Pluggable transceivers (SFP, XFP etc.)

- SFP, SFP+, XFP, X2 and XENPAK from 100Mbit/s to 10Gbit/s.
- Standard (850, 1310, 1550 nm), CWDM and DWDM wavelengths.
- Both 1-fibre and 2-fibre versions.
- Delivered with DDM (Digital-Diagnostic-Monitoring)
- Fits both un-coded switches and Cisco coded switches, may also be delivered with code for HP, Extreme and others.
- Hot swappable.

100 Mbit/s SFP

- For Fast Ethernet (100 Mbit/s)
- Also as 1-fiber variant (Bi-Di).
- For un-coded and Cisco-coded switches (other coding on request)
- LC connector

| Dynamic range* | 15 dB (2 km), 15 dB (10/20 km), 29.5 dB (40 km), 29.5 dB (80 km) |
| Operating temperature | 0°C to 70°C |

**Multi mode**

- SFP-100-MM-2 SFP, 100 Mbit/s Ethernet, 1310 nm, MM, DDM, 2 km

**Single mode**

- SFP-100-SM-10 SFP, 100 Mbit/s Ethernet, 1310 nm, SM, DDM, 10 km
- SFP-100-SM-40 SFP, 100 Mbit/s Ethernet, 1310 nm, SM, DDM, 40 km

**1 fibre single mode**

- SFP-100D-SM-yy SFP, 100 Mbit/s Ethernet, 1550Tx/1310Rx, DDM, yy km
- SFP-100U-SM-yy SFP, 100 Mbit/s Ethernet, 1310Tx/1550Rx, DDM, yy km

yy = 20, 40 or 80 km.
1 Gbit/s SFP

- For Gigabit Ethernet
- Also as 1-fiber variant (Bi-Di).
- For un-coded and Cisco-coded switches (other coding on request)
- LC connector

Dynamic range*: 9 dB (550 m), 15 dB (20 km), 20 dB (40 km), 25 dB (80 km)
Operating temperature: 0°C to 70°C

**Multi mode**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFP-1250-MM-550-D</td>
<td>SFP, 1.25 Gbit/s, 850 nm, MM, DDM, 550 m</td>
</tr>
</tbody>
</table>

**Single mode**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFP-1250-SM-20-D</td>
<td>SFP, 1.25 Gbit/s, 1310 nm, SM, DDM, 20 km</td>
</tr>
<tr>
<td>SFP-1250-SM-40-D</td>
<td>SFP, 1.25 Gbit/s, 1310 nm, SM, DDM, 40 km</td>
</tr>
<tr>
<td>SFP-1250-SM-80-D</td>
<td>SFP, 1.25 Gbit/s, 1550 nm, SM, DDM, 80 km</td>
</tr>
</tbody>
</table>

**1-fiber single mode**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFP-1250D-SM-20-D</td>
<td>SFP, 1.25 Gbit/s, 1550Tx/1310Rx, DDM, 20 km</td>
</tr>
<tr>
<td>SFP-1250U-SM-20-D</td>
<td>SFP, 1.25 Gbit/s, 1310Tx/1550Rx, DDM, 20 km</td>
</tr>
<tr>
<td>SFP-1250D-SM-40-D</td>
<td>SFP, 1.25 Gbit/s, 1550Tx/1310Rx, DDM, 40 km</td>
</tr>
<tr>
<td>SFP-1250U-SM-40-D</td>
<td>SFP, 1.25 Gbit/s, 1310Tx/1550Rx, DDM, 40 km</td>
</tr>
<tr>
<td>SFP-1250D-SM-80-D</td>
<td>SFP, 1.25 Gbit/s, 1550Tx/1490Rx, DDM, 80 km</td>
</tr>
<tr>
<td>SFP-1250U-SM-80-D</td>
<td>SFP, 1.25 Gbit/s, 1490Tx/1550Rx, DDM, 80 km</td>
</tr>
<tr>
<td>SFP-1250BD-SM-20-D</td>
<td>SFP, 1.25 Gbit/s, 1490Tx/1310Rx, DDM, 20 km</td>
</tr>
<tr>
<td>SFP-1250BU-SM-20-D</td>
<td>SFP, 1.25 Gbit/s, 1310Tx/1490Rx, DDM, 20 km</td>
</tr>
</tbody>
</table>

**Double 1-fiber single mode**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSFP-1250BD-SM-20-D</td>
<td>SFP, 1.25 Gbit/s, 1490Tx/1310Rx, DDM, 20 km</td>
</tr>
<tr>
<td>CSFP-1250BU-SM-20-D</td>
<td>SFP, 1.25 Gbit/s, 1310Tx/1490Rx, DDM, 20 km</td>
</tr>
</tbody>
</table>

