

# Expansion Modules



## High Speed Expansion Modules (XEMs)

Allied Telesis XEMs offer a high degree of flexibility that future-proofs your network investment against changes in network infrastructure, topologies, and physical link requirements.

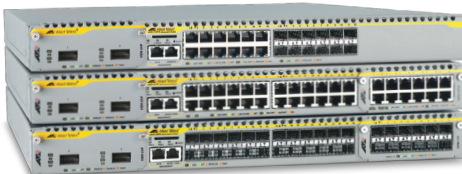
XEM expansion modules can be used in a variety of configurations to provide tailored solutions that meet wide-ranging physical networking requirements. Whatever your network needs, Allied Telesis has a XEM that is right for the job.

Achieve **expandability** with the **XEM-12T**, which has 12 copper ports to easily add maximum Gigabit Ethernet port density to your network.

Enjoy **flexibility** with the **XEM-12S**, with 12 SFP ports to let you aggregate both copper and fiber links.

Network **scalability** is simple with the **XEM-STK**. Use this high speed stacking XEM to create a single "virtual chassis" from multiple x900 switches, increasing resiliency and port density without increasing management complexity.

Achieve **high performance** with the **XEM-1XP** and **XEM-2XP** 10 Gigabit Ethernet XFP XEMs. With true ten Gigabits per second throughput, these XEMs support hot-swappable XFPs and provide high-speed, high-capacity fiber uplinks, up to 20Gbps of non-blocking throughput per XEM.



### XEM Compatible Products

**SwitchBlade x908** - Advanced Layer 3+ Modular Switch

8 x 60Gbps expansion bays

**x900-24XT** - Advanced Gigabit Layer 3 Expandable Switch

2 x 60Gbps expansion bays and 24 x 10/100/1000BASE-T (RJ-45) copper ports

**x900-24XT-N** - Advanced Gigabit Layer 3 Expandable Switch

2 x 60Gbps expansion bays and 24 x 10/100/1000BASE-T (RJ-45) copper ports. NEBS compliant

**x900-24XS** - Advanced Gigabit Layer 3 Expandable Switch

2 x 60Gbps expansion bays and 24 x 100/1000BASE-X SFP ports

**x900-12XT/S** - Advanced Gigabit Layer 3 Expandable Switch

1 x 60Gbps expansion bay and 12 x combo ports (10/100/1000BASE-T copper or SFP)

## XEM Modules

### XEM-12T

12 x 10/100/1000BASE-T (RJ-45) copper ports

### XEM-12S

12 x 1000BASE-X SFP ports

### XEM-STK

2 x high speed stacking ports

### XEM-1XP

1 x 10GbE XFP port

### XEM-2XP

2 x 10GbE XFP port

## Key Features

- RoHS compliant
- Maximum flexibility
- Interoperable with the SwitchBlade x908 and the x900 series switches

## Reliability

MTBF :

- XEM-12T : 170,000 hrs
  - XEM-12S : 170,000 hrs
  - XEM-STK : 300,000 hrs
  - XEM-1XP : 180,000 hrs
  - XEM-2XP : 320,000 hrs
- (calculated using Telcordia SR-332 (Issue 1, May 2001) at 25°C ambient operating temperature)

## Environmental Specifications

- Operating Temperature Range:  
0°C to 40°C (32°F to 104°F)  
*Derated by 1°C per 305 Meters (1000ft)*
- Storage Temperature Range:  
-25°C to 70°C (-13°F to 158°F)
- Operating Relative Humidity Range:  
5% to 80% non-condensing
- Storage Relative Humidity Range:  
5% to 95% non-condensing
- Altitude: 3,050 Meters maximum (10,000ft)

## Physical Dimensions

**Height:** 45mm

**Width:** 109mm

**Depth:** 253mm

**Weight:** .82kg unpackaged, and 1.4kg packaged

## Electrical Approvals and Compliances

EMC: EN55022 class A, FCC class A, VCCI class A

Immunity: EN55024

NEBS: GR63, GRI089 level 3. XEM-12S

## Safety

Standards:

