

# IE200 Series

## Industrial Ethernet, Layer 2 Switches

The Allied Telesis IE200 Series of industrial switches is a cost-effective solution that meets the high reliability requirements demanded by industrial applications. The units can be easily managed through Web GUI, SNMP, Telnet or SSH while the fiber ports extend the connection distance, increasing the network elasticity and performance.



### Overview

The IE200 Series provides Ethernet Protection Switched Ring (EPSRing™) resilient functionality that can prevent network connection failure. With the wide operating temperature range of between -40° and 75°C, IE200 Series switches can be deployed in any of the harshest industrial environments.

### Performance

The IE200 Series of high performance and cost-effective industrial managed switches meets the high reliability requirements of industrial network operations. These industrial switches provide network managers with several key features, using the simple web-based management function, such as port-based VLANs, IEEE 802.1p QoS, port trunking/link aggregation, port mirroring, priority queues and IEEE 802.1x security support. With support of up to 2K MAC addresses, the IE200 Series of switches is an ideal option for integrating management into any network solution.

### Securing the Network Edge

To ensure data protection, it is important to control network access. Protocols such as IEEE 802.1X port-based authentication guarantee that only known users are connected to the network. Unknown users who physically connect can be segregated into a pre-determined part of the network, offering guests such benefits as Internet access, while ensuring the integrity of private network data.

### Gigabit and Fast Ethernet Support

IE200 Series SFP ports support both Gigabit and Fast Ethernet Small Form-factor Performance Pluggables (SFPs). This makes IE200 Series switches ideal for environments where Gigabit fiber switches will be phased in over time. This allows for connectivity to the legacy 100FX hardware until it is upgraded to Gigabit Ethernet.

Support for both speeds of SFPs allows organizations to stay within budget as they migrate to faster technologies.

### High Network Resiliency

IE200 Series industrial switches support the EPSRing protocol that can help the network to recover from connection failure within 50ms or less, thus making the network system highly resilient. The EPSR is a carrier-class algorithm, and its recovery time is much faster than STP. In addition, Dual Homing and Double Ring Topology are also supported, further increasing network availability.

### Configurable Power Budget

The PoE sourcing equipment (i.e. AT-IE200-6GP) gives you the chance to define the available power budget of the overall system and on port basis. This results in a lower total cost of ownership, as the user can therefore employ a more cost effective external power supply matching the real needs.\*



## Key Features

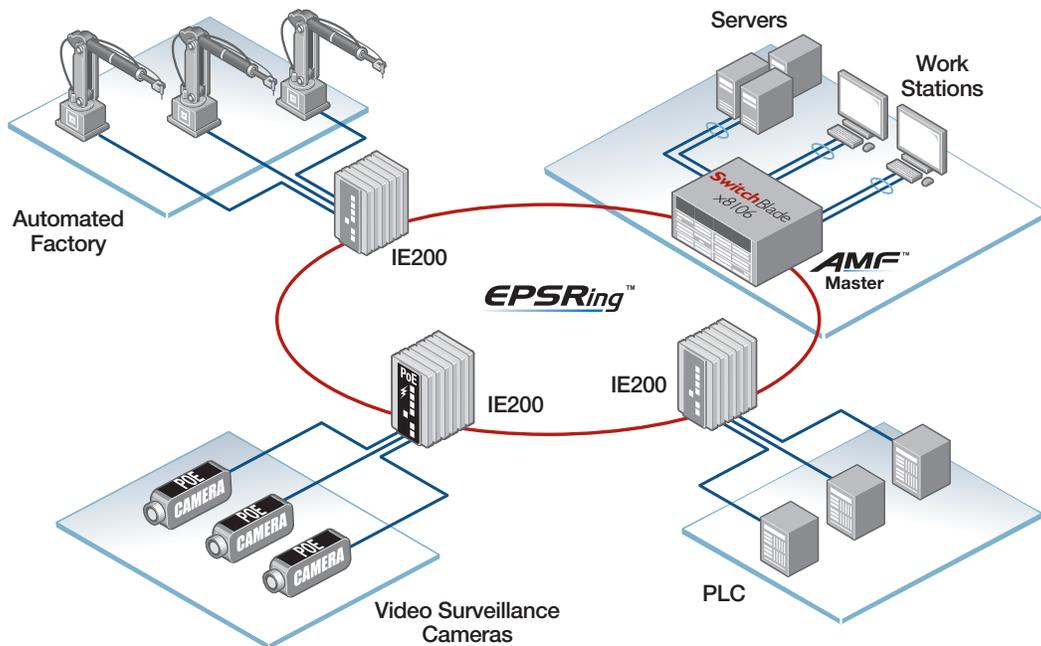
- ▶ IEEE 802.3at PoE+ to supply 30W per port
- ▶ AlliedWare Plus™ functionalities
- ▶ Allied Telesis Management Framework™ (AMF) node
- ▶ USB port for image/configuration backup, restore and upgrade
- ▶ Redundant power inputs for higher system reliability
- ▶ Ethernet Protection Switched Ring (EPSRing™) (RFC3619) to reduce network impact <50ms
- ▶ STP, RSTP, MSTP and EPSR for better redundancy
- ▶ Superior security mechanism including SSL, SSH, 802.1X, MAC, IP filtering, RADIUS, TACACS+ and VLAN for access protection
- ▶ IPv6 management for up-to-date requirements
- ▶ Reliable and accurate QoS support
- ▶ Internal DC/DC electrical isolation
- ▶ Static routes