* We reserve the right to make changes, data may be altered without prior notice
10 Gbit/s SFP+

- For 10 Gigabit Ethernet
- For un-coded and Cisco-coded switches (other coding on request)
- Duplex LC connector

Dynamic range*: 3.8 dB (300 m), 8.4 dB (10 km), 9.9 dB (20 km), 15 dB (40 km), 24 dB (80 km)
Operating temperature: 0°C to 70°C

**Multi mode**
- SFP+10G-MM-300, SFP+, 10 Gbit/s Ethernet, MM, 300 m

**Single mode**
- SFP+10G-SM-20, SFP+, 10 Gbit/s Ethernet, SM, 10 km
- SFP+10G-SM-40, SFP+, 10 Gbit/s Ethernet, SM, 40 km
- SFP+10G-SM-80, SFP+, 10 Gbit/s Ethernet, SM, 80 km

**1-fibre single mode**
- SFP+10GD-SM-20, SFP+ 10 Gbit/s, Bidi, 1270Tx/1330Rx, 20 km
- SFP+10GU-SM-20, SFP+ 10 Gbit/s, Bidi, 1330Tx/1270Rx, 20 km
- SFP+10GD-SM-40, SFP+ 10 Gbit/s, Bidi, 1270Tx/1330Rx, 40 km
- SFP+10GU-SM-40, SFP+ 10 Gbit/s, Bidi, 1330Tx/1270Rx, 40 km

10 Gbit/s XFP

- For 10 Gigabit Ethernet
- For un-coded and Cisco-coded switches (other coding on request)
- Duplex LC connector

Dynamic range*: 3.8 dB (300 m), 8.4 dB (10 km), 15 dB (40 km), 23 dB (80 km)
Operating temperature: 0°C to 70°C

**Multi mode**
- XFP-10G-MM-300, XFP, 10 Gbit/s Ethernet, MM, 300 m

**Single mode**
- XFP-10G-SM-10, XFP, 10 Gbit/s Ethernet, SM, 10 km
- XFP-10G-SM-40, XFP, 10 Gbit/s Ethernet, SM, 40 km
- XFP-10G-SM-80, XFP, 10 Gbit/s Ethernet, SM, 80 km

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**10 Gbit/s XENPAK**

- For 10 Gigabit Ethernet
- For un-coded and Cisco-coded switches (other coding on request)
- Duplex SC connector

Dynamic range*: 6.1 dB (300 m), 4.4 dB (10 km), 10.7 dB (40 km), 24 dB (80 km)

Operating temperature: 0°C to 70°C

**Multi mode**
- XEN-10G-MM-300 XENPAK, 10 Gbit/s Ethernet, MM, 300 m

**Single mode**
- XEN-10G-SM-10 XENPAK, 10 Gbit/s Ethernet, SM, 10 km
- XEN-10G-SM-40 XENPAK, 10 Gbit/s Ethernet, SM, 40 km
- XEN-10G-SM-80 XENPAK, 10 Gbit/s Ethernet, SM, 80 km

**10 Gbit/s X2**

- For 10 Gigabit Ethernet
- For un-coded and Cisco-coded switches (other coding on request)
- Duplex SC connector

Dynamic range*: 6.1 dB (300 m), 6.2 dB (10 km), 10.7 dB (40 km), 28 dB (80 km)

Operating temperature: 0°C to 70°C

**Multi mode**
- X2-10G-MM-300 X2, 10 Gbit/s Ethernet, MM, 300 m

**Single mode**
- X2-10G-SM-10 X2, 10 Gbit/s Ethernet, SM, 10 km
- X2-10G-SM-40 X2, 10 Gbit/s Ethernet, SM, 40 km
- X2-10G-SM-80 X2, 10 Gbit/s Ethernet, SM, 80 km

**XENPAK/X2 to SFP+ adapter**

- For 10 Gigabit Ethernet
- Converts Xenpak/X2 switches to SFP+

Operating temperature: 0°C to 70°C

**XENPAK to SFP+ adapter**
- XEN-SFPplus XENPAK til SFP+ adapter

**X2 to SFP+ adapter**
- AP-X2-SFPplus X2 til SFP+ adapter

* We reserve the right to make changes, data may be altered without prior notice
1 Gbit/s SFP, CWDM

- For Gigabit Ethernet, SONET OC-24-LR-1, 1G Fibre Channel
- For un-coded and Cisco-coded switches (other coding on request)
- Duplex LC connector

