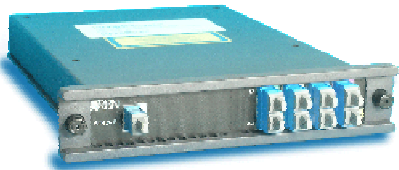# RBNi GigaEdge 6140™

Environmentally Hardened, Single Fiber Working (SFW), 4-Channel Mux/DeMux Plug-in Module, offers a low cost, passive, CWDM solution for Point-to-Point and Hubbed-Ring Applications.

KEY FEATURES

♦ Cost-effective CWDM technology

♦ Low Optical Insertion Loss

♦ Mux/Demux 8 Wavelengths into 4 bi-directional CWDM channels on a single fiber strand

♦ Duplex SC connectors for simple GBIC client interfacing

♦ Simplex SC connectors for CWDM line-side

♦ Standard Color Coded for ease of installation and troubleshooting (Brown=1611nm; Grey=1471nm)

♦ Scales easily from point-to-point to large ring networks using 6110 passive and 8200 active drops

♦ Reliable passive WDM optical technology

♦ Low-profile modular design - fits in 1RU 19" rack mount chassis

♦ Wide operating Temperature range option (-40ºC to +85ºC)

♦ Deployable anywhere – CO, OSP Cabinet, Underground Vault, Basement or Computer Room

The GigaEdge 6140 Plug-in Module is a passive optical multiplexer/demultiplexer designed for metro access applications that represents the state of the art in fiber optics design. The 6140 Module multiplexes and demultiplexes four bi-directional CWDM wavelength channels to/from one fiber strand. A grid of eight CWDM wavelengths is used in the 1471nm to 1611nm band, in compliance with the ITU-T G.694.2 standards. This SFW design allows the creation of cost-effective bidirectional point-to-point links or as a hub-node for protected ring networks where there is fiber exhaust or where the lowest fiber leasing cost is required.

Applications include Enterprise, Storage Area Networks, low-cost Inter-Office Carrier Networks and Outside Plant (OSP) Carrier Networks for Next Generation IP/DSLAMs.

The GigaEdge 6140 Module is available in four variants. There are West and East variants (6140-W and 6140-E) with Standard and Environmentally Hardened (EH) variants of each. The standard 6140-X variants operate over the temperature range 0ºC to +70ºC. The hardened 6140-X-EH variants operate over the temperature range -40ºC to +85ºC.

Wavelengths corresponding to four bi-directional CWDM channels (Ch1 - Ch4) are paired according to the GigaEdge 8200 wavelength plan which has been optimized for maximum transmission distance taking wavelength-dependent G.652 fiber losses and dispersion penalties into account. The GigaEdge 6100 series SFW filter modules can thus utilize the 4-channel 3R regeneration capabilities of the 8200 to enable much larger CWDM network sizes and lossier fibers and splices than is possible in traditional passive CWDM networks.

On the line side, the 6140-W multiplexes four CWDM wavelengths in the band 1551nm to 1611nm and demultiplexes four CWDM wavelengths in the band 1471nm to 1531nm. Similarly, the 6140-E multiplexes four CWDM wavelengths in the band 1471nm to 1531nm and demultiplexes four CWDM wavelengths in the band 1551nm to 1611nm.

On the tributary side of the GigaEdge 6140, colored duplex CWDM interfaces connect over short or long distances (subject to link margin) to any of RBN's or other approved vendor's CWDM transceivers (SFP, GBIC or custom) which are fitted to the client equipment.

Each tributary port of the 6140 Module is color coded (using the EIA resistor color code) to match the transmit wavelength of CWDM transceivers. This allows ease of installation and troubleshooting without having to remove the transceiver from the client equipment.

The 6140 Module plugs into one half of a 1RU, 19" rack mount chassis (GigaEdge 6010) for simple installation and modularity. This Chassis based system adds CWDM capability to any existing network equipment that supports G.694.2 compliant SFP or GBIC interfaces, such as: RBN's GigaEdge 2330 Mini-MSPP; an IP/DSLAM; FC Switch; GbE Switch; or Router.

