

SNMP Manageable 10/100 Mbs Ethernet Multi-Media Workgroup Switches



Illustrated: One and two fiber port SNP Manageable 10/100 Mbs Ethernet Multi-media Switches

The CMX-4011/4012 (one Fiber optic port) and CMX-4021/4022 (two fiber optic ports) series of Managed Multi-media Switches was especially developed as work-group switches for small and medium sized businesses with the added capability of linking remote users over Fiber Optic links. They are ideal for home-office networks and when combined with MDU (Multiple Dwelling Unit) equipment, provide economical home access to centrally or metro-supplied Ethernet services. Thus, fiber cabling can be directly supplied to the user's home (FTTH), providing him ample speed and bandwidth for a personal local area network.

Integrated MDI/MDI-X auto-crossover and 10/100 auto-negotiation capabilities make CMX-40XX deployments simple.

Flexible connections ... a simple, economic solution.

**CMX-40XX Series
Managed
Multi-Media Switches**

**CMX-401X
Single Fiber
Optic Port**

**CMX-402X
Dual Fiber
Optic Ports**

Features:

**SNMP and Web
Management Ready**

**Loopback
Test capability**

**Link Fault Signaling
capability for
fault tolerance**

**Work group switches
for small and medium
sized applications**



Product Specifications

Performance

- Max. Distance:
Twisted Pair: 100 m (330 ft)
Fiber Optic: Up to 60,000 m (198,000 ft)
- Address Table: 2K MAC entries
- Frame buffer: 1Mbit
- Flow Control: Back pressure for half-duplex, IEEE 802.3x Flow Control for full-duplex
- Managed Ports:
Out-of-Band: One RS-232 (DB-9-pin, male, 38400-N-8-N)
In-Band: via RJ-45 ports

Network Management

- System Configuration: Console port, Telnet, Web browser, SNMP
- Management Agent: SNMP Support: MIB II and Canary's Private MIB
- VLAN: Port-based VLAN registration

SNMP Standards

- RFC 1213, MIB II, Canary Proprietary MIB

Standards and Compliance

- IEEE 802.3: 10BASE-T specification
- IEEE 802.3u: 100BASE-TX and 100BASE-FX specification
- IEEE 802.3x: Flow control for Full-Duplex on 10BASE-T and 100BASE-TX ports
- IEEE 802.1p: Class of Service
- IEEE 802.Q: VLAN Tagging
- IEEE 802.1D: Spanning-Tree Protocol

Power Supply

- Power: Input: 90 / 240 VAC, (47 ~ 63 Hz)

Warranty:

- Three (3) Years, parts and labor

Manageable Ethernet Multi-Media Switches

Environmental Characteristics

- Temperature:
Operating: 0° to 50° C (32° to 122° F)
Storage: -20° to 65° C (-4° to 149° F)
- Humidity:
Operating: 10% to 80% RH
(non-condensing)
Storage: 5% to 90% RH

Physical Characteristics

- Width: 10.55" (26.8 cm)
- Depth: 5.00" (12.8 cm)
- Height: 1.73" (4.4 cm)

Electromagnetic Compatibility

- Emissions: FCC Part 15 of Class A CE approved

The pages that follow provide ordering information for Canary's SNP Manageable 10/100 Mbs Ethernet Multi-Media Workgroup Switches:

- **One Fiber Port Series**
CMX-4011, 4012, 4011S, 4012S
- **Two Fiber Port Series**
CMX-4021, 4022, 4021S, 4022S

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SNMP Manageable 10/100 Mbs Ethernet Multi-Media Switches

CMX-40XX series – One and two Fiber Ports

The CMX-40XX series is SNMP and Web Management ready, enabling managers to remotely monitor networked connections quickly and easily via the RJ-45 and Fiber (in-band) or serial RS-232 (out-of-band) ports. Standard single-mode and Extended-Reach single-mode connectors are available that can extend enterprise LAN management and configuration to a range of 60 km. Single-Fiber Bi-Directional fiber optic connectors can be installed as special order. CMX-40XX switches are designed to be “plug-and-go” if management is unneeded.

With full SNMP and Web Management, Loopback Test capability, and Link Fault Signaling (LFS), the CMX-40XX series are highly efficient additions to networks that require managed services across the network.

The two Fiber port models (CMX-402X), in conjunction with LFS and the IEEE 802.1D Spanning Tree protocol, enable parallel Fiber link redundancy. When a disruption in the primary link takes place, the CMX-402X will redirect data along the redundant Fiber link until the primary link is restored, ensuring 'always on' connectivity.

Integrated MDI/MDI-X auto-crossover and 10/100 auto-negotiation capabilities make CMX-40XX deployments simple.

