

IOLAN SCR Secure OOBM Console Servers

The Ultimate Network Resilience Solution



- Intelligent Out-of-Band IT Infrastructure Management with optionally integrated Cellular
- Maintain control over your network with a separate, secure management plane built to operate independently from the network to ensure out-of-band access even during network outages.
- Integrate with **PerleVIEW Central Management Platform** for advanced single pane of glass management, automating routine tasks and providing detailed reporting.
- Designed to support the latest technologies and standards, ensuring long-term reliability.
- Advanced routing engine with **AAA security** and **encryption tools** that meet all data center compliance policies

Perle IOLAN SCR Secure Console Servers are engineered to provide unparalleled network resilience and secure remote access to your critical infrastructure. This ultimate solution for advanced out-of-band management will keep your network infrastructure secure, reliable, and automated. Whether managing data centers, branch offices, remote sites, or high-density locations, an IOLAN SCR provides unparalleled control and monitoring capabilities to ensure your network remains operational, even during outages.

Console Management Ports

Every IOLAN SCR Console Server has integrated serial RS232 RJ45 and USB host ports. To get the ultimate solution for connectivity and redundancy, choose the IOLAN SCR256, which also includes Ethernet console management ports.



IOLAN SCR256 Console Server:

24 x Ethernet, 24 x RS232, 8 x USB



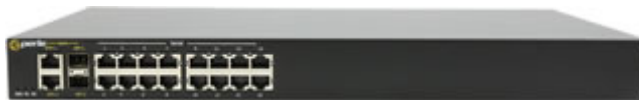
IOLAN SCR258 Console Server:

48 x RS232, 8 x USB



IOLAN SCR242 Console Server:

32 x RS232, 8 x USB



IOLAN SCR226 Console Server:

16 x RS232, 8 x USB



IOLAN SCR052 Console Server:

48 x RS232, 2 x USB



IOLAN SCR036 Console Server:

32 x RS232, 2 x USB



IOLAN SCR020 Console Server:

16 x RS232, 2 x USB

A Complete Top-of-Rack Management Solution

An **IOLAN SCR Console Server** at every IT location, used in combination with **PerleVIEW** deployed in the cloud or on premise, provides secure remote device access and management through a single application. This powerful monitoring and management tool offers a robust suite of intuitive automation tools that empower administrators to seamlessly scale deployments, edit configurations, update firmware, monitor system health, schedule tasks, and automate routine actions – all from the comfort of your preferred location and device. **Perle Network Assist** is also an excellent option for busy IT managers who want a free Windows-based desktop application to efficiently configure, monitor, and manage Perle hardware solutions.

Optional Global Cellular Integration

Models with integrated Cellular protect your data center and branch office out-of-band management infrastructure against wired LAN failure. It can also transmit serial data or establish a direct serial-to-serial peer connection over cellular networks. This is ideal when devices are located where hardwired Ethernet connections are not available but cellular networks, with their affordable data packages, are accessible.

Built-in PerleARMOR™ security shield

PerleARMOR™ is a robust set of standards-based security features integrated into every IOLAN SCR Console Server. Perle is committed to the standards and regulations that industries require for device security, identity, and data privacy.

- **Secure Boot:** By ensuring that the IOLAN SCR boots using only trusted software user can have confidence that malware and rootkits cannot compromise the integrity or security of the device. It provides a robust defense against a variety of threats, supports regulatory compliance, and maintains device integrity.
- **Protect against unauthorized access:** Two-factor authentication (2FA), **IEEE 802.1x**, and support for **AAA protocols like TACACS+, Radius with RADSec, and LDAP** enable integration with enterprise-grade systems.
- **Trusted Platform Module (TPM) 2.0** provides hardware-based encryption, secure key storage, platform integrity, and compliance with security regulations.
- **Secure Internet Transmissions:** The IOLAN SCR ensures the integrity of data flowing across the network by only accepting signed and encrypted files through secured tunnels.
- **Secure Remote Access:** Create a secure tunnel using **OpenVPN** or **IPSec** to ensure your confidential data is protected and secure



- **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).
- Enable or disable physical ports and specific protocols to limit the attack surface, control the types of traffic that can flow through your network, reduce congestion, and meet regulatory requirements.
- **FIPS 140-3 Software version:** for compliance with US and Canadian Federal Government regulations for protecting sensitive information.

