Industrial Ring Managed Gigabit PoE++ Switch
14-Port PoE+ Gigabit including 2x2.5G and 2x1.25G SFP Ports

IGM-14104BT-2.5G
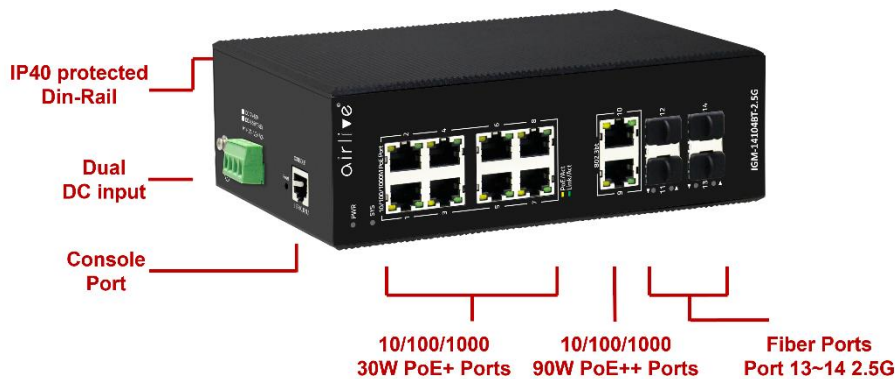
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802.3at/af/bt 90w	Gigabit RJ45 & 2.5G SFP	Managed L2+ Switch L3 Routing	Advanced PoE management	IPv6/IPv4 VLAN
Redundant Network Ring	Ultra Fast Ring recovering	Dual Power inputs 48~55Vdc	-40°C~85°C	IP40, Din-Rail & Wall-Mount

Overview

Reliable Industrial-grade Managed POE Switch for extreme environment With VLAN and QoS

The AirLive IGM-14104BT-2.5G is a L2+ managed 14-port Gigabit PoE++ switch including 2 PoE++ ports, 6 PoE+ ports. Port 9~10 are 10/100/1000BASE-T 802.3bt (90W) compliant and port 1~8 are 10/100/1000BASE-T 802.3at/af (30W) compliant automatically adaptive, and 2 fiber optic ports at 2500Mbps and 2 fiber optic ports at 1250Mbps. Made for extreme environments with its wide temperature range from -40°c to 85°c and rugged IP40 metal housing; Dual power inputs using a 4pin terminal block (DC48~55V).

The 14-port Industrial Gigabit management switch offers comprehensive SNMP management functions including IGMP, VLAN , Port aggregation, QoS port mirroring, bandwidth control. Ring Network Protocol ERPS is supported. ERPS supports multi-ring and multi-domain structures. It supports main device backups, load sharing and other work methods in 50ms switching, making for one of the lowest fault recovery time and makes sure that your critical industrial network keeps working.

IP40 protected Din-Rail

Dual DC input

Console Port

10/100/1000 30W PoE+ Ports

10/100/1000 90W PoE++ Ports

Fiber Ports Port 13~14 2.5G

Features

- All 14-port, each port delivers Gigabit high speed
- Extend network further with 2x 2.5G SFP and 2x 1.25G SFP slots that accept fiber transceivers and go beyond the limits of Ethernet
- Supports PoE++ up to 90W (Port 9~10 90W per port), (Port 1~8 30W per port)
- Automatically detect and offer power for connected PD
- Support L2+ SNMP and WEB Smart management function, including DHCP Snooping, VLAN, IGMP, QoS, Spanning Tree, MAC Binding and Bandwidth Control
- Support PoE management
- Support PoE watchdog to automatically detect and restart crashed PD
- Clear Statues display including traffic, CPU, Memory, POE consumption, per-port status
- Web-UI for easy management; CLI and Command Script for advance setting; SNMP used for popular network tools management.

Efficient PoE Watch Guard
PoE Watch dog technology and PoE Management

The Switch IGM-14104BT-2.5G supports high power on port 9~10 at 90W and 30W on ports 1~8 auto adaptively. With PoE management function to control PoE port setting, Timer setting and Timer reboot setting, and PoE watchdog. All the PoE management functions ensure full power for the connected PD and great reliability for the whole system. PoE 90W supports devices which need more power, this can be for example a PoS system, Digital Signage, or LED lighting.

After PoE Watchdog function enabled, the IGM-14104BT-2.5G switch works as a virtual security guard. When the POE port is continuously powered but there is no traffic, the POE watchdog will be triggered. After 2 minutes of detection, the power supply will be stopped and then powered on. PoE Watchdog is especially helpful for camera. For example, when turning on the function, the switch will detect the front-end camera for 24/7. If there is no traffic output from the camera, it is judged that the camera is frozen, and the front-end camera will be restarted through PoE power failure to solve the problem.

