

Features

- Managed Ethernet Switch with mixed media port types, for mounting in 19" or ETSI or 23" Telco racks with front-to-rear fan cooling
- Provides 2 modular slots for user selection of 100 Mb, 10 Mb, Gigabit fiber ports, and copper 10/100, Gigabit ports
- Choose from a family of 20 port modules for unlimited configuration flexibility
- Input power choices include - 48VDC, 24VDC, 125VDC, dual source, or worldwide AC
- Tested for high availability Telco & Industrial applications, NEBS and ETSI compliant



Two 6K units side-by-side fit in a 19" rack

Magnum™ 6K16 Managed Ethernet Switches provide configurability for fiber and copper ports, 10 Mb, 100 Mb and Gigabit speed ports, and comprehensive management software in a compact rack-mount package. Two units can fit side-by-side in a rack, simplifying redundant and hot backup systems in mission-critical applications.

Setting a new standard for Carrier Class equipment and Industrial plant-wide applications, robust Ethernet Switch jobs are made easy by the flexibility and power of the Magnum 6K16. With options such as dual-source -48V and 24V DC power input, worldwide AC power, and front-to-rear fan cooling, the mixed-media Magnum 6K16 handles 100 Mb user connectivity along with Gigabit backbone ports, mix and match, in half the space normally required.

High performance features include non-blocking speed on all ports and 802.1p QoS Traffic Prioritization. Magnum 6K16s are "plug-and-play" ready for use as backbone switches where a mix of bursty data traffic and priority streaming traffic for VoIP and audio/video applications is present.

Magnum 6K16 Managed Switches are provided with LAN management software including SNMPv1 and RMON management with access control, SNMPv3 authentication security, Tag- and Port-based VLANs, IGMP Snooping, Port Security, Port Mirroring, STMP, SMTP, BootP and DHCP, and control via command line interface. For high availability LANs redundant topologies, Spanning Tree Protocol (STP), Rapid Spanning Tree (RSTP), Link-Loss-Learn™ and S-Ring™ are available. See the Managed Networks Software (MNS-6K) and S-Ring datasheets for additional details on the comprehensive set of software programs and options.

Designed for use in telecom equipment systems, industrial process plants, power utilities, transportation systems, and video surveillance jobs with segments requiring Gigabit backbone interconnections, the Magnum 6K16 is easy to install and operate. The next generation of carrier class applications will need advanced managed network software, operation at extended temperatures, fiber ports modularity, support for self-healing ring structures, and gigabit backbone configurability. The Magnum 6K16 has all of these, and is available now.

Magnum 6K16 Managed Switches have heavy duty metal cases and auto-ranging power supplies for operation with standard AC power worldwide. Internal DC power supplies are optional. The 6K16s and all other Magnum products are designed and manufactured in the USA and backed by a three year warranty.

PERFORMANCE:

Gigabit Ports, 1000 Mb: Configurable, standard GBIC transceiver modules, up to 4 Gigabit ports.

Fiber 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 8 fiber ports, 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, up to 16 ports.

Processing type: Store and Forward with IEEE 802.3x full-duplex flow control. All Ports non-blocking. System aggregate forward and filter rate 6.0 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 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:

Ambient temp rating: -40° to 140°F (-40° to 60°C). See also NEBS tests ratings.

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) option: 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, in the rear of the unit

Power Input: 100 - 240 VAC, 47 to 63 Hz, auto ranging

Power Consumption: 50 watts typical for a fully-loaded fiber model, 30 watts typical for 16 port copper-only models.

DC POWER SUPPLY Options (Internal):

-48VDC: Input -36 to -70VDC

24VDC: Input 18 to 36VDC

125VDC: Input 88 to 300VDC

Std. Terminal Block: "-", GND, "+", Power Consumption: Same as AC

DC DUAL POWER SOURCE (OPTIONAL)

The Magnum 6K16 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 100-250VDC.

MECHANICAL:

Enclosure: High-strength metal. Panel-mount brackets for secure horizontal mounting included.

Optional rack mounting: Model K16-RMB for one unit in a 1U rack space

Model K16-2TRAY for 2 units side-by-side in a 1.5U rack space

Fan cooled, 3 fans each rated 3 cfm, rear-mounted w/front-to-rear air flow

Dimensions: 1.75 in H x 8.75 in W x 10.0 in D

4.4 cm H x 22.2 cm W x 25.4 cm D

Weight: 4.0 lbs. (1.8 kg)

LED INDICATORS PER RJ-45 PORT:

LK: Steady on when link is operational.

ACT: On with port activity

F/H: ON = full-duplex mode, OFF = half-duplex

100/10 ON = 100Mb speed, OFF = 10Mb



6K16 rear view

LED INDICATORS, 100Mb and 10Mb FIBER PORTS:

LK, ACT: same as RJ-45 port (see above)

F/H: ON = full-duplex mode, OFF = half-duplex mode.



