

Features

- Managed Ether net Switch, provides six 10/100 switched RJ-45 ports and two 100 Mb fiber ports
- Designed for un-heated / un-cooled “outdoor ” applications. Convection cooled, sealed case with no fans and no air vent openings
- Softwar e includes SNMP, QoS, Telnet, Security , STP, VLAN, BootP / DHCP
- Two 100 Mb fiber ports built in, with Link-Loss-Learn! featur e. Connectors may be mm SC, 20km sgl-m SC, or other specialty types
- Normally AC-powered via Magnum PSX-A unit. DC-powered models for -48VDC, 5VDC, 24VDC, 125VDC or 250VDC also available



When Ethernet LAN switches need to move out of temperatur e controlled friendly of fices and into harsh environments with inhospitable high/low temperatur es, the Magnum! mP62 Managed Switch is the solution.

Software for the mP62 Switches provides network management support based on industry standar ds, making them readily used in existing and/or mixed-vendor Ethernet LAN applications. The menu-driven softwar e supports managed edge-switch functions including SNMP , QoS, Telnet, Password Security, Port Settings Contr ol, Spanning Tree Protocol, port-based VLANs, BootP / DHCP, and GUI network management. In addition, the Link-Loss-Learn! featur e allows rapid operating r ecovery from a fault.

Designed to operate in temperatur e uncontrolled applications, the mP62 case was engineer ed to function as a heat sink to draw internally generated heat away fr om the electr onics and dissipate it. The result is a product that can take the heat... and the cold.

Unique thermal techniques (patent pending) developed by GarrettCom technologists extend the ambient temperatur e operating range beyond standard product ratings, and impr ove operating lifetime and r eliability. Ambient operating temperatur es range from -40°C to $+75^{\circ}\text{C}$. The extreme temperatur e Ethernet technology was derived fr om the proven companion product, the Magnum P62F Switch, already widely in use in Power Utility, Traffic Contr ol Systems and other Outdoor Industrial Ethernet LAN applications.

The mP62 case is sealed preventing pr oblem elements fr om entering the unit. Ther e is no convection air flowing thr ough the unit, no cooling fan failure to worry about, and no spiders or insect penetration. In addition, the mP62 will allow no smoke inside, pr eventing internal damage to the electr onics in case of fire.

Applications for the mP62 include power utility plants and substations, roadside traffic control stations, unheated or high temperatur e industrial plant locations, above the ceiling locations in commer cial buildings, data communications huts and pedestals, and military field operations sites. When mounted in the field, the mP62 is typically fastened to a metal pedestal or post. This pr ovides an even larger heat sink to normalize the operating temperatur e of the electr onics in the mP62. The mP62's package is IEC 529 rated IP51 and, while not waterpr oof, it can be placed in NEMA 4 boxes, IP65 enclosures and similar waterproof enclosures to provide an all-weather outdoor solution.

Specifications

Magnum mP62 and mP62-5V Managed Hardened Switch

PERFORMANCE:

RJ-45 Ports: # 2-6 are 100/10 Mbps, S/W control for speed and F/H duplex.
Note – Crossover (MDI vs. MDIX) is automatically handled on all RJ-45 ports.
Fiber Ports: #1 and 8 are 100 Mb fiber, multi-mode or single-mode, S/W for F/H
Switching type: all ports non-blocking; S and F with IEEE 802.3x flow control.
Aggregate forwarding and filtering rate: 1190K pps @100BASE-TX/FX
Packet buffers: 256KB PDV: 50BT
Address Table size: 4K nodes, resets upon Link-loss on user-selected ports
Latency: less than 5 microseconds (not including packet time)

NETWORK STANDARDS:

Ethernet: IEEE 802.1p, 802.1d STP, 100BASE-TX, FX; IEEE 802.3, 10BASE-T
Auto Negotiation (when ON): IEEE 802.3u, occurs at LINK enable
All 10Mb ports obey rules for 10Mb Ethernet, all 100Mb Fast Ethernet

STANDARD SOFTWARE:

