

IOLAN SDSC Terminal Server

NERC CIP Electric Utility Terminal Server



- 8, 16 and 32 serial ports on RJ45 - software selectable RS232/422/485
- Advanced security features for **NERC CIP** critical cyberasset substation compliance
- Substation hardened for harsh electrical utility and industrial applications
- Universal high voltage power supply: nominal 125v DC / 250v DC or 115v AC / 230v AC
- Dual Feed low voltage power supply: nominal 24v DC /48v DC
- Dual 10/100/1000 Ethernet with **Redundant Path Technology**
- Built-in failsafe alarm relay

Electrical utility engineers and project managers that require a cost effective serial-to-Ethernet solution to help meet NERC-CIP compliance for the protection of critical cyberassets in substations must consider the **IOLAN SDS HV/LDC Terminal Server**. In addition to the most extensive security features available, these IOLAN's are designed to meet harsh environments associated with Power Substations with attributes such as support for substation AC and DC voltage ranges, extended operating temperatures and meeting emission, immunity and safety approvals associated with substation IT equipment.

IOLAN SDSC Terminal Servers are ideal for:

- Electrical utility engineers and Project Managers requiring a high performance serial to Ethernet interface for serial RS232 or RS485 based devices such as SCADA based RTUs and protection relays.
- Environments that require a serial terminal server with unique environmental, form factor, or power inputs in harsh environments
- **Substation Automation** projects where using secured communications in remote connections is required.

Why IOLAN SDSC Terminal Servers are the preferred choice:

- **NERC CIP** compliance features (EPCIP EU COM(2006)786);
 - TACACS+, RADIUS for centralized authentication, authorization and accounting
 - Support for alternate TACACS+ and RADIUS hosts
 - Two factor strong authentication such as RSA's SecureID
 - HTTPS, SSL/TLS, SSH (AES, 3DES) session encryption
 - Keystroke and data logging
 - Provides the ability to display a customizable "Appropriate Use" login banner upon user access
 - Secure dial-up
 - Enable only the serial ports you need
- Meets IEC 61850-3 and IEEE 1613 (IEEE C37 90) electrical substation EMI standards
- Universal High voltage: 88-300v DC or 85-265v AC – dual power models
- Dual Feed low voltage: 18 - 72v DC models
- Cisco RJ45 serial port pinout design enables connection to Cisco/Sun console ports using common serial "rolled" CAT5 cabling

- Encapsulate ModBus and DNP protocols over IP
- Modbus TCP to Modbus RTU/ASCII gateway
- High performance 400 Mhz, 750 MIPS, 32 bit processor with integrated hardware encryption processor for the best throughput on the market
- Next Generation IP support (IPv6) for investment protection and network compatibility
- **TrueSerial™** packet technology – the most authentic serial connections across Ethernet ensures serial protocol integrity
- 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
- **TruePort** – Perle’s com/tty redirector for serial based applications operates on Windows, Vista, Linux, Solaris, SCO and Unix
- Java-free browser access to remote serial console ports via Telnet and SSH
- Lifetime warranty – best investment protection available

Software Features - IOLAN SDSC Terminal Servers

Serial Port Access
• Connect directly using Telnet / SSH by port and IP address • Connect with EasyPort menu by Telnet / SSH • Use an internet browser to access with HTTP or secure HTTPS via EasyPort Web menu • Java-free browser access to remote serial console ports via Telnet and SSH • Ports can be assigned a specific IP address (aliasing) • Multisession capability enables multiple users to access ports simultaneously • Multihost access enables multiple hosts/servers to share serial ports
Accessibility
• In-band (ethernet) and out-of-band (dial-up modem) support • Dynamic DNS enables users to find a console server from anywhere on the Internet • Domain name control through DHCP option 81 • IPV6 and IPV4 addressing support
Availability
Primary/Backup host functionality enables automatic connections to alternate host(s)