Other Key Features:

- **Zero Touch Provisioning (ZTP):** Simplifies configuration, administration, and deployment, eliminating the need for on-site technical support while saving time and reducing errors.
- **Easy Network Integration:** full IPv4/IPv6 routing capabilities with extensive protocol support, including VRRP, RIP, OSPF, and BGP.
- **Flexible Deployment:** 1U form factor with up to 4 x Uplink ports and dual AC power inputs ensure uninterrupted operation through redundancy and reliability
- **Passive Cooling:** IOLAN SCR's do not have fans. Their silent operation, with no moving parts, makes them ideal for deployment in environments where noise or dust could be a concern.
- **Automated Network Recovery:** Utilize rules-based automation to detect, analyze, and resolve network issues swiftly and efficiently.
- **TrueSerial® Technology:** Ensures authentic serial connections across Ethernet, maintaining protocol integrity.
- **Cloud Hosting:** Deploy and manage your network from the cloud
- **NERC CIP Compliance Features**

Virtualization & Edge Computing Tools

As infrastructures expand, there is a massive global demand for more processing power at the network edge. This requires advanced equipment with built-in functionality to run distributed tasks without being dependent on a connection to a central host.

IOLAN SCR Console Servers, with **native support for OCI Containers and virtual machines (VMs)**, enable users to optimize edge computing processing capabilities by deploying applications tailored to suit unique or evolving use cases with low latency and real-time responsiveness. One of the main advantages of this solution is the ability to deploy custom third-party applications in a container or a VM that runs tasks and performs intelligent actions closer to the source without obstructing the core functionality of the IOLAN Console Server. Perle's OCI Containers are based on the Docker platform and support public and private container registries such as Docker Hub, Amazon ECR, Opencontainers, GitHub, BuildKit, Podman, and Buildah. The VMs are well suited for complex applications that require a fully dedicated, isolated OS environment to run on the IOLAN to help IT departments optimize their infrastructure and improve operational efficiency.

For **advanced automation**, the IOLAN SCR **x86 CPU** can easily run your own application, including **Python scripts inside Docker or a VM**, for custom automation of tasks like collecting statistics and reconfiguring devices for more efficient network management.

Lifetime Warranty

All Perle IOLAN SCR 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 SCR deploying and upgrading new services and equipment, while minimizing capital expenditures, is easy.

Software Features - IOLAN SCR Secure Console Server

Management & Configuration
Zero Touch Provisioning (ZTP): automates the provisioning of both the configuration and firmware files through DHCP/BOOTP Options
Application Virtualization support like VM (KVM) / OCI Containers (Docker)
Management & Monitoring: HTTP/HTTPS, CLI, Telnet, SNMPv1/v2/v3, Application Virtualization, RESTful API, SMS, TACACS+
Central Management support (i.e. cloud or local) using PerleVIEW and/or Network Assist
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 SCR x86 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 SCR x86 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 SCR x86 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

Installation Wizard

Redundancy

Load Balancing, VPN Failover, VRRPv3

Routing Protocols

The IOLAN SCR x86 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/RSTP

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 SCR x86 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, WireGuard, VPN Failover