Automatic restart
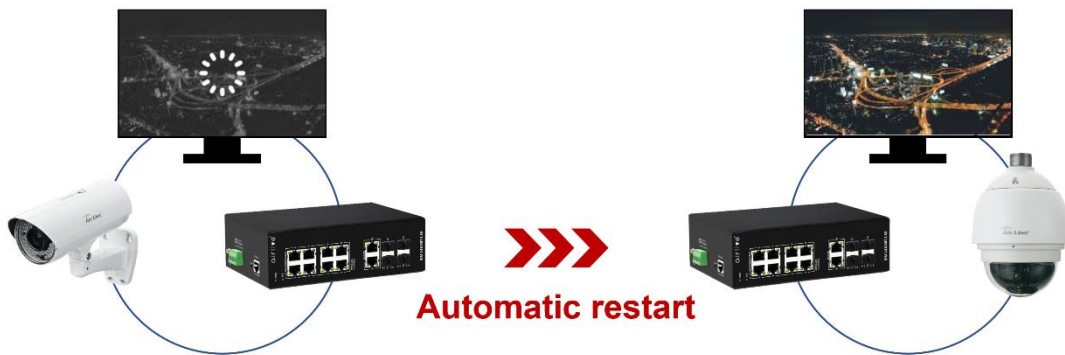
Built for Harsh Environment

The IGM-14104BT-2.5G switch can operate from -40°C ~ 85°C. And each POE port has 6KV surge protection. It is the ideal solution for applications which work under harsh environment and require stable network and PoE power such as parking lot or IP surveillance. The IGM-14104BT-2.5G has a rugged high strength metal case which is rated at IP40 and has a DIN35 Rail connection making it suitable for network use in a heavy industry or factories. AirLive Industrial switches can be placed in almost any harsh environment.

-40°C   85°C

IGM-14104BT-2.5G

ERPS Ethernet Ring Protection

ERPS is supported by the IGM-14104BT-2.5G Switch. ERPS supports multi-ring and multi-domain structures (master and sub rings) and optimizes the inspection mechanism in terms of two-way faults. In addition, it supports main device backups, load sharing and other work methods in <50ms switching.

This means that when multiple switches have been placed in a Ring and the network work is interrupted, it will recover within 50ms or less. Meaning the critical network like in harsh environments or automated production lines and surveillance will be online again with minimum loss of time. The ring network is also protected again loops.

Industrial Ring Network with Recovering Time < 50ms
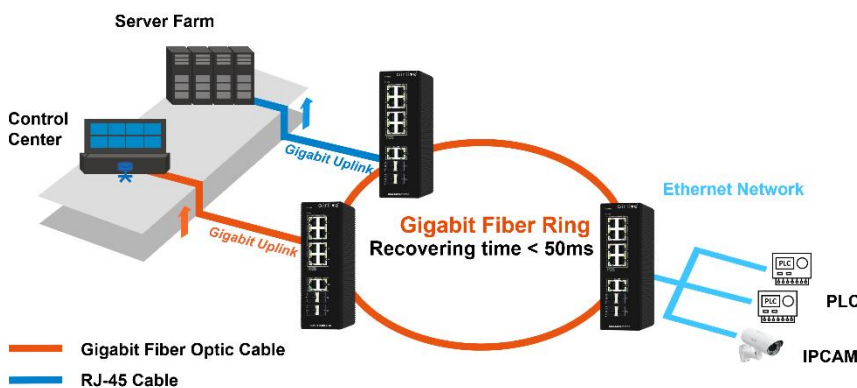
VLAN, Dying Gasp, QoS and more

The IGM-14104BT-2.5G is management switch which is packed with feature, use the many VLAN functions to separated the traffic on your network, use Dying Gasp to get an alert when a remote connected device (CPE) is failing. Or use the QoS functions to stream your network in a smooth and non congested network these and many more functions can be found in the AirLive industrial Switch.

Fiber for Long Distance up to 120Km

Extend the network further with the 2.5G SFP slots (port 13~14). The SFP ports also supports DDM which offers more information about the fiber connection and makes it easier to find any faults or bad connections.

