



10KT Configurable Managed Switch with Timing

Next Generation 36 Port industrial switch with dual hot-swappable power supplies in 1U or 1.5U rack-mount package.

Configurable and Reliable

The Magnum10KT Switch provides rack-mount space efficiency and advanced port configurability for heavy duty industrial applications where maximum fiber port count and diversity are required. New advanced thermal design techniques (patent pending) enable the 10KT to deliver high reliability and configurability even at extended operating temperatures. Special optional rack-mount cooling features include Thermal Fins for extra heat dissipation and internal heat transfer techniques that use the case as a heat sink. Cooler operation of internal electronic components leads to longer life-time and increased reliability.

Smart Grid Optimization

Next Generation industrial switch features, especially for power utility facilities in the Smart Grid, importantly include high precision IEEE 1588v2 timing synchronization with precision as low as single-digit nanoseconds. The Magnum 10KT provides a new advanced level of 1588v2 timing features and accuracy, using integrated hardware and software. Advanced timing is supported on 100Mb and Gb ports, and is configurable on both fiber and copper port types.

The Magnum 10KT Switch Provides Rack-mount Space Efficiency and Advanced Port Configurability for Heavy Duty Industrial Applications where Maximum Fiber Port Count and Diversity are Required.

Features

- Next Generation 36 port industrial switch with configurability and reliability
- Optional dual hot-swappable power supplies in a 1U or 1.5U rack-mount package
- Precision timing, full IEEE 1588v2 implementation
- Energy-efficient thermal design for maximum reliability
- Substation-Hardened, IEEE 1613 and IEC 61850-3 compliant

GarrettCom Magnum 10KT Configurable Managed Switch with Timing

Hot-Swappable Power Supplies

The Magnum 10KT also offers configurable Dual Hot-Swappable power supplies for redundancy and increased reliability. Both high voltage AC/DC and low voltage DC hot-swappable power supplies are configurable in the Magnum 10KT. Different power supply types may be selected for each of the two hot-swappable slots. Software monitors each power supply, and can signal when a power supply module swap is needed. The swap-out can readily be done while the 10KT Switch continues in operation.

Power-Sourcing PoE

The ten port configuration slots in the Magnum 10KT provide the flexibility for network designers to configure up to four fiber or copper Gb ports and up to thirty-two 100 Mb SFF fiber or copper ports. Copper ports can optionally be Power-Sourcing PoE. Modules may be configured for regular port types, IEEE 1588 v2 timing, or combinations.

Secure Management Software

Magnum 10KT Managed Switches come with field-proven MNS-6K and optional MNS-6K-SECURE Management Software. MNS-6K features include LAN software support including SNMP management, IPv6, Secure Web

Management, IGMP, graphical user interface (GUI), redundant LANs support, and many network management security and ease-of-use features.

Rugged Design

Magnum 10KT Managed Switches have rugged metal cases for regular or "Reverse" rack-mounting, and auto-ranging power supplies for operation with standard AC power worldwide, or internal DC power supply choices. Moisture and corrosion-protecting Conformal Coating is optional. The Magnum 10KTs are designed and manufactured in the USA and have a five year warranty.

