




# 6K25e Configurable Managed Switch

High-capacity, high-performance Ethernet switching services in a robust 1U rack-mount package designed for demanding Industrial Networking and Carrier Class applications

Ideal for core Ethernet services in Industrial Networks, Magnum 6K25e Switches provide flexible configuration, with up to 8 Gigabit ports and/or choices of both 100 Mb fiber and copper ports or 10 Mb fiber and copper ports.

-  Provides 4 modular slots for user-selection of 100 Mb, 10 Mb, Gigabit ports and 10/100 copper ports with optional PoE
-  Up to 8 Gigabit ports, choice of SFP or auto-negotiating copper connectors
-  Compact 1U rack-mount package, metal case, regular or "reverse" case

## Key Features

- Options include -48V DC, 125V DC, and 250V DC power, dual source, dual power supplies, or AC
- Feature-rich MNS-6K managed switch software with choice of GUI or CLI



Magnum 6K25e enhanced Managed Switches provide greater configurability in a rack-mount package. The port modules allow user-selection of mixed-media fiber (all connector types, multi- and single-mode) and 10/100 Mb RJ45 ports, even Power-over-Ethernet (PoE). Standard SFP ports can be configured for a variety of Gigabit fiber cabling types and distances, as well as 10/100/1000 copper.

High performance hardware features include non-blocking speed on all ports and 802.1p QoS Traffic Prioritization. Software includes comprehensive security for network access and for data traffic, GarrettCom's IGMP-L2 multicast traffic management, and a choice of redundancy options. Magnum 6K25e's are "plug-and-play" ready for use as backbone switches where a mix of bursty data traffic and priority streaming traffic for video surveillance, VoIP and even attached PoE devices are present.

The Magnum 6K25e Switches are provided with LAN software support including SNMP management control via command line interface, RMON, SNMPc and Openview for Windows, Secure Web Management GUI, and many security features. See the Managed Networks Software (MNS) datasheet for additional details on the comprehensive set of software packages and options.

Magnum 6K25e Managed Switches have rugged metal cases and Internal AC or DC power supplies, with DC dual source and dual power supply optional. The 6K25e's and all other Magnum products are designed and manufactured in the USA and backed by a three year warranty.

## Applications

A group of Magnum 6K25e Switches are ideal for the core Ethernet services in Industrial Networks. The advanced software with security and redundancy and ease-of-use serves applications that include other networking products such as WAN routers, small edge switches, and Serial Device Routers. Designed for use in industrial plant-wide LAN centers with numerous fiber segments requiring Gigabit backbone interconnections among network centers, the Magnum 6K25e is easy to install and operate.

## Technical Information

Performance	
<b>Gigabit Ports, 1000 Mb</b>	Configurable, selection of standard SFP or fixed copper or fiber transceiver modules, up to 8 ports total
<b>Fiber Ports, 100 Mb</b>	Multi-mode and single-mode: Configurable in modules, up to 24 ports total Each port may be FDX or HDX. Default is FDX mode
<b>Fiber Ports, 10 Mb</b>	Configurable, 4 ST ports per slot Each port may be FDX or HDX, default is HDX mode up to 12 ports total
<b>RJ45 Ports, 100 or 10 Mb</b>	Full- or half-duplex mode, per port, individually determined 10/100 auto-negotiating and auto-cross, 24 max
<b>PoE RJ45 Ports, 100 or 10 Mb</b>	Full- or half-duplex mode, per port, individually determined PoE is per IEEE 802.3af With AC or 125V DC, 4 PoE ports max With -48V DC, 24 PoE ports max
<b>All Ports, Non-blocking</b>	Processing type: Store and Forward with IEEE 802.3x FDX flow control System aggregate forward and filter rate 11.9Mpps (24 ports @ 100 Mb speed, 8 ports @ Gb)
<b>Address Table</b>	4K nodes, self-learning, with address aging
<b>Packet Buffers</b>	240 KB for 10/100 and 120 KB for 1000 Mb
<b>Latency</b>	6µs + packet time max (TX - TX, TX - FX, FX - FX, TX-G, G-G)
Network Standards	
<b>All Ports</b>	IEEE 802.3z, 802.3ab, 802.1p: 100BASE-TX, -FX, 1000BASE-SX, -LX Auto-negotiation on TP, IEEE802.3af on PoE See MNS-6K datasheet for software network standards and features
Operating Environment	
<b>IEC 60068 Operating Temperature</b>	Per "Type Test" -40°F to 185°F (-40°C to 85°C)
<b>UL 60950 and "Component Parts" Temperature Rating</b>	130°F (55°C)
<b>Storage Temperature</b>	-40°F to 185°F (-40°C to 85°C)
<b>Ambient Relative Humidity</b>	5% to 95% (non-condensing) For conformal coating (humidity protection) option: request quote
<b>Altitude</b>	-200 to 13,000 ft (-60 to 4000 m)
Network Cable Connectors	
<b>1000 Mb Ports</b>	All standard SFP and fixed types supported
<b>100 Mb Copper Ports</b>	Category 5 UTP/STP; 10 Mb: Cat. 3,4, 5 UTP/STP
<b>100 Mb Fiber Ports</b>	Multi-mode FX-MTRJ, LC, ST, SC Single-mode LC, 20Km SC, and 40Km "long reach" single-mode SC
<b>10 Mb Fiber Ports</b>	Multi-mode ST

