Magnum 6K32TRC

32-port Convection-Cooled Industrial Managed Switch

Front View

Rear View

Features

- **Convection-cooled 1U "Reverse" rack-mount package, for dusty industrial environments**
- **Provides 16 fixed copper ports and two modular slots for configuration flexibility of up to 4 GB ports or 32 total ports**
- **Energy-efficient thermal design enables operation at extended temperatures with high reliability**
- **"Reverse" case design provides LEDs for status monitoring in the front, all power and port cables in the rear with a 2nd set of LEDs at each port**
- **Options include 24VDC, -48VDC, 125VDC, and 250VDC power, dual source, or AC**

The Magnum™ 6K32TRC Switch provides rack-mount space efficiency in a free-convection-cooled unit (no fans) for heavy duty industrial applications where the presence of dust and dirt may inhibit normal cooling. New static thermal design techniques (patent pending) enable the 6K32TRC to deliver high reliability even at extended operating temperatures. Special rack-mount cooling techniques include

- internal heat barriers contain heat to areas where it is least detrimental
- large power supply heat sinks to dissipate the power heat loss
- aluminum case material used for efficient heat conduction & distribution
- perforated case areas enable some vertical air flow via convection
- cooling space above and below the unit in the rack, 1/2U top and bottom
- multiple heat sinks distribute heat from internal electronic components
- premium high-efficiency components used to minimize heat generation

The highest energy efficiency of any rack-mount industrial switch not only enables high reliability, but also makes the 6K32TRC a "green" environmentally friendly product.

There are16 fixed 10/100 Mb copper ports plus two configuration slots in the Magnum 6K32TRC. The modular slots provide the flexibility to configure up to sixteen 100 Mb fiber ports, and/or some 10 Mb fiber ports, and/or one to four Gigabit ports, or some more copper ports. Fixed gigabit and standard GBIC ports can be configured for a variety of Gigabit fiber and copper cabling types and distances.

Magnum 6K32TRC Managed Switches come with LAN software support including SNMP management, Secure Web Management, IGMP, graphical user interface (GUI), redundant LANs support, and many network management security and ease-of-use features. See the Managed Networks Software (MNS-6K) datasheet for additional details on the Magnum 6K family of switches software.

Magnum 6K32TRCs are ideal for building a switched industrial network in applications connected to communications computers, routers, hubs, or other switches. Designed for use in heavy-duty Ethernet and Industrial networks with segments requiring multiple Gigabit backbone interconnections among network centers, the Magnum 6K32TRC is easy to install and operate.

Magnum 6K32TRC Managed Switches have rugged metal cases and auto-ranging power supplies for operation with standard AC power worldwide. Internal DC power supplies are optional. The 6K32TRCs and all other Magnum products are designed and manufactured in the USA and backed by a three year warranty.

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Industrial Networking at Its Best™

Specifications

32-port Convection-Cooled Industrial Managed Switch

PERFORMANCE:

RJ-45 Ports: 100 or 10 Mb speed, full- or half-duplex mode, per port, individually determined.10/100 auto-negotiating & auto-cross, 32 ports max.
Gigabit Ports, 1000 Mb: Configurable, std. See selection of modules.
Fiber Ports, 100 Mb (multi-mode and single-mode)**:** Configurable in the module, SFF (Small Form Factor) featured for high fiber port density, up to 8 total per module, each FDX or HDX, default is FDX mode
Fiber Ports, 10 Mb: Configurable, up to 4 ST ports max. per module, multi-mode or single-mode. Each port may be FDX or HDX, default is HDX
All Ports non-blocking:
Processing type: Store and Forward with IEEE 802.3x full-duplex flow control
System aggregate forward and filter rate: 8.3Mpps (16 ports @ 100Mb speed FDX and 4 ports @ Gb speed FDX)
Address table: 4K nodes, self-learning, with address aging
Packet buffers: 960KB
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
Auto-negotiation and auto-crossover on TP, IEEE 802.3u
See MNS-6K datasheet for software network standards, network security, redundant LANs management, GUI and other 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 CONTACTS FOR ALARMS (OPTIONAL):
Form C, one NC indicating internal power, one NC software controllable.

