display and control solution in a package that is 30 percent smaller and 50 percent more affordable than the 1/8 DIN product. CUB5

features an easy-to-read .46" (11.7 mm) LCD display, available in Reflective or Backlight options. Although the height is comparable to what is normally available in 1/8 DIN meters, the 2.95" (79 mm) x 1.95" (39 mm) package is less than 1.75" (44 mm) deep. This makes efficient use of panel real estate and requires less depth for enclosures resulting in space and cost savings. Plus, many of the features available on 1/8 DIN panel meters are also offered by the CUB5 products, including selectable inputs, display scaling, and NEMA4X/IP65 sealed front panel—all for about half the cost.

The series also features a single and dual setpoint output, allowing you to address control applications such as measuring DC current and voltage, processing signals from flow meters, pressure sensors and positioning sensors, and accepting inputs from RTD and Thermocouple sensors. In addition, plug-in option cards can be field installed to further enhance CUB5 capabilities. For example, a relay module featuring a Form C relay capable of switching up to 1 amp and a dual NPN-OC transistor module can be used to add output capabilities. Plus, along with the setpoints, the units feature communication RS232 or RS485 formats, and serial ASCII communications is available for sending and receiving data through the meter.

The versatile capabilities, low cost and efficient use of space make the CUB5 panel meter an ideal solution for a wide variety of local display and control system applications. For more information on this next generation panel meter, visit www.redlion.net.