Security

- SSH v1 and v2
- PCI DSS Compliance: TLS v1.2, TLS v1.1, TLS v1.0, SSL v3.0, SSL v2.0
- SSL Server and SSL client mode capability
- SSL Peer authentication
- **IPSec VPN : NAT Traversal, ESP authentication protocol**
- SSH ciphers: AES-CTR, AES-GCM and ChaCha20-poly1305
- 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
- X.509 Certificate verification: RSA, DSA
- Certificate authority (CA) list
- Local database
- RADIUS Authentication, Authorization and Accounting
- TACACS+ Authentication, Authorization and Accounting
- LDAP, NIS, Kerberos Authentication
- RSA SecureID-agent or via RADIUS Authentication
- SNMP v3 Authentication and Encryption support
- IP Address filtering
- Disable unused daemons
- Active Directory via LDAP

Terminal Server

- Telnet
- SSH v1 and v2
- Rlogin
- Auto session login
- LPD, RCP printer
- MOTD - Message of the day

Serial machine to Ethernet

- **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** for serial based applications on Windows, Linux, Solaris, SCO, HP UX, NCR UNIX and AIX. For a complete list of all the latest drivers click **here**
- **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
- **Plug-ins allow customer or Perle provided plug-ins for special applications**
- **Software Development Kit (SDK) available**
- **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**

Console Management

- **Sun / Oracle Solaris Break Safe**
- Local port buffer viewing - 256K bytes per port
- External port buffering via NFS, encrypted NFS and Syslog
- Event notification
- **Clustering - central console server enables access ports across multiple console servers**
- **Windows Server 2003/2008 EMS - SAC support GUI access to text-based Special Administrative Console**

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. See Automatic DNS update support for details

IPSEC VPN client/servers	• Microsoft L2TP/IPSEC VPN client (native to Windows XP) • Microsoft IPSEC VPN Client (native to Windows Vista) • Cisco routers with IPSEC VPN feature set • Perle IOLAN SDS/STS and SCS models
OA&M (Operations, Administration and Management)	
• SNMP V3 - read and write, Perle MIB • Syslog • Perle Device Manager - Windows based utility for large scale deployments • Configurable default configuration • Installation Wizard • Set a Personalized Factory Default for your IOLANs	
Protocols	
IPv6, IPv4, TCP/IP, Reverse SSH, SSH, SSL, IPsec/IPv4, IPsec/IPv6, L2TP/IPsec, CIDR, 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
 		CCATS Number: G168387		

IOLAN SDSC HV Terminal Servers

CPU						
Processor	MPC8349E, 400 Mhz, 750 MIPS					
Memory						
RAM	SDS8C HV 64	SDS8C DHV 64	SDS16C HV 64	SDS16C DHV 64	SDS32C HV 128	SDS32C DHV 128

Flash	SDS8C HV 16	SDS8C DHV 16	SDS16C HV 16	SDS16C DHV 16	SDS32C HV 16	SDS32C DHV 16
Interface Ports						
Number of Serial Ports	SDS8C HV 8	SDS8C DHV 8	SDS16C HV 16	SDS16C DHV 16	SDS32C HV 32	SDS32C DHV 32
Serial Port Interface	Software selectable RS232 / RS485 / RS422 DTE on RJ45 - RS485: full and half duplex					
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	50bps 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					
Local Console Ports	RS232 on RJ45 with DB9 adapter (provided)					
Network	• Dual 10/100/1000-base TX Ethernet RJ45 • Software selectable Ethernet speed 10/100/1000, Auto • Software selectable Half/Full/Auto duplex					
Failsafe Alarm Relay	3A@24v DC. Normally open contacts closed by IOLAN when active and opened upon alarm condition or power failure					
Power						
Dual Power Supply	Terminal Block with screw terminals accommodating a #6 ring terminal for each power source. Protective cover provided					
Nominal Input Voltage	125V DC / 250V DC or 100V AC / 240V AC					

