Omnitron Systems Technology, Inc.

FlexSwitch™ 600X

10/100 UTP Switch with Optional Fiber/UTP Plug-In

[Shown with an optional fiber plug-in module 6330]

FEATURES

- 10/100 Layer 2 switch that supports twisted pair (UTP) and, with a plug-in module installed, fiber links to workstations, servers and to other switches.
- Supports 10Base-T/100Base-Tx, 100Base-Fx and IEEE 802.3 specifications.
- Delivers full wire-speed over all ports simultaneously.
- This 16 or 24-port 10/100 switch features an optional expansion slot. Available modules include:
  - 1, 2 or 4 ports of Fast Ethernet fiber
  - 8 ports of 10/100 UTP
- Supports distances up to 58 km for Fast Ethernet fiber.
- Fiber plug-in modules support multimode (MM) or single-mode (SM) fiber, SC or ST connector types.
- Flow control per 802.3x specification.
- Features port management.
- Software-independent.
- Lifetime warranty.

DESCRIPTION

The FlexSwitch™ 600X is a Layer 2 Ethernet switch designed for bandwidth-demanding 10/100 Ethernet and Fast Ethernet departmental workgroup and enterprise applications. It features a variety of plug-in modules including 100Base-Fx and 10/100 Base-Tx.

This 16 or 24-port switch features 10/100 auto-sensing UTP ports that adjust the speed for attached 10Base-T and 100Base-Tx devices. In addition, the FlexSwitch 600X automatically negotiates and provides full-duplex and half-duplex capability on all ports to boost bandwidth. These features allow a seamless migration path to newer technologies.

With optional fiber plug-in modules installed, the FlexSwitch 600X is able to connect remote Fast Ethernet stations, servers and switches. This provides the flexibility for future growth and expansion. Available plug-in modules include 1, 2 or 4-port Fast Ethernet fiber and 8-port 10/100 UTP.

Fast Ethernet fiber ports are available with SC or ST connectors for multimode or single-mode fiber. Distances of 412 m (1,350 ft.) in half duplex and up to 58 km (36 mi.) in full duplex are supported.

Utilizing its 9.6 Gigabit per second (Gbps) internal switching fabric and its store-and-forward technology with 3-Mbyte buffer memory (for a 24-port switch) plus 1 Mbyte for the plug-in module, the FlexSwitch 600X supports a full wire-speed of 148,800 64-byte packets per second simultaneously on all ports.

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As a Layer 2 switch, each port of the FlexSwitch 600X is capable of MAC address learning and aging with support for up to 4,000 MAC addresses, as well as packet filtering and forwarding. It checks all packets and discards illegal or corrupted packets thus providing fragment-free packet forwarding and enhancing the overall network performance.

Using the 802.3x advanced flow control specification, the FlexSwitch 600X controls the flow of data in order to ensure data integrity.

Featuring Port Management, this switch has the ability to configure UTP ports to a particular speed (10 or 100 Mbps) or duplex mode (half or full duplex) through the use of switches or serial interface via ASCII terminal or terminal emulator. This feature can be used when the connected device is unable to provide its own mode of operation to the switch.

In addition, integrated storm controls prevent the broadcast flooding of a port or ports on the switch by discarding excessive broadcast packets thus preventing network degradation.

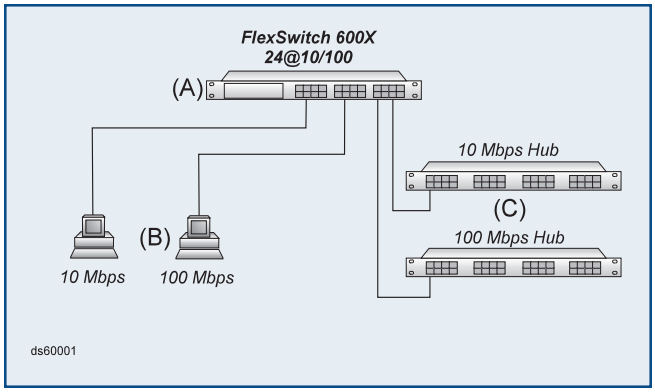
The FlexSwitch 600X provides LEDs that show link status, report activity and 10 or 100 connections on a per-port basis. It also features LEDs that report each port's half/full duplex status and show collision detection on half-duplex ports.

Plug-and-play capable right out of the box, the FlexSwitch 600X requires no user configuration. It provides a crossover MDI/MDI-X switch on selected UTP ports for uplink applications, eliminating the need for crossed cables.

