iMcV-Giga-FiberLinX-III

DS-iMcV-Giga-FiberLinX-III-1713

SNMP-MANAGEABLE OPTICAL ETHERNET DEMARCATION UNIT/MEDIA CONVERTER 10/100/1000 MBPS ETHERNET

A Feature-Rich Optical Demarcation Device Combining Media Conversion with Carrier Grade Delivery of Transparent LAN Services.

Features and Benefits

Secure and Flexible Solution

- Single-wide module allows maximum use of all slots in a multi-port chassis
- Provides up to 64 VLANs
- Preserves complete end-to-end fiber connection and data integrity via SNMP management
- IEEE 802.1Q VLAN and 802.1p QoS compliant
- Provider Tagging, 802.1ad
- SFP connectors available on some models, for copper and fiber SFPs
- Supports Link Fault Pass Through (LFPT)

Features and Functionality

- 3 Modes of Operation
- Supports 802.3ah OAM (Operation, Administration & Management)
- Supports 802.1ag
- Provider Tagging with flexible Ethertype Tag
- Bi-directional bandwidth control
- Allows remote configuration
- All management traffic remains isolated from the remote LAN
- VLAN-tagging and Q-in-Q (Extra- Tagging) segregates customer traffic

Minimizes Networking Costs

- Avoids unnecessary service calls
- Single wide module reduces cost per slot in a multiport chassis

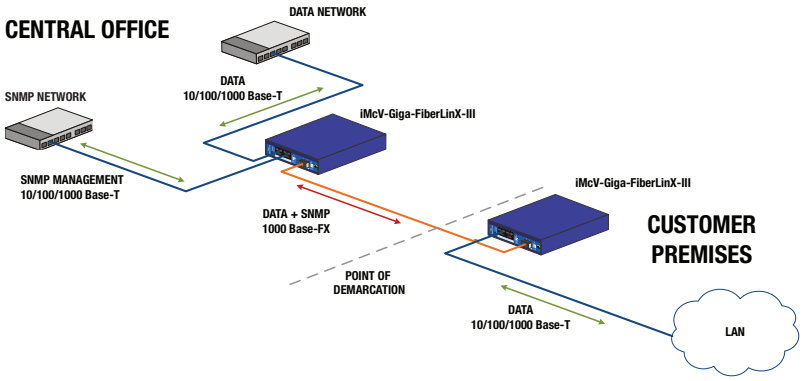
The iMcV-Giga-FiberLinX-III media converter solution connects a host/remote network over fiber optics with bandwidth up to 1000 Mbps over both the Copper and the Fiber Ports. Building on the success of the iMcV-GigaFiberLinX-III, the iMcV-Giga- FiberLinX-III offers 10/100/1000 Mbps Ethernet, an advanced-feature set for network management and troubleshooting functions, including Extra-Tagging functionality, OAM, and most importantly now offered as a single-wide module.

With the iMcV-Giga-FiberLinX-III, administrators can observe the end-points, and the fiber link between them, as single management entities and not as separate elements. Host management traffic is not visible to the remote or customer network nor is access to the customer network required, guaranteeing end-to-end data integrity.

iMcV-Giga-FiberLinX-III can send alerts to administrators for any potential problems on the long-haul fiber run, provides vital information on link condition, reports data traffic statistics, and OAM 802.3ah support. Through OAM, the administrator can perform key loopback tests for troubleshooting.

Application Example - Dual iMcV-Giga-FiberLinX-III Solution

When used in pairs, a iMcV-Giga-FiberLinX-III configured as a Host resides at the Cental Office, while another iMcV-Giga-FiberLinX-III, configured as a Remote, installs at the Customer Premises, typically on the network edge where a customer network meets the service provider infrastructure. Via SNMP, iMcV-Giga-FiberLinX-III monitors the entire link and ensures data integrity while remaining isolated and completely transparent to the customer LAN.



