



## REFLEXPHOTONICS™ THE LIGHT ON BOARD™ COMPANY

### PRODUCT BRIEF - 100G Ethernet CFP Transceiver Module

**The new Gen II CFP transceiver with TX and RX retimers**



**CF-X12-C11901-02**

#### Product Summary

The CFP full-duplex modules offer 10 independent transmit and receive channels, each capable of 11.2 Gbps operation for an aggregate bandwidth of 110 Gbps over 100 meters of optical fiber. Meant for 100 Gbps Ethernet applications, the Reflex CFP module has a single MPO port which connects to an industry standard 2x12 multimode fiber cable.

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

The CFP 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.

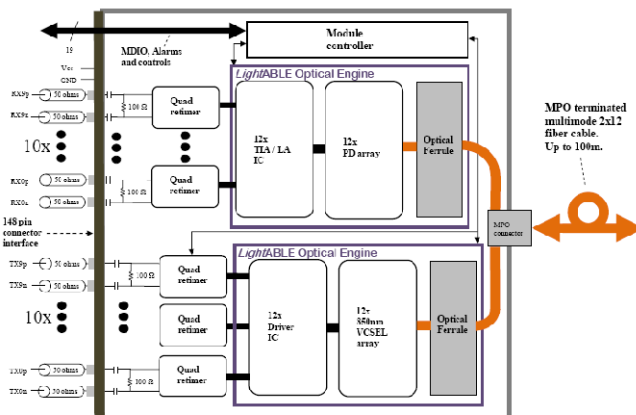
#### Applications:

- Data center aggregation and core router links
- Test equipment

#### Specification and Feature Highlights:

- CFP MSA compliant
- Compliant to IEEE 802.3ba draft specification for 100GBASE-SR10 links
- MDIO digital diagnostic and control capabilities; compliant to CFP MSA Management Interface Specification, Draft 1.2.
- Aggregate Bandwidth of >100 Gbps
- 10 independent full-duplex channels
- TX input and RX output CDR retiming
- Up to 11.2 Gbps per channel bandwidth, supports OTU-4
- Independent channel timing
- Individually addressable channel control; single channels can be enabled / disabled
- 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 ( 6W typ, <8W max)
- CML compatible electrical I/O
- Capable of over 100m transmission on high bandwidth 50µm multi-mode ribbon cables

#### Functional Diagram:



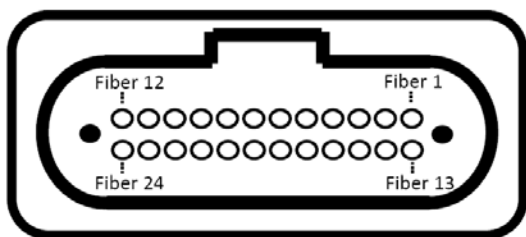


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**Optical Interface lanes**

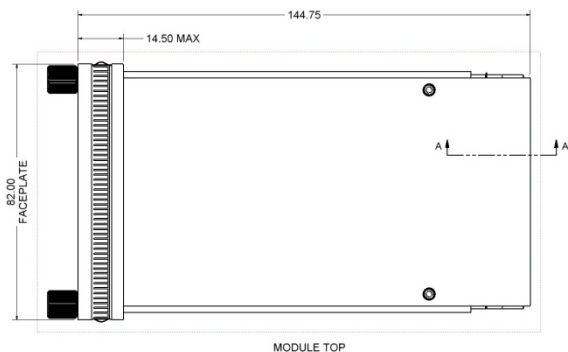
The figure and table below show the orientation of the multimode fiber facets of the optical connector and the lane assignment respectively.



Outside view of the CFP 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

**Mechanical Considerations:**



Top view of module

The Reflex 100GBASE-SR10 module is compliant to the CFP MSA mechanical dimensions.

**Evaluation Kit:**

CFP evaluation kits designed for high-speed testing are available. Each evaluation board is fitted with a 148-pin surface mount host board electrical connector as well as rails where the module can be inserted. 24 SMA connectors provide the connections for the 20 differential electrical signals, which are AC coupled within the module. The CFP module requires a single 3.3V power supply. A header is present for MDIO communication with the management interface and for digital diagnostic access.

The evaluation kit includes one (1) evaluation printed circuit board and a user guide to facilitate the evaluation process. In-house application and design engineers are available to assist product evaluations and to support integration.

**Ordering information:**

Part Number	Description
CF-X12-C11901-02	100G Ethernet, CFP Fiber Optic Transceiver Module (100 Gbps, 11.2 Gbps per channel/RX and TX). Gen II with TX and RX retimers.
CF-K12-X01801	Reflex 120G CFP Evaluation Kit – includes 1 evaluation board, 48 SMA connectors, 1 Power supply cable and a user guide.