SAMPLE APPLICATIONS

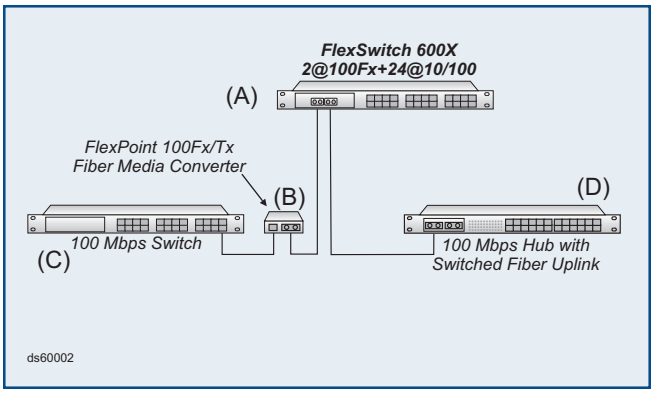
Application 1. Integrated 10/100 Collapsed Backbone

This application shows the integration of Fast Ethernet 100 and legacy Ethernet 10 stations (B) and stand-alone hubs (C) using the FlexSwitch 600X (A) as a collapsed backbone switch. Each copper (UTP) connection is up to the 100 m (328 ft.) per IEEE 802.3 specifications.



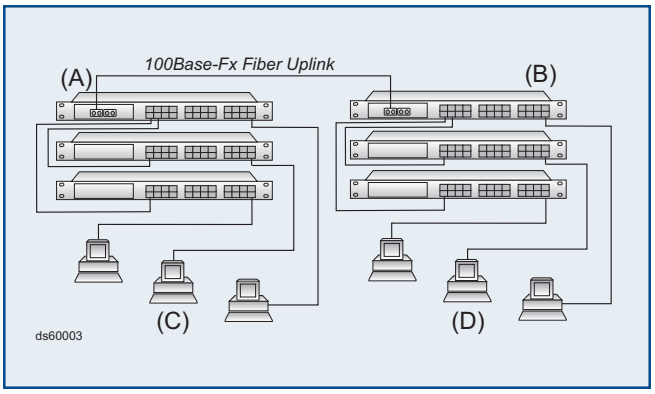
Application 2. Integrated 10/100 Collapsed Fiber Backbone

This application depicts the integration of a 10/100 fiber connected switch (C) and a 10/100 hub with a switched fiber uplink (D). Since all fiber connections are switched and in full duplex, their distances can reach up to 58 km (36 mi.) over single-mode fiber. Note that the 10/100 switch (C) connects to the backbone switch (A) utilizing a Fast Ethernet media converter.



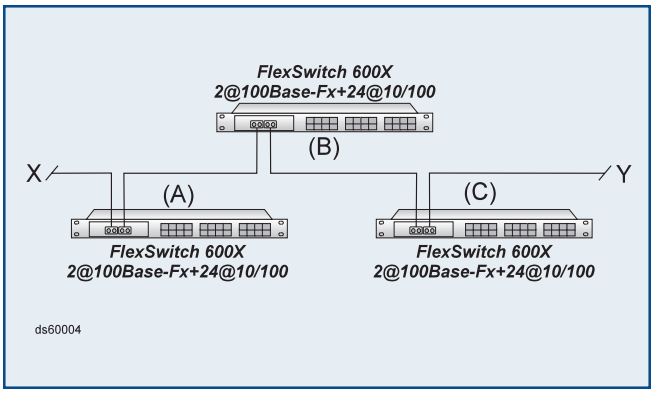
Application 3. Stacked Fast Ethernet Fiber Switches

This application shows connection between large workgroups. It depicts two workgroups each with a stack of three 24-port switches (A & B). The switches and stacks are interconnected using Fast Ethernet uplinks to a main workgroup switch thus providing maximum throughput to each station (C & D).



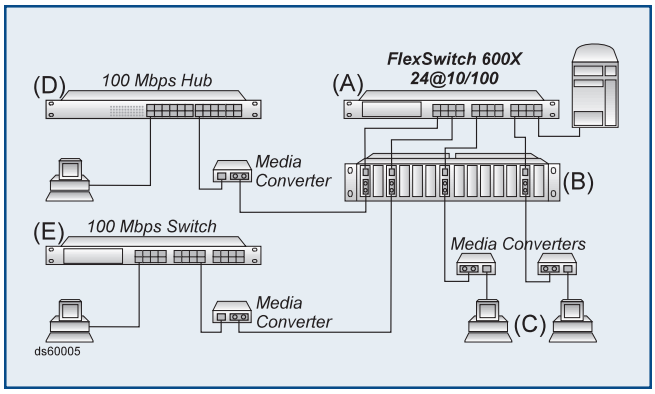
Application 4. Distributed Backbone Application

This application is useful when connecting workgroups across a campus or large facility, especially when a collapsed backbone is not a practical solution or when only a limited amount of fiber is available. In this application the switches are linked using a single pair of fiber between each pair of switches. The advantage of this is that it uses only one pair of fiber between the wiring closets. The disadvantages are that extremely high traffic may cause congestion on the backbone and a single fiber failure may disconnect and segment the network.



