

IOLAN SCG WM Secure Console Server

Out-of-Band IT Infrastructure Management with integrated Modem & WiFi



- 18, 34 or 50 Console Management Ports
- Modular design supports RS232/RS422/RS485 RJ45 and USB 3.0 Interfaces
- Integrated Wi-Fi® and v.92 modem for out of band access
- Dual 10/100/1000 Network Connection with RJ45 Copper and SFP Fiber Ports
- ZTP & **PerleVIEW Central Management Platform** simplifies configuration, administration, monitoring, and troubleshooting.
- **Cloud Hosting** -- Deploy and manage your network from the cloud
- Advanced routing engine with AAA security and SSH/SSL encryption to meet all data center compliance policies
- Dual AC or Dual Feed 48vDC Power for Fault-tolerant uptime

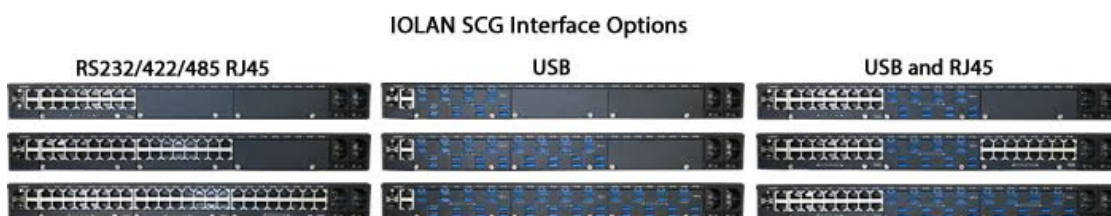
The **Perle IOLAN SCG WM Console Servers** provide data center managers with the ultimate solution for redundant, secure remote console management of any device with an **RS232 RJ45 or USB console port**. And, the IOLAN G16 RS-Multi Card, with 16 x software-selectable RS232/422/485 RJ45 interfaces enables organizations to connect a variety of serial-based devices to Ethernet. The integrated WiFi and V.92 modem support provides multiple alternate access methods to manage, maintain, and troubleshoot critical network devices, as well as **transmit data from mission-critical equipment over wireless LAN networks**. With an expandable modular hardware platform, **integrated firewall, two-factor authentication, advanced failover to multiple networks, and Zero Touch Provisioning (ZTP)**, your IT professionals and network operations center (NOC) personnel will have everything they need to easily perform secure remote data center management and out-of-band management of IT assets from anywhere in the world. This cost-effective 1U rack solution also maintains protocol integrity across Ethernet and adds full IPv4/IPv6 routing capabilities with support for RIP, OSPF, and BGP protocols.

Modular Hardware Platform enables Console Management of all IT assets

The **modular IOLAN SCG WM Console Server** provides up to **50 Console Management ports supporting USB, RS232, RS422, and RS485 interfaces**. The modular design of the IOLAN SCG allows the user to swap, upgrade, and scale to any combination of 16-port module cards to support all types of admin ports in one Console Management solution.

The Perle IOLAN SCG is the only industry solution that can support up to 50 high-density USB 3.0 ports that are

compatible with all manufacturers' USB solutions, including Cisco routers, switches, firewalls, servers (Solaris, Windows, Unix and Linux) PBXs, network storage equipment and security appliances.



The RS232 RJ45 ports are software configurable to use straight thru or rolled cables to connect your Cisco equipment and support DCD pin can be configured for 3rd party devices that need this extra signal. The software-selectable RS232/422/485 RJ45 interfaces simplify configuration and eliminate mechanical tampering associated with DIP switches. This mean the Perle IOLAN SCG supports more serial devices than any other Console Server on the market.

Advanced Network Security, Authentication, and Data Encryption

2 Factor Authentication (2FA) ensures access to equipment and data is limited to authorized users, while remote authentication (RADIUS, TACACS+, & LDAP) management, enables integration with enterprise-grade systems to control access to devices in the field.

The **built-in firewall** offers intuitive policies to protect inside networks from unauthorized access. The firewall also allows inside networks to be separated from each other. If there are network resources that need to be available to an outside user, such as a web or FTP server, these resources can be placed on a separate network behind the firewall in a demilitarized zone (DMZ).

Network data transmissions and access to remote console admin ports on IT equipment are protected through standard **encryption tools** such as Secure Shell (SSH) and Secure Sockets Layer (TLS/SSL). By using encryption technologies, an IOLAN SCG WM Console Server protects sensitive and confidential data before being sent across a corporate Intranet or public Internet. For compatibility with peer encryption devices, all the major encryption ciphers such as AES, 3DES, RC4, RC2, and CAST128 are fully supported.

With multiple concurrent VPN sessions, OpenVPN, and **IPSec VPN**, robust authentication and encryption of IP packets is provided at the network layer of the OSI model. This is ideal for multi-vendor interoperability within a network, providing flexibility and the ability to match the right solution for a particular application.

Multiple Out-of-Band (OOB) access methods

Every IOLAN SCG WM Console Server comes with three secure remote access methods to critical network devices.

1. **Built-in WiFi network access over dual-band radio antennas** provides optimal wireless performance, signal reliability, and range. With broad range support of Wireless LAN Technology (IEEE 802.11 a,b,g,n @ 2.4Ghz/5Ghz) and fast wireless speeds up to 150Mbps, the IOLAN SCG WM is ideal to ensure you always have access to critical network devices.
2. The **on-board RJ11 V.92 modem connection** provides a secure and reliable out-of-band connection over the POTS network. This means that should IP network access become unavailable, the IOLAN SCG WM can serve as the necessary alternate access method to troubleshoot and reboot critical network devices.
3. Any dual combination of the **two 10/100/1000Base-T Copper Ports and two 100/1000Base-X SFP Fiber Ports** can be used to meet your unique network access requirements. This design provides users with a flexible, cost-effective solution to transmit data from mission-critical equipment over Copper or Fiber based Ethernet networks. When connecting to a fiber network, the pluggable SFP ports allow for flexible network configurations using **SFP Optical Transceivers** supplied by Perle, **Cisco** or other manufacturers of MSA compliant SFPs.

