

### Features

- Provides eight 10/100 RJ-45 ports plus an optional configurable 100Mb fiber port
- All ports are switching and support full- and half-duplex; auto-negotiation on TP ports
- High performance non-blocking operation, plug-and-play installation for switching services, transparent to system software
- Has a compact 1U package for installation in rack cabinets, with metal case and auto-ranging internal power supply
- Available options include -48VDC, 24VDC, and 125VDC power, dual-source, NEBS and ETSI certification, "Reverse" rack-mount, ETSI and 23" Telco brackets, Class B EMI, and extended temperature range operation



**M**agnum™ Model 4K8 Ethernet 10/100 Switches boost the performance of Ethernet LANs, with the flexibility of both twisted-pair and a bonus fiber port. The fiber port, an additional or 9<sup>th</sup> port, may be configured from a variety of user-selected fiber connector and fiber cable types. The twisted-pair ports are 10/100 auto-negotiating.

The "future-proof" fiber port is normally 100Mb speed with factory default setting to operate in full-duplex mode. 100Mb fiber connector types available include multi-mode ST, SC, MV45 and MTRJ, and single-mode 20km or single-mode 40km "long reach" SC. Alternatively, for 10Mb fiber, a multi-mode half-duplex ST-type port option is available. The optional fiber port is normally configured and tested with the Magnum 4K8 unit in the factory, but may be configured in the field.

In common applications, groups of standard dual-speed 10/100 hubs, 10Mb hubs, or 100Mb hubs and switches would form a series of subnets for workgroups or multi-system power users. Each subnet would be served by a separate switched port on a Magnum 4K-Series, and each of these subnets would have full 100Mb or 10Mb bandwidth, operating in either half-or full-duplex mode. Local traffic on one subnet, either 100Mb or 10Mb, is switch-isolated from the other subnets for high overall network performance.

Magnum 4K8 Switches are easy to install and use. Addresses of attached nodes are automatically learned and maintained, adapting the switching services to network changes and expansions to provide plug-and-play operation. "Reverse" models with front-mounted ports and LEDs, or with front-mounted LEDs, rear ports and power connection, are available.

The Magnum 4K-Series, with store-and-forward switching, filter all faulty packets to minimize traffic congestion and are non-blocking. Magnum Model 4K8 Switches come in a convenient rack-mountable package; have a rugged metal case and an auto-ranging power supply for operation with AC power worldwide. "Carrier Class" and "Industrial Strength" models with optional DC input power features are also available. The 4K-Series and all Magnum products are made in the USA and are backed by a three-year warranty.

## PERFORMANCE:

**Ports 1-8:** 100 or 10Mb, full- or half-duplex mode per port, individually determined. 10/100 auto-negotiating. Internal jumper can select 100-only.

**Port 9:** Optional 100Mb Fiber Bonus Port: (multi-m or single-mode) based on fiber connector part. FDX or HDX, default is FDX mode. (internal jumper can select fdx-only). 10Mb fiber also available.

### All Ports:

Processing type: Non-blocking, Store and Forward with IEEE 802.3x full-duplex flow control

System aggregate forwarding rate: 1.2M pps (packets per second)

System (8p) aggregate filter rate: 1.2M pps for all ports

Address table: 16K nodes, self-learning, with address aging

Packet buffers: 1MB dynamic

Latency: 5µs + packet time max (TX - TX, TX - FX, FX - FX)

PDV: 50BT

## NETWORK STANDARDS:

IEEE 802.3u: 10BASE-TX, -FX, IEEE 802.3: 10BASE-T

Auto-negotiation on TP, IEEE 802.3u

All 10Mb ports obey the rules for configuring 10Mb Ethernet

All 100Mb ports use Fast Ethernet rules

## OPERATING ENVIRONMENT:

Ambient: 25° to 140°F (-5° to 60°C), optional extended range

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

## UP-LINK, PORT #1:

Thumb-operated slide switch, converts Port #1 from a regular (= position) port to a crossover (X position) Up-Link for on/off connection to an upstream or cascaded hub or switch.

## NETWORK CABLE CONNECTORS:

RJ-45 shielded female ports

100Mb: Category 5 UTP/STP 10Mb: Cat. 3,4, 5 UTP

Fiber ports: Zero, One or Two / unit.

Connector options: Multi-mode FX-ST, SC, MTRJ; Single-mode 20Km SC, and 40Km "long reach" single-mode SC.

