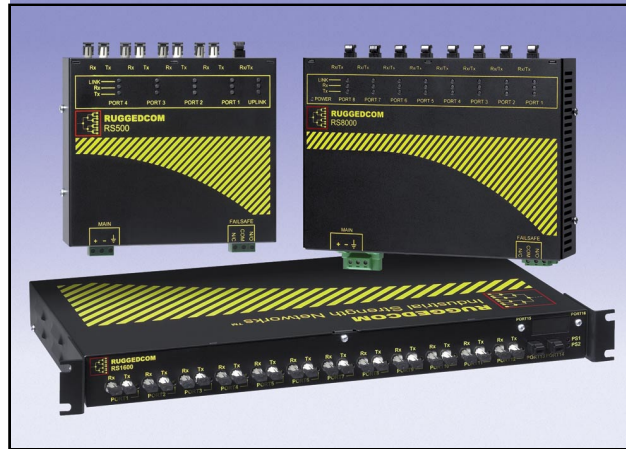


RuggedSwitch™ offers IEEE P1613 - Class 2 “Error Free” Communications Networking Devices For Use in Electric Power Substations

The RuggedSwitch™ RS1600, RS8000 and RS500 models of substation hardened Ethernet switching hubs (switches) qualify as Class 2 “error free” devices under the newly issued IEEE P1613 standard for networking devices in electric power substations.



Concord, Ontario, Canada, March 21st, 2003 – The IEEE-SA Standards Board recently (March 20, 2003) approved a new standard for communications networking devices in electric power substations. The standard is entitled **IEEE P1613 “Standard Environmental and Testing Requirements for Communications Networking Devices in Electric Power Substations”** and represents a significant acknowledgement by industry experts of the proliferation of networking technology for use in substation automation. It also represents the recognition for the need of environmental and testing standards to ensure reliability for communications networking equipment in substation environments.

Great concern has been expressed by industry leaders from both electric power utilities and manufacturers of substation automation equipment that the networking equipment used in substation LANs (Local Area Networks) be as reliable and robust as the IEDs (Intelligent Electronic Devices) which were being connected to it. With this in mind the Substations Committee of the IEEE Power Engineering Society assembled a task force (C2 TF1) of industry experts from both utilities and vendors alike to study and develop a standard addressing the environmental and testing requirements of networking devices in substation environments. The approach taken by the task force was to adopt and adapt the same environmental and testing standards applicable to protective relaying IEDs which are one of several key substation IEDs that are connecting to Ethernet networks in the substation. As such the IEEE P1613 standard has been compiled from the relevant clauses of IEEE Std C37.90, C37.90.1, C37.90.2, C37.90.3. In addition, it establishes more stringent requirements than exist in these IEEE or relevant IEC standards in several key areas:



- Clause 4 requires the operation of the device with no fans or forced ventilation. It also requires startup after soaking at the temperature extremes (not required in IEEE C37.90 or in IEC 60255-6).
- Clauses 7, 8, & 9 define the communications required during tests, and two Performance Classes. Class 1 allows communications errors or interruption during the defined transient, but requires automatic recovery. Class 2 requires communication without errors or interruption. (Neither are presently defined in IEEE or IEC).

"We are very proud to have participated in the C2 TF1 task force and in having drafted key sections of the standard which are essential in ensuring reliable operation of networking equipment in mission critical applications" said Marzio Pozzuoli, President of RuggedCom and task force participant. "Our roots are in designing protective relaying devices and as such we've always believed that the networking equipment we design should also meet the same standards as the relays connecting to it. We've been designing our equipment to meet the C37.90.x standards from day one!"

RuggedSwitch™ models RS1600, RS8000 and RS500 pass all of the IEEE C37.90.x type tests defined in IEEE P1613 without experiencing any communications errors or interruptions and as such qualify as IEEE P1613 - Class 2 networking devices. RuggedCom has been offering this type of device performance long before the arrival of P1613 and refers to it as "Zero-Packet-Loss™" technology. Even more impressive is the operating temperature range of the RS1600, RS8000 and RS500: -40°C to +85°C without the use of cooling fans! This puts RuggedSwitch™ in a class of its own.

For more details on the RuggedSwitch™ product family or RuggedCom please visit:

www.ruggedcom.com