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.
Port Forwarding
BGP Communities
Security Features
AAA Security via remote authentication (Radius / RADSec, 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 (i.e. Telnet, Syslog, SNMP, HTTP) for additional security
Ability to disable Ping responses
SSH client/server connections (SSH 2) . Ability to individually select network services that will be used by the SSH client/server connections.
SSL/TLS client/server data encryption (TLS v1.3)
SSL Peer authentication, SSL encryption, Hashing algorithms, key exchange, X.509 certificate
Local database
RIP authentication (via password or MD5)
2 Factor (2F) Authentication for enhanced administration access security
Management Access Control
Demilitarized Zone (DMZ)
Secure HTTP/HTTPS/FTP/Telnet Authentication Proxy
SNMP v3 Authentication and Encryption support

MAC & IP Address filtering
Active Directory via LDAP
FIPS 140-3 Enterprise Grade Security – Cryptographic modules meet US Government NIST compliancy
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
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.
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

<p>Other Protocols Support</p> <p>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, SNMP, Telnet, raw, reverse Telnet, LPD, RCP, DNS, Dynamic DNS, WINS, HTTP, HTTPS, SMTP, SNMPV3, PPP, PAP/CHAP, SLIP, CSLIP, RFC2217, MSCHAP</p>

<p>Specifications</p>				
<p>Lifetime limited warranty</p>	<p>Reach, RoHS and WEEE Compliant</p>	<p>HTSUS Number: 8517.62.0020</p>	<p>UNSPSC Code: 43222625</p>	<p>ECCN: 5A992</p>
				

<p>Console Management Ports</p>		
<p>IOLAN SCR256: 24 x 10/100/1000 Mbps Ethernet Switch Ports (Connect to Ethernet Console Management ports and IPMI ports) 24 x RS232 RJ45 (software selectable for Cisco-straight or Cisco-rolled pinout) 8 x USB Host Ports</p>		
<p>IOLAN SCR226: 16 x RS232 RJ45 (software selectable for Cisco-straight or Cisco-rolled pinout) 8 x USB Host Ports</p>		
<p>IOLAN SCR242: 32 x RS232 RJ45 (software selectable for Cisco-straight or Cisco-rolled pinout) 8 x USB Host Ports</p>		
<p>IOLAN SCR258: 48 x RS232 RJ45 (software selectable for Cisco-straight or Cisco-rolled pinout) 8 x USB Host Ports</p>		
<p>IOLAN SCR052: 48 x RS232 RJ45 (Cisco-straight pinout) 2 x USB Host Ports</p>	<p>IOLAN SCR036: 32 x RS232 RJ45 (Cisco-straight pinout) 2 x USB Host Ports</p>	<p>IOLAN SCR020: 16 x RS232 RJ45 (Cisco-straight pinout) 2 x USB Host Ports</p>

- Note: All USB Host Ports connect to USB console ports and supports USB flash drives

Uplink / WAN Ports

<p>IOLAN SCR256: 2 x SFP ports supporting -1G Fiber SFPs and 10/100/1000 Copper SFPs</p>	<p>IOLAN SCR226, IOLAN SCR242, IOLAN SCR258: 2 x 10/100/1000 Ethernet ports 2 x SFP ports supporting: • 1/2.5/5/10G Fiber SFPs • 10/100/1000 Copper SFPs</p>	<p>IOLAN SCR052, IOLAN SCR036, IOLAN SCR020: 2 x 10/100/1000 Ethernet ports</p>
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Power

Power Input:
IOLAN SCR256, IOLAN SCR226, IOLAN SCR242, IOLAN SCR258:
 Dual AC power supplies or Dual DC Power
IOLAN SCR052, IOLAN SCR036, IOLAN SCR020:
 AC power supply
 - Note: All IOLAN SCRs are passively cooled – no fans

