

IKS-6728A Series

24+4G-port Gigabit modular managed PoE+ Ethernet switches



Features and Benefits

- 8 built-in PoE+ ports compliant with IEEE 802.3af/at (IKS-6728A-8PoE)
- Up to 36 W output per PoE+ port (IKS-6728A-8PoE)
- 1 kV LAN surge protection for extreme outdoor environments
- PoE diagnostics for powered-device mode analysis
- 4 Gigabit combo ports for high-bandwidth communication
- -40 to 75°C operating temperature range at 720 W full loading
- Supports MXstudio for easy, visualized industrial network management
- V-ON™ ensures millisecond-level multicast data and video network recovery

Certifications



Introduction

The IKS-6728A Series is designed to meet the demands of mission-critical applications for business and industry. The IKS-6728A and IKS-6728A-8PoE come with up to 24 10/100BaseT(X), or PoE/PoE+, and 4 combo Gigabit Ethernet ports. The IKS-6728A-8PoE Ethernet switches provide up to 30 watts of power per PoE+ port in standard mode, and also support high-power output of up to 36 watts for heavy-duty industrial PoE devices, such as weather-proof IP surveillance cameras with wipers/heaters, high-performance wireless access points, and rugged IP phones.

IKS-6728A-8PoE Ethernet switches support two types of power input sources: 48 VDC for PoE+ ports and system power, and 110/220 VAC for system power. These Ethernet switches also support a variety of management functions, including STP/RSTP, Turbo Ring, Turbo Chain, PoE power management, PoE device auto-checking, PoE power scheduling, PoE diagnostic, IGMP, VLAN, QoS, RMON, bandwidth management, and port mirroring. The IKS-6728A-8PoE is designed especially for harsh outdoor applications with 3kV surge protection to ensure the uninterrupted reliability of PoE systems.

Additional Features and Benefits

- Advanced PoE management functions: PoE output setting, PD failure check, PoE scheduling, and PoE diagnostics
- Command line interface (CLI) for quickly configuring major managed functions
- DHCP Option 82 for IP address assignment with different policies
- Supports EtherNet/IP, PROFINET, and Modbus TCP protocols for device management and monitoring
- Turbo Ring and Turbo Chain (recovery time < 20 ms @ 250 switches), and STP/RSTP/MSTP for network redundancy
- IGMP snooping and GMRP for filtering multicast traffic
- Port-based VLAN, IEEE 802.1Q VLAN, and GVRP to ease network planning
- QoS (IEEE 802.1p/1Q and TOS/DiffServ) to increase determinism
- IEEE 802.3ad, LACP for optimum bandwidth utilization
- TACACS+, IEEE 802.1X, SNMPv3, HTTPS, and SSH to enhance network security
- SNMPv1/v2c/v3 for different levels of network management
- RMON for proactive and efficient network monitoring
- Bandwidth management prevents unpredictable network status with “Lock port” to restrict access to authorized MAC addresses
- Port mirroring for online debugging
- Automatic warning by exception through email and relay output
- Automatic recovery of connected device's IP addresses
- Line-swap fast recovery
- Configurable by web browser, Telnet/serial console, CLI, Windows utility, and ABC-02-USB automatic backup configurator

Specifications

Input/Output Interface

| | |
|------------------------|---|
| Alarm Contact Channels | 1 relay output with current carrying capacity of 1 A @ 24 VDC |
|------------------------|---|

Ethernet Interface

| | |
|--|---|
| 10/100BaseT(X) Ports (RJ45 connector) | 8 |
| Combo Ports (10/100/1000BaseT(X) or 100/1000BaseSFP) | 4 |

| | |
|-----------|---|
| Module | 2 modular slots for any 8-port or 6-port Interface Modules with 10/100BaseT(X), 100BaseFX (SC/ST connector), 100Base PoE/PoE+, or 100Base SFP ¹ |
| Standards | IEEE 802.1D-2004 for Spanning Tree Protocol IEEE 802.1p for Class of Service IEEE 802.1Q for VLAN Tagging IEEE 802.1s for Multiple Spanning Tree Protocol IEEE 802.1w for Rapid Spanning Tree Protocol IEEE 802.1X for authentication IEEE 802.3 for 10BaseT IEEE 802.3ab for 1000BaseT(X) IEEE 802.3ad for Port Trunk with LACP IEEE 802.3u for 100BaseT(X) and 100BaseFX IEEE 802.3x for flow control IEEE 802.3z for 1000BaseSX/LX/LHX/ZX |