NETWORK CABLE CONNECTORS:
1000 Mb ports: standard GBICs supported, see modules description
100 Mb Copper: Category 5 UTP/STP; 10 Mb: Cat. 3,4, 5 UTP/STP
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 and single-mode ST

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: 45 watts typical with two fully-loaded fiber modules, 30 watts typical for a copper-only 24-port model.

DC POWER SUPPLY OPTIONS:
-48VDC: Input -36 to -70VDC (PoE input range: -44 to -57VDC)
24VDC: Input 20 to 40VDC
125VDC, 250VDC, and 110VDC nominal: Input 88 to 300VDC
Std. Terminal Block: "-, GND, +", **Power Consumption:** Same as AC

DC DUAL POWER SOURCE (OPTIONAL)
Magnum 6K32TRC 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.

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: free convection, special (patent pending) thermal techniques
Dimensions: 1.70inHx17.0inWx9.0inD (4.32cmHx 43.2cmW x 22.9cmD)
Weight: rack-mount 5.0 lbs. (2.0 kg)

LED INDICATORS PER RJ-45 PORT:
LK: On when twisted-pair link is operational.
ACT: Blinking with port activity. LK and ACT combined on fixed ports.
FDX/HDX: ON = full-duplex mode, OFF = half-duplex mode.
100/10 ON = 100Mb speed, OFF = 10Mb

LED INDICATORS, 100 Mb and 10 Mb FIBER PORTS:
LK: Steady on when fiber link is operational.
ACT: On with port activity, FDX/HDX

PORT-SPECIFIC SETTINGS:
Port-specific user settings (such as FDX or HDX, and copper 10/100 speed) can be set using software commands.

AGENCY APPROVALS AND STANDARDS COMPLIANCE:
UL Listed (UL60950), cUL, CE, Emissions meet FCC Part 15, Class A
IEC61850 EMC and Operating Conditions Class C for Power Substations
IEEE 1613 Class 2 Environmental Std for Electric Power Substations
NEBS Level 3 and ETSI Compliant for Carrier Central Offices
EN50155 Compliant; DNV certified

WARRANTY:
Three years

Made in USA

Ordering Information

Magnum 6K32TRC Magnum 6K32TRC Convection-cooled Managed Switch, base unit. Provides 16 fixed 10/100 RJ-45 ports and two optional ports module slot which may be configured with a selection of 10/100/1000 Mb fiber and copper connector types, 8 ports max. each slot. For licensed management software, see applicable MNS-6K datasheet.

Configuration Options: Magnum 6K32TRC base unit has two port module slots, each of which may be a module from below:

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 6K32TRC 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
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
	Note: Several other Port Module types are available. See Configuration Guide.
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
GBPM-2OTX	Two-port Gigabit 6K module for 6K32TRC switches, provides two GBIC open transceiver ports.
GBIC-SXSC	GBIC transceiver module for use in GBPM-COTX, one SX port with multi-mode SC fiber connector
GBIC-LXSC10	GBIC transceiver module for use in GBPM-COTX, one LX port with single-mode SC 10Km
	Note: Single-mode GBICs are available at 10Km, 25Km, 40Km, and 70Km.
6KP2-2GSX	Two-port one-slot Gigabit 6K module for 6K32TRC switches, uses one 6K slot & provides two Gigabit Fiber SXSC (1000BASE-SX multi-mode) ports. Includes front-panel sheet metal cover.
6KP2-2GCU	Two-port one-slot Gigabit 6K module for 6K32TRC switches, uses one 6K slot and provides two Gigabit Copper (1000BASE-T) auto-negotiating ports. Includes front-panel sheet metal cover.
6KP5-1CU4MT	Five-port one-slot Gigabit 6K module for 6K32TRC switches, uses one 6K slot and provides one Gigabit Copper (1000BASE-T) auto-negotiating port and four 100Mb MTRJ Fiber FX multi-mode ports. Includes front panel.
6KP3-1CU2FXT	Three-port one-slot Gigabit 6K module for 6K32TRC switches, uses one 6K slot and provides one Gigabit Copper (1000BASE-T) auto-negotiating port and two 100Mb ST Fiber FX multi-mode ports.
6KM-BLNK	Blank cover for slot opening in a Magnum 6K32TRC chassis

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