

24G+24XG Layer 3 Switch with Cyber Security and Enhanced ERPS v2 for Critical Applications

8048-24XG 8052-4XG

Industrial 24G+24XG L3 Managed Ethernet Switch/ Industrial 48G+4XG L3 Managed Ethernet Switch

The 24G+24XG Series L3 Managed Switch supports various routing protocols such as IP/VLAN routing, RIP, OSPF, VRRP router redundancy to be fully compatible with your backbone network. It is designed with advanced cybersecurity features such as Port-Based Security- IEEE802.1x MAB (MAC Authentication Bypass), Access Control List (ACL, MAC/IP/ARP filter), DHCP Snooping, IP Source Guard, Dynamic ARP Inspection as well as advanced redundancy features such as AVCOMM ERPSv2 Plus and eRSTP. The rugged EMC design of the switch is compliant with EN 50121-4 standard that is the best choice for industrial IoT, transportation railway wayside and industrial control room applications.



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Full Gigabit Switching and Ultra-high Throughput

- **24-port Gigabit + 24-port 10G:** 24-port 10/100/1000M RJ-45, 12-port 10G RJ-45 and 12-port 1G/10G SFP+
- **48-port Gigabit + 4-port 10G:** 48-port 10/100/1000M RJ-45 Ethernet and 4-port 1G/10G SFP+
- ARM A9 1.0GHz high speed CPU inside
- DDM function for high quality fiber connectivity monitoring
- **16K** MAC address table
- **1.5MByte** packet buffer memory for H.264 burst
- **9K** bytes jumbo frame
- Stores and forwards with non-blocking switch fabric
- **8** flexible Class of Service(CoS) queues
- Up to **512** L3 Route Table, **1K** L2 Multicast Groups for video applications

AVCOMM ERPSv2 PLUS Ring Technology

- Apply Broadcom CFM Technology for overcoming GbE copper physical limitation and providing minimum 20ms recovery time, seamless restoration time
- Inter-Operability with 3rd party ITU-T G.8032 v1/v2 ERPS switch and still remain fast recovery time
- Replace legacy Ring + Chain + Dual Homing

Dynamic Routing with Redundancy Protection

- RIPv1&v2, OSPFv1&v2 for intra-domain routing within an autonomous system
- Efficient unicast/multicast static routing
- VRRP guarantees sustainable routing in a single point of failure

Enhanced RSTP(eRSTP)*

- Enhance the RSTP fault recovery time performance
- Enhance RSTP performance for large ring network topologies with up to 80 switches

Compliant with IEC62443-4-2 Level 3 / 4 Cyber Security

- L2-L7 IPv4/IPv6* Access Control List (ACL)
- DHCP Snooping, IP Source Guard, Dynamic ARP Inspection
- 802.1Q VLAN, Private VLAN, Advanced Port Security
- Multi-Level user passwords
- HTTPS/SSH/SFTP, 256-bit encryption
- 802.1X MAB for non-802.1X compliant end devices
- RADIUS/TACACS+ centralized password authentication

Rugged Design for Substation/Wayside

- **EN50121-4** for railway trackside applications
- Top level **EMC protection** and excellent heat dissipation design for operating in **-40~75°C** environment

Industrial IoT LAN & Cloud Management

- Various configuration paths, including CGI WebGUI, CLI, SNMP and RMON
- Support AVCOMM Software Utilities:
 - ANMS Network Management System
 - AIAS for Configuration Management
 - ATMS*, ATMS OTA* for device management over Cloud*
- Support MQTT* protocol, ready to use AWS/Azure and Private Cloud Agent for cloud management
- LLDP for topology control, auto-topology drawing
- USB for easy field configuration and firmware update