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PRODUCT INFORMATION

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VLAN Functionality on iMcV-Giga-FiberLinX-III

Service providers routinely use IEEE 802.1Q Virtual Local Area Network (VLAN) tagging to secure, separate and differentiate customer traffic. iMcV-Giga-FiberLinX-III enables service providers to support multiple VLAN-based applications.

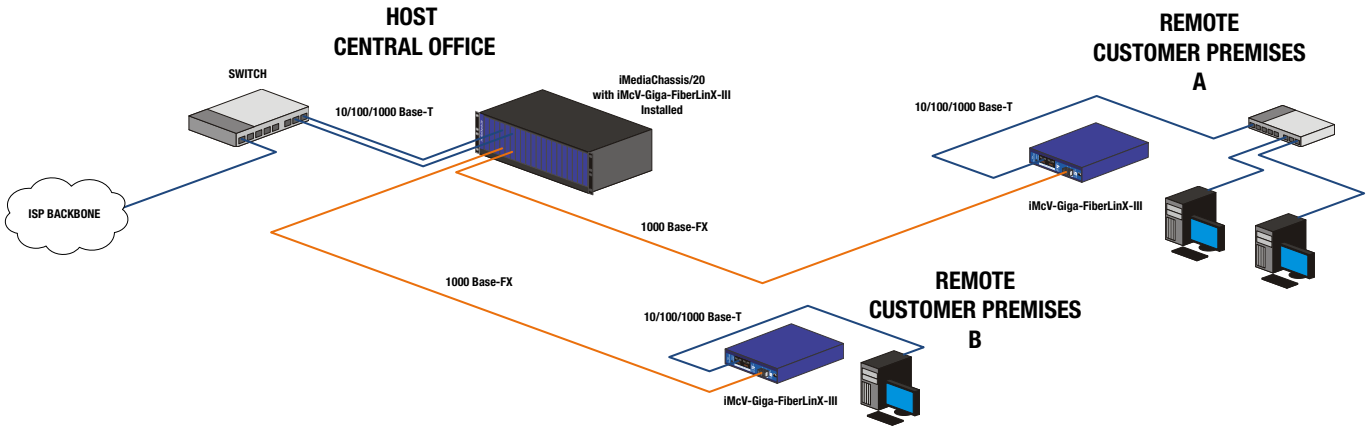
- IEEE 802.1Q VLAN compatible
- Valid VLAN IDs are 1 to 4,094
- Port-based Provider Tagging
- Three Modes of Operation:
  - **Mode One** supports a mixture of tagged and untagged traffic
  - **Mode Two** supports port-based VLAN Xtra tagging
  - **Mode Three** supports VLAN filters
- IEEE 802.1p provides a 2-tier queue for differential prioritization of inbound and outbound traffic. For example, VoIP applications can be assigned a higher priority than data traffic

VLAN Tagging and Extra-Tagging (Mode Two)

Support for 802.1Q VLAN Tagging, 802.1ad Q-in-Q Extra Tagging, also known as Provider Tagging. This mode allows for full flexibility in the definition of the VLAN Tag Ethertype. Additionally, the device can work in a mode in which it translates the VLAN Tag Ethertype, for inclusion in the Network infrastructure. This feature allows the iMcV-Giga-FiberLinX-III to more effectively route network VLAN traffic. Extra tagging simplifies management and configuration efforts for service providers who have customers using a range of VLAN IDs for different applications. Routing guidelines and other traffic rules can be programmed based on the Extra Tag, rather than being programmed for all of the potentially hundreds of individual VLAN IDs. Also, since a service provider's customers control their own internal VLAN settings, the Extra Tag is needed to make sure there is no overlap of VLAN IDs among customers, and to prevent traffic from different customers from becoming mixed. The Extra Tag is removed once the traffic is routed to its correct destination, a process that is transparent to customers.