Product Specifications

| Type | 10KT |
|--|--|
| Product Description | Magnum 10KT Managed Switch, base unit is configurable hardened managed switch. Provides ten modular slots for configuration flexibility of up to four Gb ports and 32 fiber or copper ports with optional dual hot-swap power supplies. |
| Mechanical | |
| Enclosure | Rugged high-strength sheet metal. 1U and 1.5U (with thermal fins) rack-mounting or stand alone |
| Rack-mounting Brackets | 19" included |
| Cooling Method | Free convection, special (patent pending) thermal techniques |
| Dimensions | 2.63in H (with thermal fins) x17.5in W x 12.in D (4.3cm H x 44.5cm W x 30.7cm D) |
| Weight | 14.2 lbs. (6.5 kg) |
| Network Standards | |
| Ethernet | IEEE 802.3z, 802.3ab, 802.1p: 100BASE-TX, -FX, 1000BASE-SX, -LX |
| Auto-negotiation and Auto-crossover | TP, IEEE 802.3u |
| IEEE 1588v2 | Compliant |
| IPv6 | Compliant |
| Performance | |
| Fiber Ports, 100 Mb (multi-mode and single-mode) | Configurable in modules. Regular ST or SC at 2/module, or SFF (Small Form Factor) for high fiber port density, four per module. Each FDX or HDX, default is FDX mode |
| Gigabit Ports, 1000 Mb | Configurable, standard. See configuration guide, below for selection of modules |
| 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 maximum |
| All Ports Non-Blocking | Processing type: Store and Forward with IEEE 802.3x full-duplex flow control System aggregate forward and filter rate: 11.9Mpps. Address table: 8K nodes, self-learning, with address aging Packet buffers: 512KB for 10 and 100Mb, 128KB for Gb Latency: 6µs + packet time max (TX - TX, TX - FX, FX - FX, TX-G, G-G) |
| AC (IEC-type, Male Recessed) | |
| Power Input, AC | 100 to 240 VAC, 47 to 63 Hz (auto ranging) |
| Power Consumption | 30 watts typical with 32 fully-loaded copper ports, 60 watts typical with 32 fully-loaded fiber ports |

Product Specifications (continued)

| DC Dual Power Source (optional) | |
|--|--|
| When non-Hot-Swappable power supplies are ordered, the Magnum 10KT 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 -48VDC and 24VDC. | |
| Hot-Swappable Power Supply Options (Up to 2 of the following may be chosen) | |
| High (H) Nominal | Input 90 to 250V AC/DC |
| Low (L) Nominal | Input 22 to 60VDC |
| (Standard Terminal Block: "-", GND, "+", Power Consumption: 55 watts when fully loaded with 4 Gb ports and 16 100Mb fiber and 16 10/100 copper. | |
| LED Indicators, 100 Mb Fiber Ports | |
| L/A | Steady on when fiber link is operational and blinking for data traffic |
| F/H | ON = full-duplex mode, OFF = half-duplex mode |
| LED Indicators, per RJ-45 Port | |
| L/A | Steady on when fiber link is operational and blinking for data traffic |
| F/H | ON = full-duplex mode, OFF = half-duplex mode |
| Relay Contacts for Alarms (except PoE version) | |
| Two Alarm Contact | HW & SW alarms are normally open until the unit is powered & software started. Under normal operation they are closed. Form C HW alarm will be opened w/ 1) any power supply loss, 2) fan failures Form C SW alarm will be opened when any pre-defined SW event occurs |
| Operating Environment | |
| Operating Temperature | IEC 60068 Operating temperature per "Type Test" -40° to 185°F (-40° to 85°C) |
| Temperature Rating (components) | UL 60950 140°F (60°C) |
| Storage Temperature | -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) | Request quote |
| Network Cable Connectors | |
| 1000 Mb Ports | Standard SFPs and GBICs supported, see modules description |
| 100 Mb Fiber Ports | Multi-mode FX-MTRJ, LC, ST, SC; single-mode 20km LC, SC and ST, and 50km "long reach" single-mode LC, SC. |
| 100 Mb Copper Ports | Category 5 UTP/STP; 10 Mb: Cat. 3,4, 5 UTP/STP |
| Agency Standards Approval and Compliance | |
| UL/cUL 60950, EN55022 FCC Part 15 | CE, EMC & ENV |
| IEC61850-3 | EMC and Environmental Operating Conditions Class C for Power Substations |
| IEEE 1613 Class 2 | Environmental Standard for Electric Power Substations |
| NEMA TS-2 | Traffic Control |
| EN50155 | Railways |
| Warranty | |
| Warranty | Five Years |

Magnum 10KT Configuration Guide

| | | | | | | | | | | | | | | | | |
|------------|---|---------|---|------------|----|-----------|--|----------|--|----------|--|----|----|----|----|----|
| 10KT-HH-TF | - | XX XX | - | 10K2T-2GCU | XX | 10K4-RJ45 | | 10K4-MLC | | 10K4-MLC | | XX | XX | XX | XX | XX |
|------------|---|---------|---|------------|----|-----------|--|----------|--|----------|--|----|----|----|----|----|

Mounting

10KT = Front Mount
 10KTR = Reverse Mount
 10KTP = Front Mount with PoE+ (w/ L, LL, HSPLL only)
 10KTPR = Reverse Mount with PoE+ (w/ L, LL, HSPLL only)

