



# JetCard 5010G-P

## 8+2GF Gigabit Embedded Managed Switch Board



- Embedded Managed Switch Board with 127.4 mm (W) x 122.5mm(D), under 30mm(H) board size
- 8 10/100Base-TX plus 2 Gigabit SFP ports (1000Base-X Fiber)
- 3.3V DC Power Input socket
- Korenix Multiple Super Ring and RSTP for network redundancy
- Supports LLDP and JetView Pro i2NMS software for auto topology visualization and efficient group management
- Jumbo Frame up to 9,216 Bytes for large packet transmission
- SNMPv1/v2/v3c, RMON for remote management
- Advanced management by up to 8K MAC Table, 256 802.1Q VLAN, IGMP Snooping, GMRP, port Trunking, LACP, DHCP Server, DHCP Option 82 and Rate Control
- Advanced security by 802.1x and Access Control List

### Overview

JetCard 5010G-P, the Embedded Managed Switch Board, also known as EMSB, is specifically designed to combine a small sized full management switch board with task-specific systems. In addition to the small board design, JetCard 5010G-P incorporates 3.3V power source, low power consumption and wide operating temperature to ensure stable and efficient communication in severe industrial environments.

To provide network redundancy with guaranteed secure and reliable data transmission, the switch supports MSR which can recover network failures in just 5 milliseconds while forming up to 5 rings. System integrators can further benefit from the superb management and security features of the value-added solution for enhancing their networking capabilities by easily & efficiently managing the embedded system.

#### EMSB - Outstanding Design for Enhanced Embedded Networking

The JetCard 5010G-P Embedded Managed Switch Board is equipped with 8 10/100-TX and 2 1000Base-X SFP front ports for providing flexible system connectivity in large scale complex networks via various interfaces. With the board size as small as 127.4mm x 122.5mm, and with height under 30mm, the EMSB is specially designed to combine with your embedded task-specific system. Using 3.3VDC as power input and delivering 10Watts low power consumption, the embedded system outstands from other standalone switches and provides unique

high performance while delivering power without additional external power inputs.

#### Advanced Network Performance through Efficient Management

The full layer 2+ management switch design of JetCard 5010G-P provides abundant software features for system integrators.

For applications requiring large size traffic transmission, JetCard 5010G-P supports up to 9K Jumbo Frame allowing to bypass larger file packets with fewer segments to the uplink networks.

With the supported Korenix MSR redundancy protocol it provides 5 millisecond network recovery time and ensures network reliability while easily forming 4 Fast Ethernet plus 1 Gigabit redundant ring networks.

The switch board incorporates LLDP function and efficiently works with JetView Pro, the Korenix patented Industrial Innovation Network Management system for automatically drawing the network topology in just seconds, updating ring and port status, easily managing and configuring the switch in remote industrial environments. JetCard 5010G-P combines more advanced management protocols, such as the DHCP option 82, 256 VLAN, IGMP snooping, SNMPv3 etc. for efficiently controlling and managing network performance.

With the compact JetCard 5010G-P board, you can fulfill the task-specific manufacturer's needs of having the best solution to integrate your embedded system.



## HW Specification

### Technology

#### Standard:

IEEE 802.3 10Base-T Ethernet  
 IEEE 802.3u 100Base-TX Fast Ethernet  
 IEEE 802.3ab 1000Base-TX  
 IEEE 802.3z Gigabit Ethernet Fiber  
 IEEE 802.3x Flow Control and Back-pressure  
 IEEE 802.1p class of service  
 IEEE 802.1Q VLAN and GVRP  
 IEEE 802.1D-2004 Rapid Spanning Tree Protocol (RSTP)  
 IEEE802.3ad Link Aggregation Control Protocol (LACP)  
 IEEE802.1X Port based Network Access Control  
 IEEE802.1AB Link Layer Discovery Protocol

### Performance

#### Switch Technology:

Store and Forward Technology, 12.8Gbps Switch Fabric.

