Update on Cisco 1 Gbps Bidirectional Industrial Temperature Transceivers
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Cisco is introducing new industrial temperature–rated, 1 Gbps, bidirectional transceivers for network connectivity up to 10 km. The PIDs are GLC-BX-D-I and GLC-BX-U-I. These transceivers enable 1G connectivity over a single fiber in environments that are not temperature controlled. The Cisco® GLC-BX-D-I and U-I transceivers enable connectivity in Industrial Ethernet (IE series) switches and routers for Internet of Things (IoT) applications such as factory floor automation, utility substation automation, and transportation. Additionally, these transceivers are deployed by service providers to enable connectivity in applications such as mobile backhaul (4G, LTE, 5G), residential, and enterprise broadband access.

**Figure 1.**
Cisco PIDs: GLC-BX-D-I and GLC-BX-U-I

**New features**

**Figure 2.**
Operation of GLC-BX-D-I and GLC-BX-U-I transceivers over single strand of fiber
The GLC-BX-D-I and GLC-BX-U-I bidirectional transceivers offer the following benefits:

- Supports industrial temperature range (IND): -40 to 85°C (-40 to 185°F).
- Doubles the utilization of existing single-mode fibers by separating the transmission wavelengths.
- The communication over a single strand of fiber is achieved by separating the transmission wavelength of the two devices as depicted above: the GLC-BX-D-I SFP transmits a 1490-nm channel and receives a 1310-nm signal, whereas the GLC-BX-U-I SFP transmits at a 1310-nm wavelength and receives a 1490-nm signal.
- The GLC-BX-D-I and GLC-BX-U-I SFP allow connectivity for up to 10 km over single-strand, single-mode fiber (G.652).

### Ordering information

The two new transceivers complete the family of existing 1G Bidi Transceivers.

<table>
<thead>
<tr>
<th>Status</th>
<th>Cisco part #</th>
<th>Connector type</th>
<th>Reach</th>
<th>Temperature range</th>
<th>Media type</th>
</tr>
</thead>
<tbody>
<tr>
<td>New</td>
<td>GLC-BX-D-I</td>
<td>Simplex LC</td>
<td>10 km</td>
<td>-40 to 85°C</td>
<td>Single-Mode Fiber</td>
</tr>
<tr>
<td></td>
<td>GLC-BX-U-I</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing</td>
<td>GLC-BX40-D-I</td>
<td>Simplex LC</td>
<td>40 km</td>
<td>-40 to 85°C</td>
<td>Single-Mode Fiber</td>
</tr>
<tr>
<td></td>
<td>GLC-BX40-U-I</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing</td>
<td>GLC-BX80-D-I</td>
<td>Simplex LC</td>
<td>80 km</td>
<td>-40 to 85°C</td>
<td>Single-Mode Fiber</td>
</tr>
<tr>
<td></td>
<td>GLC-BX80-U-I</td>
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</table>

In addition to the bidirectional transceivers, the following table shows the portfolio of (duplex) 1 Gbps industrial temperature transceivers that enable connectivity for IoT and service provider applications.

<table>
<thead>
<tr>
<th>Status</th>
<th>Cisco part #</th>
<th>Connector type</th>
<th>Reach</th>
<th>Temperature range</th>
<th>Media type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing</td>
<td>GLC-SX-MM-RGD</td>
<td>Duplex LC</td>
<td>1 km</td>
<td>-40 to 85°C</td>
<td>Multimode Fiber</td>
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<tr>
<td>Existing</td>
<td>GLC-LX-SM-RGD</td>
<td>Duplex LC</td>
<td>10 km</td>
<td>-40 to 85°C</td>
<td>Single-Mode Fiber</td>
</tr>
<tr>
<td>Existing</td>
<td>GLC-ZX-SM-RGD</td>
<td>Duplex LC</td>
<td>80 km</td>
<td>-40 to 85°C</td>
<td>Single-Mode Fiber</td>
</tr>
</tbody>
</table>
Call to action

The GLC-BX-D-I and GLC-BX-U-I bidirectional transceivers have been qualified on Cisco Industrial Ethernet (IE) IoT switches and Cisco Service Provider Switches and Routers. Please visit https://tmgmatrix.cisco.com/ to retrieve the list of switches and routers that are compatible with 1G bidirectional transceivers. Please contact your Cisco sales representative to place an order.