Ethernet Software Features

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|----------------------|--|
| Management | Back Pressure Flow Control, BOOTP, DDM, DHCP Option 66/67/82, DHCP Server/Client, Flow control, IPv4/IPv6, LLDP, Port Mirror, RARP, RMON, SMTP, SNMP Inform, SNMPv1/v2c/v3, Syslog, Telnet, TFTP |
| Filter | 802.1Q, GMRP, GVRP, IGMP v1/v2/v3 |
| Redundancy Protocols | Link Aggregation, MSTP, RSTP, STP, Turbo Chain, Turbo Ring v1/v2, V-ON |
| Security | Access control list, Broadcast storm protection, HTTPS/SSL, MAB authentication, NTP authentication, Port Lock, RADIUS, SSH, TACACS+ |
| Time Management | NTP Server/Client, SNTP |
| Industrial Protocols | EtherNet/IP, Modbus TCP, PROFINET |
| MIB | Ethernet-like MIB, MIB-II, P-BRIDGE MIB, Q-BRIDGE MIB, RMON MIB Groups 1, 2, 3, 9, RSTP MIB |

Switch Properties

| | |
|--------------------|---------------|
| IGMP Groups | 2048 |
| Jumbo Frame Size | 9.6 KB |
| MAC Table Size | 16 K |
| Max. No. of VLANs | 64 |
| Packet Buffer Size | 12 Mbits |
| Priority Queues | 4 |
| VLAN ID Range | VID 1 to 4094 |

USB Interface

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|--------------|------------|
| Storage Port | USB Type A |
|--------------|------------|

Serial Interface

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|--------------|---------------------------------------|
| Console Port | USB-serial console (Type B connector) |
|--------------|---------------------------------------|

1. See the IM-6700A datasheet for Fast Ethernet module product information.

Power Parameters

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|-----------------------------|---|
| Input Voltage | IKS-6728A-4GTXSFP-24-T: 24 VDC IKS-6728A-4GTXSFP-24-24-T: 24 VDC (redundant dual inputs) IKS-6728A-4GTXSFP-48-T: 48 VDC IKS-6728A-4GTXSFP-48-48-T: 48 VDC (redundant dual inputs) IKS-6728A-4GTXSFP-HV-T: 110/220 VAC IKS-6728A-4GTXSFP-HV-HV-T: 110/220 VAC (redundant dual inputs) IKS-6728A-8PoE-4GTXSFP-48-T: 48 VDC IKS-6728A-8PoE-4GTXSFP-48-48-T: 48 VDC (redundant dual inputs) IKS-6728A-8PoE-4GTXSFP-HV-T: 110/220 VAC IKS-6728A-8PoE-4GTXSFP-HV-HV-T: 110/220 VAC (redundant dual inputs) |
| Operating Voltage | IKS-6728A-4GTXSFP-HV-T: 85 to 264 VAC IKS-6728A-4GTXSFP-HV-HV-T: 85 to 264 VAC IKS-6728A-4GTXSFP-24-T: 18 to 36 VDC IKS-6728A-4GTXSFP-24-24-T: 18 to 36 VDC IKS-6728A-4GTXSFP-48-T: 36 to 72 VDC IKS-6728A-4GTXSFP-48-48-T: 36 to 72 VDC IKS-6728A-8PoE-4GTXSFP-48-T: 36 to 72 VDC IKS-6728A-8PoE-4GTXSFP-48-48-T: 36 to 72 VDC IKS-6728A-8PoE-4GTXSFP-HV-T: 85 to 264 VAC IKS-6728A-8PoE-4GTXSFP-HV-HV-T: 85 to 264 VAC |
| Overload Current Protection | Supported |
| Reverse Polarity Protection | Supported |
| Input Current | IKS-6728A-4GTXSFP-24-T/4GTXSFP-24-24-T: 0.36 A @ 24 VDC IKS-6728A-4GTXSFP-48-T/4GTXSFP-48-48-T: 0.19 A @ 48 VDC IKS-6728A-8PoE-4GTXSFP-48-T/8PoE-4GTXSFP-48-48-T: 0.53 A @ 48 VDC IKS-6728A-4GTXSFP-HV-T/4GTXSFP-HV-HV-T: 0.28/0.14 A @ 110/220 VAC IKS-6728A-8PoE-4GTXSFP-HV-T/8PoE-4GTXSFP-HV-HV-T: 0.33/0.24 A @ 110/220 VAC |