SNMP, QoS, Telnet, Password Security, Port Settings Control, Spanning
Tree Protocol, port-based VLANs, BootP / DHCP, menu user interface

LINK-LOSS-LEARN FEATURE (patent pending)

A Link-Loss on user-designated ports immediately triggers new MAC address
learning in the mP62 Switch address table, providing faster fault recovery

LED INDICATORS: (LEDs are viewed from the top surface)

Power (on chassis): Steady on when power applied
Per Port Speed: ON = 100Mb; OFF = 10Mb (with LINK On)
Link/Act: Steady ON for LINK with no traffic, blinking for Activity
F/H: ON for full-duplex mode, OFF for half-duplex

MANAGEMENT CONSOLE CABLE CONNECTOR:

DB9 male, accepts industry standard null-modem cable.
(software is installed or uploaded via a PC on the console port, or via TFTP).

NETWORK CABLE CONNECTORS:

Fiber: 100Mb mm SC, 100Mb Sgl-m SC-type 20km (other types via RFQ)
RJ-45s with Auto-MDIX, 100Mb: Cat. 5 UTP/STP, 10 Mb: Cat. 3, 4, 5 UTP

POWER SUPPLY:

Power Consumption: 10 watts typical, 2A at 5VDC
mP62-5V Power Input: 5VDC, screw-lock connector, typically for use with
Magnum PSX-A or PSX-T Power Source, rated for 15 watts at -40°C to 75°C.
Note: See PSX datasheet for details on AC, 125VDC and 250VDC power input
mP62 DC Power Input: 20-70VDC auto-ranging, floating + and - screw
terminals. Typically for use where 24VDC or -48VDC power is available.

OPERATING ENVIRONMENT:

Ambient Temperature: -40° to 170°F (-40° to 75°C)
Cold start down to -20°C
Storage temperature: -40° to 185°F (-40° to 85°C)
Ambient Relative Humidity: 5% - 95% (non-condensing)
Altitude: -200 to 50,000 ft. (-60 to 15,000m)
UL2043 smoke tested for use in air handling spaces.
mP62 and PSX units are IEC 529 rated IP51 (holds out dust, vertical water)
Conformal coating (humidity protection) option, request quote.
Operating Shock and Vibration: Meets Telcordia GR-63 Sections 4.4.1 and
4.4.3

MECHANICAL:

Enclosure: Rugged 18-gauge high-strength steel case. The case serves as a
heat sink. Normally mounted vertically on a pedestal or metal surface along
with PSX Power Source.

Metal mounting base included, 13-gauge steel (without the base, the box
size is only 7" high). Mounting holes are a rectangle that is 3.35" X 7.92" (8.5
X 20.1cm) center-to-center. The lip at the bottom of the base can be used to
anchor strain-relief for cables.
Mounting screws (user supplied): Slot can accommodate sizes up to 1/4" di-
ameter.

Dimensions (wall mounted): 1.70 in D x 5.75 in W x 8.8 in H
(4.3 cm x 14.6 cm x 22.4 cm)

Weight of the unit: 3.5 lbs (1.6 Kg.)

Cooling Method: Convection, with case operating as a heat sink

*Note Unique thermal techniques (patent pending) developed by
GarrettCom technologists extend the ambient temperature operating
range beyond standard product ratings, and improve operating lifetime
and reliability.*

AGENCY APPROVALS AND STANDARDS COMPLIANCE:

UL listed (UL60950), cUL, CB, CE Low Volt. Dir. & Electro-Magnetic Comp.
IEEE P1613 (Draft) Environmental Standard for Electric Power Subs, (C37.90)
Emissions meet: FCC Part 15 Class A, ETSI
UL2043 tested for above the ceiling installation

MEAN TIME BETWEEN FAILURE (MTBF):

10+ years, Telcordia (Bellcore) Method.