Application Example - Single Remote Solution

A single iMcV-Giga-FiberLinX-III can be used as a single-solution (CPE) application. Install one iMcV-Giga-FiberLinX-III at the customer's network edge and configure the device as a standalone. Connect the iMcV-Giga-FiberLinX-III to a media converter at the central office or directly to a fiber switch. Manage the iMcV-Giga-FiberLinX-III from the central office.



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SNMP Management Made Easy

iMcV-Giga-FiberLinX-III features an SNMP management agent for monitoring the status and activity on the copper and fiber ports at the remote end. Perform initial setup of the unit and modifications in the field via: iView² SNMP application, Telnet/TFTP, or local serial connection (CLI). iView² is available as a WIN stand-alone version or a web-based Server version, both free and downloadable from the website.

- Enable features and change configuration settings from central office
- Remote upgrades via Telnet/TFTP, serial port or iView²
- Monitor both units and the fiber in between
- Receive real-time monitoring and statistics
- Change bandwidth "on-the-fly" up to 1000 Mbps
- Create a secure management domain to isolate management domain broadcasts from TX Data ports on both units
- User-definable unit/port descriptions and information

Full-Featured iMcV-Giga-FiberLinX-III

From a central location, network operators are able to receive real-time device and traffic statistics on the remote CPE or other devices connected to the remote management port, allocate bandwidth, turn services on or off, initiate loopback testing, change customer VLAN settings and adjust QoS policies assigned to different traffic types. Most options are available through the GUI and an RS-232 console session.

Dedicated Management Port

The EXT MGMT port on the iMcV-Giga-FiberLinX-II provides the ability to physically isolate the management domain from the data domain, allowing users to manage edge devices and beyond while protecting the management domain from unwanted access.

Troubleshooting Features

Link Fault Pass Through and Link indicators (LEDs) assist in diagnosing potential problems on fiber optic networks. Additionally, RMON and IFSTAT statistics are available.

Loopback Testing

Loops back all frames arriving on fiber port (except for the device's management traffic). When in Loopback mode, iMcV-Giga-FiberLinX-III drops the link on the twisted pair port. Additional loopback tests available through OAM.

Bandwidth Limiting

With bandwidth throttling, Network Operators can control customer bandwidth, offering a range of revenue generating services.

Supports the Unified Management Agent (UMA)

The Unified Management Agent (UMA) allows users to manage all iMcV-Giga-FiberLinX-III modules installed in a B&B Electronics' iMediaChassis (and any connected remote modules) with a single IP address from a central location, conserving precious IP addresses. Additionally, UMA allows users to centrally manage and administer firmware upgrades over multiple devices, saving time.

Flexibility

Offering unparalleled flexibility, iMcV-Giga-FiberLinX-III supports multiple fiber types including multi-mode and single-mode as well as single-strand fiber, which can effectively double the capacity of installed fiber. One Gigabit SFP ports available for WAN and LAN side fiber or copper SFP modules (SERDES and SGMII); SERDES (1000 Mbps), SGMII (10/100/1000 Mbps). 100 Mbps or a gigabit fiber SFP can be installed in the SFP Port.

Choose from one of two different versions:

- One Gigabit fixed fiber WAN port, one 10/100/1000 Mbps Twisted pair (RJ-45) LAN port (DATA) and one 10/100/1000 Mbps Twisted pair (RJ-45) LAN port (EXT MGMT)
- One Gigabit SFP WAN port, one 10/100/1000 Mbps Twisted pair (RJ-45) LAN port (DATA) and one 10/100/1000 Mbps Twisted pair (RJ-45) LAN port (EXT MGMT)*

EXT MGMT port is used for segragating management from data traffic. A separate console port on the module, allows the end-user to configure the unit via an RS-232 console session. A Mini-Jack adapter is included with the product to provide the connection.

* The iMcV-Giga-FiberLinX-III provides Auto Negotiation, automatic crossover detection, Full or Half Duplex and selective advertising. The DATA port also features Flow Control in Full Duplex Mode (FDX) and Back Pressure Flow Control.