High Availability Access

To simplify management and respond swiftly to issues, network administrators require access to all console ports via a single portal view. Perle's cloud-based centralized management solution puts all your network and IT infrastructure into a single application and provides secure reliable access and visibility during normal operations and critical network failures. Scalable to suit any business requirement, **Cloud Centralized Management** reduces human error and guarantees repeatability.

The IOLAN SCG WM also has built-in fault-tolerant capabilities to ensure secure and reliable access for managing important mission-critical equipment. **Redundant Path technology** assures availability to Console

Management ports through Active Standby or Dual Network Access modes. Virtual Router Redundancy Protocol (VRRPv3) enables a group of devices to form a single virtual device to provide network redundancy. The dual AC power supply ensures that console management is available even if the primary AC power source fails. And, protection against electrostatic discharges and power surges is provided with robust 15Kv ESD protection circuitry on each console port.

Easy Set-up and Configuration with Front Panel Display and Keyboard

The IOLAN SCG WM is incredibly easy to get up and running on the network. The Front Panel Display and Keyboard allows a user to assign an IP address directly through the display without a direct PC connection. The rest of the unit can then be configured over the network using a variety of configurator options including **PerleVIEW**, WebManager, CLI, etc.

The Front Panel Display is also a convenient way to monitor and trouble-shoot RS232, USB, and Ethernet port activity.

For large scale roll-outs, the Micro SD Card slot can be used to back-up and restore configuration files as well as load new firmware. Perle is committed to eliminating configuration hassles for all IOLAN's on your IP network.

Flexible and Reliable Serial to Ethernet Connections

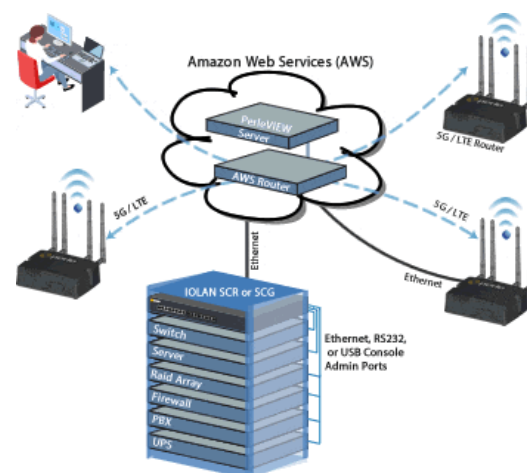
An IOLAN SCG Console Server is ideal for connecting serial based COM port, UDP or TCP socket based applications to remote devices. Perle's **TruePort re-director** provides fixed TTY or COM ports to serial based applications enabling communication with remote devices connected to Perle IOLAN's either in encrypted or clear text modes.

TrueSerial® packet technology delivers the most authentic serial connections across Ethernet for serial protocol integrity.

You can also tunnel serial data between devices across an IP network.

Advanced IP Technology

With support for IPv6, the IOLAN SCG provides organizations with investment protection to meet this rapidly growing standard.



Demand for IPv6, which is compatible with IPv4 addressing schemes, is driven by the need for more IP address. With the implementation and rollout of advanced cellular networks, a robust method is needed to handle the huge influx of new IP addressable devices on the Internet. In fact, the US Department of Defense has mandated that all equipment purchased be IPv6 compatible. In addition, all major Operating Systems such as Windows, Linux, Unix, and Solaris, as well as routers, have built-in support for IPv6.

It is therefore important for end users and integrators to select networking equipment that incorporates the IPv6 standard. The IOLAN line with support for IPv6 already built in is the best choice in serial to Ethernet technology.

More reasons that make the IOLAN SCG Console Servers the preferred choice:

- As a wireless client proxy, provides wireless connectivity to central access points for serial and Ethernet devices
- Can provide a direct serial to serial peer connection over wireless
- Software Access Point (**SoftAP**) for up to 6 wireless clients.
- Fast Wireless Roaming capability is ideal for mobile applications where the IOLAN can transparently roam between APs (Access Points) that share the same ESS (Extended Service Set)
- Primary/Backup host functionality enables automatic connections to alternate hosts should the primary TCP connection go down.
- **EasyPort Web** – Access equipment serial console ports by using your Java-enabled Internet browser
- Java-free browser access to remote serial console ports via Telnet and SSH.
- **Dynamic DNS** – Easy console management access from anywhere on the Internet.
- **NERC CIP** – Compliance Features

Lifetime Warranty

All Perle IOLAN SCG models are backed by the best service and support in the industry including Perle's unique lifetime warranty. Since 1976 Perle has been providing its customers with networking products that have the highest levels of performance, flexibility, and quality. With the Perle IOLAN SCG deploying and upgrading new services and equipment while minimizing capital expenditures, is easy.

Software Features - IOLAN SCG WM Secure Console Server

Management & Configuration
Zero Touch Provisioning (ZTP): automates the provisioning of both the configuration and firmware files through DHCP/Bootp Options
PerleView Central Management: a web-based server configuration tool that simplifies setup and deployment and gives network managers visibility and control over network configurations at remote sites.
Management & Monitoring: HTTP/HTTPS, CLI/Piping, Telnet, SNMPv1/v2/v3, RESTful API, TACACS+
Multiple firmware versions can be saved on the unit. This allows the customer to change between older and newer firmware versions without the need to download.

Multiple configuration files can be stored on the unit., This allows the customer to easily switch between older and newer configurations during testing or production deployments.

Automatic check for software updates available over FTP, HTTP, HTTPS, SCP, SFTP, and TFTP

LLDP-Link Layer Discovery Protocol, as per IEEE 802.1AB, is a neighbor discovery protocol that is used for network devices to advertise information about themselves to other devices on the network. This protocol runs over the data-link layer, which allows two systems running different network layer protocols to learn about each other via TLVs (Type-Length-Value).

RESTful API uses HTTP requests to access and use IOLAN statistics and configuration data. Any of the CLI commands can be executed through a RESTful API script that can be controlled externally from a server.

Connectivity Watchdog can instruct the IOLAN to take different actions (i.e. reboot) if the network connectivity to a pre-define IP address is lost. This is helpful for situations when the IOLAN is deployed on remote locations hard to service if the network connectivity is lost.