**System Throughput:** 14,880pps for 10M Ethernet,  
 148,800pps for 100M Fast Ethernet, 1,488,100 for Gigabit Ethernet

**Transfer packet size:** Typical: 64 bytes to 1536 bytes,

**Jumbo Frame Enabled:** Up to 9,216bytes.

**MAC Address:** 8K

**Packet Buffer:** 2Mbits

### Management

**Configuration:** Cisco-Like CLI, Web, SSL, SSH, JetView, Backup/Restore, DHCP Client, Warm reboot, Reset to default, Admin password, Port Speed/Duplex control, status, statistic, MAC address table display, Static MAC, Aging timeout

**Jumbo Frame Enable/Disable:** up to 9,216KBytes

**LLDP:** Link Layer Discovery Protocol to advertise system/port identity and capability on the local network

**SNMP:** SNMP v1, v2c, v3 and Traps.

**SNMP MIB:** MIB-II, Bridge MIB, VLAN MIB, SNMP MIB, RMON and Private MIB

**IEEE 1588 Precision Time Protocol (PTP):** Synchronize time from the PTP server

**SNTP:** Simple Network Time Protocol to synchronize time

**Port Mirroring:** Online traffic monitoring

**Port Trunk:** Static Trunk and 802.3ad LACP, Up to 5 Trunk Groups, 2-8 ports per trunk

**Rate Control:** Ingress and Egress rate limiting

**VLAN:** IEEE802.1Q VLAN, GVRP. Up to 255 VLANs

**Quality of Service:** Four priority queues per port, IEEE802.1p COS and Layer 3 TOS/DiffServ

**IGMP Snooping:** IGMP Snooping V1/V2 for multicast filtering and IGMP Query

**GMRP:** GVRP Multicast Registration Protocol

**802.1x:** Port\_based Network Access Control

**Port Security:** Assign authorized MAC to specific port

**IP Security:** IP security to prevent unauthorized access

**Access Control List:** Permit/Deny access control lists

**DHCP Server:** Support 255 Dynamic IP poll

**DHCP Option 82:** Relay the DHCP request to remote server

**E-mail Warning:** Automatic warning by pre-defined events

**Syslog:** Message logged with server and client mode

### Network Redundancy

**Rapid Spanning Tree Protocol:** 802.1D-2004 RSTP, compatible with Legacy STP

**Multiple Super Ring (MSR)<sup>TM</sup>:** Korenix Ring Redundancy Technology, Includes Rapid Super Ring, Rapid Dual Homing, TrunkRing, MultiRing

**Rapid Dual Homing (RDH)<sup>TM</sup>:** Multiple uplink paths to one or multiple upper switch

**TrunkRing<sup>TM</sup>:** Integrate port aggregate function in ring

path to get higher throughput ring architecture

**MultiRing<sup>TM</sup>:** Couple or Multiple Rapid Super Rings within one switch. Maximum 4 100M rings plus 1 Gigabit Ring.

**Legacy Super Ring:** Backward compatible in client mode

### Interface

#### Number of Fixed Gigabit Ports:

10/100Base-TX: 8 x RJ-45, Auto MDI/MDI-X,

Auto Negotiation

1000Base-X: 2 x SFP with Hot Swappable

#### Cables:

10Base-T: 2-pair UTP/STP Cat. 3, 4, 5 cable (100m)

100 Base-TX: 2/4-pair UTP/STP Cat. 5 cable (100m)

1000 Base-T: 4-pair UTP/STP Cat. 5 cable (100m)

#### Diagnostic LED:

10/100 RJ-45: Link (Green/Left), Activity

(Yellow Blinking/Right)

**Gigabit SFP:** Link/Activity (Green/Green Blinking)

**RS232 Console:** 10pin socket, Pin2: TxD, 3: RxD, 5:GND

**Power:** 1 sets (3 x V+, 3 x V-) of DC inputs

### Power Requirements

**Power:** 3.3V DC power input

**Power Consumption:** Max. 10 Watts

### Mechanical

**Installation:** Embedded

**Dimension:** 127.4mm(W) x 122.5mm(D), Under 30mm(H)

**Weight:** 1kg without package

### Environmental

**Operating Temperature:** -25 ~70°C (Effect by the power equipment, mechanical of embedded system...etc.)

**Operating Humidity:** 5% ~ 95% (non-condensing)

**Storage Temperature:** -40 ~ 85°C

### Regulatory Approvals

**Warranty:** 5 years

## Ordering Information

### JetCard 5010G-P 8+2GF Gigabit Embedded Managed Switch Board

Includes:

- JetCard 5010G-P (without SFP transceivers)
- Document CD
- Quick Installation Guide
- 10pin to DB-9 socket cable
- 6 pin (3V+, 3V-) Power Cable
- Screwing Kit

## Optional Accessories

### Power Module

**PM4803 Power Module, 12-48V input, 3.3V Output, maximum 30Watt Output.**

### Gigabit SFP

- SFPGSX:** 1000Base-SX multi-mode transceiver 550m , commercial operating Temp, -10~70°C
- SFPGSX-w:** 1000Base-SX multi-mode transceiver 550m , commercial operating Temp, -40~85°C
- SFPGSX2:** 1000Base-SX multi-mode transceiver 2km , commercial operating Temp, -10~70°C
- SFPGSX2-w:** 1000Base-SX multi-mode transceiver 2km , commercial operating Temp, -40~85°C
- SFPGLX10:** 1000Base-LX single-mode transceiver 10Km , commercial operating Temp, -10~70°C
- SFPGLX10-w:** 1000Base-LX single-mode transceiver 10Km , commercial operating Temp, -40~85°C
- SFPGLHX30:** 1000Base-LHX single-mode transceiver 30Km , commercial operating Temp, -10~70°C
- SFPGLHX30-w:** 1000Base-LHX single-mode transceiver 30Km , commercial operating Temp, -40~85°C
- SFPGXD50:** 1000Base-XD single-mode transceiver 50Km , commercial operating Temp, -10~70°C
- SFPGXD50-w:** 1000Base-XD single-mode transceiver 50Km , commercial operating Temp, -40~85°C
- SFPGZX70:** 1000Base-ZX single-mode transceiver 70Km , commercial operating Temp, -10~70°C
- SFPGZX70-w:** 1000Base-ZX single-mode transceiver 70Km , commercial operating Temp, -40~85°C

### SFP Gigabit BIDI/WDM

- SFPGLX10B13:** 1000Base-LX BIDI single-mode transceiver 10km, -10~70°C
- SFPGLX10B13-w:** 1000Base-LX BIDI single-mode transceiver 10km, -40~85°C
- SFPGLX10B15:** 1000Base-LX BIDI single-mode transceiver 10km, -10~70°C
- SFPGLX10B15-w:** 1000Base-LX BIDI single-mode transceiver 10km, -40~85°C
- SFPGLX20B13:** 1000Base-LX BIDI single-mode transceiver 20km, -10~70°C
- SFPGLX20B13-w:** 1000Base-LX BIDI single-mode transceiver 20km, -40~85°C
- SFPGLX20B15:** 1000Base-LX BIDI single-mode transceiver 20km, -10~70°C
- SFPGLX20B15-w:** 1000Base-LX BIDI single-mode transceiver 20km, -40~85°C
- SFPGLX40B13:** 1000Base-LX BIDI single-mode transceiver 40km, -10~70°C
- SFPGLX40B13-w:** 1000Base-LX BIDI single-mode transceiver 40km, -40~85°C
- SFPGLX40B15:** 1000Base-LX BIDI single-mode transceiver 40km, -10~70°C
- SFPGLX40B15-w:** 1000Base-LX BIDI single-mode transceiver 40km, -40~85°C
- SFPGLX60B13:** 1000Base-LX BIDI single-mode transceiver 60km, -10~70°C
- SFPGLX60B13-w:** 1000Base-LX BIDI single-mode transceiver 60km, -40~85°C
- SFPGLX60B15:** 1000Base-LX BIDI single-mode transceiver 60km, -10~70°C

- Industrial PoE Switch
- IP67/68 Ethernet Switch
- Rackmount Managed Switch
- Gigabit Switch
- Redundant Switch
- Entry-Level Switch
- Networking Computer
- Communication Computer
- Ethernet I/O Server
- Serial Device Server
- Media Converter
- Multiport Serial Card
- SFP Module
- Din Rail Power Supply