

Features

- Gigabit Ethernet switch, 16 RJ45+SFP fiber "combo" ports
- Substation hardened, with IEEE 1588 Timing
- Layer 2 or Layer 3 software, MNS-12KS
- Four PoE ports (optional)
- Dual or single internal power supplies



The GarrettCom Magnum 12KX Gigabit Managed Switch provides 16 Gigabit ports with built-in SFPs – allowing a choice of fixed 10/100/1000 RJ-45 connectivity or fiber SFPs. The substation-hardened Magnum 12KX has a non-blocking switching fabric to provide wire-speed performance on all ports.

The Magnum 12KX is synchronized via SNTP or with precision timing using IEEE 1588 v2 PTP on all ports, which assures timing accuracy within 30ns. The unit is well-suited for different needs with environmental certifications including IEC 61850, RoHS compliancy, high and low voltage power supply options, and optional PoE ports. Surveillance and security applications leverage the speed, PoE, multicast capabilities, media flexibility, power supply flexibility and more. Similarly, power utilities can further leverage the timing synchronization as well as dual power supplies and redundancy capabilities available in the software.

Upholding GarretCom's product line of time-tested robust products, the 12KX switch is designed for heavy-duty industrial applications in harsh environments, with a temperature rating of -40° C to +85° C. Additionally the unit is convection-cooled (no fans), has redundant power supplies, is vibration-resistant, ESD-resistant, and is available with optional conformal coating.

Layer 3 software for the Magnum 12KX includes full wire speed RIP-based routing, port-based routing interfaces, static routing, VLAN-based router interface definitions, double VLAN tagging, protocol-based VLANs Multicast Routing (DVMRP), IGMPv1/v2/v3, and much more. Also, environments using OSPF can use OSPF v2 capabilities included in the software.

The GarrettCom Magnum 12KX Gigabit managed switch along with the Magnum 10KT managed switch and Magnum 10ETS managed terminal server allow network architects to create networks encompassing features such as precision time synchronization, high-availability layer 2 as well as layer 3 devices, serial and Ethernet connectivity, routing flexibility such as RIP or OSPF, and more.

For networks that do not need the layer 3 software capability, the Magnum 12KX Gigabit managed switch is available with layer 2-only software offering simplicity and affordability.

Magnum 12KX Gigabit Managed Switches have H and L industrial grade power supplies for worldwide use, and are backed by a five year warranty.

PERFORMANCE:

16 Combo ports: Auto-negotiating 10/100/1000BASE TX RJ45 OR FE/Gb-SFP slot per port. All ports non-blocking. SFP fiber modules available for GigE or 100Mbps (multi-mode or single mode).

Console: One V.24 RJ-11 interface. Use console cable CONSOLE12-CBL-12KX for connectivity

USB: USB to connect the Auto Configuration Adapter ACA21-USB-12KX memory for configuration backup and easy swap-out.

Other: non-blocking fabric, wire speed switching. MAC address table size: 16K addresses

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, IEEE 1588v2

Layer 2: MSTP, RSTP 802.1w, MRP and RSTP, log file, syslog, RMON, port mirroring, address conflict detection, network error detection, SFP diagnostics (temperature, optical power), port security, SNMP V1/V2, authentication (802.1x), QoS 4 queues (8 levels or classes), port priority (IEEE 802.1D/p), VLAN (IEEE 802.1Q), multicast (IGMP snooping/querier), unknown multicast detection, broadcast/unicast/multicast limiter, GMRP IEEE 802.1D, flow control 802.3x

Layer 3: Full wire speed IPv4 routing with lowest latency Multi-netting (Aliasing), Net directed broadcasts, Port-based router interfaces, Proxy ARP, Static routing with ECMP (Equal Cost Multiple Path), VLAN-based router interfaces, CIDR (Classless Inter Domain Routing), ICMP Router Discovery (IRDP), SSH, SNMP v3, Double VLAN Tagging, Protocol based VLANs Multicast Routing (DVMRP, IGMPv1/v2/v3), multicast routing and IGMP Unknown Multicast Filtering, PIM Dense & Sparse Mode), Router Redundancy (VRRP, VRRP tracking, Interface Tracking), OSPFv2, Ping Tracking, RIPv1, RIPv2, Tracking of static routes

IEEE 1588v2: Compliant as master, boundary or transparent clock. Sync accuracy of 30ns or less. Timing capability software configurable.