WARRANTY:

Three years Made in USA

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reserves the right to change specifications, performance characteristics and/or model offerings
without notice. GarrettCom, Magnum, Link-Loss-Learn (patent pending), and Personal 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 mP62-AC-2MSC	mP62-AC Managed Ethernet Switch with six 10/100 RJ-45 and two 100Mb FDX fiber multi-mode SC-type ports. Software includes SNMP, QoS, Telnet, Security, STP, VLAN, BootP / DHCP. Has 4K nodes address table and 256KB packet buffers. AC power input, 85-260vac 47-63Hz worldwide auto-ranging, via PSX-A Power Source Extended Temp (a separate unit). Steel case used as a heat sink, designed for use in environmentally challenged locations such as extended temperature "outdoors."
Magnum mP62-AC-1M1SSC	Same as mP62-AC-2MSC, except one fiber port is 20km single-mode SC. (includes PSX-A)
Magnum mP62-AC-2SSC	Same as mP62-AC-2MSC, except both fiber ports are 20km single-mode SC. (includes PSX-A)
Magnum mP62-AC-NOF	mP62-AC Ethernet Switch with six 10/100 RJ-45 and <u>no</u> fiber ports.
Magnum mP62-2MSC	mP62-DC Ethernet Switch, six 10/100 RJ-45 and two 100Mb FDX fiber multi-mode SC-type ports. Software and buffers same as mP62-AC-2MSC. DC power input, 18-70VDC auto-range.
Magnum mP62-1M1SSC	Same as mP62-2MSC, but with one multi-mode SC-type and one 20km single-mode SC fiber connectors (No PSX unit required).
Magnum mP62-2SSC	Same as mP62-2MSC, except both 20km single-mode SC fiber connectors (No PSX unit.)
Magnum mP62-NOF	mP62-DC Ethernet Switch with six 10/100 RJ-45 and <u>no</u> fiber ports
Parts:	
Magnum mP62-5V-2MSC*	Same as mP62-2MSC, except with 5VDC input using military-type screw-lock connector.
Magnum mP62-5V-1M1SSC*	Same as mP62-1M1SSC, except with 5VDC input using military-type screw-lock connector.
Magnum mP62-5V-2SSC*	Same as mP62-2SSC, except with 5VDC input using military-type screw-lock connector.
Magnum mP62-5V-NOF	Same as mP62-NOF, except w/ 5VDC input via PSX-A using military-type screw-lock connector.
Magnum PSX-5V-CBL (spare)	2-ft power cord with military-type screw-lock connector, spare for PSX to mP62-5V.
MST Conversion	Special Item, convert one standard mP62-2MSC w/ two MSC fiber ports to two MST ports.

* PSX unit or equal required to supply 5VDC input. For more information, please see the PSX datasheet.

For Magnum mP62 and mP62-5V units with other fiber connector types, RFQ for additional information.



Ethernet at Its Best™

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Features

- Provides power input to the Magnum mP62 and P62F Ethernet Switches from AC worldwide, or from 125VDC and 250VDC
- Operates in ambient temperatures of -40°C to 75°C, for "Ethernet Outdoors"
- Industrial grade surge protection, overload and short circuit protection, shock and vibration rating
- Metal case used as a heat sink, sealed unit with no moving parts
- Military-style screw-lock plug for secure 5VDC at tachment to the P62 Switches



Magnum mP62 and P62F Ethernet Switches used in industrial grade "Ethernet Outdoors" applications need rugged power sources. These power sources must withstand temperature extremes, hard knocks, and surges from nearby lightning strikes. They must resist smoke and fire, bugs and insects, dust and dirt. They must be reliable and long-lasting in service.

Where AC power is used, the Magnum Model PSX-A is the solution. It accepts all standard worldwide AC power voltages and frequencies, supporting applications in traffic control systems, unheated or high temperature industrial plant locations, plenums or ceiling locations in commercial buildings, data communications huts and pedestals, and military field operations sites.

Where industrial grade 125VDC or 250VDC power is used, such as in power utility plants and substations, the Magnum Model PSX-T meets the requirements. For both models, the military-style screw-lock plug provides a secure connection, delivering 5VDC power to the Magnum P62's.