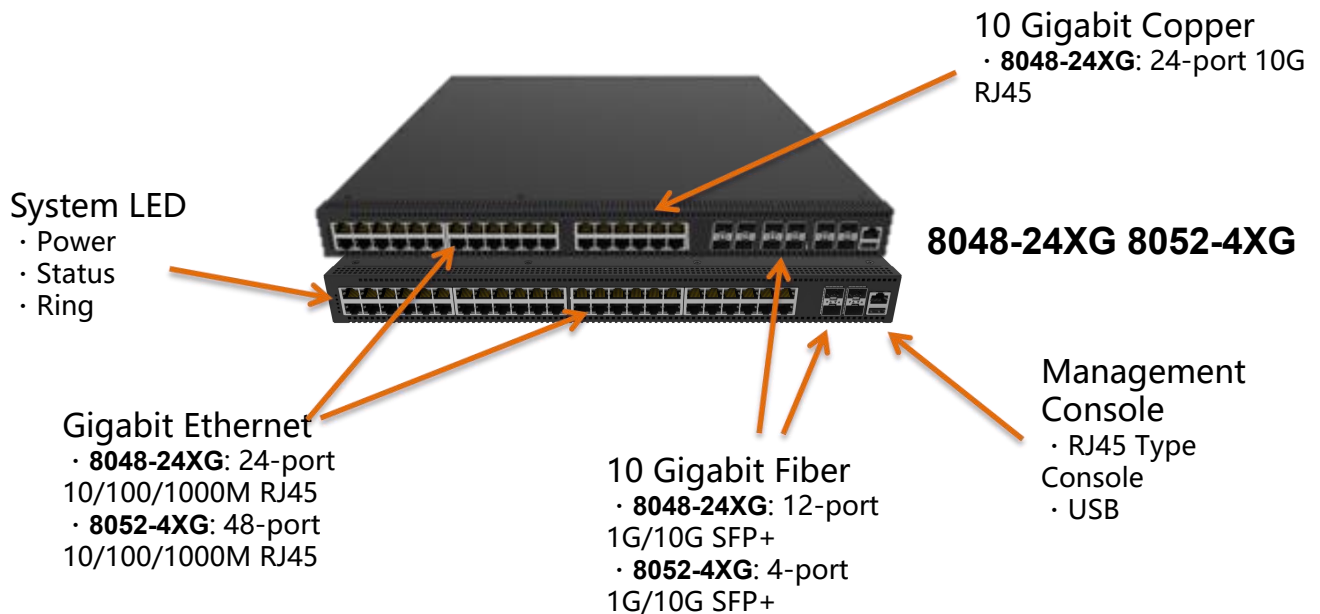
Model	Description
8048-24XG 8052-4XG	Industrial 24G + 12XG Copper+12XG SFP+ Layer 3 Managed Ethernet Switch
8048-24XG 8052-4XG	Industrial 48G + 4XG SFP+ Layer 3 Managed Ethernet Switch

Technology	
Standard	IEEE 802.3 10Base-T Ethernet
	IEEE 802.3u 100Base-TX Fast Ethernet
	IEEE 802.3ab 1000Base-T Gigabit Ethernet copper
	IEEE 802.3u 100Base-FX Fast Ethernet Fiber
	IEEE 802.3z Gigabit Ethernet Fiber
	IEEE 802.3x Flow Control and back-pressure
	IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
	IEEE 802.1p Class of Service (CoS)
	IEEE 802.1Q VLAN and GVRP
	IEEE 802.1D-2004 Rapid Spanning Tree Protocol (RSTP)
	IEEE 802.1Q-2005 Multiple Spanning Tree Protocol (MSTP)
	IEEE 802.3ad Link Aggregation Control Protocol (LACP)
	IEEE 802.1X Port based Network Access Protocol
	IEEE 1588 Precision Time Protocol v2
	IEEE 802.3af/at Power-over-Ethernet (DP712)
ITU-T G.8032 version 2 Ethernet ring protection switching (ERPSv2)	
Performance	
Switch Technology	Store and Forward Technology Internal Packet Buffer: 4MBytes Forwarding rate 8048-24XG: 392.832Mpps (1,488,000pps/port) @24G+24XG Forwarding rate 8052-4XG: 130.944Mpps (1,488,000pps/port) @48G+4XG
Number of MAC Address	16K
Jumbo Frame	9216 Bytes
VLAN	256 VLANs, VLAN ID 1~4094
IGMP Groups	512
Traffic Prioritize	8 Priority Queues per Port
Interface	
Ethernet Port	8048-24XG: 24 x 10/100/1000Base-T RJ-45, Auto-Negotiation 12 x 1G/10G RJ-45, Auto-Negotiation 12 x 1G/10G SFP+, DDM 8052-4XG: 48 x 10/100/1000Base-T RJ-45, Auto-Negotiation 4 x 1G/10G SFP+, DDM
System LED	Power: Green On System Status: Ready: Green On, Firmware Updating: Green Blinking Ring: Off: Ring disabled, Green On: Ring normal (Not RPL Owner), Green Blinking: Ring normal (RPL Owner), Amber On: Ring abnormal, Amber Blinking: Ring port fail
Giga Ethernet Port LED	Link (Green On), Active (Green Blinking), Speed 1000M(Amber On), Speed 100M(Off)
XG/Giga SFP+ LED	Link (Green On), Active (Green Blinking), Speed 10G(Amber On), Speed 1G(Off)
Console	1 x RJ45 based RS232 for System Configuration. Baud Rate:115200.n.8.1
USB	1 x USB for Configuration/Firmware Update
Watchdog	Hardware-based 10 seconds timer

