

RuggedSwitch™ RS900G

- ▶ 10-ports: 8-10/100BaseTX + 2-1000BaseX (Gigabit)
- ▶ Long haul fiber support (70km)
- ▶ Port Rate Limiting (per port)
- ▶ RuggedRated™ for reliability in harsh environments
- ▶ -40°C to +85°C operating temperature (no fans)
- ▶ Hazardous location certification: Class 1 Division 2
- ▶ ROS™ advanced network management
- ▶ Integrated power supply (24, 48, 88-300VDC/85-264VAC)
- ▶ Dual isolated DC power inputs (24 or 48VDC)



10-Port Managed Fiber Optical Ethernet Switch with Gigabit Uplinks

RuggedSwitch™ RS900

- ▶ 9-ports: 6-10/100BaseTX + 3-100BaseFX or 3-10/100BaseTX
- ▶ Long haul fiber support (90km)
- ▶ Port Rate Limiting (per port)
- ▶ RuggedRated™ for reliability in harsh environments
- ▶ -40°C to +85°C operating temperature (no fans)
- ▶ Hazardous location certification: Class 1 Division 2
- ▶ ROS™ advanced network management
- ▶ Integrated power supply (24, 48, 88-300VDC/85-264VAC)
- ▶ Dual isolated DC power inputs (24 or 48VDC)



9-Port Managed Ethernet Switch with Fiber Optical Uplinks

RuggedSwitch™ RS969

- ▶ Waterproof: IP65 (Water Jets) and IP67 (Water Immersion)
- ▶ 10-ports: 8-10/100BaseTX ports + 2-1000BaseX (Gigabit)
- ▶ IP67 Rated M12 or RJ45 copper port connectors
- ▶ Long haul fiber support (25km)
- ▶ RuggedRated™ for reliability in harsh environments
- ▶ -40°C to +85°C operating temperature (no fans)
- ▶ ROS™ advanced network management
- ▶ Integrated power supply (24, 48, 88-300VDC/85-264VAC)
- ▶ Optional dual redundant power supplies



IP65/IP67 Rated 10-Port Managed Ethernet Switch with Gigabit Uplinks

RuggedSwitch™ RS8000 Series

- ▶ RS8000: 8-100BaseFX ports
- ▶ RS8000T: 6-10/100BaseTX + 2-100BaseFX ports
- ▶ RS8000H: 4-10/100BaseTX + 4-100BaseFX ports
- ▶ RS8000A: 2-10/100BaseTX + 2-10BaseFL + 4-100BaseFX ports
- ▶ RuggedRated™ for reliability in harsh environments
- ▶ -40°C to +85°C operating temperature (no fans)
- ▶ ROS™ advanced network management
- ▶ Integrated power supply (24, 48, 88-300VDC/85-264VAC)

Family of 8-Port Managed Ethernet Switches



9-Port Managed Gigabit Ethernet Switch



19-Port Modular Managed Ethernet Switch with Gigabit Uplinks



Family of 16-Port Managed Ethernet Switches



SCADA Cyber Security Appliance

RuggedSwitch™ RSG2200

- ▶ 9-1000BaseX Gigabit ports
- ▶ Modular: Mix and match port types
- ▶ Support for MMF, SMF and bi-directional fiber optics
- ▶ Long haul fiber support (70km)
- ▶ Port Rate Limiting (per port)
- ▶ RuggedRated™ for reliability in harsh environments
- ▶ -40°C to +85°C operating temperature (no fans)
- ▶ ROS™ advanced network management
- ▶ Integrated power supply (24, 48, 88-300VDC/85-264VAC)
- ▶ Optional dual redundant power supplies

RuggedSwitch™ RSG2100

- ▶ 19 Ports: 3-1000BaseX (Gigabit) + 16-10/100BaseX
- ▶ Modular: Mix and match port types
- ▶ Support for MMF, SMF and bi-directional fiber optics
- ▶ Long haul fiber support (90km)
- ▶ Port Rate Limiting (per port)
- ▶ RuggedRated™ for reliability in harsh environments
- ▶ -40°C to +85°C operating temperature (no fans)
- ▶ ROS™ advanced network management
- ▶ Integrated power supply (24, 48, 88-300VDC/85-264VAC)
- ▶ Optional dual redundant power supplies

RuggedSwitch™ RS1600 Series

- ▶ RS1600: 12-10BaseFL + 2-100BaseFX (optional 2-10/100BaseTX)
- ▶ RS1600F: 16-100BaseFX
- ▶ RS1600T: 14-10/100BaseTX + 2-100BaseFX
- ▶ RuggedRated™ for reliability in harsh environments
- ▶ -40°C to +85°C operating temperature (no fans)
- ▶ ROS™ advanced network management
- ▶ Integrated power supply (24, 48, 88-300VDC/85-264VAC)
- ▶ Optional dual redundant power supplies

RuggedRouter™ RX1000

- ▶ Integrated Router/Firewall/VPN
- ▶ WAN Port Options: 8-T1/E1, 2-DSL, 2-DDS
- ▶ Ethernet Port Options: 4-10/100BaseTX or 4-100BaseFX
- ▶ GPS/IRIG-B/NTP time synchronization server
- ▶ Embedded modem port optional
- ▶ RuggedRated™ for reliability in harsh environments
- ▶ -40°C to +85°C operating temperature (no fans)
- ▶ LINUX based OS for reliability and security
- ▶ Integrated power supply (24, 48, 88-300VDC/85-264VAC)
- ▶ Optional dual redundant power supplies