Factory Parking Control

Built-in SFP for long distance transition

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## 14-Port PoE+ Gigabit including 2x2.5G and 2x1.25G SFP Ports
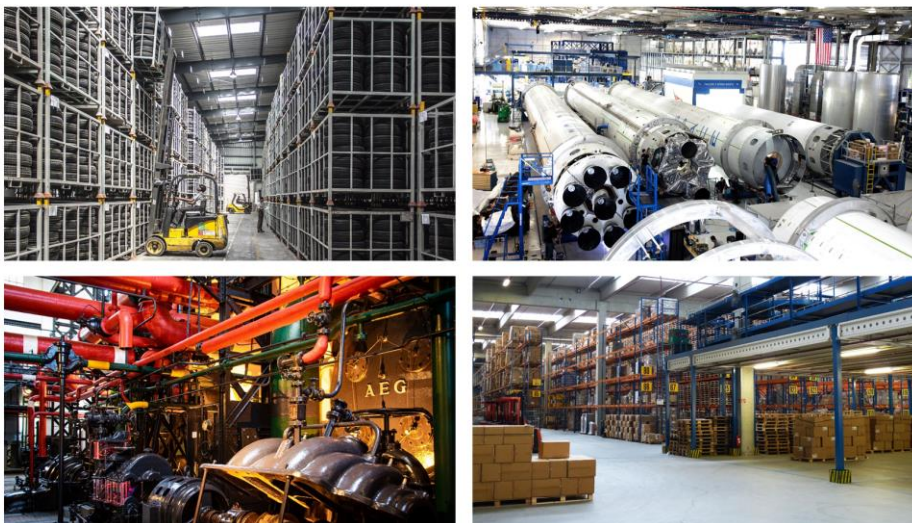### IGM-14104BT-2.5G

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802.3BT High Power PoE

Airlive Power over Ethernet (PoE) products are suitable for commercial and industrial applications which provide highly reliable power and data transmission in compliance with the 802.3bt standard, industrial design, long-distance PoE technology, and The unique intelligent PoE watchdog control function can meet all the requirements of IP surveillance, IP communications, POS systems, PoE lighting and other applications.

AirLive IGM-14104BT-2.5G Industrial switch supports the high-power output PoE++ at 90W for ports 9 and 10. This higher output allows it to power more device then just an IP camera or Access point. The 90W PoE can be used to power on high power needed PoE Systems, Digital Signage or even PoE LED lighting and much more. Giving you much more flexibility on the usage, as you are no longer restricted to only 30W.
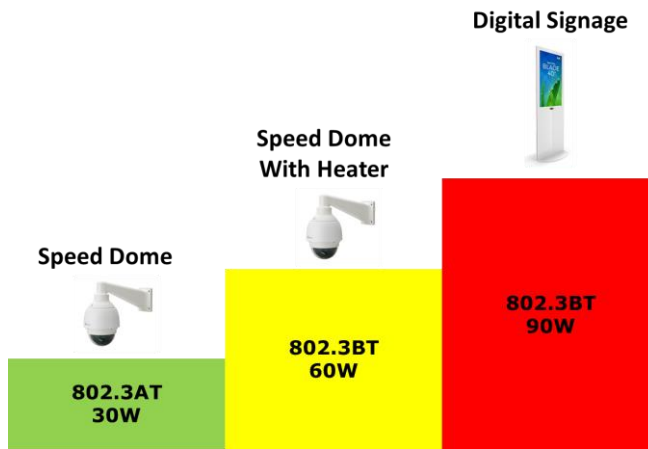
Industrial Application Harsh Environment

AirLive IGM-14104BT-2.5G Industrial switch meets the high standard demands of providing reliable networking connectivity, able to withstand harsh industrial environment, and cost-effectively.

Specification

Model	AirLive IGM-14104BT-2.5G

Hardware

- **Device Interface:**
  2 x 90W PoE 10/100/1000 RJ45
  8 x 30W PoE 10/100/1000 RJ45
  4 x ports Gigabit SFP (Port 13~14 2.5G)
  14-port totally
  1 x RJ45 console port
- **Standard**
  IEEE802.3u 100Base-TX / 100Base-FX
  IEEE802.3ab Gigabit 1000Base-T
  IEEE802.3z Gigabit SX/LX (optical fiber)
  IEEE802.3x Flow Control and Back Pressure
  IEEE802.1d Spanning Tree (STP)
  IEEE802.1w Rapid Spanning Tree (RSTP)
  IEEE802.1s Multiple Spanning Tree (MSTP)
  IEEE802.1p Class of Service (QoS / CoS) traffic
  Prioritization (Multicast filtering function)
  IEEE802.1Q VLAN Bridge Operation
  IEEE802.1x Client/Server Access control and
  Authentication
  IEEE802.3at/af/bt PoE
  IEEE802.3az Energy Efficient Ethernet
  IEEE802.1ab LLDP/ Device Link Layer Discovery
  Protocol
- **LED Indicators**:
  PWR (power supply), SYS(System), 1-10 PoE, 1-10
  Link & ACT , 11-14 Link & Act
- **Lighting Surge Protection**:
  6KV (general mode), 2KV (differential mode),
  ESD15KV, Touch 8KV
- **Mechanical**
  IP40 rugged high-strength metal case, DIN35 Rail
  Mounting

Power and PoE

- **Protocol**: IEEE802.3bt (90W), IEEE802.3at (30W),
  IEEE802.3af (15.4W)
- **PoE Port**: 10
- **POE Power Output: PoE Port 9~10:** max. 90watts
- **POE Power Output: PoE Port 1~8:** max. 30watts