Input Voltage Range	88-300V DC or 85-265V AC					
AC Input Frequency	47-63Hz					
Current Consumption @ 125v DC (Amps)	SDS8C HV 0.06	SDS8C DHV 0.07	SDS16C HV 0.08	SDS16C DHV 0.08	SDS32C HV 0.13	SDS32C DHV 0.13
Current Consumption @ 250v DC (Amps)	SDS8C HV 0.04	SDS8C DHV 0.04	SDS16C HV 0.05	SDS16C DHV 0.05	SDS32C HV 0.07	SDS32C DHV 0.07
Current Consumption @ 115v AC (Amps)	SDS8C HV 0.13	SDS8C DHV 0.15	SDS16C HV 0.07	SDS16C DHV 0.2	SDS32C HV 0.26	SDS32C DHV 0.28
Current Consumption @ 230v AC (Amps)	SDS8C HV 0.09	SDS8C DHV 0.11	SDS16C HV 0.12	SDS16C DHV 0.14	SDS32C HV 0.16	SDS32C DHV 0.19
Typical Power Consumption (Watts)	SDS8C HV 9	SDS8C DHV 10	SDS16C HV 12	SDS16C DHV 12.5	SDS32C HV 17	SDS32C DHV 17.5
Chassis Ground	Grounding screw for a #10 ring terminal					
Indicators						
LEDs	• Power • System Ready • Network Link activity • Serial: Transmit and Receive data per port					
Environmental Specifications						
Heat Output (BTU/HR)	SDS8C HV 30.7	SDS8C DHV 34.12	SDS16C HV 40.9	SDS16C DHV 42.7	SDS32C HV 58	SDS32C DHV 59.7

MTBF (Hours)	SDS8C HV 144,323 Hours	SDS8C DHV 126,121 Hours	SDS16C HV 117,779 Hours	SDS16C DHV 105,368 Hours	SDS32C HV 89,711 Hours	SDS32C DHV 82,325 Hours
	Calculation model based on MIL-HDBK-217-FN2 @ 30°C					
Operating Temperature	-40°C ambient for 16 hours and +70°C ambient for 16 hours without use of fans					
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 - 10' rack, front and rear mounting hardware included					
Product Dimensions						
Weight	SDS8C HV 3.20 kg	SDS8C DHV 3.38 kg	SDS16C HV 3.22 kg	SDS16C DHV 3.40 kg	SDS32C HV 3.40 kg	SDS32C DHV 3.58 kg
Dimensions	1U Rack form factor - 26.4 x 43.4 x 4.4 (cm), 10.38 x 17.1 x 1.75 (in)					
Packaging						
Shipping Dimensions	59 x 36 x 9 (cm), 23 x 14 x 3.5 (in)					
Shipping Weight	SDS8C HV 4.00 kg	SDS8C DHV 4.18 kg	SDS16C HV 4.20 kg	SDS16C DHV 4.20 kg	SDS32C HV 4.20 kg	SDS32C DHV 4.38 kg

Regulatory Approvals	
Emissions	• FCC Part 15, Subpart B, Class B • CISPR 32 / EN 55032 • Power Line conducted: IEC 61850-3 Sec 5.8, IEC 61000-6-4, CISPR 16-2-3 • Telecom Line conducted: IEC 61000-6-4 • Radiated: IEC 61850-3 Sec 5.8, IEC 61000-6-4, CISPR 16-2-3 • IEC61000-3-2 Harmonic Current Emissions • IEC61000-3-3 Flicker emissions
EMC Interface Immunity	• IEC 61850-3 (substations) • IEEE 1613 (substations) (C37.90.x) • Applies to all ports, signal and power connections • ESD: IEC61000-4-2, 8Kv Contact / 15Kv Air • Radiated RFI: IEC61000-4-3, 20 V/m (80M-1G) • Fast Transients / Burst: IEC61000-4-4, 4Kv Mains , I/O • Surge : IEC61000-4-5 • 4Kv AC line to Gnd, 2Kv AC Line to Line, • 2Kv DC line to Gnd, 1 Kv DC Line to Line, • RS232 = balanced, ethernet = unbalanced • Conducted RF: IEC61000-4-6, 10 Vrms • Magnetic Field: IEC61000-4-8, 100 A/m, 1000 A/m (1 sec) • Dips and Interrupts: IEC61000-4-11, Criteria A/B/C • Oscillatory: EN61000-4-12, 2.5Kv common and differential mode • Low Frequency conducted: EN61000-4-16, 30V 60s, 300V 1s,15Hz-150KHz @ level 3
Standard Safety Certifications	• UL/EN/IEC 62368-1 • CAN/CSA C22.2 No. 62368-1 • IEC 60950-1, First Edition (2001-10) and EN60950-1:2001, CB scheme. • CAN/CSA-C22.2 No. 60950-1-03 and ANSI/UL 60950-1, • First Edition April 1st 2003 (Recognized Component)

