DATASHEET

IQGBE80

Ethernet Fiber Converter with 8-port Switch

Gigabit fiber media converter modules.

The IQGBE80 from Grass Valley is a gigabit fiber media converter module with an 8-port Ethernet switch occupying a double slot in an IQ modular frame. The RJ45 copper ports are triple-speed auto-negotiating enabling connectivity to 10, 100 or 1000base-T Ethernet devices using standard CAT5 or CAT6 cable assemblies. The fiber interface utilizes an SFP (small form factor pluggable) fiber module receptacle cage compliant with the SFP MSA (Multi Source Agreement). It accepts a single 1000base-T SFP Fiber Transceiver with 1310 nm singlemode laser transmitter and medium sensitivity receiver. A copper SFP option is also available to make the unit an 8-port electrical switch if required.

The IQGBE80 can be used for direct links to other fiber-enabled Ethernet devices or used as part of a system using WDM or CWDM techniques to transport multiple serial digital data streams over a single optical cable.

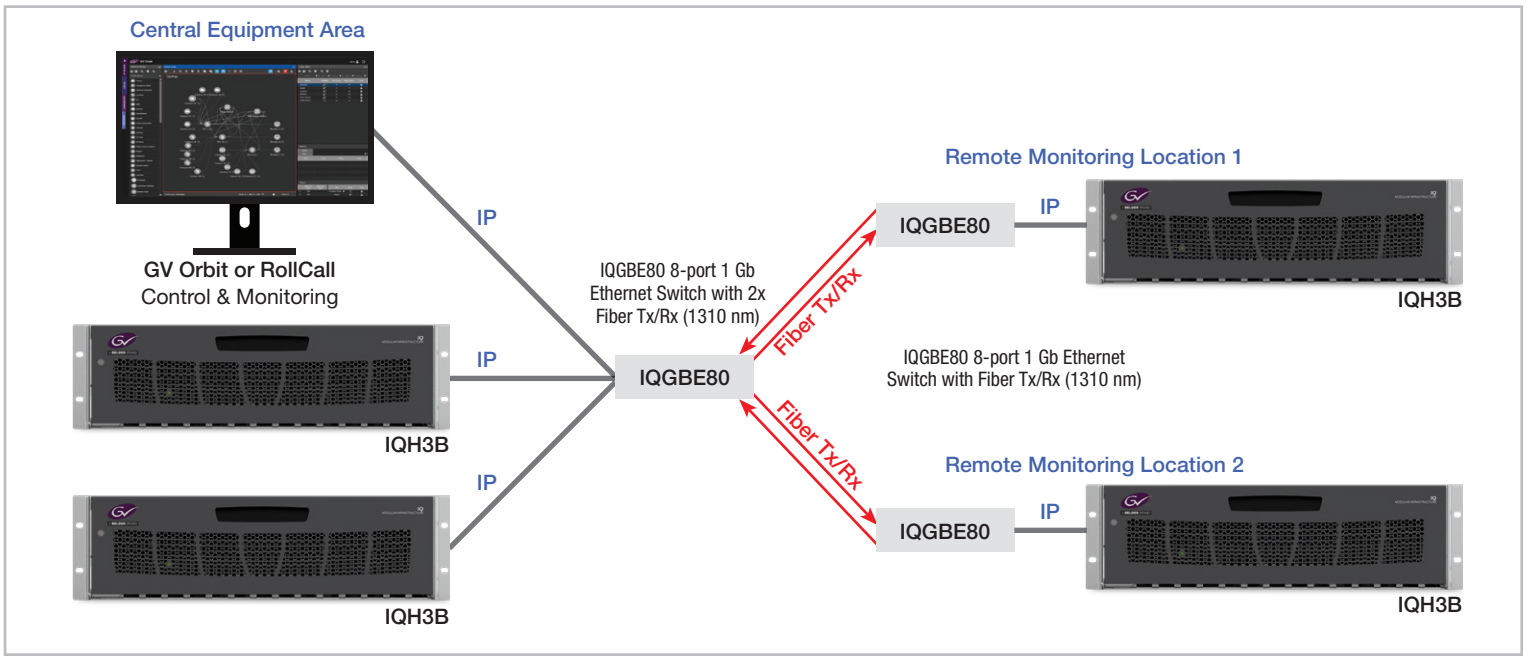
Why should you choose this module?