PS1 and PS2

AC = 1x 100-250VAC, IEC 320 plug
 H = Fixed, 1x 100-250VAC/DC
 HH = Fixed, 2x 100-250VAC/DC
 L = Fixed, 1x 24/48VDC
 LL = Fixed, 2x 24/48VDC
 HL = Fixed, 1x 100-250VAC/DC and 1x 24/48 VDC
 HSPLL = Hot-swap, 2x 24/48VDC
 HSPHH = Hot-swap, 2x 100-250VAC/DC
 HSPHL = Hot-swap, 1x 100-250VAC/DC + 1x 24/48VDC

Cooling

TF = Thermal Fins X = No Options

HSP Module 1 (only with Hot-swap models)

HSPM-H = 1x AC or DC power (90-250V)
 HSPM-L = 1x 24/48VDC power (22-60V)
 HSPM-HF = 1x AC or DC power (90-250V) w/ Fans
 HSPM-LF = 1x 24/48VDC power (22-60V) w/ Fans
 10K-PSBLNK = Blank cover for power supply
 XX = No HSP Module

HSP Module 2 (Pick from HSP Module 1 options)

Slot A

10K2-2GCU = 2x RJ45 GbE ports 10K2-2GSFP = 2x SFP GbE ports

OR Choose from below Ports with 1588 Timing

10K2T-2GCU = 2x RJ45 GbE ports 10K2T-2GSFP = 2x SFP GbE ports
 OR XX = Blank Slot A

Slot B (Pick from Slot A options)

If Slot A is Timing, Slot B should be timing or blank

Slot C (max 32 PoE or 16 PoE+ are allowed)

| | |
|---|--|
| 10K4-RJ45 = 4x 10/100Mb RJ45 10K4-SLC = 4x 100Mb FX LC SM 20Km 10K4-MTRJ = 4x 100Mb FX MTRJ MM 10K2-SSC = 2x 100Mb FX SC SM 20Km 10K2-MST = 2x 100Mb FX ST MM 10K2-F10ST = 2x 10Mb FX ST MM 10K4P-RJ45 = 4x 10/100Mb RJ45 w/ PoE OR with 1588 Timing Options 10K4T-RJ45 = 4x 10/100Mb RJ45 10K4T-SLC = 4x 100Mb FX LC SM 20Km 10K4T-MTRJ = 4x 100Mb FX MTRJ MM 10K2T-SSC = 2x 100Mb FX SC SM 20Km 10K2T-SST = 2x 100Mb FX ST SM 20Km | 10K4-MLC = 4x 100Mb FX LC MM 10K4-SLCL = 4x 100Mb FX LC SM 40Km 10K2-MSC = 2x 100Mb FX SC MM 10K2-SSCL = 2x 100Mb FX SC SM 40Km 10K2-SST = 2x 100Mb FX ST SM 20Km 10K4-FXSFP = 4x 100Mb SFP Transceiver 10K4PX-RJ45 = 4x 10/100Mb RJ45 w/ PoE 10K4T-MLC = 4x 100Mb FX LC MM 10K4T-SLCL = 4x 100Mb FX LC SM 40Km 10K2T-MSC = 2x 100Mb FX SC MM 10K2T-MST = 2x 100Mb FX ST MM XX = Blank Slot |
|---|--|

Slot D (Pick from Slot C options. If it is Timing, Slot D should be timing or blank)

Slot E (Pick from Slot C options)

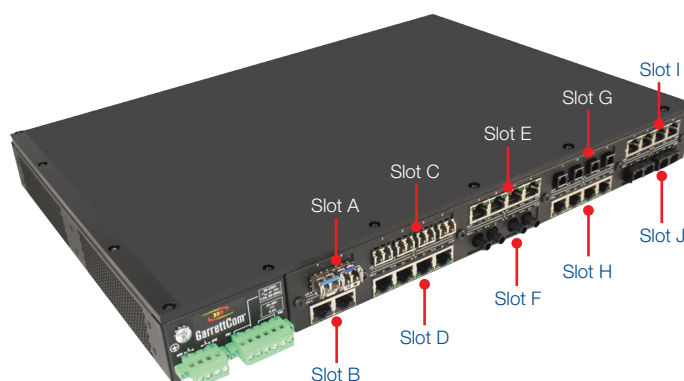
Slot F (Pick from Slot C options. If Slot E is Timing, Slot F should be timing or blank)