Single unit Rack Mount

PORT-SPECIFIC SETTINGS:

The copper module has an internal switch for MDIX crossover on port #1. Other port-specific user settings are via software commands.

AGENCY APPROVALS AND STANDARDS COMPLIANCE:

UL Listed (UL60950), cUL, CE, Emissions meet FCC Part 15, Class A

NEBS Level 3 and ETSI Compliant for Carrier Central Offices

IEEE 1613 Environmental Standard for Electric Power Substations

IEC61850 EMC and Operating Conditions Class C for Power Substations

NEMA TS-2 and TEES for traffic control equipment.

WARRANTY:

Three years

Made in USA

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Ordering Information

Magnum 6K16 (AC)

or

Magnum 6K16-48VDC,

Magnum 6K16-24VDC,

Magnum 6K16-125VDC

Configurations Options

6KP8-MTRJ

6KP8-MLC

6KP8-SLC

6KP4-FXSC

6KP4-FXST

6KP4-F10ST

6KP4-FLSTFX

6KP8-RJ45

6KP8-45-2MT

6KP8-45-2SLC

6KP6-RJMST

6KP6-RJMSC

6KP6-RJSSC

6KP6-MT10ST

6KP6-RJ10ST

6KP8-45MT

6KP8-45SLC

6KP5-G4RJ

6KP3-G2SC

GBPM-COTX

GBPM-2OTX

GBIC-SXSC

GBIC-LXSC10

Magnum 6K16 Managed Switch, base unit for horizontal mounting. May be configured with a variety of 10/100/1000 Mb fiber and copper port connector types from a family of port modules. 16 ports max. AC and DC power types. Wire speed filtering and forwarding across all ports, 802.3x flow control, 802.1p priority packet processing, 4K node address table, 240KB packet buffers. For licensed network management software (MNS-6K and S-Ring), see separate data sheets.

Each Magnum 6K16 may be configured with up to two modules from the selection below.

SFF Fiber module for 6K16 Switches, w/eight 100Mb 2km multi-mode FX MTRJ connectors

SFF Fiber module for 6K16 Switches, w/eight 100Mb 2km multi-mode FX LC connectors

SFF Fiber module for 6K16 Switches, w/eight 100Mb 15km single-mode FX LC connectors

"2+2" 100 Mb Fiber module for 6K16 Switches, w/four 100 Mb FX SC connectors.

"2+2" 100 Mb Fiber module for 6K16 Switches, w/four 100 Mb 2km FX ST connectors.

"2+2" 10 Mb Fiber module for 6K16 Switches, w/four 10Mb 2km FL ST connectors

"2+2" ST Fiber module for 6K16 Switches, w/two 10 Mb FL ST and two 100 Mb FX connectors

TP Module for 6K16V switches, w/eight 10/100Mb auto-negotiating RJ-45 ports

"6+2" module for 6K16s, w/six 10/100 RJ-45 and two 100 Mb 2km multi-mode FX MTRJ connectors

"6+2" module for 6K16s, w/six 10/100 RJ-45 and two 100 Mb 15km single-mode FX LC connectors

"4+2" module for 6K16s, w/four 10/100 RJ-45 and two 100 Mb 2km multi-mode FX ST connectors

"4+2" module for 6K16s, w/four 10/100 RJ-45 and two 100 Mb 2km multi-mode FX SC connectors

"4+2" module for 6K16s, w/four 10/100 RJ-45 and two 100 Mb 20km single-mode FX SC connectors

"4+2" module for 6K16s, w/four 100 MTRJ fiber and two 10Mb 2km FL ST connectors

"4+2" module for 6K16s, w/four 10/100 RJ-45 and two 10 Mb 2km FL ST connectors

"4+4" module for 6K16s, w/four 10/100 RJ-45 and four 100 Mb 2km multi-mode FX MTRJ connectors

"4+4" module for 6K16s, w/four 10/100 RJ-45 and four 100 Mb 2km single-mode FX LC connectors

"G+4" module for 6K16s, one Gigabit port slot for a GBIC and four 10/100 RJ-45 copper ports

"G+2" module for 6K16s, one Gigabit port slot for a GBIC and two 100 Mb 2km mm FX SC connectors

Gigabit 6K port module for 6K16s, provides one Gigabit open transceiver port for a user-selectable GBIC

Gigabit 6K port module for 6K16s, provides two Gigabit open transceiver ports for user-selectable GBIC

GBIC transceiver module for use in GBPM-xOTX, one SX port with multi-mode SC fiber connector

GBIC transceiver module for use in GBPM-xOTX, one LX port with single-mode SC 10Km connector

Note: Single-mode GBICs are available at 10Km, 25Km, 40Km, and 70Km.

6K8-BLNK

Blank cover for one 6K (A,B) module slot opening in a Magnum 6K16 chassis

Note: Not all available port modules are listed. Request quote for a port module with your choice of port types



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