- Adds network-based devices into fiber links between facilities or sites
- Include RollCall or other network data into existing video fiber links
- Full RollCall and SNMP compatibility allows easy integration with Grass Valley or third-party network management systems, providing an all-inclusive monitoring and control solution

KEY FEATURES

- 8-port Ethernet switch including fiber optic I/O
- 10, 100 or 1000base-T Ethernet operation
- Low-power 1310 nm output wavelengths available, plus copper RJ45 SFP option
- Conforms to IEEE 802.3 wired Ethernet and Fibre Channel FC-PI-2 Rev. 10.0 standards
- Provides typical fiber link distances of 10 km
- Front and rear of card power and port status LEDs
- SFP status monitoring via RollCall

Example Application — Using IQGBE80 to link communications between central and remote locations:



SPECIFICATIONS

Inputs and Outputs

Signal Inputs and Outputs

Electrical Ethernet:
- 6 (up to 8 with copper SFPs)

Connector/format:
- RJ45, CAT 5, 6, 7 electrical interfaces
- LC singlemode optical interfaces

Conforms to:
- IEEE 802.3 electrical interfaces
- FC-PI-2 Rev. 10.0 optical interfaces

Cable length:
- Up to 100m for 1000base-T (electrical interfaces)
- Up to 80 km 1000base-X, depending on SFP and cable (optical interfaces)

Controls

Indicators

Power: OK (Green)

CPU: OK (Green flashing)

Per channel:
- Link: Link Up (Green)
- Rate: 10 Mb/s (Yellow), 100 Mb/s (Green), 1000 Mb/s (Blue)

RollCall Functions

Port status: Link, Speed, and Connector type

Information window: Port Status

Logging: Port Logging, Name, Link Status, Speed, SFP Logging, Type, Status, Connector, Vendor, Vendor Part Number, Serial Number, Rx Power State, Rx Power, Tx Power State, Tx Power, Wavelength, Laser Bias, Laser Bias State

RollTrack index: Up to 16 RollTrack destinations

RollTrack controls: On/Off, Index, Source, Address, Command, Status, Sending

RollTrack sources: Unused, Link Down, Link Up, Speed None / 10 Mb/s/ 100 Mb/s / 1 Gb/s, SFP 1/2 Not Fitted, SFP 1/2 Fitted, SFP 1/2 Signal LOST/OK, SFP 1/2 RX Pwr FAIL/OK, SFP 1/2 TX Pwr FAIL/OK, SFP 1/2 TX Bias FAIL/OK

Factory default: Resets all module settings to factory specified default values

Module information:
- Reports following module information: Software version, Serial number, Build number, KOS version, Firmware version, PCB version, Uptime, Rear ID, Rear Status, Power Usage

General Specifications

1310 nm Standard Haul Transceiver (FGAN FC1-10KGB-13T)

Tx:
- Wavelength: 1310 nm
- Spectral width (FWHM): 3 nm
- Output power: -9.5 dBm (min), -3 dBm max
- Extinction ratio: 9:1 (min)
- Transmission distance: 10 km* (at 0.55 dB/km loss, dispersion limited per FC-PI-2 Rev.10)

Rx:
- Average Rx sensitivity: -19 dBm (max)
- Optical center wavelength: 1265 nm – 1600 nm
- LOS De-assert: -19 dBm
- LOS assert: -30 dBm
- LOS hysteresis: 0.5 dB

Copper Interface Transceiver (FGAN FC1-GBE-CTS)