## AC POWER SUPPLY (INTERNAL):

AC Power Connector: IEC-type, male recessed, ON/OFF switch.

Power Input Voltage: 100 - 240 VAC (auto ranging)

Power Input Frequency: 47 to 63 Hz

Power Consumption: 10 Watts typical, 14 Watts max with FPM

## DC POWER SUPPLY OPTIONS:

**-48VDC:** Input -36 to -70VDC

**24VDC:** Input 20 to 40VDC

**125VDC:** Input 120 to 160VDC

Std. Terminal Block: "-", GND, "+",

Power Consumption: Same as AC

## DUAL POWER SOURCE (OPTIONAL):

The Magnum 4K8 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, and 125VDC input types.

## MECHANICAL:

Enclosure: Rugged high-strength sheet metal. Suitable for stand-alone or 1U rack mounting.

Rack-mounting brackets: 19" included; ETSI and 23" Telco optional.

Cooling Method: Fan cooled, internal, on chip.

Dimensions: 1.75 in H x 17.0 in W x 9.0 in D,

4.45 cm H x 43.2 cm W x 22.9 cm D

Weight: 3.1 lb. (1.4kg)

## SWITCHES ON CHASSIS, MANUAL:

Power ON/OFF, standard AC models

Full/half duplex on fiber ports.

## LED INDICATORS ON CHASSIS:

POWER: Steady on when power applied

ERR: Self-test at power up failed.

Reverse Model Option Available: Reverse models are designed with the LED indicators in the front and all wiring and power connections in the rear, normally rack-mounted.

## LED INDICATORS PER PORT:

Link/Act: Steady ON for LINK with no traffic, blinking indicates port is transmitting and receiving

SPEED: ON=100, OFF=10Mb

F / H: Steady ON for Full duplex, OFF for Half duplex.

## AGENCY APPROVALS:

UL Listed (UL60950), cUL, CE

Emissions meet FCC Part 15, Class B

Optional: ETSI and NEBS L3 Certified

**WARRANTY:** Three years

Made in USA

©2011 GarrettCom, Inc. Printed in United States of America Doc No. 4K8-R4 4/11. GarrettCom, Inc. reserves the right to change specifications, performance characteristics and/or model offerings without notice. GarrettCom, Magnum, Personal Switch, Link-Loss-Learn, S-Ring, Convenient Switch and Converter Switch are trademarks and Personal Hub is a registered trademark of GarrettCom, Inc. NEBS is a registered trademark of Telcordia Technologies. UL is a registered trademark of Underwriters Labs.

## Ordering Information

Magnum 4K8

Ethernet Switch with 8 RJ-45 ports, each auto-sensing for 10Mb / 10Mb FDX/HDX operation. Optional fiber port may be configured from the family of modules below. Each port is switched and provides a full-speed traffic domain with non-blocking performance. Includes internal auto-ranging power supply, cooling fan, and metal brackets for rack mounting. LEDs and user ports are in the front, power input is in the rear. Units with DC input are optional. available.

Magnum 4K8R

"Reverse" model, same as Model 4K8 except user ports and the power input connectors are in the rear.

Note: Request quote for models with DC input and Dual Source power option.

Bonus Port Modules:

FPM-MSC

Fiber module with 100Mb multi-mode FX SC connector

FPM-MST

Fiber module with 100Mb multi-mode FX ST connector

FPM-MTRJ

Fiber module with 100Mb multi-mode FX MTRJ small form factor connector

FPM-SSC

Fiber module with 100Mb 20Km single-mode FX SC connector

FPM-SSCL

Fiber module with 100Mb 40Km "Long Reach" single-mode FX SC connector

K8PM-RJ45

RJ-45 Port Module with 100Mb fixed speed, full- or half-duplex, up-link push button (not useable in 8000X)

FPM10-MST

Fiber module with 10Mb multi-mode FL ST connector - half duplex (default) or full-duplex

FPM-BLNK

Blank module with no fiber port, included in 4K8 switch unit when no fiber port option is selected or configured.



# GarrettCom®

Industrial Networking at Its Best™

**GarrettCom, Inc.**

47823 Westinghouse Drive

Fremont, CA 94539

PH: (510) 438-9071

FAX: (510) 438-9072

Email: [mktg@garrettcom.com](mailto:mktg@garrettcom.com)

Web: [www.GarrettCom.com](http://www.GarrettCom.com)