IOLAN SDSC LDC Console Servers

CPU	
Processor	MPC8349E, 400 Mhz, 750 MIPS

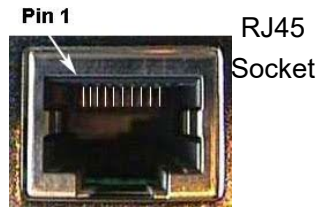
Memory			
RAM	SDS8C LDC 64	SDS16C LDC 64	SDS32C LDC 64
Flash	SDS8C LDC 16	SDS16C LDC 16	SDS32C LDC 16
Interface Ports			
Number of Serial Ports	SDS8C LDC 8	SDS16C LDC 16	SDS32C LDC 32
Serial Port Interface	Software selectable RS232 / RS485 / RS422 DTE on RJ45 - RS485: full and half duplex		
Sun / Solaris	Sun / Oracle 'Solaris' Safe - no “ <i>break signal</i> ” sent during power cycle causing costly server re-boots or downtime		
Serial Port Speeds	50bps 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		
Local Console Ports	RS232 on RJ45 with DB9 adapter (provided)		
Network	• Dual 10/100/1000-base TX Ethernet RJ45 • Software selectable Ethernet speed 10/100/1000, Auto • Software selectable Half/Full/Auto duplex		
Failsafe Alarm Relay	3A@24v DC. Normally open contacts closed by IOLAN when active and opened upon alarm condition or power failure		
Power			
Dual Power Supply	2 x Pluggable Terminal Blocks with screw terminals accommodating 28 - 12 AWG wire sizes		

Nominal Input Voltage	24v DC / 48v DC		
Input Voltage Range	18 - 72v DC		
Current Consumption @ 18v DC (Amps)	SDS8C LDC 0.4	SDS16C LDC 0.55	SDS32C LDC 0.85
Current Consumption @ 24v DC (Amps)	SDS8C LDC 0.3	SDS16C LDC 0.4	SDS32C LDC 0.65
Current Consumption @ 48v DC (Amps)	SDS8C LDC 0.2	SDS16C LDC 0.25	SDS32C LDC 0.35
Current Consumption @ 72v DC (Amps)	SDS8C LDC 0.15	SDS16C LDC 0.18	SDS32C LDC 0.25
Typical Power Consumption (Watts)	SDS8C LDC 11	SDS16C LDC 13	SDS32C LDC 18
Chassis Ground	Grounding screw for a #10 ring terminal		
Indicators			
LEDs	• Power • System Ready • Network Link activity • Serial: Transmit and Receive data per port		
Environmental Specifications			
Heat Output (BTU/HR)	SDS8C LDC 37.6	SDS16C LDC 44.4	SDS32C LDC 61.5
MTBF (Hours)	SDS8C LDC 126,302 Hours	SDS16C LDC 105,495 Hours	SDS32C LDC 82,402 Hours
	Calculation model based on MIL-HDBK-217-FN2 @ 30°C		
Operating Temperature	-40°C ambient for 16 hours and +70°C ambient for 16 hours without use of fans		