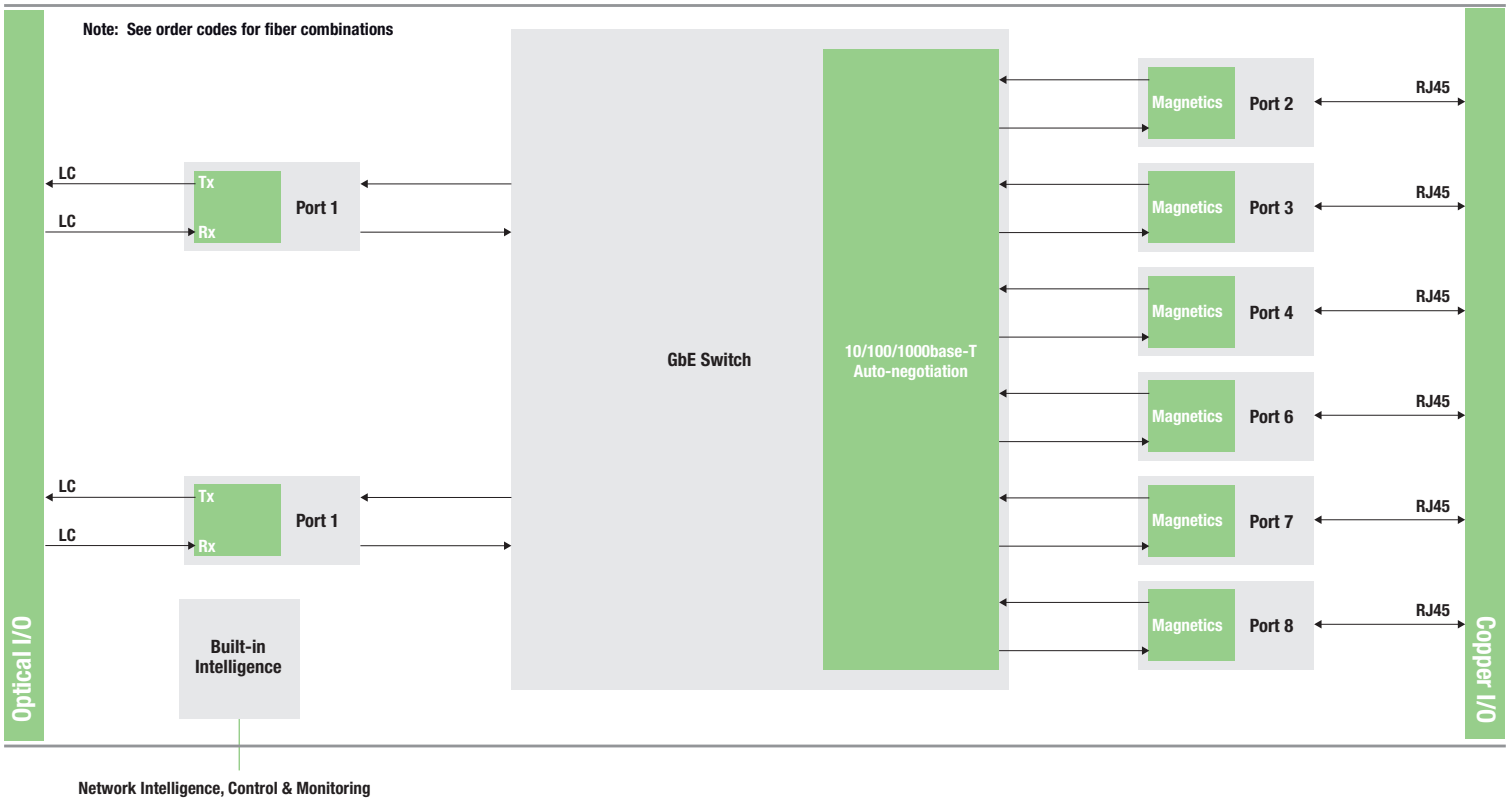
Standard IEEE 802.3 interface

Only operates at 1000base-T

Power Consumption

Module power consumption: 6.3W max

* Actual transmission distances depend on type of fiber, data rate and receiver sensitivity as well as other system components.

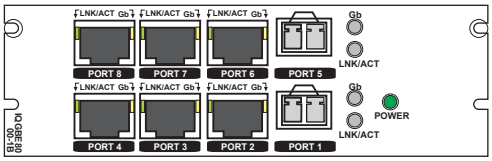


Block Diagram for IQGBE8000-2B.

ORDERING

IQGBE8000-2B

Ethernet fiber converter with 8-port switch. 6 copper Ethernet I/O, 2 Optical I/O.



SFP Options

FC1-10KGB-13T — 1310 nm SFP Transceiver, 10 km typical on 9/125 µm SMF

FC1-GBE-CT5 — Copper Ethernet RJ45 SFP Transceiver

Note: SFP type must be ordered in addition to the module.

For more details on enclosure types please refer to the IQ Modular Enclosures datasheet.