Diagnostics: LEDs, log-file, syslog, relay contact, RMON, port mirroring 1:1 and n:1, topology discovery 802.1AB, cable tester (TX), address conflict detection, network error detection, SFP diagnostic (temperature, optical input and output power), trap for configuration saving and changing, duplex mismatch detection

Configuration: Command line interface (CLI), TELNET, BootP, DHCP, DHCP option 82, easy device exchange with auto-configuration adapter ACA21-USB (automatic software and/or configuration upload), integrated DHCP server per port, automatic invalid configuration undo

Time synchronization: SNTP server, PTP IEEE 1588-v2 hardware timestamp with accuracy of 30 ns, real-time clock

OPERATING ENVIRONMENT:

IEC 60068 Operating temp. "Type Test" -40° to 185°F (-40° to 85°C)

UL 60950 "Component Parts" temperature rating: 158°F (70°C)

Storage: -40° to 185°F (-40° to 85°C),

Ambient relative humidity: 5% to 95% (non-condensing)

Altitude: -200 to 6500ft (-60 to 2000m)

Conformal coating (humidity protection) optional

Power Supply, user choice of dual or single internal

Low: 24/36/48 VDC

High: 110/230V AC/DC

PoE ports available for dual power supply models only. PoE for ports 1-4

only. PoE switch requires one "High" power supply.

Power Consumption – 110 mA (26 W) max., if all ports are equipped with SFP (100 W PoE option)

Cooling Method – Convection cooled (no fans)

Power Output: 90 Btu(IT)h; 350 Btu(IT)h with PoE

Weight – 5.6 Kg (12.4 lb)

Dimension – 17.5"x13.6"x1.73" (445mmx44mmx345mm) 1RU

Mounting – Includes 19" RETMA rack mount brackets

AGENCY APPROVALS AND STANDARDS COMPLIANCE:

IEC 61850-3, IEEE 1613, EN50121-4, NEMA TS, EN50155 (pending),

cUL 1604 Class1 Div 2 (pending), cUL 508 (pending)

IEC 60068-2-27 shock: 15 g, 11 ms duration, 18 shocks

IEC 60068-2-6 vibration: 1 mm, 2 Hz-13.2 Hz, 90 min.; 0.7g, 13.2 Hz-

100 Hz, 90 min.; 3.5 mm, 3 Hz-9 Hz, 10 cycles, 1 octave/min.; 1 g, 9 Hz-

150 Hz, 10 cycles, 1 octave/min

EN 61000-4-2 electrostatic discharge (ESD): 8 kV contact discharge, 15 kV air discharge

EN 61000-4-3 EM field: 35 V/m (80-2700 MHz); 1 kHz, 80% AM

EN 61000-4-4 fast transients (burst): 4 kV power, 4 kV data

EN 61000-4-5 surge voltage power line: 2 kV (line/earth), 1 kV (line/line), 1 kV data line; IEEE1613: power line 5 kV (line/earth)

EN 61000-4-6 conducted immunity: 30V, 50Hz; 300V, 50Hz 1s

EN 61000-4-16 mains frequency voltage 30V, 50Hz; 300V, 50Hz 1s

FCC CFR47 Part 15: FCC 47 CFR Part 15 Class A

EN 55022: EN 55022 Class A

WARRANTY: Five years

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ORDERING INFORMATION:

Dual Internal Power Supplies

Magnum 12KX-2H

Magnum 12KX Managed Switch. Gigabit switch with 16 combo ports for copper and/or fiber ports and optional Layer 3 switching software. Substation hardened with IEEE 1588 timing. Front mount, with two AC/DC "high" internal power supplies

Magnum 12KXR-2H

"Reverse" model, same as Model 12KX-2H except user ports and the power input connectors are in the rear.

Magnum 12KX-2L

Front mount with two AC/DC "low" 24-48VDC internal power supplies

Magnum 12KXR-2L

Reverse mount with two AC/DC "low" 24-48VDC internal power supplies

Single Power Supply

Magnum 12KX-1H

Front mount with one AC/DC "high" internal power supply

Magnum 12KXR-1H

Reverse mount with one AC/DC "high" internal power supply

Magnum 12KX-1L

Front mount with one AC/DC "low" 24-48VDC internal power supply

Magnum 12KXR-1L

Reverse mount with one AC/DC "low" 24-48VDC internal power supply

PoE Power Supply

Magnum 12KX-1H1POE

Front mount with one AC/DC "high" power supply for the switch and one "high" power supply for the 4 PoE ports

Magnum 12KXR-1H1POE

Reverse mount with one AC/DC "high" power supply for the switch and one "high" power supply for the 4 PoE ports

Magnum 12KX-1LPOE

Front mount with one AC/DC "low" power supply for the switch and one "high" power supply for the 4 PoE ports

Magnum 12KXR-1L1POE

Reverse mount with one AC/DC "low" power supply for the switch and one "high" power supply for the 4 PoE ports



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