

AT Technical Services' new wireless protocol for machine safety: A new foot switch

AT Technical Services has introduced its first wireless switching device incorporating a new safe wireless technology. Thanks to its ergonomic design, the RF GF(S)I 2,4 GHz-safe-b foot control can be actuated without risk of fatigue and – in its cabled version – has already been tried and tested in many different machine safety applications.

Eliminating the cables means that the foot switch can be positioned with far more flexibility, wherever the operator can monitor the process most easily. In addition, without cables there are no tripping hazards that could potentially restrict industrial safety. The wireless connection is maintained as long as the operator is actuating the foot control. Radio signals are evaluated by a compact combination of wireless receiver and safety relay module which can be installed inside the control cabinet.

The bi-channel wireless sWave 2.4-safe technology developed by Steute especially for machine safety is characterised by its reliability and good coexistence with other wireless systems. Interference-free operation is possible in conjunction with a large number of other wireless systems. The basis for this is a pseudo-random frequency hopping technique, where the hopping pattern is known only to the relevant transmitter and receiver.

A typical application for this new wireless safety foot control is the safe set-up of machines with open guard doors. As



long as the machine operator keeps the foot switch depressed, he can activate the setup function of the machine with the guard door open, giving him unrestricted access. This procedure also has advantages when programming robots, and when operating machines with large moving components, e.g. wire wrap machines and presses, or when changing parts on larger machine tools.

Type testing for this system, consisting of the wireless foot switch and its receiver unit, in Performance Level (PL) d in accordance with ISO EN 13849-1 and Safety Integrated Level (SIL) 2 in accordance with IEC 62061, is in preparation. This categorisation will document the reliability of the safe wireless signal and its suitability for safety-based applications.

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Endress+Hauser extends WirelessHART SWA70 adaptor family

The addition by Endress+Hauser of a wide-range power supply to its WirelessHART adaptors has opened up new applications for the SWA70 range.

In addition to the well-proven battery pack, the SWA70 is now available with a power supply that allows connection to line voltages of 24-230 VAC/DC, with the added advantage that the adaptor can be used to power up to four HART devices in multi-drop mode. The result is simpler installation and a saving in additional power supplies.

The SWA70 adaptor allows wireless transmission of the 4-20 mA/HART signals of connected field devices to a WirelessHART Fieldgate.

Along with the new possibilities arising from the wide-range power supply, the flexible adaptor concept offers even more advantages:

- HART devices can be quickly upgraded to WirelessHART technology, no matter whether a power supply is present or not.
- Remote or difficult to access HART devices can be connected to the control room without the need to lay cables.
- Planning, installation and integration is quick and easy.

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ESS launches TETRA-RTU-SRB



Expert System Solutions (ESS) has launched its latest South African designed and developed TETRA-RTU-SRB. At the conference ESS gave a live demonstration sending data from an electrical power meter via TETRA communications in the DNP-3 protocol to a scada system. The ESS product advantage is the low bandwidth utilisation. This is linked to the intelligent processing of the DNP-3 data with the result that only updated data is transferred once changes have taken place.

ESS's innovative developments have been recognised by the TETRA industry with the TETRA-RTU-SRB being nominated as a finalist in the category "Best Innovation" for the 2014 TETRA awards. This is a great achievement for ESS and for South Africa, demonstrating initiative, expertise and innovative abilities in the wireless radio communications field.

The TETRA-RTU-SRB is a wireless telemetry/telecontrol device capable of interfacing with PLC, scada, discrete IOs, analogue inputs and others. The physical connection can be RS-232, RS-485 and LAN (TCP/IP). Protocols that the unit can manage include OPC, Modbus, IEC-8870-5-101,103 and DNP-3.

The true value of the ESS RTU is that it can operate on various wireless communication technologies. The inbuilt Linux microprocessor simplifies programming and enhances the capability of the product to be adapted to client specific requirements. In line with ESS's development focus of providing solutions to the growing demand for wireless applications and data efficiency in the telemetry industry.

ESS's development focus has now shifted to unlock the true value offered by the ESS RTU. This is done by focusing on providing solutions to industry where wireless communication is of critical importance. ESS, with its development partners, is currently finalising an innovative industrial security solution for key point monitoring and control.

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