Automatic DNS Update: Utilize DHCP Opt 81 to set IOLAN domain name for easy name management and with Dynamic DNS support, users on the Internet can access the device server by name without having to know its IP address. See **Automatic DNS update** support for details

Dynamic DNS with DYNDNS.org

Network Assist: This Windows-based desktop application helps busy IT managers configure and monitor the status of deployed Perle devices.

Remote Access

Dial, direct serial: PPP, PAP/CHAP, SLIP

HTTP tunneling enables firewall-safe access to remote serial devices across the internet

Automatic DNS update: Utilize DHCP Opt 81 to set IOLAN domain name for easy name management and with Dynamic DNS support, users on the Internet can access the device server by name without having to know its IP address.

IPSEC VPN client/servers: Microsoft IPSEC VPN Client, Cisco routers with IPSEC VPN feature set, Perle IOLAN SDS, SDG, STS, STG, SCS, SCG, and SCR models

OpenVPN: Clients & Servers

Logging, Reporting & Alerts
Email alert notification
Syslog, Event Type, Report Type, Alerts & Monitoring, Triggers Status Screen Report, Data Usage, Diagnostic, Login Banner
Accessing Console Management Ports (Serial & Ethernet)
Serial Protocols: PPP, PAP/CHAP, SLIP
Connect directly using Telnet / SSH by port and IP address
Use an internet browser to access with HTTP or secure HTTPS
Java-free browser access to remote serial console ports via Telnet and SSH
Ports can be assigned a specific IP address
Multisession capability enables multiple users to access ports simultaneously
Multihost access enables multiple hosts/servers to share serial ports
Console Management Functions
Sun / Oracle Solaris Break Safe
Local port buffer viewing - 256K bytes per port
External port buffering via NFS, encrypted NFS and Syslog
Event notification
Windows Server / Azure - SAC support GUI access to text-based Special Administrative Console
Terminal Server Functions
Telnet
SSH v1 and v2
Auto session login
LPD, RCP printer

MOTD - Message of the day
Serial to Ethernet functions
Tunnel raw serial data across Ethernet - clear or encrypted
Raw serial data over TCP/IP
Raw serial data over UDP
Serial data control of packetized data
Share serial ports with multiple hosts/servers
Virtual modem simulates a modem connection - assign IP address by AT phone number
Virtual modem data can be sent over the Ethernet link with or without SSL encryption
TruePort com/tty redirector provides fixed TTY or COM ports to serial based applications enabling communication with remote devices connected to Perle IOLAN's either in encrypted or clear text modes.
TrueSerial packet technology provides the most authentic serial connections across Ethernet ensuring serial protocol integrity
RFC 2217 standard for transport of serial data and RS232 control signals
Customizable or fixed serial baud rates
Serial encapsulation of industrial protocols such as ModBus, DNP3 and IEC-870-5-101
ModBus TCP gateway enables serial Modbus ASCII/RTU device connection to ModBus TCP
Data logging will store serial data received when no active TCP session and forward to network peer once session re-established - 32K bytes circular per port
Redundancy
Load Balancing
VPN Failover
Virtual Router Redundancy Protocol (VRRPv3) enables a group of devices to form a single virtual device to provide network redundancy

Primary/Backup host functionality enables automatic connections to alternate hosts

Routing / Switching Protocols

The IOLAN can be configured for any of the major routing protocols for an easy integration within the data center Ethernet backbone: RIP/RIPNg, OSPFv3, BGP-4, NAT, IPv4/IPv6, Static Routing, IPv6 Encapsulations (GRE, 6in4), Port Routing, STP, MSTP

IPv6 to IPv4 translation is fully supported for environments where the Ethernet data backbone is run on IPv6 and the port management is run on IPv4

Using NAT for enhanced security, the IOLAN can map a single IP address, across all or several of its Ethernet ports.

IP Applications

DDNS, DNS Proxy / Spoofing, relay, client, Opt. 82,

NTP & SNTP (versions 1, 2, 3, 4)

DHCP / DHCPv6 server / DHCP Snooping & BOOTP

VLAN & VPN

VLAN, OpenVPN, VPN Failover (16 concurrent VPN tunnels)

IPSec VPN: NAT Traversal, ESP authentication protocol

Firewall Features

Ability to set up firewalls to restrict incoming and outgoing packets

Built in Zone-Based Policy Firewall for local security and traffic filtering.

Access Control Lists (list & ranges & time)

Filter based on MAC Address, IP, Port, Protocol, User

IEEE 802.1x Authentication and Port Security can be enabled for any Ethernet port for increased security port access.

Layer 2 MAC address filtering

Port Forwarding

BGP Communities
Security Features
AAA Security via remote authentication (Radius, TACACS+, & LDAP)
Trusted host filtering (IP filtering), allowing only those hosts that have been configured in the host table access to the router.
Ability to disable services (for example, Telnet, TruePort, Syslog, SNMP, Modbus, HTTP) for additional security
Ability to disable Ping responses
SSH client/server connections (SSH 1 and SSH 2). Supported ciphers are Blowfish, 3DES, AES-CBC, AES-CTR, AES-GCM, CAST, Arcfour and ChaCha20-Poly1305. Ability to individually disable network services that won't be used by the SSH client/server connections.
SSL/TLS client/server data encryption (TLS v1.2)
SSL Peer authentication
SSL encryption: AES-GCM, key exchange ECDH-ECDSA, HMAC SHA256, SHA384
Encryption: AES (256/192/128), 3DES, DES, Blowfish, CAST128, ARCFOUR(RC4), ARCTWO(RC2)
Hashing Algorithms: MD5, SHA-1, RIPEMD160, SHA1-96, and MD5-96
Key exchange: RSA, EDH-RSA, EDH-DSS, ADH
VPN: OpenVPN & IPSec VPN (NAT Traversal, ESP authentication protocol)
Certificate Support (X.509)
Certificate authority (CA) list
Local database
RIP authentication (via password or MD5)
2 Factor (2F) Authentication over e-mail enhances administration access security
Management Access Control