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. • DIN Rail mounting kit optional		
Product Dimensions			
Weight	SDS8C LDC 3.16 kg	SDS16C LDC 3.18 kg	SDS32C LDC 3.36 kg
Dimensions	1U Rack form factor - 26.4 x 43.4 x 4.4 (cm), 10.38 x 17.1 x 1.75 (in)		
Packaging			
Shipping Dimensions	59 x 36 x 9 (cm), 23 x 14 x 3.5 (in)		
Shipping Weight	SDS8C LDC 3.96 kg	SDS16C LDC 3.98 kg	SDS32C LDC 4.16 kg
Regulatory Approvals			
Network Equipment Building Systems (NEBS)	• SR-3580 NEBS Level 3 • GR-1089-CORE : NEBS EMI and Safety • GR-1089-CORE per Verizon VZ.TPR.9205 and ATT-TP-76200 • GR-63-CORE: NEBS Physical Protection • GR-63-CORE / ANSI T1.319 per Verizon VZ.TPR.9305 and ATT-TP-76200		
Emissions	• Power Line conducted: IEC 61850-3 Sec 5.8 • CISPR 32 / EN 55032 • EN55011 (CISPR11) • Telecom Line conducted: IEC 61000-6-4 • Radiated: IEC 61850-3 Sec 5.8 • EN61000-3-2 : 2010 Limits for Harmonic Current Emissions • EN61000-3-3 : 2010, Limits of Voltage Fluctuations and Flicker		

Immunity	• CISPR 35 / EN 55035 • IEC 61850-3 (substations) • IEEE 1613 (substations) (C37.90.x) • Applies to all ports, signal and power connections • ESD: IEC61000-4-2, 8Kv Contact / 15Kv Air • Radiated RFI: IEC61000-4-3, 20 V/m (80M-1G) • Fast Transients / Burst: IEC61000-4-4, 4Kv Mains , I/O • Surge : IEC61000-4-5 • 4Kv AC line to Gnd, 2Kv AC Line to Line, • 2Kv DC line to Gnd, 1 Kv DC Line to Line, • RS232 = balanced, ethernet = unbalanced • Conducted RF: IEC61000-4-6, 10 Vrms • Magnetic Field: IEC61000-4-8, 100 A/m, 1000 A/m (1 sec) • Dips and Interrupts: IEC61000-4-11, Criteria A/B/C • Oscillatory: EN61000-4-12, 2.5Kv common and differential mode • Low Frequency conducted: EN61000-4-16, 30V 60s, 300V 1s,15Hz-150KHz @ level 3
Standard Safety Certifications	• UL/EN/IEC 62368-1 • CAN/CSA C22.2 No. 62368-1 • IEC 60950-1(ed 2); am1, am2 and • EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013 • NEBS GR-1089-CORE ISSUE 4 (Level 3, Type 2 and Type 4)

IOLAN 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

(A rolled CAT5 cable will automatically perform DTE to DCE crossover)

Product List



IOLAN SDS8C LDC Utility Terminal Server - 8 x RJ45 serial ports, 24/48 VDC power, 2x 10/100/1000 Ethernet, 1U rack mount, Software selectable RS232/422/485 interface, Cisco/Sun Rj45 pinout, Advanced Features for NERC-CIP compliance, Meets IEC 61850-3, IEEE 1613 electric power substation environmental standard, NEBS Level 3 Certified

Power Cord & Part Number(s)

None

04032420



IOLAN SDS8C HV Utility Terminal Server - 8 x RJ45 serial ports, Universal High Voltage AC/DC power, 2x 10/100/1000 Ethernet, 1U rack mount, Software selectable RS232/422/485 interface, Cisco/Sun Rj45 pinout, Advanced Features for NERC-CIP compliance, Meets IEC 61850-3, IEEE 1613 electric power substation environmental standard

Power Cord & Part Number(s)