Slot G (Pick from Slot C options)

Slot H (Pick from Slot C options. If Slot G is Timing, Slot F should be timing or blank)

Slot I (Pick from Slot C options)

Slot J (Pick from Slot C options. If Slot I is Timing, Slot J should be timing or blank)



10KT 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 |
| SFP100P-RJ45 | 100Mb Copper SFP transceiver, 10/100 auto-negotiating |
| SFP100P-FXMM2 | 100FX Fiber Optic SFP transceiver, multimode, 2Km |
| SFP100P-FXSM20 | 100FX Fiber Optic SFP transceiver, singlemode, 20Km. |
| SFP100P-FXSM40 | 100FX Fiber Optic SFP transceiver, singlemode, 40Km. |
| CONSOLE-CBLQD | Console attachment cable serial null Modem (aka X-modem) cable with DB9 connectors |
| CONSOLE-CBLQU | Console attachment cable serial null Modem (aka X-modem) cable with a USB connector |
| CONFORM05-RMOD | Conformal coating, 5 mil, for moisture protection |
| CONFORM08-RMOD | Conformal coating, 8 mil, for corrosive environments |

| Model No. | Description |
|-------------------|--|
| KT-RFAN | Optional cooling fan for thermal-fin (TF) units |
| MNS-6K-SECURELIC1 | Optional, licensed per switch for extra security |
| S-RING-KEY | Software, optional self-healing redundant ring management |
| DUAL-SRC-L | Provides two separate 24/48VDC power inputs (the unit will operate from either or both) to accommodate redundant 24/48V installations for increased availability and ease of DC power source maintenance. Includes internal diode protection to prevent feedback. Order this option as a line item, for factory configuration as part of the 10-series units, which will have its model number changed to append "-DSRC". ONLY available on "L", "LL" or "HSPLL" chassis options. Note - not needed for "LL" PoE chassis which are inherently dual-source. |

Additional Hot Swappable Power Supply modules (if required)

| Model No. | Description |
|------------|--|
| HSPM-H | AC or DC power (90-250V) |
| HSPM-HF | AC or DC power (90-250V) w/internal cooling fan |
| HSPM-L | 24/48 DC power (22-60V) Note: for PoE at -48VDC: Input should be -44 to -57VDC. |
| HSPM-LF | 24/48 DC power (22-60V) w/ internal cooling fan; Note: for PoE at -48VDC: Input should be -44 to -57VDC. |
| 10K-PSBLNK | Blank cover for one hot-swap power supply slot |



10KG Configurable Managed Switch with Timing

Next Generation industrial switch offers up to eight Gb ports and 16 100Mb ports with configurability and reliability.

Configurable and Reliable

The Magnum10KG Switch provides the bandwidth and advanced port configurability for data-intensive utility and industrial applications such as the Smart Grid. New advanced thermal design techniques (patent pending) enable the 10KG to deliver high reliability and configurability even at extended operating temperatures. Special rack-mount cooling features include Thermal Fins for extra heat dissipation and internal heat transfer techniques that use the case as a heat sink. Cooler operation of internal electronic components leads to longer life-time and increased reliability.

Smart Grid Optimization

Next Generation industrial switch features, especially for power utility facilities in the Smart Grid, importantly include high precision IEEE 1588v2 timing synchronization with precision as low as single-digit nanoseconds. The Magnum 10KG provides a new advanced level of 1588v2 timing features and accuracy, using integrated hardware and software. Advanced timing is supported on 100Mb and Gb ports, and is configurable on both fiber and copper port types.

The Magnum 10KG Switch Provides the Bandwidth and Advanced Port Configurability For Data-intensive Utility and Industrial Applications Such as the Smart Grid.