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- SNMP management application software is (HP Open View® and IBM/Tivoli NetView®) capable
 - Console Port and Telnet with both CLI (Command Line Interface) and Menu driven user interfaces
 - Supports in-band, serial out-of-band and Web-based management
 - Menu-driven management for Web browser user interface
 - Management TFTP firmware upgradeable
 - Supports 2K MAC address table entries
 - Store and forward switching technology
 - Per port IEEE 802.Q VLAN Tag support
 - IEEE 802.3x flow control under full-duplex
 - Back-pressure flow control under half-duplex
 - Full array of status and diagnostic LED indicators
 - 1MB RAM (frame) buffer with non-blocking architecture
 - Loopback Test (LBK) for instant connectivity confirmation
 - Bi-directional, Single-Fiber connectors available as special order
 - Automatic MDI/MDI-X selection and 10/100 Auto-negotiation on RJ-45 ports
 - Low power consumption design: Internal Auto-sensing 90 – 240 VAC power supply
 - Link Fault Signaling (LFS) forwards 'lost link state' to the next station, to force a Spanning Tree response
 - FCC Class A and CE approved
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SNMP Manageable 10/100 Mbs Ethernet Multi-Media Switches

CMX-40XX series – One and two Fiber Ports

Fiber Port Specifications

Model Numbers	Min. Tx PWR	Max. Tx PWR	Rx Sensitivity	Min. PWR Budget	Max. PWR Budget	Max. Input PWR	Connector Type	Wavelength (nm)	Transmit Distance
CMX-4011 & CMX-4021	-20.0 dBm	-14.0 dBm	-31.0 dBm	11.0 dB	17.0 dB	-8.0 dBm	SC	1310 nm	2000 m
CMX-4012 & CMX-4022	-20.0 dBm	-14.0 dBm	-31.0 dBm	11.0 dB	17.0 dB	-8.0 dBm	ST	1310 nm	2000 m
<i>Specifications above in blue are for multi-mode, fiber connectors. Specifications below for single-mode, fiber connectors.</i>									
CMX-4011S & CMX-4021S	-15.0 dBm	-8.0 dBm	-34.0 dBm	19.0 dB	26.0 dB	-7.0 dBm	SC	1310 nm	30 Km
CMX-4012S & CMX-4022S	-15.0 dBm	-8.0 dBm	-34.0 dBm	19.0 dB	26.0 dB	-7.0 dBm	ST	1310 nm	30 Km
CMX-4011E5 & CMX-4021E5		-5.0 dBm	0.0 dBm	-35.0 dBm	30.0 dB	35.0 dB	0.0 dBm	SC	1310 _m
50 Km									
*NOTE 1: Manageable CMX-XXXX models can be ordered with Long-Reach single-mode and Single-Fiber Bi-Directional single-mode fiber connectors. For special order, contact Canary for information.									

Ordering Information

Model Numbers	Product Description	Number of UTP Ports	Number of Fiber Ports	Fiber Connector	Transmit Distance
CMX-4011	Web/SNMP/Serial - Managed 5-port Multi-media Switch with one m/m SC Fiber port	(4) RJ-45	One m/m	(1) SC	2000 m
CMX-4012	Web/SNMP/Serial - Managed 5-port Multi-media Switch with one m/m ST Fiber port	(4) RJ-45	One m/m	(1) ST	2000 m
CMX-4011S	Web/SNMP/Serial - Managed 5-port Multi-media Switch with one s/m SC Fiber port	(4) RJ-45	One s/m	(1) SC	30 Km
CMX-4012S	Web/SNMP/Serial - Managed 5-port Multi-media Switch with one s/m ST Fiber port	(4) RJ-45	One s/m	(1) ST	30 Km
CMX-4021	Web/SNMP/Serial - Managed 5-port Multi-media Switch with two m/m SC Fiber ports	(4) RJ-45	Two m/m	(2) SC	2000 m
CMX-4022	Web/SNMP/Serial - Managed 5-port Multi-media Switch with two m/m ST Fiber ports	(4) RJ-45	Two m/m	(2) ST	2000 m
CMX-4021S	Web/SNMP/Serial - Managed 5-port Multi-media Switch with two s/m SC Fiber ports	(4) RJ-45	Two s/m	(2) SC	30 Km
CMX-4022S	Web/SNMP/Serial - Managed 5-port Multi-media Switch with two s/m ST Fiber ports	(4) RJ-45	Two s/m	(2) ST	30 Km
*NOTE 1: Manageable CMX-XXXX models can be ordered with Long-Reach single-mode and Single-Fiber Bi-Directional single-mode fiber connectors. For special order, contact Canary for information.					
More versions of the CMX-XXXX series may be found on the Canary web site as they become available.					