Since the PSX is sealed, it prevents problem elements from entering the unit. There is no convection air flowing through the unit, no cooling fan failure to worry about, and no spiders or insect penetration. In addition, the plenum-rated PSX does not allow smoke inside, preventing internal damage to the PSX in case of fire. The PSX's package is IEC 529 rated IP51 and, while not waterproof, it can be placed in NEMA 4 boxes, IP65 enclosures and similar waterproof enclosures to provide an all-weather outdoor solution.

The Magnum PSX-A and PSX-T Power Source products as well as the other Magnum products are designed and manufactured in the US and backed by a three-year warranty.

OPERATING ENVIRONMENT:

Ambient Temperature: -40° to 170°F (-40° to 75°C)
Cold start down to -20°C
Storage: -40° to 185°F (-40° to 85°C)
Ambient Relative Humidity: 5% - 95% (non-condensing)
Altitude: -200 to 50,000 ft. (-60 to 15,000m)
Plenum rated, per UL2043 fire tests
Conformal coating (humidity protection) option, request quote.
PSX units are IEC 529 rated IP51 (holds out dust, vertical water)
Operating Shock and Vibration: Meets Telcordia GR-63 Sections 4.4.1, 4.4.3

PERFORMANCE:

Electrical Efficiency: 70% min.
Power dissipation: 3 watts typical
Surge Protection: over 150 joules
Surge clamping: 800V, 50A min.
Overload and short circuit protection: Input fuse

LED INDICATORS ON CHASSIS:

POWER indicates incoming power is ON.

POWER INPUT:

PSX-A

85-264vac, 47-63Hz, auto-ranging.
AC Power Connector: IEC-type, male recessed.

PSX-T

100-275VDC (nominal ratings of 125VDC, 250VDC)
DC Input Connector: floating + and - , ground, screw terminals, safety shield. Diode-protected to 250V against accidental reverse polarity connection.

PSX-A and PSX-T

Input Fuse: 3AG type, 0.5 Amp; a spare is included

POWER OUTPUT:

5VDC, up to 3 Amps
DC Output Connector: 21 inch cord, +, GND, -, to military-style screw-lock female plug.

Mounting: For best results at high-temperature, fasten the metal case of the PSX unit to be in contact with a vertical metal surface (such as a pedestal) that has good heat conducting properties. Remove rubber "feet," if present, to enhance metal-to-metal contact and provide the best heat transfer away from the PSX unit.

MECHANICAL:

Enclosure: Rugged 18-gauge high-strength steel case. The case serves as a heat sink. Normally mounted vertically on a pedestal or metal surface.
Mounting screws (user supplied): Slot can accommodate sizes up to 1/4" diameter.
Mounting Slots: 3.35 in. x 6.20 in. rectangle (8.5cm x 15.75cm)
The bottom mounting slots match with the mounting slots at top of Magnum P62 units.

Dimensions (wall-mounted):

1.5 in. D x 6.5 in. W x 6.5 in. H
(3.8cm D x 16.5cm W. x 16.5cm H)

Weight: 2 lb. (0.9kg)

Cooling Method: Convection, with case operating as a heat sink

AGENCY APPROVALS:

UL listed (UL60950), cUL, CB, CE Low Volt. Dir. & Electro-Magnetic Comp.
IEEE P1613 (Draft) Environmental Standard for Electric Power Subs, (C37.90)
Emissions meet: FCC Part 15 Class A, ETSI
UL2043 fire tests for plenum rating

WARRANTY:

Three years

Made in USA

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Magnum PSX-A Power Source shown with Magnum P62F in a typical set-up.

Ordering Information

Magnum PSX-A

Magnum P62 Power Source for Extended Temperature, nominal AC input 115 to 240vac and 50 to 60Hz auto-ranging, 15 watts, 5VDC output, 21" power cord to screw-lock plug. Steel case used as a heat sink. Mounts as a separate unit adjacent to the Magnum P62 Switch. Operates from -40° to 75°C ambient.

Magnum PSX-T

Same as PSX-A, except 125VDC to 250VDC input, terminal lugs for +, - and GND.


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Ethernet at Its Best™

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