## Isolated High-Side Power Switch Offers SPI And Many Other Features

STMicroelectronics' ISO8200AQ galvanically isolated octal high-side smart power switch enhances diagnostics and system management by providing a 20-MHz SPI port allowing both per-channel overtemperature signalization and efficient daisy-chaining of multiple devices. A power-good output indicates the status of the process-side power supply.

The device enlarges ST's family of galvanic isolated high-side switches, featuring maximum safety and robustness in demanding applications. Examples include industrial PLCs, PCs, or peripherals, and numerical-control machines in conventional factory automation or Industry 4.0 smart-factory scenarios.

The 2500-Vrms built-in galvanic isolation assures superior safety and allows saving space in the final application and additional use for general-purpose isolation. By providing an SPI port with support for daisy chaining, the ISO8200AQ also allows one host to control multiple switches efficiently.

The power-good output alerts the control system in case the supply rail falls below a preset safe minimum threshold voltage, and complements the fault output pin that indicates communication errors or over-temperature conditions. With eight channels, each having on-resistance of 0.12 Ω (typical) and maximum current rating of 0.7 A, the ISO8200AQ manages all kinds of resistive, inductive, or capacitive loads with minimal power loss or heat dissipation.

Built-in protection features of the ISO8200AQ further enhance safety, including short-circuit, channel overtemperature, case overtemperature, and loss of ground or supply protection. There is also undervoltage shutdown with auto-restart and hysteresis, overvoltage protection by Vcc clamping, and control of the output voltage to prevent damage due to switch off of inductive loads. In addition, the ISO8200AQ satisfies the requirements for IEC 61131-2 relating to functional properties and characteristics of programmable controllers.

An extensive ecosystem of support tools helps users get the best performance from the ISO8200AQ. These include the X-NUCLEO-OUT02A1 demonstration board, which simplifies evaluating and fine-tuning the setup, and the STSW-IFAPGUI graphical user interface that helps visualize the device behavior. The X-NUCLEO-OUT02A1 takes advantage of the IC's internal galvanic isolation between logic and power stages, and adds reverse-polarity protection and EMC precautions meeting IEC61000-4-2, IEC61000-4-4 and IEC61000-4-5, to satisfy industrial safety standards.

The ISO8200AQ is available now in 9-mm x 11-mm 32-pin TFQFPN32, priced from $3.125 for orders of 1000 pieces. See www.st.com/iso8200aq-pr for further information.