Physical Characteristics

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|--------------|---|
| IP Rating | IP30 |
| Dimensions | 440 x 44 x 280 mm (17.32 x 1.37 x 11.02 in) |
| Weight | 4100 g (9.05 lb) |
| Installation | Rack mounting |

Environmental Limits

| | |
|--|----------------------------|
| Operating Temperature | -40 to 75°C (-40 to 167°F) |
| Storage Temperature (package included) | -40 to 85°C (-40 to 185°F) |
| Ambient Relative Humidity | 5 to 95% (non-condensing) |

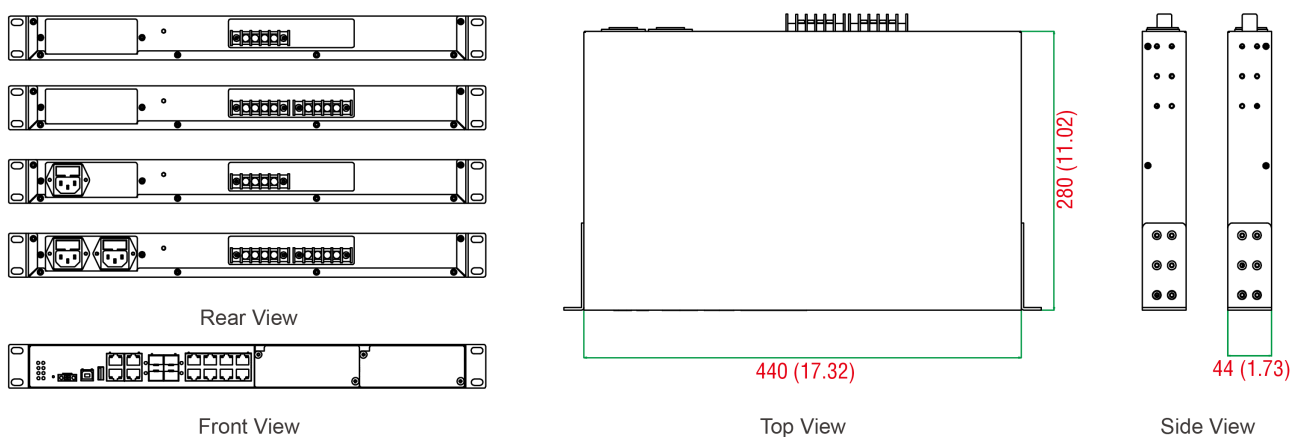
Standards and Certifications

| | |
|----------|--|
| Freefall | IEC 60068-2-32 |
| EMC | EN 55032/24 |
| EMI | CISPR 32, FCC Part 15B Class A |
| EMS | IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 2 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 PFMF |
| Railway | EN 50121-4 |
| Maritime | IKS-6728A Series non-PoE models: ABS, CCS, DNV-GL, LR, NK |
| Safety | EN 60950-1, UL 60950-1 |