The iMcV-Giga-FiberLinX-III may be installed as a pair (Host/Remote) or as a standalone unit, connected to another gigabit device.

Technical Specifications

General
- Preserves complete end-to-end fiber connection integrity
- Supports Extra Tagging (Q-in-Q)
- Supports 802.3ah OAM (Operation, Administration & Management)
- Supports 802.1ag
- Bi-directional bandwidth control
- Read/write IEEE 802.1Q VLAN-tags
- QoS: IEEE 802.1p-based packet prioritization (2 queues [high/low] with 8 levels of priority)
- Layer 2 packet switching, store and forward operation
- Forwarding rate: 14,881 pps for 10 Mbps; 148,810 pps for 100 Mbps; 1,488,100 pps for 1000 Mbps
- Features Auto Negotiation and Selective Advertising
- supports up to 64 VLANs operation
- MTU: Supports over-sized (Jumbo) packets up to 10240 bytes

Security
- Password Control
- Multiple Access Levels: User Assigned Accounts & Access Levels

Management
- SNMP V1 and V2c compatible
- Includes GUI-based iView² software for remote management (WIN and WebServer versions)
- Monitors far-end (remote) status without a physical presence or separate connection
- IEEE 802.3x Flow Control
- Includes DHCP and TFTP clients
- Supports Telnet
- Includes loopback test modes (MAC swap)
- Includes Link Fault Pass-Through
- Supports Unified Management Agent (UMA)
- Includes status LEDs

Ethernet Types Supported
- IEEE 802.3ab 1000Base-T twisted pair
- IEEE 802.3z 1000Base-X fiber
- IEEE 802.3x Flow Control
- IEEE 802.3i 10Base-T twisted pair
- IEEE 802.3u 100Base-TX twisted pair

Form Factor:
- Single-wide module

Regulatory Approvals
• FCC Class A • UL/cUL • CE • CSA

Fiber Types Supported
- SFP connector (for fiber or copper)
- 1300 nm multi-mode ST or SC
- 1310 nm single-mode/PLUS ST or SC
- 1310 nm single-mode/LONG ST or SC
- 1550 nm single-mode/LONG SC
- Single-strand fiber
- CWDM Wavelengths (1270 - 1610 nm

Connectors:
- RJ-45, ST or SC and LC (with SFP version)

Shipping Weight:
- 0.3 lbs (0.136 kg)

Environmental
- Humidity: 5% - 95% (non-condensing)
- Operating Temperature: +32° to +122° F (0° to +50° C)
- Storage Temperature: -13° to +158° F (-25° to +70° C)

