

**The Reflex Photonics 100Gbps / OTU4 CFP Gen II Transceiver Module**



CP-X12-C11801-02

**Product Summary**

The CFP Gen II full-duplex modules offer 10 independent transmit and receive channels, each capable of up to 11.2 Gbps operation per lane for an aggregate bandwidth of up to 11.2 Gbps over 100 meters of OM3 optical fiber. Designed for 100 Gbps Ethernet applications, the Reflex Photonics CFP Gen II module has a single MPO port which connects to an industry standard 2 x12 multi-mode fiber cable.

The Reflex CFP Gen II transceiver incorporates CDR re-timers on all TX and RX channels for additional electrical signal robustness.

The CFP Gen II modules have been designed to meet the harshest external operating conditions including temperature, humidity and EMI interference using Reflex Photonics' next generation, LightABLE™ packaging technology. The modules offer very high functionality and feature integration, accessible via an MDIO interface.

**Applications**

- Data center aggregation and core router links
- Test equipment

**Specification and Feature Highlights**

- CFP MSA compliant
- Compliant to IEEE 802.3ba specification for 100GBASE-SR10 links
- MDIO digital diagnostic and control capabilities
- Compliant to CFP MSA Management Interface Specification, Draft 1.4.
- Aggregate Bandwidth of >100 Gbps
- 10 Independent full-duplex channels

- TX input and RX output CDR re-timing
- Up to 11.2 Gbps per channel bandwidth, supports OTU4
- Independent channel re-timing
- CXP inter-operable
- Next Generation, LightABLE™ VCSEL/PD array optical sub-assembly technology
- Single +3.3V power supply through 148 pin electrical connector
- Power class 1 (< 8W max)
- CML compatible electrical I/O
- Capable of over 100 m transmission on high bandwidth 50µm multi-mode OM3 ribbon fiber
- Available also as single 40 Gbps and dual 40 Gbps versions of CFP (see PN table)
- Angle housing front face version available

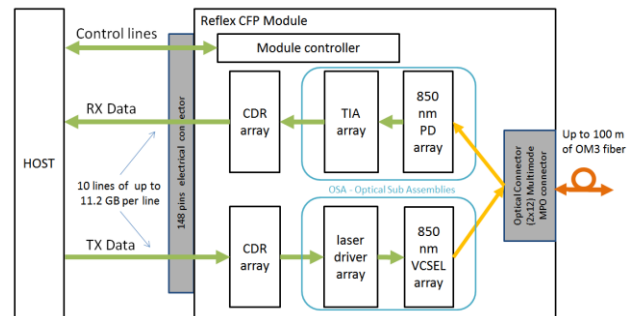
**CFP Gen II Improvement Highlights**

- In-Rush current suppression improved
- Low power mode supported (< 300 mW)
- Lane-by-lane received power monitoring
- Loss of Lock (LOL) supported
- Electrical Signal Pre/De-emphasis supported (as per MSA specification)
- Network Lane BOL Measurement Registers supported<sup>(\*)</sup>
- MDIO Password feature<sup>(\*)</sup>
- Nickel-plated housing<sup>(\*)</sup> see data spec for details

**Additional CFP Gen II Features**

- CDR disable function
- Squelch disable/enable function
- Extended version of emphasis control
- Under Voltage Protection / Over Voltage Protection (UVP/OVP) feature
- Additional Optical Sub- Assembly (OSA) temperature monitoring

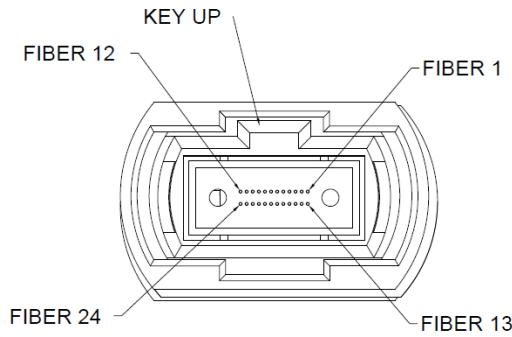
**Functional Diagram**



Functional Diagram of CFP Gen II

**Optical Interface Lanes**

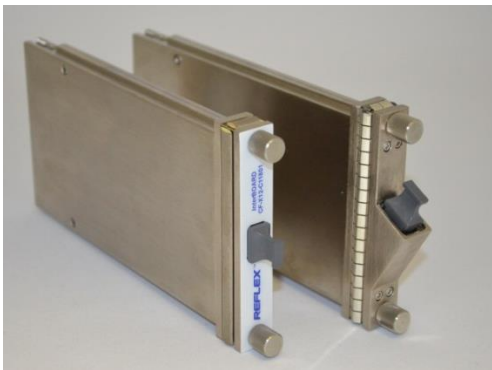
The figure and table below show the orientation of the multi-mode fiber facets of the optical connector and the lane assignment respectively.