Front Panels
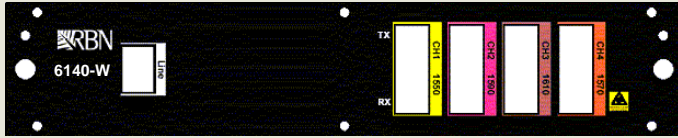
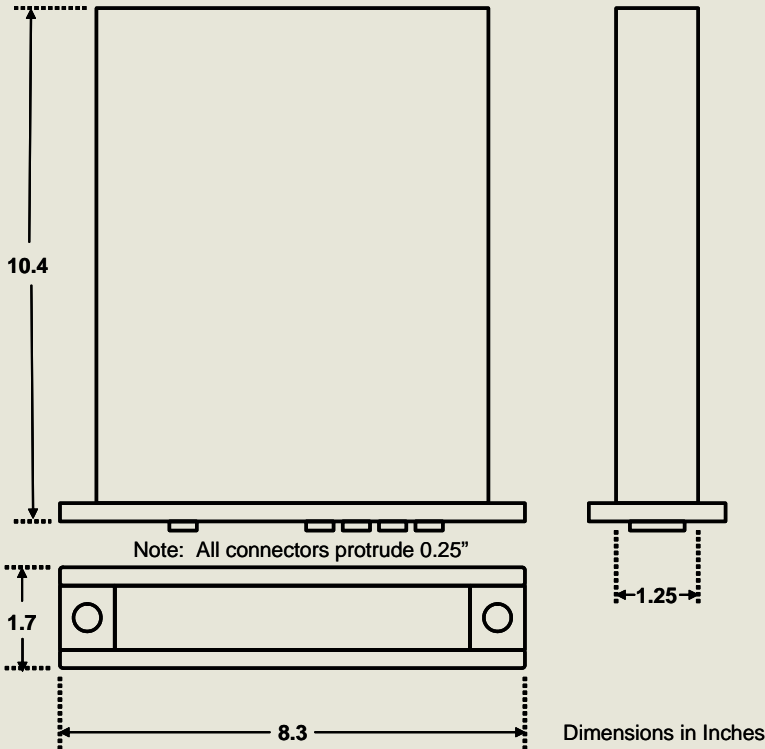**6140-W**

6140-E

RBNi GigaEdge 6140™ Specifications

MECHANICAL

Connectors:
Network side: 1   Simplex   SC/PC
Client side: 4   Duplex   SC/PC

Dimensions:
8.3" x 1.7" x 10.4" (W x H x D)
211mm x 43mm x 264mm
Plug-in for 1RU rack-mount

10.4

Note: All connectors protrude 0.25"

1.7

←1.25→

8.3

Dimensions in Inches

OPTICAL

Center Wavelengths Ch X - Tx / Rx:

6140-W and 6140-W-EH

- Ch1 - 1551 nm / 1531 nm
- Ch2 - 1591 nm / 1471 nm
- Ch3 - 1611 nm / 1511 nm
- Ch4 - 1571 nm / 1491 nm

6140-E and 6140-E-EH

- Ch1 - 1531 nm / 1551 nm
- Ch2 - 1471 nm / 1591 nm
- Ch3 - 1511 nm / 1611 nm
- Ch4 - 1491 nm / 1571 nm

Tx	W	E
Ch1	1551	1531
Ch2	1591	1471
Ch3	1611	1511
Ch4	1571	1491

Insertion Loss (Centre λ ±6.5 nm Passband)
Mux: < 3.0 dB
Demux: < 3.0 dB

Isolation (Centre λ ±6.5 nm Passband)
Mux: > 30 dB
Demux: > 30 dB

Connector Losses Included

Directivity:
< -50 dB
Return Loss:
> 45 dB
PDL:
< 0.2 dB
PMD:
< 0.2 ps
Passband Ripple:
< 0.5 dB

ENVIRONMENTAL

Temperature Range:
Operating: 0ºC to +70ºC (Standard Version)
Operating: -40ºC to +85ºC (EH - Hardened Version)
Storage: -40ºC to +85ºC (All Versions)

743-000-013/1

www.rbni.com