AC Input Voltage Range:
 100-240 VAC, 47-63Hz

DC Nominal Input Voltage:
 +/- 48 VDC

<p>Current Consumption: IOLAN SCR256: @ 100VAC: 0.16A @ 240VAC: 0.07A @ 48VDC: 0.34A</p>	<p>IOLAN SCRC256: @ 100VAC: 0.17A @ 240VAC: 0.07A @ 48VDC: 0.35A</p>	<p>IOLAN SCR226, IOLAN SCR242, IOLAN SCR258: @ 100VAC: 0.14A @ 240VAC: 0.07A @ 48VDC: 0.29A</p>	<p>IOLAN SCRC226, IOLAN SCRC242, IOLAN SCRC258: @ 100VAC: 0.15A @ 240VAC: 0.06A @ 48VDC: 0.31A</p>	<p>IOLAN SCR052, IOLAN SCR036, IOLAN SCR020: @ 100VAC: 0.12A @ 240VAC: 0.05A</p>
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<p>Typical Power Consumption: IOLAN SCR256: 16W</p>	<p>IOLAN SCR256 17W</p>	<p>IOLAN SCR226, IOLAN SCR242, IOLAN SCR258: 14W</p>	<p>IOLAN SCRC226, IOLAN SCRC242, IOLAN SCRC258: 15W</p>	<p>IOLAN SCR052, IOLAN SCR036, IOLAN SCR020: 12W</p>
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Power Cord - optionally included:

- **USA:** IEC320-C13 to NEMA 5-15P (Type B). Use in United States, Canada, Mexico, Japan, and Taiwan.
- **UK:** IEC320-C13 to BS1363 (Type G) - Use in United Kingdom, Ireland, Malaysia, Malta, Singapore, Hong Kong, and Saudi Arabia
- **EU:** IEC320-C13 to CEE 7/7 Schuko (Type E/F) - Use in Europe, South America, and South Korea
- **SA:** IEC320-C13 to BS546 (Type M). Use in South Africa
- **AUS:** IEC320-C13 to AS3112 (Type I). Use in Australia, New Zealand, and China

Environment Specifications

Operating Temperature:

0°C to 50°C (32°F to 131°F)

Storage Temperature:

-40°C to 85°C (-40°F to 185°F)

Operating / Storage Humidity:

5% to 95% non-condensing

Operating Altitude:

Up to 3,048 meters (10,000 ft)

Vibrations:

MIL-STD-810 H, NEBS (Office, Earthquake, Transportation)

MTBF (Hours):

IOLAN SCR256: 134,637	IOLAN SCR226: 157,990	IOLAN SCR242: 143,459	IOLAN SCR258: 130,964	IOLAN SCR052: 130,936
IOLAN SCRC256: 123,885	IOLAN SCRC226: 143,776	IOLAN SCRC242: 131,776	IOLAN SCRC258: 120,573	IOLAN SCRC036: 140,451
				IOLAN SCRC020: 151,293

Calculation model based on MIL-HDBK-217-FN2 @ 25°C/86°F

Ingress Protection Rating:

IP20

<p>Heat Output (BTU/HR) IOLAN SCR256: 55.28 IOLAN SCRC256: 58.69</p>		<p>IOLAN SCR226, IOLAN SCR242, IOLAN SCR258: 48.45 IOLAN SCRC226, IOLAN SCRC242, IOLAN SCRC258: 51.86</p>	
<p>IOLAN SCR052, IOLAN SCR036, IOLAN SCR020: 42.31</p>			
<p>Platform</p>			
<p>Processor: AMD CPU RYZEN R1305G (x86) Trusted Platform Module 2.0</p>			
<p>RAM: IOLAN SCR226, IOLAN SCR242, IOLAN SCR258, IOLAN SCR256: 8GB to support virtual machines (VMs) IOLAN SCR052, IOLAN SCR036, IOLAN SCR020: 4GB</p>			
<p>Storage Space: IOLAN SCR226, IOLAN SCR242, IOLAN SCR258, IOLAN SCR256: 256GB IOLAN SCR052, IOLAN SCR036, IOLAN SCR020: 64GB</p>			
<p>Console Port: 1 x RS232 RJ45 / 1 x USB-C</p>			
<p>LEDs: System Ready and Power 1 & 2</p>			
<p>Mounting: 1U - 19" rack, front and rear mounting hardware included</p>			
<p>Product Dimensions: 440 x 265 x 44 (mm) / 17.32 x 10.43 x 1.73 (in)</p>			
<p>Shipping Dimensions: 59 x 36 x 9 (cm), 23.22 x 14.17 x 3.54 (in)</p>			
<p>Shipping Weight: 4.75kg / 10.48lb</p>			

