

# Product Guide

Transceivers, Transponders,  
and Active Optical Cables

**FINISAR®**



# Transceivers, Transponders, and Active Optical Cables

## SFP (copper and optical; longwave, shortwave and WDM)

**DATACOM** applications using Fast Ethernet, Gigabit Ethernet, 1x/2x/4x Fibre Channel

**TELECOM** applications using OC-3/STM-1, OC-12/STM-4, OC-48/STM-16, EPON/GPON and Wireless/CPRI across all reaches

### Features

- 3.3 V operating voltage
- Distances from very short links up to 100+ km
- Wide operating temperature range
- Metal enclosure for lower EMI
- Digital diagnostics
- Wireless CPRI compliant



SFP

## SFP+/SFP28 (optical; longwave, shortwave, DWDM and tunable)

**DATACOM** applications using 10G and 25G Ethernet and 2x/4x/8x/10x/16x/32x Fibre Channel (LW and SW)

**TELECOM** applications using either OC-192/STM-64, 10G Ethernet, or Wireless/CPRI

### Features

- 3.3 V operating voltage
- Supports bit rates up to 28.05 Gb/s (LW, SW, and DWDM) and 11.3 Gb/s (Tunable)
- Distances from short links up to 80 km metro (LW, SW, and DWDM) and 80km (Tunable)
- Wide operating temperature range
- Digital diagnostics
- Wireless CPRI compliant (LW and SW)
- Bi-directional SFP+ transceiver available



SFP+/SFP28

## CFP/CFP2/CFP4/CFP8 (optical; longwave and shortwave)

**DATACOM** applications using 100G and 400G Ethernet

**TELECOM** applications using OTU4

### Features

- Hot-pluggable, MSA-compliant CFP, CFP2, CFP4 and CFP8 form factors
- Supports 103.1 Gb/s to 425 Gb/s aggregate bit rates
- Maximum link length of 100m on OM3 MMF, 150m on OM4 MMF, 10km on SMF
- 3.3 V operating voltage



CFP/CFP2/CFP4/CFP8

## QSFP+/QSFP28 (optical; longwave and shortwave)

**DATACOM** applications using 40G and 100G Ethernet and high-density 10G and 25G Ethernet

**TELECOM** applications using OTU3 and OTU4

### Features

- Four-channel full duplex transceiver module
- Single-channel full duplex transceiver module (QSFP28 only)
- Hot-pluggable, MSA-compliant QSFP+ and QSFP28 form factors
- Maximum link length of 300m on OM3 MMF, 400m on OM4 MMF, and 40km on SMF (QSFP+ only)
- 3.3 V operating voltage
- Digital diagnostics
- Wireless CPRI compliant (LW and SW)
- I-Temp variants available



QSFP+/QSFP28

## QSFP-DD (optical; longwave and shortwave)

**DATACOM** applications using 400G Ethernet and high-density 50G and 100G Ethernet

### Features

- Four- or eight-channel full duplex transceiver module
- Hot-pluggable, MSA-compliant QSFP-DD form factor
- Maximum link length of 70m on OM3 MMF, 100m on OM4 MMF, and 10 km on SMF
- 3.3 V operating voltage
- Digital diagnostics



QSFP-DD

## CXP (optical; shortwave)

**DATACOM** applications using 100G Ethernet and chassis interconnections

### Features

- Twelve-channel full-duplex transceiver module
- Hot Pluggable CXP form factor
- Maximum link length of 300m on OM3 MMF and 400m on OM4 MMF
- Multirate capability: supports 1.06 Gb/s to 12.5 Gb/s per channel



CXP

## Active Optical Cables

### SFP<sup>wire</sup>

SFP+ Active Optical Cable for 10G and 25G Ethernet. Also available with Connectivity Diagnostics®

### quad<sup>wire</sup>

40 Gb/s to 100 Gb/s Parallel Active Optical Cable for 40GbE and 100GbE, InfiniBand 4xQDR, Infiniband 4xFDR, Infiniband 4xEDR and Intel® Omni-Path Architecture. Also available with Connectivity Diagnostics®

### C<sup>wire</sup>

150 Gb/s Parallel Active Optical Cable for 100GbE and InfiniBand 12xQDR.



Active Optical Cables

## Optical Engines (optical; shortwave)

DATAKOM applications for inter-chassis connections

### Features

- Twelve-channel full-duplex transceiver modules
- Maximum link length  
100m at 10 Gb/s on OM3 MMF  
70m at 25 Gb/s on OM4 MMF
- Multirate capability: supports 1 Gb/s up to 28.1 Gb/s per channel



Optical Engines

## Coherent Transceivers (optical; longwave)

TELECOM 100 Gb/s and 200 Gb/s applications

### Features

- Pluggable CFP2-ACO and CFP4-ACO analog coherent optics modules
  - Highest density coherent interface
  - Enables “pay-as-you-grow” deployment of coherent optics
  - Analog interface is compatible with any external DSP
  - Modulation format independent, supports data rates > 200 Gb/s



Coherent

## XFP (optical; longwave, shortwave, DWDM, and tunable)

DATAKOM applications using 10G Ethernet and 10x Fibre Channel

TELECOM applications using OC-192/STM-64

### Features

- Supports bit rates up to 11.3 Gb/s
- Distances up to 200 km (LW, SW, and DWDM) and 80 km (Tunable)
- Digital diagnostics
- Wide operating temperature range versions available



XFP

## Endurance Compact Transceivers

(optical; longwave and shortwave)

### Features

- Compact form-factor for high-density solutions
- Data rate flexibility including 1G and 10G Ethernet, Fast Ethernet, and 1x/2x/4x/8x/16x Fibre Channel
- Board-mounted for an edge optical interface or internal mounting
- Designed for rugged applications



Endurance

## SFF (optical; longwave and shortwave)

DATAKOM applications using Gigabit Ethernet, 1x/2x/4x Fibre Channel

TELECOM applications using OC-3/STM-1, OC-12/STM-4 and OC-48/STM-16 across all reaches

### Features

- Distances from very short links up to 80 km
- Wide operating temperature range
- Available in 2x5, 2x7 or 2x10. 2x7 and 2x10 incorporate digital diagnostics



SFF

## Finisar's Digital Diagnostics

Finisar's transceivers feature a microprocessor and diagnostics interface that provide performance information on the data link. Users can remotely monitor—in real-time—received optical power, transmitted optical power, laser bias current, transceiver input voltage and transceiver temperature of any transceiver in the network. These patented digital diagnostic functions provide network managers with a highly accurate, cost-effective tool for implementing reliable performance monitoring.

## Finisar's Connectivity Diagnostics®

Several of Finisar's products feature the Connectivity Diagnostics® suite of tools, which helps data center technicians quickly and intuitively find specific modules in a sea of sockets using a visual indicator. LynkFind® allows an operator to light up the pull-tab of the module at the far-end of a link by pressing the pull-tab of the near-end module. LynkGuardian® lights up the modules at both ends of a link when either module experiences a fault. LynkCommander® allows a network operations center to light up a module for easy identification on the data center floor. Together, these patented tools bring the intelligence normally available through data center monitoring software to a simple and intuitive visual indicator. The benefits to the data center operator enable faster installation and maintenance, easier troubleshooting, and simplified operations.

Technology Innovator.  
Broad Product Portfolio.  
Trusted Partner.

**FINISAR**<sup>®</sup>

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