

## **Enhanced ProSafe-RS released: improving on the best**

Yokogawa Electric Corporation has released an enhanced version of the ProSafe-RS Safety Instrumented System, ProSafe-RS R1.03.

The original ProSafe-RS Safety Instrumented System was released in February 2005. The system helps prevent accidents in high risk industrial situations, by detecting unusual conditions in plant operations and carrying out emergency procedures. These might range from simply slowing down a single process to shutting down the whole plant.

Although distributed control systems (DCSs) and safety instrumented systems have conventionally been kept separate, high-level integration of their functions has been increasingly required to strike the right balance between operational efficiency and safety.

An independent certification body certified that ProSafe-RS conforms to the IEC61508 (Note 1) international safety standard and can be used in SIL3 (Note 2) applications. As a result, ProSafe-RS has set the benchmark for safety instrumented systems. In the short time since its release, the system has been installed in more than 200 projects worldwide, including the Loy Yang power station and Shell Clyde refinery in Australia

There is a growing emphasis on operational safety in the oil, natural gas, petrochemical, and similar industries to ensure a safe workplace and responsible care of the environment. To meet the latest safety instrumentation needs, the remote optical communications capability of ProSafe-RS has been enhanced and a digital output module and simulation test function have been added to this new version.

### **Increased communications range**

By using optical bus repeaters, the ProSafe-RS controller and the I/O modules can now communicate at distances up to 50 km over a fibre optic cable. This enables the instrumentation rooms for individual processes and the safety instrumented controllers scattered throughout a large-scale plant to be placed in a single location.

Furthermore, this increase in the communications range enables the monitoring and control of field devices for safety instrumentation that are installed in wellhead areas and other remote locations.

### **Addition to input / output module line-up**

A high-current digital output module for long-distance wiring has been added to the module lineup.

Unlike conventional safety instrumented systems and DCSs, which are regarded as having different roles/functions and operate separately, the operation of the ProSafe-RS and the CENTUM CS3000 R3 can be fully integrated.

**Simulation test function added**

A simulation test function has been added that uses software\* to test the communication with DCSs, operation monitoring, and communication between safety instrumented system controllers. With this function, these simulations can even be run when a connection with the hardware has not been established, improving engineering work efficiency.

For more information, contact Andy Yam, National Safety Systems Manager, Yokogawa Australia on (02) 8870 1100 or email [inquiries@au.yokogawa.com](mailto:inquiries@au.yokogawa.com)

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Note 1: IEC61508: A standard relating to the functional safety of electrical and electronic equipment that was established by the International Electrotechnical Commission (IEC)

Note 2: SIL3: Safety integrity levels (SILs) have been defined by the IEC. SIL1 means that the risk factor for a plant where safety measures are not in place has been reduced to a range from 10 and 100 times. SIL2 between 100 and 1,000 SIL3 1,000 to 10,000 times safer.

\* To carry out these simulation tests, a separate test software package for the CENTUM CS 3000 R3 is required.