Demilitarized Zone (DMZ)
Secure HTTP/HTTPS/FTP/Telnet Authentication Proxy
SNMP v3 Authentication and Encryption support
IP Address filtering
Disable unused daemons
Active Directory via LDAP
Protocols
IPv6, IPv4, TCP/IP, Reverse SSH, SSH, SSL, IPSec/IPv4, IPSec/IPv6, IPSec, RIPV2/MD5, ARP, RARP, UDP, UDP Multicast, ICMP, BOOTP, DHCP, TFTP, SFTP, SNTP, Telnet, raw, reverse Telnet, LPD, RCP, DNS, Dynamic DNS, WINS, HTTP, HTTPS, SMTP, SNMPV3, PPP, PAP/CHAP, SLIP, CSLIP, RFC2217, MSCHAP

Specifications				
Lifetime limited warranty	Reach, RoHS and WEEE Compliant	HTSUS Number: 8517.62.0020	UNSPSC Code: 43222625	ECCN: 5A992
 				
CPU				
Processor		1750 MIPS, 500 MHz core 32 bit ARM processor, with integrated hardware encryption processor		
Memory				
RAM		1000 MB		
Flash		4000 MB		

Interface Ports	
Integrated Device Management Ports	2 x USB 3.0
Modular Device Management Ports	Create 18, 34, or 50-port SCG Console Servers using any combination of 16-port module cards to support all types of admin ports in one Console Management solution: • IOLAN G16 RS232 Card: Interface Module with 16 x RS232 RJ45 interfaces with software configurable Cisco pinouts • IOLAN G16 USB Card: Interface Module with 16 x USB 3.0 (Type-A) Console Management Ports. • IOLAN G16 RS-Multi Card: Interface Module with 16 x software selectable RS232/422/485 RJ45 interfaces. RS485 Full and Half duplex
Each chassis can be expanded or modified with an optional 16-port Interface card with either RS232 RJ45 ports or USB 3.0 ports	
Sun / Solaris	Sun / Oracle 'Solaris' Safe - no <i>"break signal"</i> sent during power cycle causing costly server re-boots or downtime
Serial Port Speeds	300bps to 230Kbps with customizable baud rate support
Data Bits	Configurable for 5,6,7 or 8-bit protocol support Use TruePort to transparently pass 9-bit serial data
Parity	Odd, Even, Mark, Space, None
Flow Control	Hardware, Software, Both, None
Serial Port Protection	15Kv Electrostatic Discharge Protection (ESD)
Local Console Ports	1 x RS232 RJ45 1 x Micro USB with DB9 adapter
Network	• 2 x 10/100/1000Base-T RJ45 Copper • 2 x 100/1000Base-X Fiber SFP Ports • Note: Any combination of two network ports can be used. • Software selectable Ethernet speed 10/100/1000, Auto • Software selectable Half/Full/Auto duplex
Micro SD Card slot	Yes

Ethernet Isolation	1.5Kv Magnetic Isolation
Integrated Modem	Integrated V.92/V.90 modem with RJ11 jack
Integrated Wireless Access	
WLAN (Wi-Fi ®)	IEEE 802.11 a,b,g,n,i
Wireless Topology	Infrastructure (AP) and Peer to Peer- (SoftAP) modes
Wireless Radio	Dual-Band Radio ; 2.4GHz and 5GHz 20, 40Mhz SISO 2.4-GHz
Wireless Data Rates	802.11n: • 15 Mbps • 30 Mbps • 45 Mbps • 60 Mbps • 90 Mbps • 120 Mbps • 135 Mbps • 150 Mbps (40Mhz channel @ 400ns Short GI) 802.11a/g: • 6 Mbps • 9 Mbps • 12 Mbps • 18 Mbps • 24 Mbps • 36 Mbps • 48 Mbps • 54 Mbps 802.11b: • 1 Mbps • 2 Mbps • 5.5 Mbps • 11 Mbps
Operational Frequency Range (MHz)	• 2412 to 2484 MHz • 4910 to 5825 MHz
Modulation	DSSS, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM

Wireless Receiver Sensitivity in dBm (2.4Ghz SISO)	802.11b/g (20 MHz channel) • 1 Mbps: -95.0 • 2 Mbps: -92.0 • 5.5 Mbps: -89.2 • 6 Mbps: -91.0 • 9 Mbps: -89.0 • 11 Mbps: -86.3 • 12 Mbps: -88.0 • 18 Mbps: -85.5 • 24 Mbps: -82.5 • 36 Mbps: -79.0 • 48 Mbps: -74.0 • 54 Mbps: -72.7	802.11n (20 MHz channel) @ 400ns GI • 7.2 Mbps (MCS0): -89.3 • 14.4 Mbps (MCS1): -86.5 • 21.7 Mbps (MCS2): -84.5 • 28.9 Mbps (MCS3): -81.5 • 43.3 Mbps (MCS4): -78.0 • 57.8 Mbps (MCS5): -73.5 • 65.0 Mbps (MCS6): - 71.5 • 72.2 Mbps (MCS7): -70.0	802.11n (40 MHz channel) @ 400ns GI • 15.0 Mbps (MCS0): -89.3 • 30.0 Mbps (MCS1): -86.5 • 45.0 Mbps (MCS2): -84.5 • 60.0 Mbps (MCS3): -81.5 • 90.0 Mbps (MCS4): -78.0 • 120.0 Mbps (MCS5): -73.5 • 135.0 Mbps (MCS6): - 71.5 • 150.0 Mbps (MCS7): -70.0
Wireless Transmit Power in dBm (2.4Ghz SISO)	(20 MHz channel) • 1 Mbps: 16.0 • 2 Mbps: 16.0 • 5.5 Mbps: 16.0 • 6 Mbps: 16.5 • 9 Mbps: 16.5 • 11 Mbps: 16.0 • 12 Mbps: 16.5 • 18 Mbps: 16.5 • 24 Mbps: 16.5 • 36 Mbps: 15.2 • 48 Mbps: 14.3 • 54 Mbps: 13.5 • MCS0 : 16.0 • MCS1 : 16.0 • MCS2 : 16.0 • MCS3 : 16.0 • MCS4 : 15.2 • MCS5 : 14.3 • MCS6 : 13.5 • MCS7 : 12.6	(40 MHz channel) • MCS0 : 14.0 • MCS7 : 11.8	

