

Features

- Ethernet Switch, provides six 10/100 switched RJ-45 ports and two 100Mb fiber ports
- Designed for unheated / un-cooled “outdoor” applications such as roadside control boxes. Metal case and pedestal mounting hardware serve as a heat sink to dissipate internal heat
- P62F models provide two 100Mb fiber ports built in, typically used to daisy-chain units in a system
- Fast Ethernet fiber connectors may be multi-mode SC, 20km single-mode SC, or other specialty types
- Models for power sources of -48VDC, 24VDC, or 12VDC. AC power usable with Magnum PSX units



Magnum P62F-5V



Magnum P62F

When Ethernet LAN switches need to move out of temperature controlled friendly offices and into harsh environments with inhospitable high/low temperatures, the Magnum P62F and P62F-5V Switches can be the solution.

Two 100Mb switched fiber ports allow strings of P62Fs to be deployed over great distances, and a half-dozen 10/100 switched RJ-45 ports in each unit provide easy and convenient connectivity for local devices and users at each drop.

Designed to operate in temperature uncontrolled applications, the P62F case was engineered to function as a heat sink, to draw the heat away from the internal electronics and dissipate it. In order to minimize the heat dissipation problem, the efficient P62F uses just 10 watts of power. The P62F operates normally up to 70°C (160°F), withstanding the heat of summer in the desert and down to the extreme cold of arctic winter -40°C (-40°F).

Since the P62F case 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 P62F will allow no smoke inside, preventing internal damage to the electronics if used adjacent to an accidental building or plenum fire.

Noteworthy applications for the P62F include roadside traffic data collection and control stations, unheated or high temperature industrial plant locations, plenums and ceiling locations in commercial buildings, data communications huts and pedestals, and military field operations sites.

When mounted in the field, the P62F is typically fastened to a metal pedestal or post that is planted in the earth. This provides an even larger heat sink to normalize the operating temperature of the electronics in the P62F. Although the P62F's package is not waterproof, it can be placed in NEMA 4 boxes, IP65 enclosures, and similar waterproof metal enclosures to provide an all-weather outdoor solution.

The Magnum P62F and P62F-5V units are available with a choice of 100Mb fiber port connectors; multi-mode and single-mode fiber cabling (and combinations) are supported as well. To achieve high performance, large (1MB) packet buffers and 16K address tables are standard. DC power input is featured in model P62F for high reliability and convenience in out-of-the-way locations. Standard AC power can be applied to the model P62F-5V using the Magnum PSX-A Power Source for Extended Temperature.

The ruggedness of the P62F steel case combined with the high reliability of the design (over 15 years MTBF) complements the temperature-controlled packaging to provide an exceptional “Industrial Strength” Ethernet product.

The Magnum P62F and P62F-5V Ethernet Switches as well as the other Magnum products are designed and manufactured in the US and backed by a three-year warranty.



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PERFORMANCE:

RJ-45 Ports: # 2-6 are 100 or 10Mb / second, auto-negotiating for speed and F/H duplex mode.

Fiber Ports: # 1 and # 8 are 100Mb fiber, full-duplex

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

System aggregate forwarding and filtering rate: 1190K pps (packets per second), 1190K pps @ 100BASE-TX/FX

Packet buffers: 1MB

Address Table size: 16K nodes

Latency: less than 5µs (not including packet time)

PDV: 50BT

NETWORK STANDARDS:

Ethernet: IEEE 802.3u, 100BASE-TX, FX; IEEE 802.3, 10BASE-T

Auto Negotiation: IEEE 802.3u, occurs at LINK enable, for each RJ-45 port

All 10Mb ports obey the rules for configuring 10Mb Ethernet, all 100Mb ports use Fast Ethernet rules

OPERATING ENVIRONMENT:

Ambient Temperature: -40° to 160°F (-40° to 70°C)

Plenum rated for above-the-ceiling installation

Cold start down to -20°C

Storage: -40° to 185°F (-40° to 85°C)

Ambient Relative Humidity: 10% - 95% (non-condensing)

Altitude: -200 to 50,000 ft. (-60 to 15,000m)

Operating Shock and Vibration: Meets Bellcore GR-63-CORE Sections 4.4.1 and 4.4.3

NETWORK CABLE CONNECTORS:

Fiber: 100Mb Multi-mode SC, 100Mb Single-mode SC-type 20km (other types available via RFQ)

RJ-45 shielded female

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

POWER SUPPLY (INTERNAL):

P62F Power Input: 20-60VDC auto-ranging, floating + and - lugs.

Typically for use where 24VDC or -48VDC power is available.

P62F-5V Power Input: 5VDC, screw-lock connector, typically for use with Magnum PSX Power Source, rated for 15 watts at a temp. range of -40°C to 70°C.