Features

- Next Generation industrial switch offers up to eight Gb ports and 16 100Mb ports with configurability and reliability
- Dual hot-swappable power supplies in a 1U or 1.5U rack-mount package
- Precision timing, full IEEE 1588v2 implementation
- Energy-efficient thermal design for maximum reliability
- Substation-Hardened, IEC 61850-3 compliant

10KG - Configurable Managed Switch

Hot-Swappable Power Supplies

The Magnum 10KG also offers configurable dual hot-swappable power supplies for redundancy and increased reliability. Both high voltage AC/DC and low voltage DC hot-swappable power supplies are configurable in the Magnum 10KG. Different power supply types may be selected for each of the two hotswappable slots. Software monitors each power supply, and can signal when a power supply module swap is needed. The swap-out can readily be done while the 10KG Switch continues in operation.

Power-Sourcing PoE

The eight port configuration slots in the Magnum 10KG provide the flexibility for network designers to configure up to eight fiber or copper Gb ports and up to 16 100 Mb SFF fiber or copper ports. Copper ports can optionally be Power-Sourcing PoE. Modules may be configured for regular port types, IEEE 1588 v2 timing, or combinations.

Secure Management Software

Magnum 10KG Managed Switches come with field-proven MNS-6K and MNS-6K-SECURE Management Software. MNS-6K features include LAN software support including SNMP management, IPv6, Secure Web

Management, IGMP, graphical user interface (GUI), redundant LANs support, and many network management security and ease-of-use features.

Rugged Design

Magnum 10KG Managed Switches have rugged metal cases for regular or "Reverse" rack-mounting, and auto-ranging power supplies for operation with standard AC power worldwide, or internal DC power supply choices. Moisture and corrosion-protecting Conformal Coating is optional. The Magnum 10KG is designed and manufactured in the USA and is backed by a five year warranty.