Power Consumption:
- 731mA at 5V

Ordering Information

PART NUMBER	DESCRIPTION	DISTANCE
iMcV-Giga-FiberLinX-III SFP **		
856-14201	iMcV-Giga-FiberLinX-III, TX/SFP (uses one SFP/1250-ED SFPs)	Various
iMcV-Giga-FiberLinX-III, SX or LX 10/100/1000 Mbps		
856-14205	iMcV-Giga-FiberLinX-III, TX/SX-MM850-SC	220/550 m
856-14206	iMcV-Giga-FiberLinX-III, TX/LX-SM1310-SC	10 km
856-14207	iMcV-Giga-FiberLinX-III, TX/LX-SM1310/PLUS-SC	40 km
856-14208	iMcV-Giga-FiberLinX-III, TX/LX-SM1550/LONG-SC	80 km
856-14209	iMcV-Giga-FiberLinX-III, TX/LX-SM1550/XLONG-SC	100 km
iMcV-Giga-FiberLinX-III Single-Strand Fiber *		
856-14220	iMcV-Giga-FiberLinX-III, TX/SSLX-SM1310-SC (1550 rcv)	15 km
856-14221	iMcV-Giga-FiberLinX-III, TX/SSLX-SM1550-SC (1310 rcv)	15 km
856-14222	iMcV-Giga-FiberLinX-III, TX/SSBX-SM1310-SC (1490 rcv)	10 km
856-14223	iMcV-Giga-FiberLinX-III, TX/SSBX-SM1490-SC (1310 rcv)	10 km
856-14224	iMcV-Giga-FiberLinX-III, TX/SSBX-SM1310/PLUS-SC (1490 rcv)	80 km
856-14225	iMcV-Giga-FiberLinX-III, TX/SSBX-SM1550/PLUS-SC (1310 rcv)	40 km
856-14226	iMcV-Giga-FiberLinX-III, TX/SSLX-SM1310/PLUS-SC (1550 rcv)	30 km
856-14227	iMcV-Giga-FiberLinX-III, TX/SSLX-SM1490/PLUS-SC (1310 rcv)	30 km
856-14228	iMcV-Giga-FiberLinX-III, TX/SSLX-SM1490/LONG-SC (1550 rcv)	70 km
856-14229	iMcV-Giga-FiberLinX-III, TX/SSLX-SM1550/LONG-SC (1490 rcv)	70 km
856-14230	iMcV-Giga-FiberLinX-III, TX/SSLX-SM1490/XLONG-SC (1550 rcv)	80 km
856-14231	iMcV-Giga-FiberLinX-III, TX/SSLX-SM1550/XLONG-SC (1490 rcv)	80 km

PART NUMBER	DESCRIPTION	DISTANCE
iMcV-Giga-FiberLinX-III CWDM Fiber		
856-14240	iMcV-Giga-FiberLinX-III, TX+FX-CWDM-SM1270-SC	40 km
856-14241	iMcV-Giga-FiberLinX-III, TX+FX-CWDM-SM1290-SC	40 km
856-14242	iMcV-Giga-FiberLinX-III, TX+FX-CWDM-SM1310-SC	40 km
856-14243	iMcV-Giga-FiberLinX-III, TX+FX-CWDM-SM1330-SC	40 km
856-14244	iMcV-Giga-FiberLinX-III, TX+FX-CWDM-SM1350-SC	40 km
856-14245	iMcV-Giga-FiberLinX-III, TX+FX-CWDM-SM1370-SC	40 km
856-14246	iMcV-Giga-FiberLinX-III, TX+FX-CWDM-SM1390-SC	40 km
856-14247	iMcV-Giga-FiberLinX-III, TX+FX-CWDM-SM1410-SC	40 km
856-14248	iMcV-Giga-FiberLinX-III, TX+FX-CWDM-SM1430-SC	70 km
856-14249	iMcV-Giga-FiberLinX-III, TX+FX-CWDM-SM1450-SC	70 km
856-14250	iMcV-Giga-FiberLinX-III, TX+FX-CWDM-SM1470-SC	70 km
856-14251	iMcV-Giga-FiberLinX-III, TX+FX-CWDM-SM1490-SC	70 km
856-14252	iMcV-Giga-FiberLinX-III, TX+FX-CWDM-SM1510-SC	70 km
856-14253	iMcV-Giga-FiberLinX-III, TX+FX-CWDM-SM1530-SC	70 km
856-14254	iMcV-Giga-FiberLinX-III, TX+FX-CWDM-SM1550-SC	70 km
856-14255	iMcV-Giga-FiberLinX-III, TX+FX-CWDM-SM1570-SC	70 km
856-14256	iMcV-Giga-FiberLinX-III, TX+FX-CWDM-SM1590-SC	70 km
856-14257	iMcV-Giga-FiberLinX-III, TX+FX-CWDM-SM1610-SC	70 km

ISO 9001:2008 REGISTERED

6-YEAR Comprehensive Warranty

* These products have single-strand fiber technology Deploy in pairs, or connect to another compatible single-strand fiber product.

** SFP modules are sold separately.

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