UL60950-1, CAN/CSA-C22.2 No. 60950-1-03, EN60950-1, EN60825-1, AS/NZS 60950.1

Certification: UL, cUL, TUV

## Restrictions on Hazardous Substances (RoHS) Compliance

EU RoHS Compliant

## Country of Origin

Singapore

## Ordering Information

### XEMs

Product	Description
AT-XEM-12T	12 x 10/100/1000BASE-T (RJ-45) ports
AT-XEM-12S	NEBS compliant 12 x 1000BASE-X SFP ports
AT-XEM-1XP	1 x 10GbE (XFP)
AT-XEM-2XP	2 x 10GbE (XFP)
AT-XEM-STK (stacking cable sold separately)	2 x high speed stacking ports

## XEM Stacking Cables

### For use with XEM-STK

Product	Description
AT-XEM-STK-CBL0.5	0.5 meter stacking cable
AT-XEM-STK-CBL2.0	2.0 meter stacking cable

# XEM Modules | High Speed Expansion Modules

## SFP Modules

Module	Description
AT-SPFX/2	100BASE-FX multi-mode 1310nm fiber up to 2km
AT-SPFX/15	100BASE-FX single-mode 1310nm fiber up to 15km
AT-SPFX/40	100BASE-FX single-mode 1310nm fiber up to 40km
AT-SPFXBD-LC-13	100BASE-BX Bi-Di (1310nm Tx, 1550nm Rx) fiber up to 15km
AT-SPFXBD-LC-15	100BASE-BX Bi-Di (1550nm Tx, 1310nm Rx) fiber up to 15km
AT-SPTX	100BASE-T 100m Copper
AT-SPSX	100BASE-SX GbE multi-mode 850nm fiber up to 550m
AT-SPEX	100BASE-X GbE multi-mode 1310nm fiber up to 2km
AT-SPLX10	100BASE-LX GbE single-mode 1310nm fiber up to 10km
AT-SPBD10-13	100BASE-LX GbE Bi-Di (1310nm Tx, 1490nm Rx) fiber up to 10km
AT-SPBD10-14	100BASE-LX GbE Bi-Di (1490nm Tx, 1310nm Rx) fiber up to 10km
AT-SPLX40	100BASE-LX GbE single-mode 1310nm fiber up to 40km
AT-SPZX80	100BASE-ZX GbE single-mode 1550nm fiber up to 80km

## 10GbE XFP Modules

Module	Description	Specifics
AT-XPSR	10GBASE-SR	850nm Short-haul, 300m with MMF
AT-XPLR	10GBASE-LR	1310nm Medium-haul, 10km with SMF
AT-XPER40	10GBASE-ER	1550nm Long-haul, 40km with SMF

## About Allied Telesis

Allied Telesis is part of the Allied Telesis Group. Founded in 1987, the company is a global provider of secure Ethernet/IP access solutions and an industry leader in the deployment of IP Triple Play networks over copper and fiber access infrastructure. Our POTS-to-10G iMAP integrated Multiservice Access Platform and iMG intelligent Multiservice Gateways, in conjunction with advanced switching, routing and WDM-based transport solutions, enable public and private network operators and service providers of all sizes to deploy scalable, carrier-grade networks for the cost-effective delivery of packet-based voice, video and data services.

Visit us online at [www.alliedtelesis.com](http://www.alliedtelesis.com).

## Service and Support

Allied Telesis provides value-added support services for its customers under its Net.Cover programs. For more information on Net.Cover support programs available in your area, contact your Allied Telesis sales representative or visit our website.

## RoHS

Allied Telesis RoHS-compliant product conforms to the European Union Restriction of the Use of Certain Hazardous Substances (RoHS) in Electrical and Electronic equipment. Allied Telesis ensures RoHS conformance by requiring supplier Declarations of Conformity, monitoring incoming materials, and maintaining manufacturing process controls.

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