

SWM-H SERIES INDUSTRIAL GIGABIT ETHERNET SWITCHES

Manageable Hardened Ethernet Switch

Benefits

Standards:

- IEEE: 802.3, 802.3u, 802.3x, 802.3ab, 802.3z, 802.1d, 802.1p, 802.1Q, 802.3w

Hardened design

- Operating temperature : -40 to +75 °C / -40 to 167 °F
- EN61000-6-2 industrial EMI
- Railway class option

Complete range of products

- Up-to 24x 10/100 ports
- Up-to 4x Gigabit combo ports
- Embedded optical interface or SFP sockets
- Layer 2 switching

Protocols

- Spanning Tree: STP, RSTP & MSTP
- Alpha Ring : <15 ms recovery delay for Ring topologies
- 8192 MAC address memory
- IGMP Snooping
- Rate limiting, broadcast storm protection
- Per port VLAN
- 802.1Q VLAN
- GRVP
- QoS : 802.1p per port, per TOS / DSCP , 4 level priority queuing
- Trunking
- Mirroring
- 802.1X authentication
- NTP, SNTP v4

Performance

- Switch fabric : 5.6 Gbps



The CXR SWM-H is a range of GigaBit Ethernet switches in a 19" format.

It provides high performances and rates up-to Gigabit, and Layer 2 switching protocols for advanced network implementations.

Its hardened design suits the most stringent requirements of the industry such as the Transport and Energy infrastructures, any many others.

Its unique high operating temperature grade helps delivering Ethernet connectivity anywhere for Wifi, VoIP, Hot-Spot services.

The SWM-H series of Gigabit Ethernet switches deliver Ethernet connectivity for high end applications in many communication industries, Transport and Utility networks. A comprehensive range of products offers cost effective 100 Mbps interfaces with Gigabit accesses with extended QoS and VLAN protocols.

The SWM-H GigaBit Ethernet switches satisfy the specific environmental requirements of the Energy Utilities and railway networks. Its operating temperature covers the range of -40 to +75 °C, -40 to 167 °F.

The 19" design has an IP30 protection and is chock and vibration resistant. The design relies on industrial grade components with protections against ESD and short-circuits. Some products are qualified for the electric sub-station and rail way environments.

The SWM-H switch is a perfect solution for mission critical applications that require optimized security. It provides RSTP and MSTP protocols as well as the Alpha Ring function that ensures a very fast recovery delay over Ring topologies, below 15 ms.

Various models in the SWM -H range of switches deliver up-to four Gigabit interfaces, up-to 24x Fast Ethernet interfaces, and a choice of SFP options.

The SWM-H switches support a lot of protocols for QoS, VLAN and video traffic optimization such as IGMP snooping, 802.1q and GVRP. Each port can be assigned a four level priority queuing policy and a rate limiting. Ethernet devices can be authenticated from the 802.1X protocol .

APPLICATIONS

The SWM-H switches are used in many applications in the industry where high performance, strong industrial and quality designs are required :

- Industrial environment : high operating temperature
- Transport applications : Intelligent Traffic Systems, Railway environment
- Electric Sub-Stations
- Healthcare environment
- Low voltage environment



CXR continuously improves its products
Specifications are subject to change without notice.