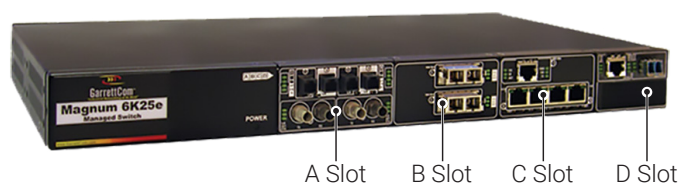
## Technical Information (continued)

Power Supply	
AC Power Supply (internal)	AC Power Connector: IEC-type, male recessed, ON/OFF switch (optional) Power Input, AC: 100 to 240V AC, 47 to 63 Hz (auto ranging) Power Consumption: 60 watts typical for a fully-loaded fiber model 30 watts typical for copper-only models
DC Power Supply	-48V DC: Input -36 to -70V DC (PoE input range: -44 to -57V DC) 24V DC: Input 20 to 40V DC 125V DC, 250V DC, and 110V DC nominal: Input 88 to 300V DC Std. Terminal Block: "-", GND, "+" Power Consumption: Same as AC
DC Dual Power Source (optional)	Magnum 6K25e 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 -48V, 24V, 125V or 250V.
Power Supplies For PoE (optional)	AC: same as AC internal but with 60 watts output @48V DC for PoE 125DC: same as 125DC internal but w/ 60 watts output @48V DC for PoE
Dual Power Supplies (optional)	Magnum 6K25e/6K25Re models with 48V DC, 125V DC, 110V DC, 250V DC, and AC power input may be ordered with dual power supplies, load-sharing with software monitoring, for continuity of operation when either one of the two power supplies or their associated power input is inoperative
Relay Contact for Alarms (Optional)	
Form C	One NC indicating internal power, one NC software controllable
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
Dimensions	1.70in H x 17.0in W x 9.0in D (4.32cm H x 43.2cm W x 22.9cm D)
Weight	Rack-mount 5.0 lbs. (2.2 kg)
Cooling Method	Fan cooled, internal @ 25cfm
LED Indicators	
Per RJ45 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 = 100 Mb speed, OFF = 10 Mb
Per 100 Mb and 10 Mb Fiber Port	LK: Steady ON when fiber link is operational ACT: ON with port activity, FDX/HDX
Agency Approvals	
All Models	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 for traffic control
	EN50155 compliant, DNV certified
Warranty	
Made in USA	Three [3] years

