

### Features

- Provides 4 modular slots for user-selection of 100 Mb, 10 Mb, Gigabit ports and 10/100 copper ports with optional PoE
- Up to 32 100Mb Fiber ports, or 32 10/100 copper ports, or 8 Gigabit ports, or combinations
- Compact 1U rack-mount package, metal case, regular or "reverse" case
- Power input choices: 24VDC, -48VDC, 110-250VDC power, DC Dual Source, universal AC
- Feature-rich MNS-6K and MNS-SECURE managed switch software with GUI and CLI



Magnum™ 6K32F 32-port Fiber Managed Switches provide maximum fiber-port configurability in a rack-mount package, with up to 8 gigabit ports and up to 32 100 Mb fiber and copper ports or 10 Mb fiber and copper ports. High-capacity and high-performance Ethernet switching services are delivered in a robust 1U rack-mount package designed for the most demanding Industrial Networking and Carrier Class applications.

The port modules allow user-selection of mixed-media fiber (all connector types, multi- and single-mode) and 10/100 Mb RJ-45 ports, including Power-over-Ethernet (PoE). Standard SFP or GBIC ports can be configured for a variety of Gigabit fiber cabling types and distances, as well as 10/100/1000 copper.

Designed for use in industrial networks with numerous fiber segments requiring Gigabit backbone interconnections among network centers, the Magnum 6K32F is easy to install and operate. Fiber media is the industrial networking media choice for noise-immunity, for distance, for bandwidth, for preventing ground loops, and for overall reliability. The Magnum 6K32F Fiber Switch delivers industry-leading fiber media flexibility and capacity.

High performance hardware features include non-blocking speed on all ports and 802.1p QoS Traffic Prioritization. Moisture- and corrosion-protecting Conformal Coating is optional. Software includes comprehensive security for network access and for data traffic protection, Magnum 6K32F's are "plug-and-play", ready for use as versatile switches where a mix of bursty data traffic and priority streaming traffic for video surveillance, VoIP, access control and other attached PoE devices are present.

The Magnum 6K32F Switches are provided with LAN software support including advanced security features, SNMP via CLI, RMON, SNMPc™ and Openview™ for Windows, Secure Web Management GUI, and many ease-of-use features. See the Managed Networks Software (MNS-6K and MNS-SECURE) datasheets for additional details on the comprehensive set of software packages and options.

Magnum 6K32F Managed Switches have rugged metal cases and internal AC or DC power supplies, with DC dual source power optional. The 6K32F's 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, selection of standard SFP or GBIC or fixed copper or fiber transceiver modules, up to 8 ports total  
**Fiber Ports, 100 Mb** (multi-mode and single-mode): Configurable in modules, up to 32 ports total, each FDX or HDX. Default is FDX mode.  
**Fiber Ports, 10 Mb:** Configurable, 4 ST ports per slot. Each port may be FDX or HDX, default is HDX mode up to 16 ports total.  
**RJ-45 Ports: 100 or 10 Mb** speed, full- or half-duplex mode, per port, individually determined. 10/100 auto-negotiating and auto-cross, 32 max.  
**PoE RJ-45 Ports: 100 or 10 Mb** speed, full- or half-duplex mode, per port, individually determined. PoE is per IEEE 802.3af. Up to 32 ports max.  
**All Ports non-blocking**  
 Processing type: Store and Forward with IEEE 802.3x fdx flow control  
 System aggregate forward and filter rate 11.9Mpps  
 Address table: 4K nodes, self-learning, with address aging  
 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: 100BASE-TX, -FX, 1000BASE-SX, -LX  
 IEEE 802.3u Auto-negotiation on TP, IEEE802.3af on PoE  
 See MNS-6K and MNS-6K-SECUREdatasheets for software features

### OPERATING ENVIRONMENT:

IEC 60068 Operating Temp. per "Type Test" -40° to 185°F (-40° to 85°C)  
 UL 60950 "Component Parts" temperature rating: 140°F (60°C)  
 Storage: -40° to 185°F (-40° to 85°C),  
 Ambient 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 (OPTIONAL):

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

### NETWORK CABLE CONNECTORS:

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

### AC POWER SUPPLY (INTERNAL):

AC Power Connector: IEC-type, male recessed, ON/OFF switch (optional)  
 Power Input, AC: 100 to 240 VAC, 47 to 63 Hz (auto ranging)  
 Power Consumption: 60 watts typical for a fully-loaded fiber model  
 30 watts typical for copper-only models

## Ordering Information

### Magnum 6K32F

Magnum 6K32F Managed Switch, 4-slot base unit. May be configured with a selection of 10/100/1000 Mb fiber and copper connector types, 32 ports max or 8 gig ports max. A family of 37 port modules are available for essentially unlimited configuration flexibility. Wire-speed filtering and forwarding across all ports. For licensed management software, see applicable datasheets.

### Magnum 6K32FR

"Reverse" model, same as Model 6K32F except user ports and the power input connectors are in the rear. Two sets of LEDs (both rear and front) provide duplicate status data for viewing from either side.

