Snap-action Pushbutton Switches Offer Fast Switching, Long Electrical Life

TE Connectivity (TE) introduced new miniature ALCOSWITCH Blue Series pushbutton switches for power and signal applications. This miniature series of switches incorporates an innovative snap-action mechanism that produces an extremely fast switching moment. This high level of dynamics is asserted to reduce arcing and bounces, while providing a high number of electric lifecycles. In addition, the push-on/push-off version of the switches produces a clear tactile, audible feedback to indicate that they have been properly pressed. ALCOSWITCH Blue Series pushbutton switches are available in single-pole, double-pole and double-throw configurations (SPDT, DPDT) with push-on/push-off or momentary function. Their brass internal contacts have a silver inlay, and optional gold plating is available for signal transmission up to 60 mA at 30 VDC. The silver inlay contacts have an initial resistance of ?10 milliohm at 125 VAC, at 1 A at 2 ~ 4 VDC.

For gold-plated contacts, the resistance is ?20 milliohm at 100 mA at 2~4VDC. Equipped with silver inlay brass contacts, the pushbutton switches are rated up to 250 VAC at 1.5 A for European applications and up to 125 VAC at 3 Amps for North American applications.

The silver-inlay version’s electric lifecycle is 25,000 cycles at full current and voltage rating (resistive), and the gold-plated version is 50,000 cycles at full current and voltage rating (resistive). This compares to the UL requirement of 6,000 cycles at load.

TE’s ALCOSWITCH Blue Series pushbutton switches function according to the break-before-make principle. The miniaturized, innovative internal snap-action mechanism is completely different from existing pushbutton style designs: It transfers the movable contact from one position to the other with extreme speed, which helps to reduce arcing and bounce. Due to the spring-loaded action on the push-on/push-off version, users will clearly feel and hear the contact transfer – a feedback that helps to meet specific Human Machine Interface (HMI) requirements. In applications where operators cannot dedicate their full attention to a control panel at all times, it advantageous if the HMI feedback is both visual and audible, as this reduces the

level of hand-eye coordination needed. Applications with such HMI requirements include industrial, medical, general instrumentation, communication equipment and control equipment.

The switches can be used at operating temperatures between -20 °C and 80 °C. The epoxy-sealed switch terminals are available either with wire lugs or in a PC board mount design. The switch case is made from UL94V-0 epoxy resin and the frame is stainless steel. Caps, available in multiple colors and in two outer diameters, must be ordered separately.

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