Dynamic range*: 20 dB (40 km), 25 dB (80 km), 32 dB (120 km), 36 dB (140 km)
Operating temperature: 0°C to 70°C

Article number:
SFP-1250C-xxxx-40-D: SFP, 1.25 Gbit/s, CWDM, SM, DDM, 40 km, xxxx nm
SFP-1250C-xxxx-80-D: SFP, 1.25 Gbit/s, CWDM, SM, DDM, 80 km, xxxx nm
SFP-1250C-xxxx-120-D: SFP, 1.25 Gbit/s, CWDM, SM, DDM, 120 km, xxxx nm
SFP-1250C-xxxx-140-D: SFP, 1.25 Gbit/s, CWDM, SM, DDM, 140 km, xxxx nm

Available wavelengths: 1271, 1291, 1311, 1331, 1351, 1371, 1391, 1411, 1431, 1451, 1471, 1491, 1511, 1531, 1551, 1571, 1591 or 1611 nm

155Mbit/s - 2.67 Gbit/s SFP, CWDM

- For SDH STM-16, SONET OC-48 and 2G Fibre Channel
- For un-coded and Cisco-coded switches (other coding on request)
- Duplex LC connector

Dynamic range*: 27 dB (80 km)
Operating temperature: 0°C to 70°C

Article number:
SFP-2670C-xxxx-80: SFP, 2.67 Gbit/s Multirate, CWDM, SM, DDM, 80 km, xxxx nm

Available wavelengths: 1471, 1491, 1511, 1531, 1551, 1571, 1591 or 1611 nm

10 Gbit/s XFP, CWDM

- For 10 Gigabit Ethernet
- For un-coded and Cisco-coded switches (other coding on request)
- Duplex LC connector

Dynamic range*: 15 dB (40 km), 24 dB (80 km)
Operating temperature: 0°C to 70°C

Article number:
XFP-10GC-xxxx-40: XFP, 10 Gbit/s Ethernet, CWDM, SM, 40 km, xxxx nm
XFP-10GC-xxxx-80: XFP, 10 Gbit/s Ethernet, CWDM, SM, 80 km, xxxx nm

Available wavelengths: 1471, 1491, 1511, 1531, 1551, 1571, 1591 or 1611 nm

* We reserve the right to make changes, data may be altered without prior notice
10 Gbit/s SFP+, CWDM

- For 10 Gigabit Ethernet
- For un-coded and Cisco-coded switches (other coding on request)
- Duplex LC connector

Dynamic range*: 15dB (40 km), 28 dB (80 km)
Operating temperature: 0°C to 70°C

**Article number:**
- SFP+10GC-xxxx-40  SFP+, 10 Gbit/s Ethernet, CWDM, SM, 40 km, xxxx nm
- SFP+10GC-xxxx-80  SFP+, 10 Gbit/s Ethernet, CWDM, SM, 80 km, xxxx nm

**Available wavelengths:**
1271, 1291, 1311, 1331, 1351, 1371, 1471, 1491, 1511, 1531, 1551, 1571, 1591 or 1611 nm

10 Gbit/s XENPAK, CWDM

- For 10 Gigabit Ethernet
- For un-coded and Cisco-coded switches (other coding on request)
- Duplex SC connector

Dynamic range*: 14 dB (40 km), 24 dB (80 km)
Operating temperature: 0°C to 70°C

**Article number:**
- XEN-10GC-xxxx-40  XENPAK, 10 Gbit/s Ethernet, CWDM, SM, 40 km, xxxx nm
- XEN-10GC-xxxx-80  XENPAK, 10 Gbit/s Ethernet, CWDM, SM, 80 km, xxxx nm

**Available wavelengths:**
1471, 1491, 1511, 1531, 1551, 1571, 1591 or 1611 nm

10 Gbit/s X2, CWDM

- For 10 Gigabit Ethernet
- For un-coded and Cisco-coded switches (other coding on request)
- Duplex SC connector

Dynamic range*: 14 dB (40 km), 24 dB (80 km)
Operating temperature: 0°C to 70°C

**Article number:**
- X2-10GC-xxxx-40  X2, 10 Gbit/s Ethernet, CWDM, SM, 40 km, xxxx nm
- X2-10GC-xxxx-80  X2, 10 Gbit/s Ethernet, CWDM, SM, 80 km, xxxx nm

**Available wavelengths:**
1471, 1491, 1511, 1531, 1551, 1571, 1591 or 1611 nm

* We reserve the right to make changes, data may be altered without prior notice
1 Gbit/s SFP, DWDM

- For Gigabit Ethernet, SONET OC-24-LR-1, 1G Fibre Channel
- For un-coded and Cisco-coded switches (other coding on request)
- Duplex LC connector

