RBNi GigaEdge 6110™

Environmentally Hardened, Single Fiber Working (SFW), 1-Channel Protected OADM Plug-in Module, offers a low cost, passive, CWDM solution for Linear and Ring Applications.

KEY FEATURES

- Cost-effective CWDM technology
- Low Optical Insertion Loss
- Mux/Demux 2 Wavelengths into a west or east bi-directional CWDM channel on a single fiber strand
- Duplex SC connectors for simple GBIC client interfacing
- Simplex SC connectors for CWDM line-sides
- Standard Color Coded for ease of installation and troubleshooting (Brown=1611nm; Grey=1471nm)
- Scales easily from small to large linear & 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 6110 Plug-in Module is a passive Optical Add/Drop Multiplexer (OADM) designed for metro access applications that represents the state of the art in fiber optics design. The 6110 Module add/drops two CWDM wavelengths (1-Channel) from west and east line ports and passes the other CWDM channels. This OADM Module is transparent to the1310 nm wavelength, thus supporting legacy 1310 nm traffic or a 1310 nm Optical Supervisory Channel (OSC) such as used by the GigaEdge 8200 LR CWDM Module.

This SFW design allows the creation of cost-effective bidirectional linear and 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 6110 Module is available in eight variants. There is one variant for each of four bi-directional CWDM channels (6110-1, 6110-2, 6110-3 and 6110-4) with Standard and Environmentally Hardened (EH) variants of each OADM module. The standard 6110-X variants operate over the temperature range 0ºC to +70ºC. The hardened 6110-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.

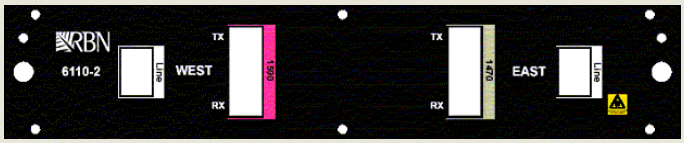
Each 6110-X Module comprise a west line port, an east line port, a west tributary port and an east tributary port. The 6110-X Module adds and drops bi-directional CWDM Channel-X from the west tributary port to/from the west line port and also adds/drops a client protected bi-directional CWDM Channel-X from the east tributary port to/from the east line port.

On the tributary side of the GigaEdge 6110, 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 6110 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.

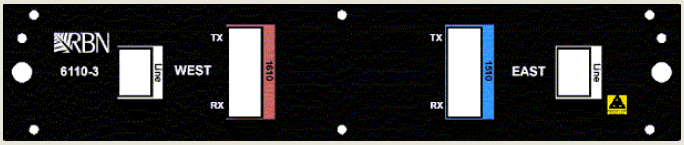
The 6110-X Module plugs into one half of a 1RU, 19” rack mount chassis (GigaEdge 6010) for simple installation and modularity. Where greater redundancy is required, two 6110-X Modules can plug into a single Chassis, thus providing separate West and East Modules. This Chassis based system adds CWDM capability 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

6110-1



6110-2



6110-3

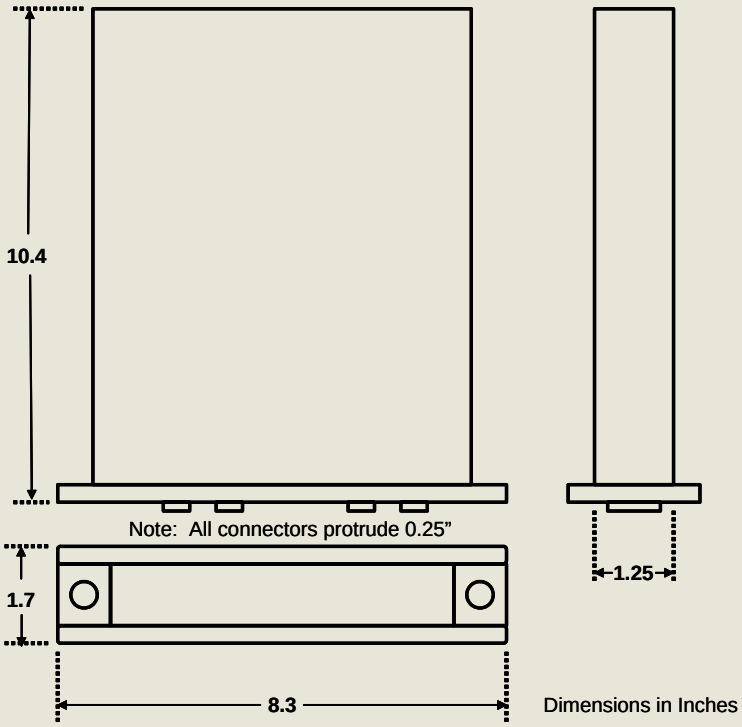
6110-4

RBNi GigaEdge 6110™ Specifications

MECHANICAL

Connectors:
Network side: 2 Simplex SC/PC
Client side: 2 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



Dimensions in Inches

OPTICAL

Center Wavelengths Ch X - Tx / Rx:

6110-X and 6110-X-EH (West)

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

6110-X and 6110-X-EH (East)

- 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)
Add: < 1.5 dB
Drop: < 1.5 dB
Express: < 1.5 dB (CWDM Band: 1471 nm to 1611 nm)
Express: < 1.7 dB (1310 nm ± 50 nm)

Isolation (Centre λ ±6.5 nm Passband)
Add: > 30 dB
Drop: > 30 dB
Express: > 30 dB # Connector Losses Included

Directivity:
< -50 dB

Return Loss:
> 45 dB

PMD:
< 0.2 ps

PDL:
< 0.2 dB

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)

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