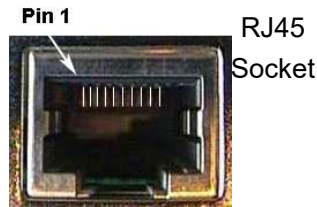
Wireless Receiver Sensitivity in dBm (5Ghz SISO)	802.11a • 6 Mbps: -92.5 • 9 Mbps: -90.5 • 12 Mbps: -90.0 • 18 Mbps: -87.5 • 24 Mbps: -84.5 • 36 Mbps: -81.0 • 48 Mbps: -76.5 • 54 Mbps: -74.6	802.11n (20MHz channel) @ 400ns GI • 7.2 Mbps (MCS0): -91.4 • 14.4 Mbps (MCS1): -88.0 • 21.7 Mbps (MCS2): -86.0 • 21.7 Mbps (MCS2): -86.0 • 43.3 Mbps (MCS4): -79.8 • 57.8 Mbps (MCS5): -75.5 • 65.0 Mbps (MCS6): -74.0 • 72.2 Mbps (MCS7): -72.4	802.11n (40MHz channel) @ 400ns GI • 15.0 Mbps (MCS0): -88.5 • 150.0 Mbps (MCS7): -69.3
Wireless Transmit Power in dBm (5Ghz SISO)	802.11a • 6 Mbps: 18.0 • 9 Mbps: 18.0 • 12 Mbps: 18.0 • 18 Mbps: 18.0 • 24 Mbps: 17.4 • 36 Mbps: 16.5 • 48 Mbps: 15.8 • 54 Mbps: 14.5	802.11n (HT20) @ 400ns GI • 7.2 Mbps (MCS0): 18.0 • 14.4 Mbps (MCS1): 18.0 • 21.7 Mbps (MCS2): 18.0 • 28.9 Mbps (MCS3): 18.0 • 43.3 Mbps (MCS4): 16.5 • 57.8 Mbps (MCS5): 15.8 • 65.0 Mbps (MCS6): 14.5 • 72.2 Mbps (MCS7): 12.0	802.11n (HT40) @ 400ns GI • 15.0 Mbps (MCS0): 16.5 • 150.0 Mbps (MCS7): 12.0
Short Guard Interval (SGI)	800ns and 400ns (Short Guard Interval)		

Wireless Antenna	Dual-band 2.4/5.0 GHz, Omni-directional, Dipole antenna, 50 Ohm, 2 dBi, black with RP-SMA / RSMA finger tighten connector. Same antenna can be used as Main and/or Diversity for increased wireless performance, signal reliability, and extended range.
Maximal Ratio Combining (MRC), Rx Diversity	2.4 GHz MRC support for up to 1.4 Extended Range and 5 GHz Diversity Capable
Wireless Security	WEP, WPA-PSK, WPA2-PSK & Enterprise (EAP, PEAP, LEAP), 802.11i (includes hardware-accelerated Advanced Encryption Standard [AES]), 802.1x supplicant
Fast Wireless Roaming	Ideal for mobile applications, the IOLAN can transparently roam between APs (Access Points) that share the same ESS (Extended Service Set)
WiFi Protected Setup (WPS V2)	A plug and play set up feature where the IOLAN can easily connect to a WPS capable central access point or SoftAP compliant device supporting WPS
Front Panel LCD Display and Keyboard Indicators	
	• Network Link Activity • Serial Tx/Rx data per port
LED Indicators	
	• System Ready • Network Link Activity
Environmental Specifications	
Heat Output (BTU/HR)	• IOLAN SCG18: 61.42 • IOLAN SCG34: 83.60 • IOLAN SCG50: 105.77
MTBF (Hours)	79,478 Hours <i>Calculation model based on MIL-HDBK-217-FN2 @ 30°C</i>
Operating Temperature	0°C to 55°C, 32°F to 131°F
Storage Temperature	-40°C to 85°C, -40°F to 185°F
Humidity	5 to 95% (non condensing) for both storage and operation.

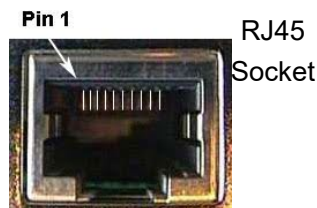
Case	SECC Zinc plated sheet metal (1 mm)
Ingress Protection Rating	IP30
Mounting	1U - 19' rack, front and rear mounting hardware included
Regulatory Approvals	
Emissions	• FCC 47 Part 15 Subpart B Class A • ICES-003 (Canada) • EN55011 (CISPR11) • CISPR 32 / EN 55032 • EN61000-3-2 Limits for Harmonic Current Emissions • EN61000-3-3 Limits of Voltage Fluctuations and Flicker
Immunity	• CISPR 35 / EN 55035 • EN 61000-4-2 (ESD): Contact: • EN 61000-4-3 (RS): • EN 61000-4-4 (EFT): • EN 61000-4-5 (Surge): • EN 61000-4-6 (CS): • EN 61000-4-8 (PFMF) • EN 61000-4-11
Safety	• UL/EN/IEC 62368-1 (previously 60950-1) • CAN/CSA C22.2 No. 62368-1
Wireless Regulatory Domain	• FCC/ICES • ETSI • TELEC • Users are responsible for verifying approval for use in their individual countries.
Radio Approvals	• FCC Part 15.247 Subpart C (2.4 Ghz) • FCC Part 15.407 Subpart E (5 Ghz) • RSS-210 (Canada), RSS-Gen Issue 2 (Canada), ICES-003 Issue 4 • ETSI EN 301 489-1 (V1.9.2) • ETSI EN 301 489-17 (V2.2.1) • ETSI EN 300 328 (V1.8.1) • ETSI EN 301 893 (V1.7.1)