| | |
|-------------------------|--|
| Shock | IEC 60068-2-27 |
| Vibration | IEC 60068-2-6 |
| MTBF | |
| Time | IKS-6728A-4GTXSFP-24-24-T: 324,676 hrs IKS-6728A-4GTXSFP-24-T: 344,541 hrs IKS-6728A-4GTXSFP-48-48-T: 325,077 hrs IKS-6728A-4GTXSFP-48-T: 344,767 hrs IKS-6728A-4GTXSFP-HV-HV-T: 148,687 hrs IKS-6728A-4GTXSFP-HV-T: 211,634 hrs IKS-6728A-8PoE-4GTXSFP-48-48-T: 215,994 hrs IKS-6728A-8PoE-4GTXSFP-48-T: 224,420 hrs IKS-6728A-8PoE-4GTXSFP-HV-HV-T: 120,731 hrs IKS-6728A-8PoE-4GTXSFP-HV-T: 159,173 hrs |
| Standards | Telcordia (Bellcore), GB |
| Warranty | |
| Warranty Period | 5 years |
| Details | See www.moxa.com/warranty |
| Package Contents | |
| Device | 1 x IKS-6728A Series switch |
| Cable | 1 x USB type A male to USB type B male |
| Installation Kit | 2 x rack-mounting ear 8 x cap, plastic, for SFP slot |
| Power Supply | IKS-6728A-4GTXSFP-HV-T: 1 x power cord, EU type IKS-6728A-4GTXSFP-HV-HV-T: 2 x power cord, EU type IKS-6728A-8PoE-4GTXSFP-HV-T: 1 x power cord, EU type IKS-6728A-8PoE-4GTXSFP-HV-HV-T: 2 x power cord, EU type IKS-6728A-4GTXSFP-HV-T: 1 x power cord, US type IKS-6728A-4GTXSFP-HV-HV-T: 2 x power cord, US type IKS-6728A-8PoE-4GTXSFP-HV-T: 1 x power cord, US type IKS-6728A-8PoE-4GTXSFP-HV-HV-T: 2 x power cord, US type |
| Documentation | 1 x quick installation guide 1 x warranty card |
| Note | 1. If you want to turn on PoE, please add a 48 V external power supply. 2. 48 V external power supply, SFP modules and/or modules from the IM-6700A Module Series need to be purchased separately for use with this product. |

Dimensions

Unit: mm (inch)



Ordering Information

| Model Name | Combo Ports (10/100/ 1000BaseT(X) or 100/ 1000BaseSF P) | 100BaseSFP Slots | 10/ 100BaseT(X) Ports RJ45 Connector | 100BaseFX Ports | Operating Temp. | Input Voltage | Redundant Dual Input | PoE Support |
|--------------------------------|--|---------------------|--|--------------------|--------------------|--------------------------|-------------------------|--------------------|
| IKS-6728A-4GTXSFP-HV-T | 4 | Up to 20 | Up to 24 | Up to 12 | -40 to 75°C | 110/220 VAC power supply | – | – |
| IKS-6728A-4GTXSFP-HV-HV-T | 4 | Up to 20 | Up to 24 | Up to 12 | -40 to 75°C | 110/220 VAC power supply | ✓ | – |
| IKS-6728A-4GTXSFP-24-T | 4 | Up to 20 | Up to 24 | Up to 12 | -40 to 75°C | 24 VDC power supply | – | – |
| IKS-6728A-4GTXSFP-24-24-T | 4 | Up to 20 | Up to 24 | Up to 12 | -40 to 75°C | 24 VDC power supply | ✓ | – |
| IKS-6728A-4GTXSFP-48-T | 4 | Up to 20 | Up to 24 | Up to 12 | -40 to 75°C | 48 VDC power supply | – | – |
| IKS-6728A-4GTXSFP-48-48-T | 4 | Up to 20 | Up to 24 | Up to 12 | -40 to 75°C | 48 VDC power supply | ✓ | – |
| IKS-6728A-8PoE-4GTXSFP-HV-T | 4 | Up to 20 | Up to 24 | Up to 12 | -40 to 75°C | 110/220 VAC power supply | – | Up to 24 PoE ports |
| IKS-6728A-8PoE-4GTXSFP-HV-HV-T | 4 | Up to 20 | Up to 24 | Up to 12 | -40 to 75°C | 110/220 VAC power supply | ✓ | Up to 24 PoE ports |
| IKS-6728A-8PoE-4GTXSFP-48-T | 4 | Up to 20 | Up to 24 | Up to 12 | -40 to 75°C | 48 VDC power supply | – | Up to 24 PoE ports |
| IKS-6728A-8PoE-4GTXSFP-48-48-T | 4 | Up to 20 | Up to 24 | Up to 12 | -40 to 75°C | 48 VDC power supply | ✓ | Up to 24 PoE ports |