Power Consumption: 10 watts typical, 2A at 5VDC

Ordering Information

Model Number:

P62F-AC-2MSC: P62F-AC Ethernet Switch with six 10/100 kRJ-45 and two 100Mb FDX fiber multi-mode SC-type ports. Has 16KB address table and 1.0MB packet buffers. AC power input 85-260vac 47-63Hz worldwide auto-ranging, via PSX-A Power Source Extended Temp (a separate unit, included). Steel case used as a heat sink, designed for use in environmentally challenged locations such as Ethernet outdoors.

P62F-AC-1M1SSC: Same as P62F-AC-2MSC, except one fiber port is 20km single-mode SC. (includes PSX-A unit)

P62F-AC-2SSC: Same as P62F-AC-2MSC, except both fiber ports are 20km single-mode SC. (includes PSX-A unit)

P62F-AC-NOF: Same as P62F-AC-2MSC, but with NO fiber ports & six 10/100 RJ-45 ports. (includes PSX-A unit)

P62F-12V-2MSC: P62F-DC Ethernet Switch, six 10/100 RJ-45 and two 100Mb FDX fiber multi-mode SC-type ports. Has 16KB address table and 1.0Mb packet buffers. 12V DC power input. Steel case used as a heat sink, designed for use in environmentally challenged locations such as Ethernet outdoors. (no PSX unit required)

P62F-12V-1M1SSC: Same as P62F-12V-2MSC, but one fiber port is 20km single-mode SC. (no PSX unit required)

P62F-12V-2SSC: Same as P62F-12V-2MSC, but both fiber ports are 20km single-mode SC. (no PSX unit required)

P62F-12V-NOF: Same as P62F-12V-2MSC, but with NO fiber ports & six 10/100 RJ-45 ports. (no PSX unit required)

P62F-24V-2MSC: P62F-DC Ethernet Switch, six 10/100 RJ-45 and two 100Mb FDX fiber multi-mode SC-type ports. Has 16KB address table and 1.0Mb packet buffers. 24V DC power input. Steel case used as a heat sink, designed for use in environmentally challenged locations such as Ethernet outdoors. (no PSX unit required)

P62F-24V-1M1SSC: Same as P62F-24V-2MSC, but one fiber port is 20km single-mode SC. (no PSX unit required)

P62F-24V-2SSC: Same as P62F-24V-2MSC, but both fiber ports are 20km single-mode SC. (no PSX unit required)

P62F-24V-NOF: Same as P62F-24V-2MSC, but with NO fiber ports & six 10/100 RJ-45 ports. (no PSX unit required)

P62F-48V-2MSC: P62F-DC Ethernet Switch, six 10/100 RJ-45 and two 100Mb FDX fiber multi-mode SC-type ports. Has 16KB address table and 1.0Mb packet buffers. 48V DC power input. Steel case used as a heat sink, designed for use in environmentally challenged locations such as Ethernet outdoors. (no PSX unit required)

P62F-48V-1M1SSC: Same as P62F-48V-2MSC, but one fiber port is 20km single-mode SC. (no PSX unit required)

P62F-48V-2SSC: Same as P62F-48V-2MSC, but both fiber ports are 20km single-mode SC. (no PSX unit required)

P62F-48V-NOF: Same as P62F-48V-2MSC, but with NO fiber ports & six 10/100 RJ-45 ports. (no PSX unit required)

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. DIN-rail mounting kit, optional.

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" diameter.

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: Internal steel brackets conduct heat from the electronic elements inside to the P62F steel case which acts as a heat sink. Internal chip temperatures are only about 10°C above case ambient during steady state operation.

LED INDICATORS ON CHASSIS:

LEDs are viewed from the top surface.

Power: Steady on when power applied

LED INDICATORS PER PORT:

Speed: ON = 100Mb; OFF = 10Mb (with LINK On)

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

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

AGENCY APPROVALS AND STANDARDS COMPLIANCE:

UL listed (UL1950), cUL, CE

Emissions meet: FCC Part 15, Class A

NEMA TS-2 (1998) for traffic control equipment.

MEAN TIME BETWEEN FAILURE (MTBF):

15+ years, Bellcore Method.

WARRANTY:

Three years

Made in USA

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Magnum PSX

Power Source, Extended Temperature, for Magnum P62s

Features

- Provides power input to the Magnum P62F Ethernet Switches from AC worldwide.
- 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 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. 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 Power Source products as well as the other Magnum products are designed and manufactured in the US and backed by a three-year warranty.



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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 for above-the-ceiling installation
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

POWER INPUT:

PSX-A

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

PSX-A

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. DIN-Rail mounting kit, optional.
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

LED INDICATORS ON CHASSIS:

POWER indicates incoming power is ON.

AGENCY APPROVALS:

UL listed (UL60950), cUL, CB, CE Low Volt. Dir. & Electro-Magnetic Comp.
IEEE P1613 (Draft) Environmental Std. for Electric Power Subs,
Emissions meet: FCC Part 15 Class A, ETSI

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.


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