Frequency Bands	FCC/ICES • 2.412 to 2.462 GHz; 11 channels • 5.180 to 5.320 GHz; 8 channels • 5.500 to 5.700 GHz; 8 channels (excluding 5.600 to 5.640 GHz) • 5.745 to 5.825 GHz; 5 channels	ETSI • 2.412 to 2.472 GHz; 13 channels • 5.180 to 5.320 GHz; 8 channels • 5.500 to 5.700 GHz; 8 channels (excluding 5.600 to 5.640 GHz)	MIC (formally TELEC) • 2.412 to 2.472 GHz; 13 channels • 4.920 to 4.980 GHz; 4 channels • 5.030 to 5.091 GHz; 3 channels • 5.180 to 5.240 GHz; 8 channels • 5.500 to 5.700 GHz; 11 channels
Power			
Power Supply	Dual AC Models • USA: IEC320-C13 to NEMA 5-15P line cord • UK: IEC320-C13 to BS1363 line cord • EU: IEC320-C13 to CEE 7/7 Schuko • South Africa: IEC320-C13 to BS546 line cord • Australia: IEC320-C13 to AS3112 line cord Dual Feed DC Models • Terminal Blocks with screw terminals accommodating 28 - 12 AWG wire sizes.		
Nominal Input Voltage	Dual AC Models 110/230v AC	Dual Feed DC Models 48v DC	
Input Voltage Range	Dual AC Models 100-240v AC	Dual Feed DC Models 24- 60v DC	
AC Input Frequency	Dual AC Models 47-63Hz	Dual Feed DC Models N/A	

Current Consumption	Dual AC Models @ 100v (Amps) - IOLAN SCG18: 0.19 - IOLAN SCG34: 0.25 - IOLAN SCG50: 0.31 @ 240v (Amps) - IOLAN SCG18: 0.08 - IOLAN SCG34: 0.11 - IOLAN SCG50: 0.13 Dual Feed DC Models @ 48v DC (Amps) - IOLAN SCG18: 0.19 - IOLAN SCG34: 0.25 - IOLAN SCG50: 0.31
Typical Power Consumption	18 Watts
	*Note: USB cards can use an additional power of 2.5 Watts per port up to a max of 8 Watts total
Power Line Protection	Fast transients: 1 KV (EN61000-4-4 Criteria B) Surge: 2KV (EN61000-4-5 common mode), 1KV (EN61000-4-5 differential and common modes)
Weight and Dimensions	
Product Weight	Dual AC Models - IOLAN SCG18: 3.29 kg / 7.25 lbs - IOLAN SCG34: 3.46 kg / 7.63 lbs - IOLAN SCG50: 3.63 kg / 8 lbs Dual Feed DC Models - IOLAN SCG18: 3.20 kg / 7.05 lbs - IOLAN SCG34: 3.37 kg / 7.43 lbs - IOLAN SCG50: 3.53 kg / 7.78 lbs
Product Dimensions	1U Rack form factor - 26.4 x 43.4 x 4.4 (cm), 10.38 x 17.1 x 1.75 (in)
Shipping Weight	Dual AC Models - IOLAN SCG18: 4.23 kg / 9.33 lbs - IOLAN SCG34: 4.40 kg / 9.70 lbs - IOLAN SCG50: 4.57 kg / 10.07 lbs Dual Feed DC Models - IOLAN SCG18: 4.14 kg / 9.13 lbs - IOLAN SCG34: 4.31 kg / 9.50 lbs - IOLAN SCG50: 4.47 kg / 9.85 lbs
Shipping Dimensions	59 x 36 x 9 (cm), 23.22 x 14.17 x 3.54 (in)

IOLAN G16 RS232 Card RJ45 Serial Connector Pinout - DCE mode (Straight-through)

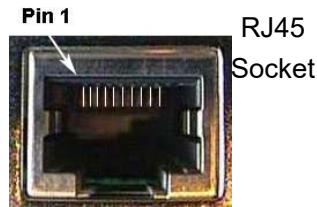
Pinout	Direction	EIA-232
1	in	CTS
2	in	DSR
3	in	RxD
4	N/A	GND
5	N/A	Not Used
6	out	TxD
7	out	DTR
8	out	RTS

IOLAN G16 RS232 Card RJ45 Serial Connector Pinout - DTE mode (Rolled)

Pinout	Direction	EIA-232
1	out	RTS
2	out	DTR
3	out	TxD
4	N/A	GND
5	in	DCD
6	in	RxD
7	in	DSR
8	in	CTS

(A rolled RJ45 cable will automatically perform DTE to DCE crossover)

IOLAN G16 RS-Multi Card RJ45 Serial Connector Pinout



Pinout	Direction	EIA-232	EIA-422	EIA-485 Full Duplex	EIA-485 Half Duplex
1	out	RTS	TxD+	TxD+	DATA+
2	out	DTR	N/A	N/A	N/A
3	out	TxD	TxD-	TxD-	DATA-
4	N/A	GND	GND	GND	GND
5	N/A	GND	GND	GND	GND
6	in	RxD	RxD+	RxD+	N/A
7	in	DSR	N/A	N/A	N/A
8	in	CTS	RxD-	RxD-	N/A

Product List



IOLAN SCG18 R-WM Console Server: 16 x RS232 RJ45 interfaces with software configurable Cisco pinouts, 2 x USB 3.0 (Type-A) Console Management Ports, Front Panel Display and Keyboard, 2 x auto-sensing 10/100/1000 Ethernet Combo Ports (RJ45 or SFP), Wireless LAN (WiFi) client IEEE 802.11 a, b, g, n @ 2.4Ghz/5Ghz, integrated RJ45 V.92 modem, Micro SD Card Slot, Micro USB and RS232 RJ45 Console Admin Ports, advanced data encryption, user authentication and event management security features included, IPv6, COM port redirector, 15kv ESD, Expandable using IOLAN G16 Cards, Dual AC Power

Power Cord & Part Number(s)

USA	UK	EU	SA	AUS	None
04032804	04032801	04032802	04032805	04032806	04032808



IOLAN SCG18 R-WMD Console Server: 16 x RS232 RJ45 interfaces with software configurable Cisco pinouts, 2 x USB Ports, Front Panel Display and Keyboard, 2 x auto-sensing 10/100/1000 Ethernet Combo Ports (RJ45 or SFP), Wireless LAN (WiFi) client IEEE 802.11 a, b, g, n @ 2.4Ghz/5Ghz, integrated RJ45 V.92 modem, Micro SD Card Slot, Micro USB and RS232 RJ45 Console Admin Ports, IPv4/IPv6 routing (RIP, OSPF, BGP), ZTP, REST / Python, Cloud-hosting, advanced data encryption, user authentication and event management security features included, COM port redirector, 15kv ESD, Expandable using IOLAN G16 Cards, Dual Feed DC Power.

