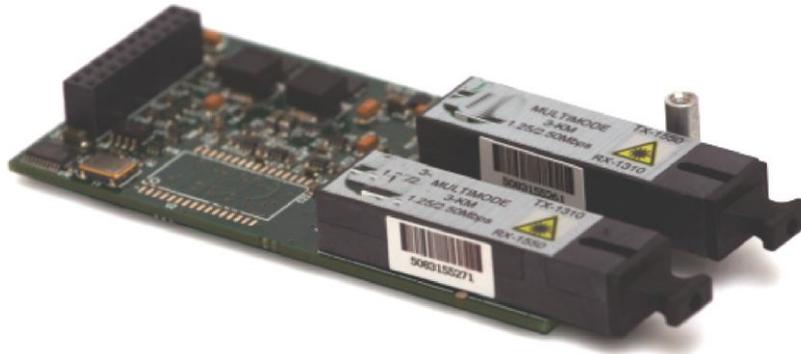




## Next Generation Intelligent Lon<sup>®</sup> Fibre SMX Transceiver



### Quick Installation Notes

This information is to be used in conjunction with the data sheet.

Unit is designed to be compatible with Echelon<sup>®</sup>'s SMX Interface standard as described in their document number 078-0145-01D.

This standard defines a common form factor for transceiver daughter-boards that can be used with a variety of Echelon and other manufacturers LonWorks<sup>®</sup> products. This standard specifies the exact layout of connectors and mounting pillars to support and connect to such transceivers and electrical interface.

### Fibre Port

The SC style Fibre ports must always be connected so that a left port is connected to a right port of the next node in the ring. Segments must obey the same rules; i.e. even if only two nodes are connected, the left port of one must connect to the right port of the next. All connections must be made with multimode or singlemode Fibre optic cable. Minimum use of patch panel connections is recommended, as each patch introduces optical loss.

This next generation Fibre SMX transceiver supports fibre optic networks operating at different throughput speeds of up to 2.50Mbps on the same ring or linear bus automatically. Packet traffic is forwarded only to nodes with matching speed, while



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maintaining maximum network performance. There is an on-board slide switch enabling the node to over-ride speed matching enabling all traffic to be received.

Wave Division Multiplexing (WDM) enables full duplex transmission over a single fibre core.

### Fibre Port Status via on board Neuron

Node status reporting supported via the on-board Neuron as follows:

{Neuron code can be created adapting to customer requirements.}

1. 'Change' in Fibre port i.e. link loss, Link active or port failure causes the node to send current port status out to the network.

'Network Variable' Node Status provided as follows:

#### 1. nvoNetworkStat

- a. {NetworkStat} = logic-0 means fibre network is linear bus not operating redundantly.
- b. {NetworkStat} = logic-1 means fibre network is operating redundantly.

#### 2. nvoLeftPortStat

- a. If {PortFailure} = logic-0 then
  - i. {LeftPortStat} = logic-0 means no Left port fibre link.
  - ii. {LeftPortStat} = logic-1 means Left port fibre link ok.
- b. If {PortFailure} = logic-1 then
  - i. {LeftPortStat} = logic-0 means no Left port fibre failure.
  - ii. {LeftPortStat} = logic-1 means Left port fibre failure.



## Next Generation Intelligent Lon<sup>®</sup> Fibre SMX Transceiver

### 3. nvoRightPortStat

- a. If {PortFailure} = logic-0 then
  - i. {RightPortStat} = logic-0 means no Right port fibre link.
  - ii. {RightPortStat} = logic-1 means Right port fibre link ok.
  
- b. If {PortFailure} = logic-1 then
  - i. {RightPortStat} = logic-0 means no Right port fibre failure.
  - ii. {RightPortStat} = logic-1 means Right port fibre failure.

### 4. nvoPortFailure

- a. {PortFailure} = logic-0 means both fibre ports are operating correctly.
- b. {PortFailure} = logic-1 means one or both fibre ports have failed.

### 5. nviRelayControl

- a. {RelayControl} = logic-0 de-energizes the relay shorting the common to the normally closed.
- b. {RelayControl} = logic-1 energizes the relay shorting the common to the normally open.

### 6. nviRelayEnable

- a. {RelayEnable} = logic-0 disables Neuron access to the relay.
- b. {RelayEnable} = logic-1 enables Neuron access to the relay.



## Next Generation Intelligent Lon<sup>®</sup> Fibre SMX Transceiver

### Fibre Port LED indicators

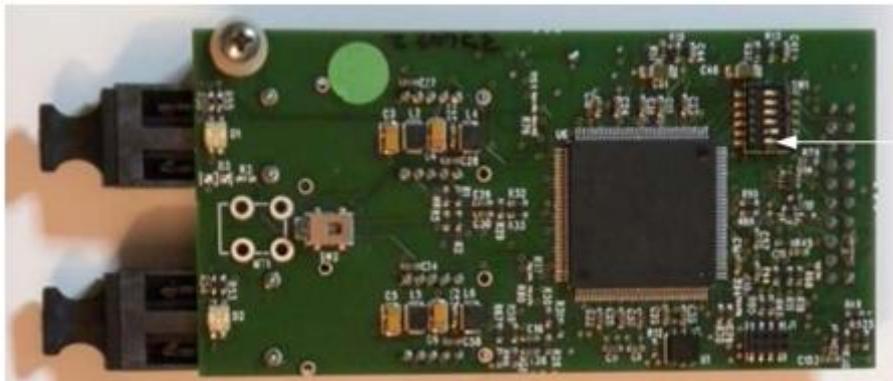
1. 'Solid green' LED means the fibre port is receiving link signals from far node and the fibre network is operating redundantly.
2. 'Solid yellow' LED means the fibre port is receiving link signals from far node and the fibre network is operating as a 'segment' or 'multidrop'.
3. 'Fast Blinking yellow' LED means link loss i.e. no link pulses received from far end node.
4. 'Slow Blinking yellow' LED means port failure i.e. packets received on this fibre port are corrupted, CRC packet errors or no packets received while port is linked.

Neuron fibre Service "Blue" LED indicator. {FSL}

### Fibre Port Speed Setting

The Fibre side speed may be selected to operate at either 1.25Mbps or 2.5mbps via operation of the DIP Switch and in particular Switch 6, as indicated in the picture below by the white arrow.

With Switch 6 positioned nearest the number 6 marked on the DIP switch the Fibre



side data rate is set to 1.25Mbps. When the Switch 6 is positioned farthest away from the number 6 marked on the DIP switch then Fibre side data rate is set to 2.5mbps.



**Control Network Solutions**

OPENING NETWORK FRONTIERS

## Next Generation Intelligent Lon<sup>®</sup> Fibre SMX Transceiver

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