

# FS200 Series

## 2-Port Fast Ethernet Speed/Media Converting Switch



### Extend Networks

FS200 Series switches are the ideal solution when the time comes to upgrade a traditional 10Mbps Ethernet network or extend a 100Mbps Fast Ethernet network. The FS200 Series is designed to extend the distance of the network by converting Fast Ethernet data between twisted pair cabling and single-mode fiber-optic cabling. The FS200 features a 100FX fiber-port and a 10/100TX twisted-pair port.

The fiber-optic port features an SC connector and an operating distance of 2 kilometers (6,561 feet) to 40 kilometers (24.9 miles) depending on the model. The twisted-pair port has an RJ-45 connector with a maximum operating distance of 100 meters (328 feet).

The Allied Telesis AT-FS238 media converter is a 10/100Mbps copper to single-mode fiber media converter which can send and receive on single strand fiber (1310nm TX/1550nm RX) or (1550nm TX/1310nm RX). These units are designed to be used in pairs in a network topology to provide point-to-point access. The AT-FS238 converts 10/100TX (RJ-45) to 100FX (SC) and will transmit up to 15km on high quality fiber optic cable. Both ports feature full- and half-duplex operation. The AT-FS238 is easy to install and does not require software configuration or management. Additionally, it can be used almost anywhere due to its small physical size, choice of external power supplies and rack-mounting options.

### VLAN Support

Many new backbone switch products now support the industry-standard IEEE 802.1Q specification for Virtual LANs (VLANs) that send extra-long data packets on the network. FS200 Series switches are fully compatible with these long packets, enabling them to be used in modern networks. Switches not supporting this feature will discard these extra-long packets, making them unsuitable for modern networks.

### Small and Flexible

The small size and external power supply of the FS200 Series allows them to be used almost anywhere. Additionally, they can be mounted in a chassis along with Allied Telesis media converters, allowing users to construct any mix of network conversions when they add the optional redundant power supply.

### MissingLink™ and Smart MissingLink™ (SML)

The MissingLink feature allows the ports on the media converter to pass the Link status of their connections to each other. When the media converter detects a problem with a port—such as the loss of connection to a node—it shuts down the connection to the other port, thereby notifying the node that the connection has been lost. The Smart MissingLink (SML) feature monitors network connections and provides notification when network segments fail, allowing network managers to quickly identify the source and location of failed segments and minimize downtime.

## Key Features

- ▶ Convert speed as well as media type
- ▶ Auto MDI/MDI-X
- ▶ MissingLink (ML) (AT-FS232 only)
- ▶ Smart MissingLink (SML) (AT-FS232 only)
- ▶ Supports 1532 bytes frame
- ▶ Support for multi-mode and single-mode fiber
- ▶ Supports half- and full-duplex operation
- ▶ 2k MAC address tables
- ▶ Store-and-forward switching mode
- ▶ Transparent to IEEE 802.1Q packets
- ▶ Standalone or rack-mountable
- ▶ Rack-mountable using optional AT-MCR12, AT-TRAY4 or AT-TRAY1 chassis
- ▶ Wall-mountable using AT-WLM
- ▶ DIP switches for port configuration

## FS200 Series | 2-Port Fast Ethernet Speed/Media Converter Switches

### AT-FS201 and AT-FS202

#### Status Indicators

##### System LEDs

Power Indicates power is applied to the converter

##### Per Fiber Port:

Link/Activity Indicates valid/invalid link  
Indicated data is being received or transmitted

Full-duplex/Collision Indicates operation at either full- or half-duplex  
Indicates collision during transmission on the port

##### Per Copper Port:

Link/Activity Indicates valid/invalid link  
Indicates data is being received or transmitted

Full-duplex/Collision Indicates operation at either full- or half-duplex  
Indicates collision during transmission on the port

Auto-negotiation Indicates port is set for auto-negotiation

100M Indicates operation at either 10T or 100TX

#### Operational Characteristics

(Each port can be configured via the following switches)

##### Per Fiber Port:

Duplex Selects either full- or half-duplex operation

Bytes Selects maximum packet size sent by switch (1518 or 1522 bytes)

##### Per Copper Port:

Auto Selects auto-negotiation mode or manual setting

Duplex Forces port to full- or half-duplex operation  
(Auto setting = manual only)

Speed Forces port to 10 or 100Mbps operation  
(Auto setting = manual only)

Bytes Selects maximum packet size sent by switch (1518 or 1522 bytes)

MAC address table 2k addresses

Forwarding/Filtering Rate 148,880pps for 100Mbps  
14,880pps for 10Mbps

Latency 14.3µsec  
(64 byte packet, 100Mbps full-duplex)

#### Operational Mode

MissingLink (ML)

Link Test

### AT-FS232, AT-FS232/1 and AT-FS232/2

#### Status Indicators

##### System LEDs

Power Indicates power is applied to the converter

Mode status Indicates operating mode, MissingLink, Smart MissingLink and Link Test