\* Power supply must be compliant with local/national safety and electrical code requirements. Select the supply with the most appropriate output power derating curve.

BENEFIT	SOFTWARE FEATURE
<b>AMF NODE</b>	The IE200 Series is managed via AMF, a sophisticated suite of management tools that provides a simplified approach to network management. Common tasks are automated or made so simple that the every day running of a network can be achieved without the need for highly-trained, and expensive, network engineers. Powerful features like centralized management, auto-backup, auto-upgrade, auto-provisioning and auto-recovery enable Plug-and-Play networking and zero-touch management.
<b>MANAGEABILITY</b>	BOOTP/DCHP and TFTP/FTP/SCP firmware upgrade; serial Command Line Interface (CLI); Web Graphical User Interface (GUI); SNMPv1/v2c/v3; hardware monitor for power supply presence and thermal; CPU protection by hardware watchdog
<b>CONFIGURATION</b>	Text-based running-config; TFTP loadable startup-config
<b>HIGH AVAILABILITY</b>	EPSRing for ring and chain topologies; Spanning-Tree Protocol compatible; RSTP; MSTP; static Link Aggregation Group (LAG) and dynamic Link Aggregation Control Protocol (LACP) support
<b>DIAGNOSTIC</b>	LED indicators for power input, contact relays, and POE+ abnormal operations; SNMP trap; alarm mail; Link Layer Discovery Protocol (LLDP); port mirror; and LLDP Media Endpoint Discovery (LLDP-MED) support
<b>VLAN</b>	802.1Q VLAN; VLAN assignment based on per port; MAC; double tagging (Q-in-Q) for provider backbone network; GARP VLAN Registration Protocol (GVRP); Link Aggregation
<b>QUALITY OF SERVICE (QoS)</b>	Strict priority scheduling; 802.1p remarking; DSCP-to-CoS mapping; Weighted Round Robin
<b>TRAFFIC FILTERING</b>	Static MAC filtering; Access Control List (ACL) filtering based on Ethernet or IP header, protected ports based on MAC
<b>SECURITY</b>	802.1x port-based authentication; auto IP-MAC; AAA (Authentication, Authorization and Accounting) support; secure channel by SSL/SSH; SFTP (secure FTP)
<b>MULTICAST</b>	IGMPv2/v3 snooping; MLDv1/v2 snooping
<b>POE AND POE+</b>	The IE200 is a PoE Power Sourcing Device (PoE PSE) compliant to IEEE802.3af, IEEE802.3at standards. Each port provides either 15.40W PoE with 12.95W available to the powered device (IEEE802.3af, IEEE802.3at Type 1), or 30.00W PoE+ with 25.50W available to the powered device (IEEE802.3at Type 2). Practical use is to support PTZ cameras for outdoor application, lighting controller and LED lighting fixtures, Remote Point of Sale (POS) kiosks, network switches as well as other devices. The IE200 allows the configuration of the overall power budget and the power feeding limit on port basis; that establishes a close relationship between the power sourcing feature with the real capabilities of the external power supply unit (PSU)
<b>OTHERS</b>	DHCP client/server; TACACS+; Simple Network Time Protocol (SNTP); Domain Name Service (DNS); DHCP snooping/relay

## Key Solutions



This diagram shows the IE200 Series connecting and powering digital security cameras, as well as supporting industrial automation equipment. The -40° to +75° temperature range allows deployment in outdoor and harsh industrial environments.

The PoE models of IE200 feed 30 Watts per port and support remotely controlled video cameras (PTZ - Pan, Tilt, Zoom).