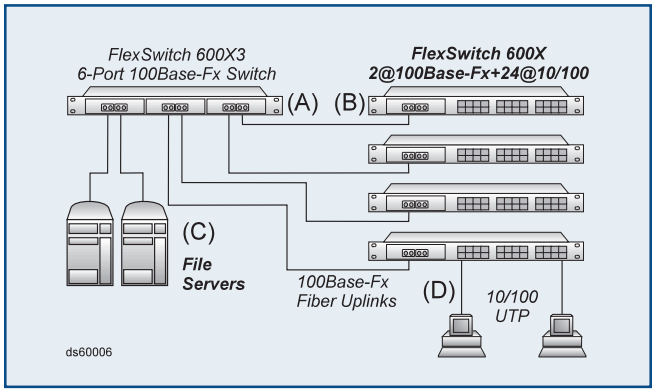
Application 5. Switched Low-Cost Fiber Backbone

This application depicts a fiber backbone utilizing a 10/100 UTP switch (A) and several chassis-based (B) and stand-alone media converters. In this case the UTP lines are converted into fiber and connected to Fast Ethernet stations (C), a Fast Ethernet hub (D) and a Fast Ethernet switch (E). Because of the nature of hubs, the fiber distance is up to 100-200 m (330-660 ft.) depending on the specifications of the hub. The fiber connected switch (D) and stations (C) is capable of reaching distances of up to 58 km (36 mi.).



Application 6. 10/100 Workgroups with Fiber Backbone

This application depicts a typical 10/100 UTP switched workgroup network where a variety of Fast Ethernet and legacy Ethernet workstations are connected to file servers via fiber. In this example, 24-port FlexSwitch 600X switches (B) are used to connect the workgroup stations (D). The workgroup switches are connected via fiber to the 6-port FlexSwitch 600X3 fiber backbone switch (A). The file servers (C) are also connected to the backbone server providing fair access to the servers from all workstations.



SPECIFICATIONS

- Protocol: IEEE 802.3
  - Ethernet: 10Base-T
  - Fast Ethernet: 100Base-Tx, 100Base-Fx (plug-in modules)
  - Flow Control: 802.3x
- Basic Features:
  - MAC Addresses: 4,096
  - Buffer size: 4 MB
- Connectors and Cables:
  - Twisted Pair UTP: RJ45, Category 5 (EIA/TIA 568)
  - Fiber (Plug-Ins): SC or ST
  - Multimode (MM): 50/125, 62.5/125, 100/140 µm
  - Single-Mode (SM): 9/125 µm
- Supported Distances:

Ethernet	Half-Duplex	Full-Duplex
Twisted Pair UTP:	100 m / 328 ft.	100 m / 328 ft.

Fast Ethernet	Half-Duplex	Full-Duplex
Twisted Pair UTP:	100 m / 328 ft.	100 m / 328 ft.
Fiber (Plug-In Modules):		
MM/Lx, 1300 nm:	412 m / 1,350 ft.	2 km / 1.2 mi.
SM/Lx, 1300 nm:	412 m / 1,350 ft.	28 km / 16.8 mi.
SM/Lx/LH, 1300 nm:	412 m / 1,350 ft.	58 km / 36 mi.

- LED Indicators

Function	Color & Description
UTP:	Green/yellow
Yellow On:	10
Green On:	100
Flashing:	Activity detected
Fiber:	Link/activity green
Off:	No link detected
Green On:	Link detected
Flashing:	Activity detected
Full/Half Duplex:	Green
Off:	Set to half duplex
On:	Set to full duplex
Flashing:	Collision detected

- Dimensions/Weight: W:19.0”xD:8.0”xH:1.75” / 7 lb.
- Power: 110/230 VAC, 50/60 Hz, 300 mA
- Temperature:
  - Operating: 0 to 50 degrees C
  - Storage: -40 to 75 degrees C
- Humidity: 0-90% (non-condensing)

ORDERING INFORMATION

Enclosure Types:	Model #	Description
	6000	FlexSwitch 600X, 24 10/100 UTP Ports, No Expansion Slot
	6010	FlexSwitch 600X, 16 10/100 UTP Ports, No Expansion Slot
	6100	FlexSwitch 600X, 24 10/100 UTP Ports, One Expansion Slot
	6110	FlexSwitch 600X, 16 10/100 UTP Ports, One Expansion Slot

Plug-In Modules:		SC Connector Model #			ST Connector Model #			RJ45 Model #
Cable Type	**Distance**	**1 Port**	**2 Ports**	**4 Ports**	**1 Port**	**2 Ports**	**4 Ports**	**8 Ports**
Multimode Fiber Lx 1310 nm	2 km	6310-0	6320-0	6330-0	6311-0	6321-0	6331-0	
Single-Mode Fiber Lx 1310 nm	28 km	6310-2	6320-2	6330-2	6311-2	6321-2	6331-2	
Single-Mode Fiber Lx 1310 nm Long-Haul	58 km	6310-3	6320-3	6330-3				
10/100 UTP Copper	100 m							6300

Note: For other configurations, consult factory.

Lifetime Warranty

7x24 Tech Support

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