**Configuration Options: Each Magnum 6K32F and 6K32FR base unit has four port module slots. Each may be one of the modules below. Select up to 4 modules per base unit. See Configuration Guide for additional details.**

6KP8-45MT	"4+4" module for 6Ks, w/four 10/100 RJ-45 and four 100 Mb 2km multi-mode FX MTRJ connectors
6KP8-SLC	SFF Fiber module for 6K Switches, w/eight 100 Mb 15km single-mode FX LC connectors
6KP8-RJ45	TP Module for 6K Switches, w/eight 10/100 Mb auto-negotiating RJ-45 ports
6KP8-MTRJ	SFF Fiber module for 6K Switches, w/eight 100 Mb 2km multi-mode FX MTRJ connectors
6KP8-45SLC	"4+4" module for 6Ks, w/four 10/100 RJ-45 and four 100 Mb 20km single-mode FX LC connectors
6KP6-RJMST	"4+2" module for 6Ks, w/four 10/100 RJ-45 and two 100 Mb 2km multi-mode FX ST connectors
6KP4-F10ST	"2+2" 10 Mb fiber module for 6K Switches, with four 10 Mb 2km FL ST connectors
6KP6-RJSSC	"4+2" module for 6Ks, w/four 10/100 RJ-45 and two 100 Mb 20km single-mode FX SC connectors
6KP6-RJSSCL	"4+2" module for 6Ks, w/four 10/100 RJ-45 and two 100 Mb 40km single-mode FX SC connectors
6KP6-RJ10ST	"4+2" module for 6Ks, w/four 10/100 RJ-45 and two 10 Mb 2km FL ST connectors
6KP4-FXSC	"2+2" 100 Mb Fiber module for 6K Switches, w/four 100 Mb FX SC connectors.
6KP4-F10ST	"2+2" 10 Mb fiber module for 6K Switches, w/four 10Mb 2km FL ST connectors
<b>Note: Several other Port Module types are available. See Configuration Guide.</b>	
6KP7-1GSFP6RJ	"G+6" module for 6Ks, w/one SFP Gigabit Port and six 10/100 Mb RJ45 ports
6KP7-1G2RJ4MLC	"G+4+2" module for 6Ks, w/one SFP Gigabit Port, four multi-mode LC fiber ports, and two 10/100 RJ-45
6KP7-1G2RJ4SLC	"G+4+2" module for 6Ks, w/one SFP Gigabit Port, four single-mode LC fiber ports, and two 10/100 RJ-45
6KP7-1G2RJ4SLCL	"G+4+2" module for 6Ks, w/one SFP Gb Port, four sgl-mode long-haul LC fiber ports, and two 10/100 RJ-45
6KP2-2GSX	Two-port one-slot Gigabit 6K module for 6K Switches, uses one 6K slot and provides two Gigabit Fiber SXSC (1000BASE-SX multi-mode) ports. Includes front-panel sheet metal cover.
6KE-2GCU	Two-port one-slot Gigabit 6K module for 6K Switches, uses one 6K slot and provides two Gigabit Copper (1000BASE-T) auto-negotiating ports. Includes front-panel sheet metal cover.
6KP3-1CU2FXT	Three-port one-slot Gigabit 6K module for 6K32F switches, uses one 6K slot and provides one Gigabit copper (1000BASE-T) auto-negotiating port and two 100Mb ST Fiber FX multi-mode ports.

### DC POWER SUPPLY OPTIONS:

**-48VDC:** Input -36 to -70VDC  
**24VDC:** Input 20 to 40VDC  
**125VDC and 110VDC nominal:** Input 88 to 300VDC  
**Std. Terminal Block:** "-", GND, "+", **Power Consumption:** Same as AC

### DC DUAL POWER SOURCE (OPTIONAL)

Magnum 6K32F & 6K32FR 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 110-250VDC.

### MECHANICAL:

Enclosure: Rugged high-strength sheet metal. Suitable for 1U rack-mounting or stand-alone.  
 Rack-mounting brackets: 19" included; ETSI and 23" Telco optional.  
 Cooling Method: Fan cooled, internal @ 25cfm  
 Dimensions: 1.70inHx17.0inWx9.0inD (4.32cmHx 43.2cmW x 22.9cmD)  
 Weight: rack-mount 5.0 lbs. (2.2 kg)

### LED INDICATORS, 100 Mb and 10 Mb FIBER PORTS:

LK: Steady on when fiber link is operational.  
 ACT: On with port activity, FDX/HDX

### LED INDICATORS PER RJ-45 PORT:

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

### PORT-SPECIFIC SETTINGS:

Port-specific settings (such as FDX or HDX, and 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 & Operating Conditions Class C for Power Substations IEEE 1613 Class 2 Environmental Std for Electric Power Substations NEBS Level 3 and ETSI Compliant; NEMA TS-2 for traffic control.

### WARRANTY:

Three years

Made in USA

©2010 GarrettCom, Inc. Printed in United States of America Doc No. 6K32F 01/10  
 GarrettCom, Inc. reserves the right to change specifications, performance characteristics and/or model offerings without notice. GarrettCom is a registered trademark of GarrettCom Inc. Magnum, Dymec, DynaStar, S-Ring, and Link-Loss-Learn are trademarks of GarrettCom, Inc. NEBS is a registered trademark of Telcordia Technologies. UL is a registered trademark of Underwriters Labs.



**GarrettCom**<sup>®</sup>

Industrial Networking at Its Best<sup>™</sup>

GarrettCom, Inc.

47823 Westinghouse Drive

Fremont, CA 94539

PH: (510) 438-9071

FAX: (510) 438-9072

Email: mktg@garrettcom.com

Web: www.GarrettCom.com