Management can be automated with Allied Telesis Management Framework™ (AMF)

## Specifications

MAC address	2K entries
Switching Bandwidth	12 Gbps
Packet Buffer	256 KBytes (2 Mbites)
Priority Queues	4
Simultaneous VLANs	4K
VLANs ID range	1 – 4094
Multicast groups	128

### Interface

I/O port	Gigabit Ethernet 10/100/1000T
Console port	RJ-45
F/W backup port	USB
Power connection	Terminal block

### Power Characteristics

Voltage	12~48V DC (non-PoE models)
	24~48V DC (PoE models)
Max. consumption	24W (non-PoE models)
	155W (PoE models)
Min. consumption	1.5W (non-PoE models)
	123W (PoE models)
Power connector	Terminal block

### Environmental Specifications

Operating temp.	-40°C to 75°C (-40°F to 167°F)
Storage temp.	-40°C to 85°C (-40°F to 185°F)
Operating humidity	5% to 95% non-condensing
Storage humidity	5% to 95% non-condensing

### Environmental Compliance

RoHS  
China RoHS  
WEEE

### Physical Characteristics

Enclosure	Aluminum shell
Protection class	IP30 – IP31 with additional cover tool
Installation	DIN rail or wall mount
Dimensions (W × H × D)	6xP: 15.9 cm × 9.5 cm × 13.4 cm
	6.25 in × 3.74 in × 5.28 in
	6xT: 15.9 cm × 5.5 cm × 13.4 cm
	6.25 in × 2.17 in × 5.28 in

### Standards and Compliance

IEEE 802.1ab	LLDP
IEEE 802.1ad	LACP supported
	Static link aggregation - 2 groups
IEEE 802.1Q	Port-based VLAN
IEEE 802.1w	RST
IEEE 802.1X	MAC-based authentication
IEEE 802.3	Ethernet
IEEE 802.3ab	Gigabit Ethernet
IEEE 802.3ac	VLAN Tag
IEEE 802.3ad	LACP
IEEE 802.3at	PoE Class 4
IEEE 802.3u	Fast Ethernet
IEEE 802.3x	Flow control

IEF RFC 768, 783, 791, 792, 793, 826, 896, 951, 1034, 1035, 1157, 1321, 1534, 1541, 1901, 1908, 2030, 2068, 2131, 2132 2866, 2865, 3580, 4251, 4253, 4254  
IEF SNMP MIBs 1213, 1493, 1643, 2233, 2618, 2674, 2737, 2819  
EN 50022, EN 60715 Standardized mounting on rails

### Electrical/Mechanical Approvals

Safety	UL/IEC/EN 60950-1
EMC	CE, FCC Class A
	CSA 22.2: 60950-1
	EN55022
	EN55022:2010
	EN55024:2010
	EN61000-6-2 (Industrial)
	EN61000-6-4 (Industrial)
	EN61000-4-2 (ESD)
	EN61000-4-3 (RS)
	EN61000-4-4 (EFT)
	EN61000-4-5 Class 3 for DC power, Class 2 for I/O
	EN61000-4-6 (CS)
	2004/108/EC EMC Directive
	2006/95/EC Low Voltage Directive

## Ordering Information

### AT-IE200-6FT-80

4 × 10/100TX ports and 2 × 100/1000X SFP Industrial switch

### AT-IE200-6FP-80

4 × 10/100TX ports (PoE+ support) and 2 × 100/1000X SFP Industrial switch

### AT-IE200-6GT-80

4 × 10/100/1000T ports and 2 × 100/1000X SFP Industrial switch

### AT-IE200-6GP-80

4 × 10/100/1000T ports (PoE+ support) and 2 × 100/1000X SFP Industrial switch

### Supported SFP Modules

Refer to the installation guide for the recommended Max. Operating Temperature according to the selected SFP module.

### 1Gbps SFP modules

#### AT-SPBD10-13

1000LX single-mode BiDi SFP, 10 km

#### AT-SPBD10-14

1000LX single-mode BiDi SFP, 10 km

#### AT-SPBD20-13/I

Small Form Pluggable, 20 km

industrial temperature

#### AT-SPBD20-14/I

Small Form Pluggable, 20 km industrial temperature

#### AT-SPEX

1000X (LC) SFP, 2 km

#### AT-SPLX10

1000LX (LC) SFP, 10 km

#### AT-SPLX10/I

1000LX (LC) SFP, 10km, industrial temperature

#### AT-SPLX40

1000LX (LC) SFP, 40 km

#### AT-SPSX

1000SX (LC) SFP, 550 m

#### AT-SPSX/I

1000SX (LC) SFP, 550 m, industrial temperature

#### AT-SPTX

1000T SFP, 100 m

#### AT-SPZX80

1000ZX (LC) SFP, 80 km

### 100Mbps SFP modules

#### AT-SPFX/2

100FX (LC) SFP, 2 km

#### AT-SPFX/15

100FX (LC) SFP, 15 km

#### AT-SPFXBD-LC-13

100FX (LC) single-mode BiDi SFP, 15 km

#### AT-SPFXBD-LC-15

100FX (LC) single-mode BiDi SFP, 15 km