Dynamic range*: 26 dB (80 km), 30 dB (120 km)
Operating temperature: 0°C til 70°C

Article number:
SFP-1250D-CHxx-80-D: SFP, 1.25 Gbit/s, DWDM, SM, DDM, 80 km, CH xx
SFP-1250D-CHxx-120-D: SFP, 1.25 Gbit/s, DWDM, SM, DDM, 120 km, CH xx

xx = 17, 18, ... 60 or 61 (equals 1563.86 nm to 1528.77 nm)

100 Mbit/s - 2,7 Gbit/s SFP, DWDM

- Multi-rate covering e.g. Gigabit Ethernet, SONET/SDH, Fibre Channel
- For un-coded and Cisco-coded switches (other coding on request)
- Duplex LC connector

Dynamic range*: 28 dB (80 km), 28 dB (120 km)
Operating temperature: 0°C to 70°C

Article number:
SFP-2700D-CHxx-80-D: SFP, 0.1-2.7 Gbit/s, DWDM, SM, DDM, 80 km, CH xx
SFP-2700D-CHxx-120-D: SFP, 0.1-2.7 Gbit/s, DWDM, SM, DDM, 120 km, CH xx

xx = 17, 18, ... 60 or 61 (equals 1563.86 nm to 1528.77 nm)

10 Gbit/s SFP+, DWDM

- For 10 Gigabit Ethernet
- For un-coded and Cisco-coded switches (other coding on request)
- Duplex LC connector

Dynamic range*: 15dB (40 km), 24 dB (80 km)
Operating temperature: 0°C to 70°C

Article number:
SFP-10GD-CHxx-40: SFP+, 10 Gbit/s, DWDM, SM, 40 km, CH xx
SFP-10GD-CHxx-80: SFP+, 10 Gbit/s, DWDM, SM, 80 km, CH xx

xx = 17, 18, ... 60 or 61 (equals 1563.86 nm to 1528.77 nm)

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10 Gbit/s XFP, DWDM

- For 10 Gigabit Ethernet
- For un-coded and Cisco-coded switches (other coding on request)
- Duplex LC connector

**Dynamic range**: 15 dB (40 km), 23 dB (80 km)
**Operating temperature**: 0°C to 70°C

**Article number**:
- XFP-10GD-CHxx-40: XFP, 10 Gbit/s, DWDM, SM, 40 km, CH xx
- XFP-10GD-CHxx-80: XFP, 10 Gbit/s, DWDM, SM, 80 km, CH xx

*xx = 17, 18, ... 60 or 61 (equals 1563,86 nm to 1528,77 nm)*

10 Gbit/s XENPAK, DWDM

- For 10 Gigabit Ethernet
- For un-coded and Cisco-coded switches (other coding on request)
- Duplex SC connector

**Dynamic range**: 14 dB (40 km), 23 dB (80 km)
**Operating temperature**: 0°C to 70°C

**Article number**:
- XEN-10GD-CHxx-40: XENPAK, 10 Gbit/s, DWDM, SM, 40 km, CH xx
- XEN-10GD-CHxx-80: XENPAK, 10 Gbit/s, DWDM, SM, 80 km, CH xx

*xx = 17, 18, ... 60 or 61 (equals 1563,86 nm to 1528,77 nm)*

10 Gbit/s X2, DWDM

- For 10 Gigabit Ethernet
- For un-coded and Cisco-coded switches (other coding on request)
- Duplex SC connector

**Dynamic range**: 14 dB (40 km), 23 dB (80 km)
**Operating temperature**: 0°C to 70°C

**Article number**:
- X2-10GD-CHxx-40: X2, 10 Gbit/s, DWDM, SM, 40 km, CH xx
- X2-10GD-CHxx-80: X2, 10 Gbit/s, DWDM, SM, 80 km, CH xx

*xx = 17, 18, ... 60 or 61 (equals 1563,86 nm to 1528,77 nm)*

*We reserve the right to make changes, data may be altered without prior notice*
**40 Gbit/s QSFP**

- For 40 Gigabit Ethernet
- For un-coded and Cisco-coded switches (other coding on request)
- Duplex LC (SM) or MPO (MM) connector

**Dynamic range***: 5 dB (100 m), 4.5 dB (10 km)
**Operating temperature**: 0°C to 70°C

**Multi mode:**
- QSFP-40G-MM-100: QSFP, 40 Gbit/s Ethernet, MM, 100 m

**Single mode:**
- QSFP-40G-SM-10: QSFP, 40 Gbit/s Ethernet, SM, 10 km

*We reserve the right to make changes, data may be altered without prior notice*