SWM-H Series
Gigabit Ethernet Switches



SPECIFICATIONS

- **Standards**
 - IEEE 802.3u 100Base-TX/FX
 - IEEE 802.3 10Base-T
 - IEEE802.3ab 1000Base-T,
 - IEEE802.3z 1000SX/1000LX/1000ZX
- **Ethernet layer protocols**
 - IEEE 802.1d Spanning Tree Protocol
 - IEEE 802.1w RSTP
 - IEEE 802.1s MSTP
 - IEEE 802.3x Flow Control
 - IEEE 802.1Q VLAN Tagging
 - IEEE 802.1p QoS, 4 Priority Queues
 - IEEE802.1x Authentication
 - Per port access control
 - Access Control List
 - Local MAC address data base - 24 addr
 - Per port rate limiting
- **Ethernet ports**
 - 10/100 BaseT : 8, 16 or 24 ports
 - 100 optical : 8, 16 or 24 ports with SFP sockets
 - 10/100/1000BT : up-to 4 Gigabit ports
 - Combo 10/100/1000BT and 1000FX SFP slots : up-to 4 Gigabit ports - SFP
 - MDI/MDI-X on RJ45 Ethernet ports
- **Performance**
 - 5.6 Gbps switching fabrics
 - Up-to 1,488,100 pps
- **MAC address memory** : 8,192 addresses
- **VLAN** Per port and 802.1q
- **Redundancy** : Port mirroring
- **QoS**
 - Priority queuing : 4 priority queues per port
 - IEEE 802.1p
 - IP v4 ToS / DSCP - IPv6 Traffic Class
 - source/destination MAC addresses
- **Power supply**
 - 1 or 2 DC inputs : 48 Vdc , 36-75 Vdc
 - 1 or 2 mains inputs : 110-230 Vac
 - Max power consumption : 43 W
- **Management** :
 - Console, CLI, Telnet and Web interface
 - SNMP V1 & V2c, RMON, TFTP, NTP servers
- **Temperature range**
 - Operating -40°C to 75°C / -40 to 167 °F
 - Pick -40°C to 85°C / -40 to 185 °F
 - Stocking -40°C to 85°C / -40 to 185 °F
- **Hygrometry** : 5% to 95% RH
- **Standards**
 - EN-60950-1, UL-60950-1
 - CE, FCC Part 15 classe A
 - EN 61000-6-2
 - EN 61000-4-2
 - EN 61000-4-3
 - EN 61000-4-4
 - EN 61000-4-5
 - EN 61000-4-6
 - EN 61000-4-8
 - IEC60068-2-6 Fc (Vibration)
 - IEC60068-2-27 Ea (Chock)
 - IEC60068-2-32 Ed (Chock)
 - NEMA TS1/2 : USA traffic control : -H option
 - IEC61850-3 & IEEE1613 : industrial supply
 - EN50121-4 : railway environment
- **Size (LxPxH)**
 - Single power supply module : 250x442x44.2 mm, 9.8x17.4x1.7"
 - Dual power supply modules : 403x442x44.2 mm, 15.9x17.4x1.7"
- **Weight** 3.4 kg / 7.5 lb
- **Led indicator**
 - Power status 1 / 2
 - Per port 10/100 / 1000
 - Link/activity
 - Speed
- **MTBF** : 200 000 hours

ORDERING INFORMATION

	1GE Fiber	100 Fiber	Combo Gigabit	10/100/1000	10/100	AC/DC	Op Temp °F	Environment
SWM-H-24TX-4GX	-	-	-	4	24	AC	-40 to 167	Indus
SWM-H-24TX-4CB	-	-	4	-	24	AC	-40 to 167	Indus
SWM-H-24TX-4CB-2A	-	-	4	-	24	2xAC	-40 to 167	Indus
SWM-H-24TX-4CB-D8	-	-	4	-	24	48 Vdc	-40 to 167	Indus
SWM-H-24TX-4CB-2D8	-	-	4	-	24	2x48V	-40 to 167	Indus
SWM-HE-24TX-4GX-1A	-	-	-	4	24	AC	-40 to 167	Indus +
SWM-HE-24TX-4GX-2D8	-	-	-	4	24	DC	-40 to 167	Indus +
SWM-HE-24FSFTX-4CB	-	4x SFP	4	-	24	AC	-40 to 167	Indus +
SWM-HE-24FSF-4CB-2A	-	4x SFP	4	-	24	DC	-40 to 167	Indus +
SWM-HE-24FSF-4CB-2D8	-	4x SFP	4	-	24	DC	-40 to 167	Indus +
SWM-HE-24FSF-4CB-2A	-	4x SFP	4	-	24	DC	-40 to 167	Indus +
SWM-HE-24FSF-4CB-2D8	-	4x SFP	4	-	24	DC	-40 to 167	Indus +
SWM-H-14TX	-	-	-	-	14	AC	-40 to 167	Indus
SWM-H-12TX-2CB	-	-	2	-	12	AC	-40 to 167	Indus

SFP modules, -40 to +85°C	Description
SFP-GSX-MM-ET	1,000 SX SFP module, DD, 850 nm multimoden 8 dB budget, 500m / 0.3 miles, LC
SFP-GLX-SM10-ET	1,000 LX SFP module, DD, 1310 nm, 13 dB budget, 10 km / 6 miles, LC
SFP-GLX-SM20-ET	1,000 LX SFP module, DD, 1310 nm, 17 dB budget, 20 km / 12 miles, LC
SFP-GZX-SM50-ET	1,000 ZX SFP module, DD, 1550 nm, 19 dB budget, 50 km / 31 miles, LC
SFP-GZX-SM80-ET	1,000 ZX SFP module, DD, 1550 nm, 24 dB budget, 80 km / 50 miles, LC
SFP-GZX-SM120-ET	1,000 ZX SFP module, DD, 1550 nm, 31 dB budget, 120 km / 75 miles, LC
SFP-GLX-SM20W13-ET-WDM	1,000 LX SFP module, DD, 1310 nm WDM, 13 dB budget, 20 km / 12 miles, LC
SFP-GLX-SM20W15-ET-WDM	1,000 LX SFP module, DD, 1550 nm WDM, 13 dB budget, 20 km / 12 miles, LC



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