

Magnum 6K8 8-port, Industrial Ethernet Field Switch

Features

- Industrial Ethernet Field Switch for heavy duty applications
- “Big Switch” managed networks software in small Field Switch package
- All port types, including 100 Mb, 10 Mb, Gigabit, fiber and copper; up to 8 ports
- Advanced thermal design with metal case used as a heat sink (no fans)
- Options include -48VDC, 24VDC, 125VDC, dual source, or worldwide AC; DIN-Rail mountable

Magnum™ 6K8 Managed Field Switches, the newest and smallest members of the Magnum 6K line, enhance Industrial LAN flexibility by allowing a combination of mixed-media port types and input power choices in a hardened compact package that includes sophisticated MNS-6K network management software. Choose from more than 200 models for configuration flexibility. All DC power options, worldwide AC power, and DIN-Rail mounting make the Magnum 6K8 the easy choice for tough jobs. Best of all, it includes the best-of-breed MNS-6K software.



MNS-6K software includes SNMPv2,v3 management control via GUI-based Secure Web Management, 802.1p QoS Traffic Prioritization, Tag-based VLANs, IGMP Snooping, Port Security, RADIUS support, and much more. See the Managed Networks Software (MNS-6K) datasheet for additional details on the powerful but easy-to-use set of software packages and options.

Advanced thermal design techniques (patent pending) use the metal case as a heat sink as well as for electrical noise and physical protection. The unique package features an elongated dual-cavity shape for optimal cooling of internal components without any ventilation openings. This sealed-case design enables the unit to operate in temperature un-controlled environments, achieves high EMI noise immunity, and provides an un-matched IP53 physical protection rating against dust, dirt, insects and liquids.

Magnum 6K8s are ideal for building a switched field network infrastructure when used in applications connected to industrial nodes, PLCs, IEDs, upstream switches, or routers. Designed for use in industrial applications such as factory-floors, power utilities, tariffed carrier facilities, traffic control, transportation and video surveillance systems, the Magnum 6K8 handles stressful traffic loads (mixes of bursty data traffic and priority streaming traffic) as well as stressful environmental conditions.

The port type choices allow user-selection of mixed-media fiber and 10/100 Mb RJ-45 auto-negotiating auto-cross ports. A standard GBIC port can be configured for a variety of Gigabit fiber cabling types and distances. A notable configuration choice provides four copper 10/100 ports plus 2 fiber ST or SC ports for use in a self-healing ring structure.

Magnum 6K8 Managed Field Switches have universal AC power supplies for operation worldwide. Internal DC power supplies are optional. The 6K8s and all other Magnum products are designed and manufactured in the USA and backed by a three year warranty.

PERFORMANCE:

Ports, 100 Mb (multi-mode and single-mode): Configurable SC, ST, LC MTRJ, Small Form Factor (SFF) is featured for high fiber port density.
Fiber Ports, 10 Mb: Configurable, ST, up to 4 fiber ports (multi-mode and single-mode), each FDX or HDX, default is HDX mode.
RJ-45 Ports: 100 or 10 Mb speed, full- or half-duplex mode, per port, individually determined. 10/100 auto-negotiating & auto-cross, up to 8 ports.
Gigabit Ports, 1000 Mb: Configurable, standard GBIC transceiver modules, up to 2 Gigabit ports.
Processing type: Store and Forward with IEEE 802.3x full-duplex flow control. All Ports non-blocking. System aggregate forward and filter rate 3.0 Mpps. Address table: 4K nodes, with address aging time of 155 seconds typical
 Packet buffers: 240 KB for 10/100 and 120KB for 1000 Mb
 Latency: 6µs + packet time max (TX - TX, TX - FX, FX - FX, TX-G, G-G)

NETWORK STANDARDS:

IEEE 802.3z, 802.3ab, 802.1p:10BASE-FL,100BASE-TX, -FX,1000BASE-SX,-LX Auto-negotiation and auto-cross on TP, IEEE 802.3u
 See MNS-6K datasheet for software network standards, Link-Loss-Learn, and other software features.
 All 10 Mb ports obey the rules for configuring 10 Mb Ethernet
 All 100 Mb ports use Fast Ethernet rules. 1000 Mb ports use Gigabit rules.