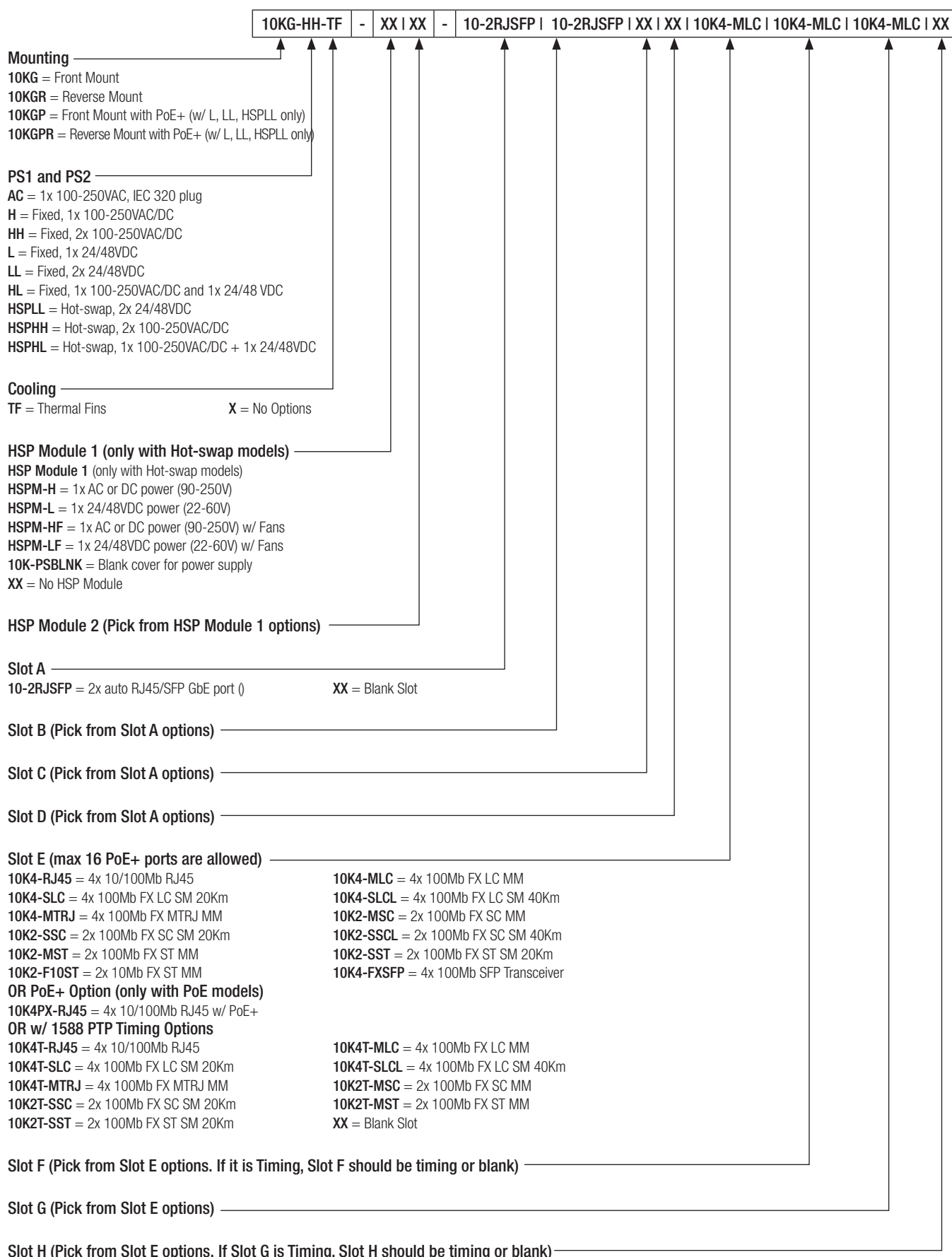
Product Specifications

| Type | 10KG |
|--|--|
| Product Description | Magnum 10KG Fiber-configurable Convection-cooled Managed Switch, base unit. Provides 10 modular slots for configuration flexibility of up to eight Gb ports and 16 copper or fiber ports. Includes 2 slots for Hot-Swap Power Supplies; Case with thermal fins. |
| Mechanical | |
| Enclosure | Rugged high-strength sheet metal. 1U and 1.5U (with thermal fins) rack-mounting or stand alone |
| Rack-mounting Brackets | 19" included |
| Cooling Method | Free convection, special (patent pending) thermal techniques |
| Dimensions | 2.63in H (with thermal fins) x 17.5in W x 12.in D (4.3cm H x 44.5cm W x 30.7cm D) |
| Weight | 14.2 lbs. (6.5 kg) |
| Network Standards | |
| Ethernet | IEEE 802.3z, 802.3ab, 802.1p: 100BASE-TX, -FX, 1000BASE-SX, -LX |
| Auto-negotiation and Auto-crossover | TP, IEEE 802.3u |
| IEEE 1588v2 | Compliant |
| IPv6 | Compliant |
| Performance | |
| Fiber Ports, 100 Mb (multi-mode and single-mode) | Configurable in modules. Regular ST or SC at 2/module, or SFF (Small Form Factor) for high fiber port density, 4 per module. Each FDX or HDX, default is FDX mode |
| Gigabit Ports, 1000 Mb | Configurable, std. See configuration guide for selection of modules |
| RJ-45 Ports | 100 or 10 Mb speed, full- or half-duplex mode, per port, individually determined. 10/100 auto-negotiating & auto-cross, 16 ports max. |
| All Ports Non-Blocking | Processing type: Store and Forward with IEEE 802.3x full-duplex flow control System aggregate forward and filter rate: 11.9Mpps. Address table: 8K nodes, self-learning, with address aging Packet buffers: 512KB for 10 and 100Mb, 128KB for Gb Latency: 6µs + packet time max (TX - TX, TX - FX, FX - FX, TX-G, G-G) |
| AC (IEC-type, Male Recessed) | |
| Power Input, AC | 100 to 240 VAC, 47 to 63 Hz (auto ranging) |
| Power Consumption | 30 watts typical when fully loaded |

Product Specifications (continued)