RuggedServer™ RS400 Series

- ▶ Fully compliant EIA/TIA RS485 and RS232 ports
- ▶ Integrated 4-port managed Ethernet switch
- ▶ Integrated v.90 modem (optional)
- ▶ RuggedRated™ for reliability in harsh environments
- ▶ -40°C to +85°C operating temperature (no fans)
- ▶ ROS™ advanced network management
- ▶ Integrated power supply (24, 48, 88-300VDC/85-264VAC)

4-Port Serial Device Server with Integrated 4-Port Managed Ethernet Switch



Fiber Optical Speed, Serial and Media Converters

RuggedMC™ RMC Series

- ▶ RMC: Ethernet Media Converter (copper to fiber)
- ▶ RMC20: Serial Media Converter (copper to fiber)
- ▶ RMC30: 2-port Serial-to-Ethernet Converter
- ▶ RMC40: 4-port Ethernet Media and Speed Converter
- ▶ RuggedRated™ for reliability in harsh environments
- ▶ -40°C to +85°C operating temperature (no fans)
- ▶ Integrated power supply (24, 48, 88-300VDC/85-264VAC)

Reliability - Immunity - Performance - Security

Rugged Operating System (ROS™) RuggedCom's Embedded OS for Networking Devices



Advanced Layer 2 and 3 Managed Ethernet Switch Features:

- ▶ RSTP (802.1w) and Enhanced Rapid Spanning Tree (eRSTP™) network fault recovery (<5ms)
- ▶ Quality of Service (802.1p) for real-time traffic
- ▶ VLAN (802.1q) with double tagging and GVRP support
- ▶ Link aggregation (802.3ad)
- ▶ IGMP Snooping for multicast filtering
- ▶ Port Rate Limiting and Broadcast Storm Limiting
- ▶ Port configuration, status, statistics, mirroring, security
- ▶ Integrated substation and industrial automation functions

Management Tools:

- ▶ SNMP v1/v2/v3
- ▶ Remote Monitoring (RMON)
- ▶ Web, Telnet, CLI Management Interfaces
- ▶ Rich set of diagnostics with logging and alarms

Cyber Security

RuggedSwitch™ Features:

- ▶ Multi-level user passwords
- ▶ SSH/SSL encryption
- ▶ Enable/disable ports, MAC based port security
- ▶ Port based network access control (802.1x)
- ▶ VLAN (802.1q) to segregate and secure network traffic
- ▶ Radius centralized password management
- ▶ SNMPv3 encrypted authentication and access security



RuggedRouter™ Features:

- ▶ Integrated Router/Firewall/VPN
- ▶ Stateful Firewall with NAT
- ▶ Full IPSec Virtual Private Networking
- ▶ VPN with 3DES, DES and AES support
- ▶ Intrusion Detection System (IDS) (coming soon)

RuggedVue™

Network Management Software

- ▶ Graphic visualization of network layout
- ▶ Monitor devices and network connection status
- ▶ Capture exact configuration of the network
- ▶ Auto-discovery and auto-mapping
- ▶ Document your equipment and configuration



Every networking and communications product that RuggedCom produces is RuggedRated™. The RuggedRated certification indicates that the device has been specifically designed to withstand the demands of harsh industrial environments. In order to qualify for this rating, a product must have the following characteristics:

Rated for reliable operation in harsh electrical environments:

- ▶ IEC 61850-3 and IEEE 1613 (Electric power substations)
- ▶ IEC 61000-6-2 and IEC 61800-3 (Industrial environments)
- ▶ NEMA TS 2 (Traffic control equipment)

Rated for error free operation in high EMI environments:

- ▶ Zero-Packet-Loss™ technology for fiber-based networking devices
- ▶ IEEE 1613 Class 2 error free performance under EMI stress
- ▶ Fiber optical ports supporting both short and long haul fiber

Rated for operation over a wide temperature range:

- ▶ -40°C to +85°C (+185°F)
- ▶ Passive cooling – no fans.
- ▶ CSA/UL 60950 safety approved to +85°C (+185°F)

Rated for high availability:

- ▶ Integrated single or dual redundant power supplies
- ▶ Universal high-voltage range: 88-300VDC or 85-264VAC
- ▶ Dual power supplies can be powered independently, from different input voltages

Rated for industrial installations:

- ▶ 18 gauge galvanized steel enclosure
- ▶ Heavy duty steel DIN rail mount or 19" rack mount
- ▶ Industrial terminal blocks for power and I/O connections

Contact RuggedCom:

30 Whitmore Road, Woodbridge, Ontario, Canada L4L 7Z4
 Tel: (905) 856-5288 | Fax: (905) 856-1995 | Toll Free: (888) 264-0006
 or send us an email at: RuggedSales@RuggedCom.com
 Visit www.RuggedCom.com to locate a sales representative or distributor in your area

5-Year Warranty Applicable to design or manufacturing related product defects.

©2006 RuggedCom Inc.
 RuggedSwitch, RuggedServer, RuggedMC, ROS, RuggedRated, RuggedRouter, RuggedVue, eRSTP and Zero-Packet-Loss are all trademarks of RuggedCom Inc. Ethernet is a trademark of the Xerox Corporation.

Patent Pending
 All specifications in this document are subject to change without notice.

Ruggedized Communications for Harsh Environments



Products at a Glance