OPERATING ENVIRONMENT:

IEC 60068 Operating temp. per "Type Test" -60° to 205°F (-50° to 95°C)
 UL 60950 and "Component Parts" rating: -40° to 140°F (-40° to 60°C)
 Storage: -60° to 210°F (-50° to 100°C)
 Relative humidity: 5% to 95% (non-condensing)
 Altitude: -200 to 13000ft (-60 to 4000m)
 Conformal coating (humidity protection) optional: Request quote

RELAY CONTACT FOR ALARMS:

Form C, one NC indicating internal power, one NC software controllable.

NETWORK CABLE CONNECTORS:

1000 Mb ports: all standard GBIC Transceiver types supported
 100 Mb Copper: Category 5 UTP/STP; 10 Mb: Cat. 3, 4, 5 UTP/STP
 100 Mb Fiber ports connector options: multi-mode FX-MTRJ, LC, ST, SC;
 single-mode LC, 20Km SC and ST, and 40Km "long reach" single-mode SC.
 10 Mb Fiber port connector: multi-mode and single-mode ST

AC POWER SUPPLY (INTERNAL):

AC Power Connector: IEC-type, male, recessed, top
 Power Input: 100 - 240 VAC, 47 to 63 Hz, auto ranging
 Power Consumption: 25 watts typical for a fully-loaded fiber model, 15 watts typical for 8 port copper-only models.

Ordering Information

Magnum 6K8

Magnum 6K8 Managed Field Switch, base unit. May be configured with a variety of 10/100/1000 Mb fiber and copper port connector types from a family of port modules. 8 ports max. Wire speed filtering and forwarding across all ports. Heavy duty metal case designed as heat sink, IP53 for environmental protection, no fans.

Configuration Options: Each Magnum 6K8 may be configured with one module from the selection below

6KP8V-45MT "4+4" module for 6Ks, w/four 10/100 RJ-45 and four 100 Mb 2km multi-mode FX MTRJ connectors
 SFF Fiber module for 6K Switches, w/eight 100 Mb 15km single-mode FX LC connectors
6KP8V-RJ45 TP Module for 6K switches, w/eight 10/100 Mb auto-negotiating RJ-45 ports
6KP8V-MTRJ SFF Fiber module for 6K Switches, w/eight 100 Mb 2km multi-mode FX MTRJ connectors
6KP8V-45SLC "4+4" module for 6Ks, w/four 10/100 RJ-45 and four 100 Mb 15km single-mode FX LC connectors
6KP6V-RJMST "4+2" module for 6Ks, w/four 10/100 RJ-45 and two 100 Mb 2km multi-mode FX ST connectors
6KP6V-RJSSC "4+2" module for 6Ks, w/four 10/100 RJ-45 and two 100 Mb 20km single-mode FX SC connectors
6KP6V-RJSSCL "4+2" module for 6Ks, w/four 10/100 RJ-45 and two 100 Mb 40km single-mode FX SC connectors
6KP6V-RJ10ST "4+2" module for 6Ks, w/four 10/100 RJ-45 and two 10 Mb 2km FL ST connectors
6KP4V-FXSC "2+2" 100 Mb Fiber module for 6K Switches, w/four 100 Mb FX SC connectors.
6KP4V-F10ST "2+2" 10 Mb fiber module for 6K Switches, w/four 10Mb 2km FL ST connectors

Note: Several other Port Module types are available. See Configuration Guide.