##### Per Fiber Port:

Link Indicates a valid receive link exists

Duplex Indicates full- or half-duplex operation

Collision Indicates collision during packet transmission on the port

##### Per Copper Port:

Link Indicates a valid receive link exists

Speed Indicates either 10 or 100Mbps operation

Auto Indicates port is set for auto-negotiation

FD/Collision Indicates collision during packet transmission on the port

Indicates full- or half-duplex operation

#### Operational Characteristics

(Each port can be configured via the following switches)

##### Per Fiber Port:

Duplex Selects either full- or half-duplex operation

##### Per Copper Port:

Auto Selects auto-negotiation mode or manual setting

Duplex Forces port to full- or half-duplex operation  
(Auto setting = manual only)

Speed Forces port to 10 or 100Mbps operation  
(Auto setting = manual only)

MAC address table 2k addresses

Forwarding/Filtering Rate 148,880pps for 100Mbps  
14,880pps for 10Mbps

Latency 14.3µsec  
(64 byte packet, 100Mbps full-duplex)

#### Operational Mode

MissingLink (ML)

Smart MissingLink (SML)

Link Test

#### Power Characteristics

Input voltage (auto-ranging)

External power supply 100-120V AC/60Hz,  
220-240V AC/50Hz

Input supply voltage 12vDC +/- 5%

Max current .5

Power consumption 6W

#### Environmental Specifications

Operating temp. 0°C to 40°C (32°F to 104°F)

Storage temp. -20°C to 80°C (-4°F to 176°F)

Relative humidity 5% to 95% non-condensing

Operating altitude 0 to 10,000 feet

#### Physical Characteristics

Dimensions (W × H × D) 10.5 cm × 9.5 cm × 2.5 cm

4.12 in × 3.75 in × 1.00 in

Weight 0.7 lb

#### Electrical/Mechanical Approvals

EMC

FCC Class A

Safety

UL-Cul, CSA/CSA, NRTL, TUV,  
CE compliant

### AT-FS238

#### Status Indicators

##### System LEDs

Power Indicates power is applied to the converter

##### Per Fiber Port:

Link Indicates a valid receive link exists

Duplex Indicates full- or half-duplex operation

Collision Indicates collision during packet

##### Per Copper Port:

Link Indicates a valid receive link exists

Speed Indicates either 10Mbps or 100Mbps operation

Auto Indicates port is set for auto-negotiation

FD/Collision Indicates collision during packet transmission on the port

Indicates full- or half-duplex operation

#### Operational Characteristics

##### Per Fiber Port:

Duplex Selects either full- or half-duplex operation

##### Per Copper Port:

Auto Selects auto-negotiation mode or manual setting

Duplex Forces port to full- or half-duplex operation  
(Auto setting = manual only)

Speed Forces port to 10 or 100Mbps operation  
(Auto setting = manual only)

#### Operational Mode

MissingLink (ML)

Smart MissingLink (SML)

Link Test

Packet buffer 28k per port

MAC address table 8k addresses

Forwarding/filtering rate 148,880pps for 100Mbps

14,880pps for 10Mbps

Latency 14.3µsec  
(64 byte packet, 100Mbps full-duplex)

#### Power Characteristics

Input supply voltage 12vDC or 12-50vDC

Rated currents .5A maximum

Power consumption 24W maximum

#### Environmental Specifications

Storage temp. -20°C to 70°C (-4°F to 158°F)

Operating altitude Up to 3,048 feet

#### Physical Characteristics

Weight 294 g (10.4 oz)

#### Electrical/Mechanical Approvals

CE IEEE 802.3, IEEE 802.3u

Safety UL60950 (cULus), EN60950,  
EN60825 (TUV)

Emission FCC Part 15 Class B, EN55022  
Class B

Immunity EN55024

## FS200 Series | 2-Port Fast Ethernet Speed/Media Converter Switches



### Ordering Information

**AT-FS201-xx**  
2-port Fast Ethernet switch, 10/100TX to 100FX (ST), 2km

**AT-FS202-xx**  
2-port Fast Ethernet switch, 10/100TX to 100FX (SC)

**AT-FS232/y-xx**  
2-port Fast Ethernet switch media converter 10/100TX to 100FX (SC)

**AT-FS238A/1-10**  
2-port single strand fiber media converter, 10/100TX (RJ-45) to 100FX (SC) (1310nm TX/1550nm RX) with 12vDC power supply and distances up to 15km

**AT-FS238B/1-10**  
2-port single strand fiber media converter, 10/100TX (RJ-45) to 100FX (SC) (1550nm TX/1310nm RX) with 12vDC power supply and distances up to 15km

Where y = Multi-mode fiber 2km  
1 single-mode fiber 15km  
2 single-mode fiber 40km

Where xx = 10 AC power supply, US power cord  
20 AC power supply, European power cord  
30 AC power supply, UK power cord  
40 AC power supply, Australian power cord

### Associated Products

**AT-MCR12**  
12-slot AC or DC powered chassis

**AT-TRAY4**  
Mounting tray for up to four devices

**AT-TRAY1**  
Mounting tray for one device

**AT-WLMT**  
Wall-mount for one device