Power Cord & Part Number(s)

None

04033930



IOLAN SCG18 U-WM Console Server: 18 x USB 3.0 (Type-A) Console Management Ports, Front Panel Display and Keyboard, 2 x auto-sensing 10/100/1000 Ethernet Combo Ports (RJ45 or SFP), Wireless LAN (WiFi) client IEEE 802.11 a, b, g, n @ 2.4Ghz/5Ghz, integrated RJ45 V.92 modem, Micro SD Card Slot, Micro USB and RS232 RJ45 Console Admin Ports, advanced data encryption, user authentication and event management security features included, IPv6, COM port redirector, 15kv ESD, Expandable using IOLAN G16 Cards, Dual AC Power

Power Cord & Part Number(s)

USA	UK	EU	SA	AUS	None
04033164	04033161	04033162	04033165	04033166	04033168



IOLAN SCG34 R-WM Console Server: 32 x RS232 RJ45 interfaces with software configurable Cisco pinouts, 2 x USB 3.0 (Type-A) Console Management Ports, Front Panel Display and Keyboard, 2 x auto-sensing 10/100/1000 Ethernet Combo Ports (RJ45 or SFP), Wireless LAN (WiFi) client IEEE 802.11 a, b, g, n @ 2.4Ghz/5Ghz, integrated RJ45 V.92 modem, Micro SD Card Slot, Micro USB and RS232 RJ45 Console Admin Ports, advanced data encryption, user authentication and event management security features included, IPv6, COM port redirector, 15kv ESD, Expandable using IOLAN G16 Cards, Dual AC Power

Power Cord & Part Number(s)

USA	UK	EU	SA	AUS	None
04032924	04032921	04032922	04032925	04032926	04032928



IOLAN SCG34 R-WMD Console Server: 32 x RS232 RJ45 interfaces with software configurable Cisco pinouts, 2 x USB Ports, Front Panel Display and Keyboard, 2 x auto-sensing 10/100/1000 Ethernet Combo Ports (RJ45 or SFP), Wireless LAN (WiFi) client IEEE 802.11 a, b, g, n @ 2.4Ghz/5Ghz, integrated RJ45 V.92 modem, Micro SD Card Slot, Micro USB and RS232 RJ45 Console Admin Ports, IPv4/IPv6 routing (RIP, OSPF, BGP), ZTP, REST / Python, Cloud-hosting, advanced data encryption, user authentication and event management security features included, COM port redirector, 15kv ESD, Expandable using IOLAN G16 Cards, Dual Feed DC Power.

Power Cord & Part Number(s)

None

04034050



IOLAN SCG34 U-WM Console Server: 34 x USB 3.0 (Type-A) Console Management Ports, Front Panel Display and Keyboard, 2 x auto-sensing 10/100/1000 Ethernet Combo Ports (RJ45 or SFP), Wireless LAN (WiFi) client IEEE 802.11 a, b, g, n @ 2.4Ghz/5Ghz, integrated RJ45 V.92 modem, Micro SD Card Slot, Micro USB and RS232 RJ45 Console Admin Ports, advanced data encryption, user authentication and event management security features included, IPv6, COM port redirector, 15kv ESD, Expandable using IOLAN G16 Cards, Dual AC Power

Power Cord & Part Number(s)

USA	UK	EU	SA	AUS	None
04033284	04033281	04033282	04033285	04033286	04033288



IOLAN SCG34 RU-WM Console Server: 16 x RS232 RJ45 interfaces with software configurable Cisco pinouts, 18 x USB 3.0 (Type-A) Console Management Ports, Front Panel Display and Keyboard, 2 x auto-sensing 10/100/1000 Ethernet Combo Ports (RJ45 or SFP), Wireless LAN (WiFi) client IEEE 802.11 a, b, g, n @ 2.4Ghz/5Ghz, integrated RJ45 V.92 modem, Micro SD Card Slot, Micro USB and RS232 RJ45 Console Admin Ports, advanced data encryption, user authentication and event management security features included, IPv6, COM port redirector, 15kv ESD, Expandable using IOLAN G16 Cards, Dual AC Power

Power Cord & Part Number(s)

USA	UK	EU	SA	AUS	None
04033524	04033521	04033522	04033525	04033526	04033528



IOLAN SCG50 R-WM Console Server: 48 x RS232 RJ45 interfaces with software configurable Cisco pinouts, 2 x USB 3.0 (Type-A) Console Management Ports, Front Panel Display and Keyboard, 2 x auto-sensing 10/100/1000 Ethernet Combo Ports (RJ45 or SFP), Wireless LAN (WiFi) client IEEE 802.11 a, b, g, n @ 2.4Ghz/5Ghz, integrated RJ45 V.92 modem, Micro SD Card Slot, Micro USB and RS232 RJ45 Console Admin Ports, advanced data encryption, user authentication and event management security features included, IPv6, COM port redirector, 15kv ESD, Dual AC Power

Power Cord & Part Number(s)

USA	UK	EU	SA	AUS	None
04033044	04033041	04033042	04033045	04033046	04033048



IOLAN SCG50 R-WMD Console Server: 48 x RS232 RJ45 interfaces with software configurable Cisco pinouts, 2 x USB Ports, Front Panel Display and Keyboard, 2 x auto-sensing 10/100/1000 Ethernet Combo Ports (RJ45 or SFP), Wireless LAN (WiFi) client IEEE 802.11 a, b, g, n @ 2.4Ghz/5Ghz, integrated RJ45 V.92 modem, Micro SD Card Slot, Micro USB and RS232 RJ45 Console Admin Ports, IPv4/IPv6 routing (RIP, OSPF, BGP), ZTP, REST / Python, Cloud-hosting, advanced data encryption, user authentication and event management security features included, COM port redirector, 15kv ESD, Dual Feed DC Power.