*Outside view of the CFP Gen II module MPO receptacle*

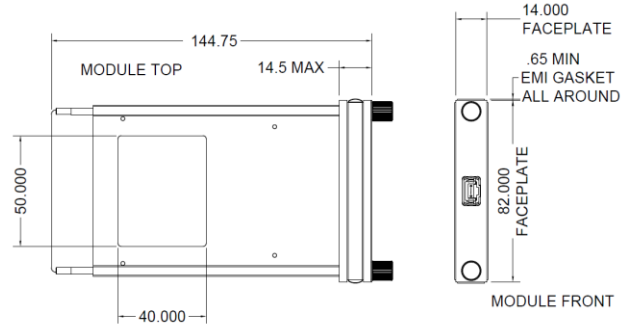
Fiber #	Lane Assignment	Fiber #	Lane Assignment
1	Unused	13	Unused
2	RX0	14	TX0
3	RX1	15	TX1
4	RX2	16	TX2
5	RX3	17	TX3
6	RX4	18	TX4
7	RX5	19	TX5
8	RX6	20	TX6
9	RX7	21	TX7
10	RX8	22	TX8
11	RX9	23	TX9
12	Unused	24	Unused

*Note: table valid for 100G modules*

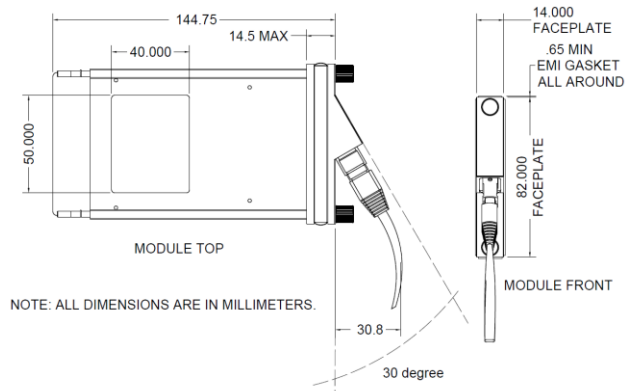


For more information on this or other products:  
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**Mechanical**



NOTE: ALL DIMENSIONS ARE IN MILLIMETERS.



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*CFP Gen II modules dimensions*

**Ordering Information:**

Part Number	Description
CP-X12-C11801-02	<b>100G</b> Ethernet, CFP Gen II Fiber Optic Transceiver Module (100 Gbps, <b>10.3</b> Gbps per channel/RX and TX).
CP-X12-C11901-02	<b>100G</b> / OTU4, CFP Gen II Fiber Optic Transceiver Module (100 Gbps, <b>10.3</b> and <b>11.2</b> Gbps per channel/RX and TX).
CP-X08-C11801-02	<b>Dual 40G</b> Ethernet, CFP Gen II Fiber Optic Transceiver Module (Dual 40 Gbps, <b>10.3</b> Gbps per channel/RX and TX).
CP-X08-C11901-02	<b>Dual 40G</b> / OTU3, CFP Gen II Fiber Optic Transceiver Module (Dual 40 Gbps, <b>10.3</b> and <b>11.2</b> Gbps per channel/RX and TX).
CP-X04-C11801-02	<b>Single 40G</b> Ethernet, CFP Gen II Fiber Optic Transceiver Module (40 Gbps, <b>10.3</b> Gbps per channel/RX and TX).
CP-X04-C11901-02	<b>Single 40G</b> / OTU3, CFP Gen II Fiber Optic Transceiver Module (40 Gbps, <b>10.3</b> and <b>11.2</b> Gbps per channel/RX and TX).

*Note: For list of all part numbers see product data sheet.*