Accessories (sold separately)

IM-6700A Module Series

| | |
|------------------|--|
| IM-6700A-2MSC4TX | Fast Ethernet module with 2 multi-mode 100BaseFX ports with SC connector, 4 10/100BaseT(X) ports |
| IM-6700A-2MST4TX | Fast Ethernet module with 2 multi-mode 100BaseFX ports with ST connectors, 4 10/100BaseT(X) ports |
| IM-6700A-2SSC4TX | Fast Ethernet module with 2 single-mode 100BaseFX ports with SC connector, 4 10/100BaseT(X) ports |
| IM-6700A-4MSC2TX | Fast Ethernet module with 4 multi-mode 100BaseFX ports with SC connector, 2 10/100BaseT(X) ports |
| IM-6700A-4MST2TX | Fast Ethernet module with 4 multi-mode 100BaseFX ports with ST connectors, 2 10/100BaseT(X) ports |
| IM-6700A-4SSC2TX | Fast Ethernet module with 4 single-mode 100BaseFX ports with SC connectors, 2 10/100BaseT(X) ports |
| IM-6700A-6MSC | Fast Ethernet module with 6 multi-mode 100BaseFX ports with SC connectors |
| IM-6700A-6MST | Fast Ethernet module with 6 multi-mode 100BaseFX ports with ST connectors |
| IM-6700A-6SSC | Fast Ethernet module with 6 single-mode 100BaseFX ports with SC connectors |
| IM-6700A-8PoE | Fast Ethernet PoE+ module with 8 100BaseT(X) PoE/PoE+ ports (for IKS-6728A-8PoE Series only) |
| IM-6700A-8SFP | Fast Ethernet module with 8 100BaseSFP slots |
| IM-6700A-8TX | Fast Ethernet module with 8 10/100T(X) ports |

Storage Kits

| | |
|------------|---|
| ABC-02-USB | Configuration backup and restoration tool, firmware upgrade, and log file storage tool for managed Ethernet switches and routers, 0 to 60°C operating temperature |
|------------|---|

SFP Modules

| | |
|--------------|---|
| SFP-1FELLC-T | SFP module with 1 100Base single-mode with LC connector for 80 km transmission, -40 to 85°C operating temperature |
|--------------|---|