Power Cord & Part Number(s)

None
04034170



IOLAN SCG50 U-WM Console Server: 50 x USB 3.0 (Type-A) Console Management Ports, Front Panel Display and Keyboard, 2 x auto-sensing 10/100/1000 Ethernet Combo Ports (RJ45 or SFP), Wireless LAN (WiFi) client IEEE 802.11 a, b, g, n @ 2.4Ghz/5Ghz, integrated RJ45 V.92 modem, Micro SD Card Slot, Micro USB and RS232 RJ45 Console Admin Ports, advanced data encryption, user authentication and event management security features included, IPv6, COM port redirector, 15kv ESD, Dual AC Power

Power Cord & Part Number(s)

USA	UK	EU	SA	AUS	None
04033404	04033401	04033402	04033405	04033406	04033408



IOLAN SCG50 RRU-WM Console Server: 32 x RS232 RJ45 interfaces with software configurable Cisco pinouts, 18 x USB 3.0 (Type-A) Console Management Ports, Front Panel Display and Keyboard, 2 x auto-sensing 10/100/1000 Ethernet Combo Ports (RJ45 or SFP), Wireless LAN (WiFi client IEEE 802.11 a, b, g, n @ 2.4Ghz/5Ghz,integrated RJ45 V.92 modem, Micro SD Card Slot, Micro USB and RS232 RJ45 Console Admin Ports, advanced data encryption, user authentication and event management security features included, IPv6, COM port redirector, 15kv ESD, Dual AC Power

Power Cord & Part Number(s)

USA	UK	EU	SA	AUS	None
04033644	04033641	04033642	04033645	04033646	04033648



IOLAN SCG50 RUU-WM Console Server: 16 x RS232 RJ45 interfaces with software configurable Cisco pinouts, 34 x USB 3.0 (Type-A) Console Management Ports, Front Panel Display and Keyboard, 2 x auto-sensing 10/100/1000 Ethernet Combo Ports (RJ45 or SFP), Wireless LAN (WiFi client IEEE 802.11 a, b, g, n @ 2.4Ghz/5Ghz,integrated RJ45 V.92 modem, Micro SD Card Slot, Micro USB and RS232 RJ45 Console Admin Ports, advanced data encryption, user authentication and event management security features included, IPv6, COM port redirector, 15kv ESD, Dual AC Power

Power Cord & Part Number(s)

USA	UK	EU	SA	AUS	None
04033764	04033761	04033762	04033765	04033766	04033768

Related Accessories

Cable Accessories



3 meter RJ45 to RJ45 CAT5 Straight-thru cable #1100360-10

04005120



3 meter RJ45 to RJ45 CAT5 Rolled (crossover) cable #1100370-10. For use with Perle

04005130



DBA0010C - RJ-45F to DB-25F crossover (DTE) adapter #1100270-10 for IOLAN.

04007010



DBA0011C - RJ-45F to DB-25M crossover (DTE) adapter #1100280-10 for IOLAN.

04007020



DBA0013C - RJ-45F to DB-25M straight-thru (DCE) adapter #1100290-10 for modems on IOLAN.

04007030



DBA0020C - RJ-45F to DB-9F crossover (DTE) adapter #1100300-10 for Perle serial console

04007040



DBA0021C - RJ-45F to DB-9M crossover (DTE) adapter #1100310-10 for IOLAN.

04007050



C Model Kit Includes:
(1) RJ-45 to DB-25 DTE Male adapter,
(1) RJ-45 to DB-25 DCE Male adapter,

04007070



DBA0023C - RJ-45F to DB-9M straight-thru (DCE) adapter #1100350-11 for modems on IOLAN

04007210



IOLAN SCG/SCR RJ45F to DB9M adapter with DCD.

04007220



IOLAN SCG/SCR
RJ45F to DB25M
adapter with DCD.

04007230



DBA0010C 8pck - 8
pack of # 04007010
RJ45F to DB-25F
(DTE) crossover
adapter for IOLAN.

04031300



DBA0011C 8pck - 8
pack of #04007020
RJ45F to DB25M
(DTE) crossover
adapter for IOLAN.

04031310



DBA0020C 8pck - 8
pack of #04007040
RJ45F to DB9F
(DTE) crossover
adapter for IOLAN.

04031320



DBA0021C 8pck - 8
pack of #04007050
RJ45F to DB9M
(DTE) crossover
adapter for IOLAN.

04031330



DBA0013C 8pck - 8 pack of
#04007030 RJ45F to DB25M
Straight-thru adapter for modems on
IOLAN.

04031340



DBA0040 8pck - 8 pack of
#04007220 IOLAN SCG/SCR RJ45F
to DB9M adapter with DCD.

04031360



DBA0041 8pck - 8 pack of
#04007230 IOLAN SCG/SCR RJ45F
to DB25M adapter with DCD.

04031390

Accessories



IOLAN G16 RS232 Card: Interface Module with 16 x RS232 RJ45 interfaces with software configurable Cisco pinouts. Field upgradeable accessory to add ports to expandable

04033800



IOLAN G16 USB Card: Interface Module with 16 x USB 3.0 (Type-A) Console Management Ports. Field upgradeable accessory to add ports to expandable IOLAN SCG Console

04033810



IOLAN G16 RS-Multi Card: Interface Module with 16 x software selectable RS232/422/485 RJ45 interfaces. Field upgradeable accessory to add ports to expandable IOLAN SCG

04033820

Maintenance agreements - Console Server / Device Server / Terminal Server



16 to 18 Port
Terminal/Device/Console
Servers - Express
Replacement 1 Year
Maintenance Contract

SERNSS16



16 to 18 Port
Terminal/Device/Console
Servers - Express
Replacement 1 Year
Maintenance Contract,

SERNSS16F



32 to 34 Port
Terminal/Device/Console
Servers - Express
Replacement 1 Year
Maintenance Contract

SERNSS32



32 to 34 Port
Terminal/Device/Console
Servers - Express
Replacement 1 Year
Maintenance Contract,

SERNSS32F



48 to 50 Port Terminal/Device/Console Servers - Express Replacement 1 Year Maintenance Contract

SERNSS48



48 to 50 Port Terminal/Device/Console Servers - Express Replacement 1 Year Maintenance Contract, French

SERNSS48F