Power Requirement	
Operating Voltage	Power Input: AC110/220V (90-264VAC), 88~300VDC 2AC: Dual AC110/220V (90-264VAC), 88~300VDC DC Input: 48V (DC Model only, Other DC Input Range By Request)
Power Consumption	Max. 42W @ 12XG SFP+ plugged
Software	
Management	CGI WebGUI, Command Line Interface (CLI), IPv4/IPv6(RFC2460), Telnet, SNMP v1/v2c/v3, SNMP Trap/Informs*, RMON, LLDP, DHCP server/client/Option 82, TFTP, System Log, SMTP
Traffic Management	Flow Control, Rate Control, Port Mirror, CoS, QoS, RFC 2474 DiffServ
Filter	IGMP Snooping v1/v2/v3, IGMP Snooping Fast-Leave/Immediate-Leave, IGMP Query, GMRP, IEEE802.1Q VLAN, QinQ, GVRP, Private VLAN, IGMP Query Solicitation/Request*, MLDv1/v2 Snooping*, IEEE 802.1v*
Security	IEEE 802.1X/RADIUS, TLS v1.2, Access Control List (ACL, MAC/IP/ARP filter),HTTPs/SSH secure login, First login password management
Advanced Security	TACACS+, Multi-user authentication, IEEE802.1x MAB, DHCP Snooping, IP Source Guard, Dynamic ARP inspection, DoS/DDoS*, Adv. Port security*, SFTP
Redundancy	ERPSv2 (HW-based CFM), STP/RSTP/MSTP, Loop Protection, Port Trunk/801.1AX/802.3ad LACP
Time Management	NTP, IEEE 1588 Precision Time Protocol v2 , support STNP
Layer3	Routing: RIPv2, OSPFv2, Static Multicast Route, VRRPv2, DVMPR*, PIM* Up to 512 L3 Route Table
IIoT Industrial Protocol	Modbus TCP, EtherNet/IP, MQTT, RESTful API* , OPC UA/AE
Public Cloud	AWS*, Azure Agent*
Utility	AIAS Discovery Utility, ANMS Network Management System
MIB	ERPS MIB, MIB-II, Ethernet-like MIB*, P-BRIDGE MIB, Q-BRIDGE MIB, Bridge MIB, RMON MIB Group 1, 2, 3, 9, AVCOMM Private MIB
Diagnostic	LLDP, Port Mirror, Ping, Port Statistic, Event Log (* By Request Software Features)
Mechanical	
Installation	Rackmount
Enclosure Material	Steel Metal
Dimension	431 x 44 x 300 mm(W x H x D)
Ingress Protection	IP30
Weight	≈3.4~4KG
Environmental	
Operating Temperature & Humidity	-40°C~70°C , 0%~95% Non- Condensing
Storage Temperature	-40°C~85°C
MTBF	>445,000 hours
Warranty	5 years
Standard	
EMI	CISPR 22, FCC part 15B Class A
EMC	EN61000-6-2/4 EN50121-4 Compliance for Railway Roadside cUL 508



function interface



Installation dimensions