6KP5V-G4RJ "G+4" module for 6K8 Switches, uses, one 6K slot and provides one GBIC open transceiver port for a user-selectable GBIC Transceiver module, plus 4 10/100Mb copper ports. Includes front-panel.
6KP3V-G2SC "G+2" module for 6K8 Switches, uses one 6K slot and provides one GBIC open transceiver port for a user-selectable GBIC Transceiver module, plus 2 100Mb 2km FX SC fiber ports. Incl. front panel.
GBPMV-20TX Two-port Gigabit 6K module for 6K8 switches, provides two GBIC open transceiver ports.
GBIC-LXSC10 GBIC transceiver module for use in GBPM-COTX, one SX port with multi-mode SC fiber connector
 GBIC transceiver module for use in GBPM-COTX, one LX port with single-mode SC 10Km
Note: Single-mode GBICs are available at 10Km, 25Km, 40Km, and 70Km.
6KP2V-2GSX Two-port one-slot Gb 6K module for 6K8 switches, uses one 6K slot & provides two Gigabit fiber SXSC (1000BASE-SX multi-mode) ports. Includes front-panel sheet metal cover.
6KP2V-2GCU Two-port one-slot Gigabit 6K module for 6K8 switches, uses one 6K slot and provides two Gigabit Copper (1000BASE-T) auto-negotiating ports. Includes front-panel sheet metal cover.
6KP5V-1CU4MT Five-port one-slot Gigabit 6K module for 6K8 switches, uses one 6K slot and provides one Gigabit Copper (1000BASE-T) auto-negotiating port and four 100Mb MTRJ Fiber FX multi-mode ports. Includes front panel.
6KP3V-1CU2FXT Three-port one-slot Gigabit 6K module for 6K8 switches, uses one 6K slot & provides one Gigabit Copper (1000BASE-T) auto-negotiating port and two 100Mb ST Fiber FX multi-mode ports.

DC POWER SUPPLY Options (Internal):

24VDC: Input 18 to 36VDC **-48VDC:**
125VDC: Input 88 to 300VDC
 Std. Terminal Block: "-", GND, "+", Power Consumption: Same as AC

DC DUAL POWER SOURCE (OPTIONAL)

The Magnum 6K8 DC models may be ordered with optional Dual DC power input, for continuity of operation when either one of the DC input sources is interrupted. Available for -48VDC, 24VDC, or 125VDC.

MECHANICAL:

Enclosure: High-strength metal. Heat sink for panel-mount included
 DIN-Rail mounting, used w/ heat-sink flange: Model # DIN-Rail-6K8, optional
 Enclosure Ingress Protection rating: IP53, protects against (5)dust particles and (3)spraying liquids per IEC 60529, and NEMA-3,3X
 Cooling Method: Convection, fully-enclosed elongated dual-cavity case used as a heat sink, designed for vertical mounting, no fans.
 Dimensions: 9.80 in H x 5.90 in W x 3.70 in D (4.2 in W w/o mounting flange) 24.9cm H x 15.0cm W x 9.4cm D (10.7 cm W w/o mounting flange)
 Weight: 2.1 est lbs. (0.95 kg)

LED INDICATORS PER RJ-45 PORT:

LK: Steady on when twisted-pair link is operational.
 ACT: On with port activity
 F/H: ON = full-duplex mode, OFF = half-duplex mode.
 100/10 ON = 100Mb speed, OFF = 10Mb

LED INDICATORS, 100Mb and 10Mb FIBER PORTS:

LK: Steady on when fiber link is operational.
 ACT: On with port activity
 F/H: ON = full-duplex mode, OFF = half-duplex mode.

PORT-SPECIFIC SETTINGS:

Port-specific user settings (such as FDX or HDX, copper 10/100 speed) can be set using software commands.
 (The RJ-45 copper ports are auto-negotiating and auto-crossover, there are no user controls for auto-crossover).

AGENCY APPROVALS AND STANDARDS COMPLIANCE:

UL Listed (UL60950), cUL, CE, Emissions meet FCC Part 15, Class A.
 IEC 61850 EMC and Operating Conditions Class C for Power Substations
 IEEE 1613 Class 2 Environmental Standard for Electric Power Substations
 NEBS L3 and ETSI compliant
 NEMA TS-2 and TEES for traffic control equipment.
 The "-CL" models are UL/CSA and IEC 60079-15 Class 1, Division 2, Groups A,B,C and D (Master Contract #232420) and ATEX Class 1, Zone 2, per EU Directive 94/9/EC.