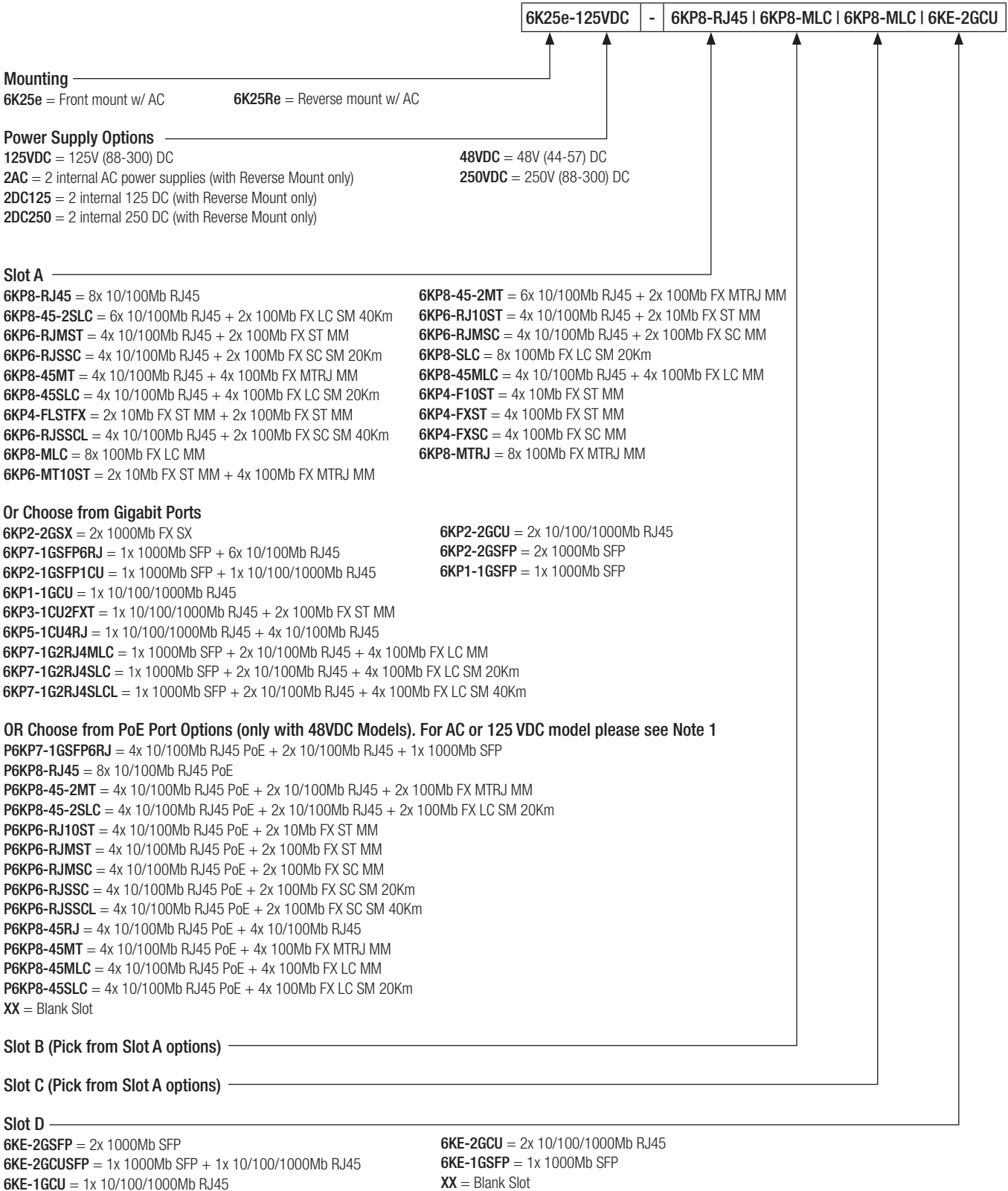
## 6K25e Accessories

Model No.	Description
SFP-SX	Gb SX, 850nm wavelength, 550 meters
SFP-ESX	Gb SX, 1310nm wavelength, 2km
SFP-LX25	Gb LX, 1310nm wavelength, 25km
SFP-ZX40	Gb ZX, 1550nm wavelength, 40km
SFP-ZX70	Gb ZX, 1550nm wavelength, 70km
SFP-GTP	Gb Copper
SFP-LX10	Gb LX, 1310nm wavelength, 10km
CONSOLE-CBL	Console attachment cable serial null Modem (aka X-modem) cable with DB9 connectors
CONSOLE-USB	Console attachment cable serial null Modem (aka X-modem) cable with a USB connector
CONFORM05-CRM	Conformal coating, 5 mil, for moisture protection
CONFORM08-CRM	Conformal coating, 8 mil, for corrosive environments

Model No.	Description
MNS-6K-SECURE-LIC1	Optional, licensed per switch for extra security
S-RING-KEY	Software, optional self-healing redundant ring management
DUAL-SRC	Two separate power inputs (24/48/125V)
6KM-BLNK	Blank cover for 1 unused (A) module slot
ALARM-TERMBLK	Alarm contacts, 1 power and 1 software
RMB-23W	23" 'Telco' rack-mount kit (1U)
RMB-ETSI	ETSI rack-mount kit (1U)



## Magnum 6K25e Configuration Guide



**Note 1:** For configuring full rack-width 6K Switches having AC or 125V DC input only choose a power-inside power supply just for PoE power. Model **6KP8-RJ45** is not available for AC or 125V DC.

**6KAC-PoE-PS** = Power Supply for PoE to 4 ports, 60 watts, mounts inside of a rack-mount 6K Switch (6K25, 25e, 25R, 25Re) w/ AC

**6K125VDCPoE-PS** = Power Supply for PoE to 4 ports, 60 watts, mounts inside of a rack-mount 6K Switch (6K25, 25e, 25R, 25Re) w/ 125VDC

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