| | |
|-----------------|--|
| SFP-1FEMLC-T | SFP module with 1 100Base multi-mode, LC connector for 2/4 km transmission, -40 to 85°C operating temperature |
| SFP-1FESLC-T | SFP module with 1 100Base single-mode with LC connector for 40 km transmission, -40 to 85°C operating temperature |
| SFP-1G10ALC | WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1310 nm, RX 1550 nm, 0 to 60°C operating temperature |
| SFP-1G10ALC-T | WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1310 nm, RX 1550 nm, -40 to 85°C operating temperature |
| SFP-1G10BLC | WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1550 nm, RX 1310 nm, 0 to 60°C operating temperature |
| SFP-1G10BLC-T | WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 10 km transmission; TX 1550 nm, RX 1310 nm, -40 to 85°C operating temperature |
| SFP-1G20ALC | WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1310 nm, RX 1550 nm, 0 to 60°C operating temperature |
| SFP-1G20ALC-T | WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1310 nm, RX 1550 nm, -40 to 85°C operating temperature |
| SFP-1G20BLC | WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1550 nm, RX 1310 nm, 0 to 60°C operating temperature |
| SFP-1G20BLC-T | WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 20 km transmission; TX 1550 nm, RX 1310 nm, -40 to 85°C operating temperature |
| SFP-1G40ALC | WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1310 nm, RX 1550 nm, 0 to 60°C operating temperature |
| SFP-1G40ALC-T | WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1310 nm, RX 1550 nm, -40 to 85°C operating temperature |
| SFP-1G40BLC | WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1550 nm, RX 1310 nm, 0 to 60°C operating temperature |
| SFP-1G40BLC-T | WDM-type (BiDi) SFP module with 1 1000BaseSFP port with LC connector for 40 km transmission; TX 1550 nm, RX 1310 nm, -40 to 85°C operating temperature |
| SFP-1GEZXLC | SFP module with 1 1000BaseEZX port with LC connector for 110 km transmission, 0 to 60°C operating temperature |
| SFP-1GEZXLC-120 | SFP module with 1 1000BaseEZX port with LC connector for 120 km transmission, 0 to 60°C operating temperature |
| SFP-1GLHLC | SFP module with 1 1000BaseLH port with LC connector for 30 km transmission, 0 to 60°C operating temperature |
| SFP-1GLHLC-T | SFP module with 1 1000BaseLH port with LC connector for 30 km transmission, -40 to 85°C operating temperature |
| SFP-1GLHXC | SFP module with 1 1000BaseLHX port with LC connector for 40 km transmission, 0 to 60°C operating temperature |
| SFP-1GLHXC-T | SFP module with 1 1000BaseLHX port with LC connector for 40 km transmission, -40 to 85°C operating temperature |
| SFP-1GLSXC | SFP module with 1 1000BaseLSX port with LC connector for 1km/2km transmission, 0 to 60°C operating temperature |
| SFP-1GLSXC-T | SFP module with 1 1000BaseLSX port with LC connector for 1km/2km transmission, -40 to 85°C operating temperature |
| SFP-1GLXLC | SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, 0 to 60°C operating temperature |
| SFP-1GLXLC-T | SFP module with 1 1000BaseLX port with LC connector for 10 km transmission, -40 to 85°C operating temperature |
| SFP-1GSXC | SFP module with 1 1000BaseSX port with LC connector for 300m/550m transmission, 0 to 60°C operating temperature |
| SFP-1GSXC-T | SFP module with 1 1000BaseSX port with LC connector for 300m/550m transmission, -40 to 85°C operating temperature |
| SFP-1GZXLC | SFP module with 1 1000BaseZX port with LC connector for 80 km transmission, 0 to 60°C operating temperature |
| SFP-1GZXLC-T | SFP module with 1 1000BaseZX port with LC connector for 80 km transmission, -40 to 85°C operating temperature |

Power Cords

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|------------------|---|
| PWC-C13US-3B-183 | Power cord with United States (US) plug, 1.83 m |
| PWC-C13EU-3B-183 | Power cord with Continental Europe (EU) plug, 1.83 m |
| PWC-C13AU-3B-183 | Power cord with Australian (AU) plug, 1.83 m |
| PWC-C13UK-3B-183 | Power cord with United Kingdom (UK) plug, 1.83 m |
| PWC-C7US-2B-183 | Power cord with United States (US) plug, 10A/125V, 1.83 m |
| PWC-C7AU-2B-183 | Power cord with Australian (AU) plug, 2.5A/250V, 1.83 m |
| PWC-C7EU-2B-183 | Power cord with Continental Europe (EU) plug, 2.5A/250V, 1.83 m |
| PWC-C7UK-2B-183 | Power cord with United Kingdom (UK) plug, 2.5A/250V, 1.83 m |
| PWC-C13CN-3B-183 | Power cord with three-prong China (CN) plug, 1.83 m |

Software

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|-------------------|--|
| MXview-50 | Industrial network management software with a license for 50 nodes (by IP address) |
| MXview-100 | Industrial network management software with a license for 100 nodes (by IP address) |
| MXview-250 | Industrial network management software with a license for 250 nodes (by IP address) |
| MXview-500 | Industrial network management software with a license for 500 nodes (by IP address) |
| MXview-1000 | Industrial network management software with a license for 1000 nodes (by IP address) |
| MXview-2000 | Industrial network management software with a license for 2000 nodes (by IP address) |
| MXview Upgrade-50 | License expansion of MXview industrial network management software by 50 nodes (by IP address) |

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