Certifications - AC Models

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
- EN61000-4-2 (ESD)
- EN 61000-4-3 (RS)
- EN 61000-4-4 (EFT)
- EN61000-4-5 (Surge)
- EN 61000-4-6 (CS)
- EN 61000-4-8 (PFMF)
- EN 61000-4-11

Safety:

- CE Mark
- UL/EN/IEC 62368-1
- CAN/CSA-C22.2 No. 62368-1-14

Certifications - DC Models

Emissions:

- FCC 47 Part 15 Subpart B Class A
- ICES-003 (Canada)
- EN55011(CISPR11)
- CISPR 32 / EN 55032
- EN 61000-6-4 (Industrial)
- CISPR 16-2-1 (Radio conducted)
- CISPR 16-2-3 (Radio radiated)
- IEC 61850-3 (Utility)
- EN 50121-4 (Railway)

Immunity:

- CISPR 35 / EN 55035
- EN61000-4-2 (ESD)
- EN 61000-4-3 (RS)
- EN 61000-4-4 (EFT)
- EN61000-4-5 (Surge)
- EN 61000-4-6 (CS)
- EN 61000-4-8 (PFMF)
- EN 61000-4-11
- EN 61000-4-10
- EN 61000-4-16
- EN 61000-4-17
- EN 61000-4-18
- EN 61000-4-29
- EN 61000-6-2 (Industrial)
- IEC 61850-3 (Utility)
- IEEE 1613 (Power Station)
- EN 50121-4 (Railway)

Safety:

- CE Mark
- UL/EN/IEC 62368-1
- CAN/CSA-C22.2 No. 62368-1-14

Cellular Specifications (factory installed option)

2x SIM Cards slots:

Mini-SIM 15 x 25mm (2FF) Dual Push Click

Connectors:

2 x SMA connectors for cellular with diversity

LTE-A PRO CAT12 (worldwide):

600Mbps downlink and 150Mbps uplink speeds

4G/LTE Bands (24):

2100(B1), 1900(B2), 1800(B3), AWS(B4), 850(B5), 2600(B7), 900(B8), 1800(B9), 700(B12), 700(B13), 850(B18), 850(B19), 800(B20), 850(B26), 700(B28), 700(B29), 2300(B30), 1500(B32), TDD B41, TDD B42, TDD B43, TDD B46, CBRS B48, 1700(B66)

3G HSPA/HSPA+ Bands (9):

2100(B1), 1900(B2), 1800(B3), AWS(B4), 850(B5), 800(B6), 900(B8), 1700(B9), 850(B19)

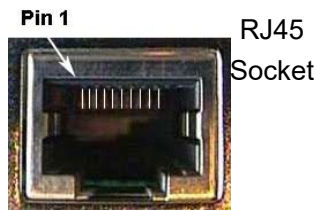
Regulatory Approvals:

FCC/ICES, PTCRB/CTIA, CE Mark, RED

Carrier Approval:

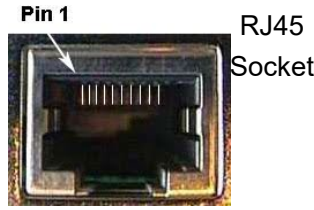
Verizon, AT&T, T-Mobile

IOLAN 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 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)

Part Number: 04035900

OLAN SCRC256D Console Server: 56 x Console Management Ports (24 x Ethernet, 24 x RS232 RJ45, 8 x USB), 2 x 1G SFP Uplink Ports, Cellular 4G/LTE-A PRO, VM support, Dual DC Power



Power Cord: None -- Power Cord not included.