| DC Dual Power Source (optional) | |
|--|--|
| When non-hot-swappable power supplies are ordered, the Magnum 10KG 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 24/48VDC. | |
| Hot-Swappable Power Supply Options (Up to 2 of the following may be chosen) | |
| High (H) Nominal | Input 90 to 250V AC/DC |
| Low (L) Nominal | Input 22VDC to 60VDC |
| (Standard Terminal Block: "-", GND, "+", Power Consumption: 55 watts when fully loaded with 8 Gb ports and 16 100Mb fiber. | |
| LED Indicators, 100 Mb and 10 Mb Fiber Ports | |
| L/H | Steady on when fiber link is operational and blinking for data traffic |
| F/H | ON = full-duplex mode, OFF = half-duplex mode |
| LED Indicators, per RJ-45 Port | |
| L/A | Steady on when fiber link is operational and blinking for data traffic |
| F/H | ON = full-duplex mode, OFF = half-duplex mode |
| Relay Contacts for Alarms (except PoE version) | |
| Two Alarm Contact | HW & SW alarms are normally open until the unit is powered and software started. Under normal operation they are closed. Form C hardware alarm will be opened with 1) any power supply loss and 2) fan failures. Form C software alarm will be opened when any pre-defined software event occurs. For PoE versions: One software controllable Form C alarm with NC/NO. |
| Operating Environment | |
| Operating Temperature | IEC 60068 Operating temp. per "Type Test" -40° to 185°F (-40° to 85°C) |
| Temperature Rating (components) | UL 60950 140°F (60°C) |
| Storage Temperature | -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) | Request quote |
| Network Cable Connectors | |
| 1000 Mb Ports | Standard SFPs and GBICs supported, see modules description |
| 100 Mb Fiber Ports | Multi-mode FX-MTRJ, LC, ST, SC; sgl-mode 20km LC, SC and ST, and 50km "long reach" sgl-mode LC, SC |
| 10 Mb Fiber Ports | Multi-mode and single-mode ST |
| 100 Mb Copper Ports | Category 5 UTP/STP; 10 Mb: Cat. 3,4, 5 UTP/STP |
| Agency Standards Approval and Compliance | |
| UL/cUL 60950, EN55022 FCC Part 15 | CE, EMC & ENV |
| IEC61850-3 | EMC and Environmental Operating Conditions Class C for Power Substations |
| IEEE 1613 Class 2 | Environmental Standard for Electric Power Substations |
| NEMA TS-2 | Traffic Control |
| EN50155 | Railways |
| Warranty | |
| Warranty | Five Years |

Magnum 10KG Configuration Guide



10KG 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 |
| SFP100P-RJ45 | 100Mb Copper SFP transceiver, 10/100 auto-negotiating |
| SFP100P-FXMM2 | 100FX Fiber Optic SFP transceiver, multimode, 2Km |
| SFP100P-FXSM20 | 100FX Fiber Optic SFP transceiver, singlemode, 20Km. |
| SFP100P-FXSM40 | 100FX Fiber Optic SFP transceiver, singlemode, 40Km. |
| CONSOLE-CBLQD | Console attachment cable serial null Modem (aka X-modem) cable with DB9 connectors |
| CONSOLE-CBLQU | Console attachment cable serial null Modem (aka X-modem) cable with a USB connector |
| CONFORM05-RMOD | Conformal coating, 5 mil, for moisture protection |
| CONFORM08-RMOD | Conformal coating, 8 mil, for corrosive environments |

| Model No. | Description |
|-------------------|--|
| KT-RFAN | Optional cooling fan for thermal-fin (TF) units |
| MNS-6K-SECURELIC1 | Optional, licensed per switch for extra security |
| S-RING-KEY | Software, optional self-healing redundant ring management |
| DUAL-SRC-L | Provides two separate 24/48VDC power inputs (the unit will operate from either or both) to accommodate redundant 24/48V installations for increased availability and ease of DC power source maintenance. Includes internal diode protection to prevent feedback. Order this option as a line item, for factory configuration as part of the 10-series units, which will have its model number changed to append "-DSRC". ONLY available on "L", "LL" or "HSPLL" chassis options. Note - not needed for "LL" PoE chassis which are inherently dual-source. |

Additional Hot Swappable Power Supply modules (if required)

| Model No. | Description |
|------------|--|
| HSPM-H | AC or DC power (90-250V) |
| HSPM-HF | AC or DC power (90-250V) w/internal cooling fan |
| HSPM-L | 24/48 DC power (22-60V) Note: for PoE at -48VDC: Input should be -44 to -57VDC. |
| HSPM-LF | 24/48 DC power (22-60V) w/ internal cooling fan; Note: for PoE at -48VDC: Input should be -44 to -57VDC. |
| 10K-PSBLNK | Blank cover for one hot-swap power supply slot |