None

04032400



IOLAN SDS8C DHV Utility Terminal Server - 8 x RJ45 serial ports, Dual Universal High Voltage AC/DC power, 2x 10/100/1000 Ethernet, 1U rack mount, Software selectable RS232/422/485 interface, Cisco/Sun Rj45 pinout, Advanced Features for NERC-CIP compliance, Meets IEC 61850-3, IEEE 1613 electric power substation environmental standard

Power Cord & Part Number(s)

None

04032410



IOLAN SDS16C LDC Utility Terminal Server - 16 x RJ45 serial ports, 24/48 VDC power, 2x 10/100/1000 Ethernet, 1U rack mount, Software selectable RS232/422/485 interface, Cisco/Sun Rj45 pinout, Advanced Features for NERC-CIP compliance, Meets IEC 61850-3, IEEE 1613 electric power substation environmental standard, NEBS Level 3 Certified

Power Cord & Part Number(s)

None

04032430



IOLAN SDS16C HV Utility Terminal Server - 16 x RJ45 serial ports, Universal High Voltage AC/DC power, 2x 10/100/1000 Ethernet, 1U rack mount, Software selectable RS232/422/485 interface, Cisco/Sun Rj45 pinout, Advanced Features for NERC-CIP compliance, Meets IEC 61850-3, IEEE 1613 electric power substation environmental standard

Power Cord & Part Number(s)

None

04032450



IOLAN SDS16C DHV Utility Terminal Server - 16 x RJ45 serial ports, Dual Universal High Voltage AC/DC power, 2x 10/100/1000 Ethernet, 1U rack mount, Software selectable RS232/422/485 interface, Cisco/Sun Rj45 pinout, Advanced Features for NERC-CIP compliance, Meets IEC 61850-3, IEEE 1613 electric power substation environmental standard

Power Cord & Part Number(s)

None

04032440



IOLAN SDS32C LDC Utility Terminal Server - 32 x RJ45 serial ports, 24/48 VDC power, 2x 10/100/1000 Ethernet, 1U rack mount, Software selectable RS232/422/485 interface, Cisco/Sun Rj45 pinout, Advanced Features for NERC-CIP compliance, Meets IEC 61850-3, IEEE 1613 electric power substation environmental standard, NEBS Level 3 Certified

Power Cord & Part Number(s)

None

04032520



IOLAN SDS32C HV Utility Terminal Server - 32 x RJ45 serial ports, Universal High Voltage AC/DC power, 2x 10/100/1000 Ethernet, 1U rack mount, Software selectable RS232/422/485 interface, Cisco/Sun Rj45 pinout, Advanced Features for NERC-CIP compliance, Meets IEC 61850-3, IEEE 1613 electric power substation environmental standard

Power Cord & Part Number(s)

None

04032500



IOLAN SDS32C DHV Utility Terminal Server - 32 x RJ45 serial ports, Dual Universal High Voltage AC/DC power, 2x 10/100/1000 Ethernet, 1U rack mount, Software selectable RS232/422/485 interface, Cisco/Sun Rj45 pinout, Advanced Features for NERC-CIP compliance, Meets IEC 61850-3, IEEE 1613 electric power substation environmental standard

Power Cord & Part Number(s)

None

04032510

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



DBA0031C - RJ-45m to RJ-45F SUN/Cisco crossover adapter #1100320-10 for

04007060



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



DBA0031C 8pck - 8
pack of #04007060
RJ45M to RJ45F
Sun/Cisco crossover
adapter for IOLAN.

04031290



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

Accessories



DIN Rail Mounting Kit for select IOLAN Rack models

04032490

Maintenance agreements - Console Server / Device Server / Terminal Server



8 Port
Terminal/Device/Console
Servers - Express
Replacement 1 Year
Maintenance Contract

SERNSS08



8 Port
Terminal/Device/Console
Servers - Express
Replacement 1 Year
Maintenance Contract,

SERNSS08F



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, French

SERNSS32F