Switch Architecture | Performance

- **Fiber Medium:**
  Multi-mode Fiber: 850nm, 1310nm
  Transmission Distance: 550m/2Km
  Single-mode Fiber: 1310nm, 1550nm
  Transmission Distance 20/40/60/80/100/120Km
- **Switching architecture: Store and Forward**
  Switch Capacity: Back-plan up to 34Gbps
  Switch packets Capacity; 25.29Mpps
  MAC Address: 8K

Jumbo Frames: 9.6Kbytes
Packet Buffer: 4Mb
Flash Memory: 16MB
DDR SDRAM: 128MB

L2 Management Function

- **Port Management:**
  Enable / Disable Port
  Speed, Duplex, MTU setting
  Flow-Control
  Port Information Check
- **Port Mirroring:**
  Support both side-way port mirroring
- **Port Speed Limit:**
  Port-based input/output bandwidth management
- **Port Isolation:**
  Support the downlink port isolation, and able to
  communicate with the uplink port
- **Storm Suppression:**
  Support unknown unicast, multicast, unknown
  multicast
  Broadcast type storm suppression
  Storm suppression based on bandwidth regulation
  and storm filtering
- **Link Aggregation:**
  Support static manual aggregation
  Support LACP dynamic aggregation
- **VLAN:**
  Support 4K VLAN
  Access, Trunk, Hybrid
  Support Port-based
  Support Generic GVRP dynamic VLAN registration
- **MAC:**
  Support static, dynamic, addition, deletion
  MAC address learning limit
  Dynamic aging time setting
- **Spanning Tree**
  Support STP 802.1d Spanning Tree protocol
  Support RSTP 802.1w Spanning Tree protocol
  Support MSTP 802.1w Spanning Tree protocol
  Support BPDU protection
- **Multicast:**
  Support Static addition, deletion
  Support IGMP-Snooping
  Support MLD-Snooping
  Support v1/2/3 dynamic multicast monitor
- **DDM:** Support SFP DDM

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Specification

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L2 Management Extension Function

- **ACL (Access Control List):**
  Based on source MAC, destination MAC, Protocol type, source IP, destination IP, L4 port
  Support time-range time management
- **QoS:**
  Based on 802.1p (CoS) classification
  Based on DSCP Classification
  Classification based on source IP, destination IP and port number
  Support SP, WRR, DRR scheduling strategy
  Support flow rate limit CAR
- **LLDP Discovery:**
  Support LLDP discovery protocol
- **User Settings:**
  ADD/Delete users
- **Log:**
  User login, operation, status, events
- **Anti-attack (Security):**
  DOS defense (port-based)
  Support CPU protection and limits the rate of sending CPU packets
  ARP binding (IP, MAC, PORT binding)
- **Certification | Authentication:**
  Support 802.1x port authentication
  Support AAA authentication
  Support TACAS+ authentication
- **Network diagnosis:**
  Support Ping, Telnet, Trace
- **System Management:**
  Device reset, configuration save/restore, upgrade management, time setting, etc.

L3 Layer 3 Switching and Router Function

- **Interface Configuration:**
  Support virtual VLAN interface
- **ARP:**
  Support Check ARP
- **Router Function:**
  Static Router

System Management

- **CLI:** Support serial port command line management
- **SSH:** Support SSHv1/2 remote management
- **Telnet:** Support serial command line management
- **WEB:** Support two Layers setting
- **SNMP:** SNMP V1/V2/V3; support trap
- **PoE:** Support PoE power
- **Other Functions**
  Support DHCP Snooping
  Dying Gasp

Power Supply

- **Input Voltage:** DC 48~55V
- **Input Type:** 4 Pin Terminal (block V1+V1- V2+ V1-
  Supports Dual Power Input

Environment

- **Operating Temperature:** -40°C to +85°C
- **Storage Temperature:** -40°C to +85°C
- **Humidity**: 5%~95%, non-condensing

Standard package of switch

- **Product size:**
  18.8 x 13 x 6.4 cm(L*W*H)
- **Package size:**
  24.2 x 20.7 x 8.6cm(L*W*H)
- **Product Weight/Package Weight**
  W: 1KGs; W: 1.3KGs
- **Package content**:
  1 x Switch, 1 x Serial cable

Standard carton package

- **Quantity:** 20 pcs / 1 carton
- **Dimensions:** 44.5 x 44.5 x 51.0 cm

Ordering Information

- **Model:**
  IGM-14104BT-2.5G
- **Name:**
  Industrial Ring Managed Gigabit PoE++ Switch 14 Ports including 2-ports SFP 2.5G fiber and 2-ports SFP 1.25G

* Specification will be changed without prior notice

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