

# NOTICE

## **This information applies to the Module Compliance Board Series**

### **Important Information**

**Note:** *Before getting started with the EXFO Module Compliance Board Series, first read the important safety information provided in this notice. For additional information, refer to the Module Compliance Board Series user guide available at [www.exfo.com](http://www.exfo.com).*

### **Overview**

The Module Compliance Board Series (MCB) is designed for lab and manufacturing testing of optical/electrical 28/56 GBd. The Module Compliance Board Series includes the following models: QSFPDD-O, QSFPDD-K, OSFP-O, OSFP-K, QSFP28-K, SFPDD, DSFP, QSFP56-O, SFP28-90, SFP28-180.

## Installation and Operation



### WARNING

The Module Compliance Board Series must be secured by screws and operated over a non-combustible surface only; and be installed and operated by trained, authorized personnel only.



### CAUTION

Electrostatic Discharge (ESD) Sensitive Equipment: Electronic equipment can be damaged by static electrical discharge. To minimize the risk of damage, dissipate static electricity by touching a grounded unpainted metal object before handling the product.



### WARNING

When the MCB is in use, the temperature of the MCB board and some of its components may be very hot when not operated in a temperature controlled environment. Allow to cool the MCB before manipulating the board or touching any components including the transceiver cage and its inserted transceiver. Usually, it is recommended to manipulate/hold the MCB from its posts or edges.



### WARNING

All wiring and installation must be in accordance with local building and electrical codes acceptable to the authorities in the countries where the equipment is installed and used.



### WARNING

The safety of any system incorporating the Module Compliance Board Series is the responsibility of the assembler of the system.

### Connecting the Power Supply

To reduce the risk of electric shock and fire, the MCB must be powered by an external power supply, that:

- is a class II power supply where the output is separated from primary power or mains by double insulation,
- is current limited to a maximum of 7 A output,
- is protected by an external, suitably rated DC fuse placed on the positive VCC supply rail, with a maximum rating of 10 A, and
- with an output voltage between 3.1 to 3.5 V (typical 3.3 V).

**Note:** *The above requirements apply to each power supply when multiple power supplies are used to power an MCB.*

The disconnect device can be either the on/off switch of the external power supply if available or its AC main plug. The disconnect device must be suitably located and easily reached, and marked as the disconnecting device for the MCB.

The MCB is automatically powered up once it is connected to a power source.



### WARNING

If you need to ensure that the unit is completely turned off, disconnect all power supply sources from the MCB.

For connecting the power source via banana terminals, it is recommended to connect the ground first (identified as either GND or “-”). There is no need to ground the power source that feeds the MCB, however to minimize voltage drop, limit the overall length of the power cables to max 12 in. Power source wire should be min 18 AWG, stranded wire, and VW-1 flammability rating or equivalent. Twisting of power leads is a good practice for minimizing pickup. Multiple power sources are possible in case there is not enough current from the one power supply.

**Note:** *The banana terminals come in different colors, the black terminal is always ground and the colored terminal is for the positive power. For DC barrel terminal, center is positive (shell is ground).*

## Regulatory Information

### USA Electromagnetic Interference Regulatory Statement

Electronic test and measurement equipment is exempt from FCC part 15, subpart B compliance in the United States of America. However, EXFO Inc. makes reasonable efforts to ensure compliance to the applicable standards.

The limits set by these standards are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the user documentation, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

## Canada Electromagnetic Interference Regulatory Statement

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference.

Cet équipement génère, utilise et peut émettre de l'énergie radio-fréquence et, s'il n'est pas installé et utilisé conformément à la documentation de l'utilisateur, il peut occasionner une interférence néfaste aux communications radio. L'utilisation de cet équipement dans une zone résidentielle est susceptible d'occasionner une interférence néfaste.

**Caution:** This equipment is not intended for use in residential environments and may not provide adequate protection to radio reception in such environments.

**Attention :** Cet appareil n'est pas destiné à être utilisé dans des environnements résidentiels et peut ne pas assurer la protection adéquate à la réception radioélectrique dans ce type d'environnements.

This is a class A, group 1 product.

Ceci est un produit de classe A, groupe 1.

- ▶ Class A equipment: Equipment that is, by virtue of its characteristics, highly unlikely to be used in a residential environment, including a home business shall be classified as class A and shall comply with the class A limits specified in the applicable ICES standard. Characteristics considered in this assessment include price, marketing and advertising methodology, the degree to which the functional design inhibits applications suitable to residential environments, or any combination of features that would effectively preclude the use of such equipment in a residential environment.

Classe A : Matériel qui, en raison de ses caractéristiques, ne sera fort probablement pas utilisé dans un milieu domiciliaire ni par des entreprises établies à domicile. Parmi les caractéristiques considérées dans cette évaluation, il y a le prix, les méthodes de commercialisation et de publicité, la mesure dans laquelle les fonctions de l'appareil font qu'il ne se prête pas à des applications convenant au milieu domiciliaire ou toute combinaison de ces caractéristiques qui aurait pour conséquence d'en prévenir effectivement l'utilisation à domicile. Utilisé également pour indiquer les limites d'émission correspondantes qui s'appliquent à un tel matériel.

- ▶ Class B equipment: Equipment that cannot be classified as Class A shall comply with the Class B limits specified in the applicable ICES standard.

Classe B : Matériel qui ne peut pas être inclus dans la classe A. Utilisé également pour indiquer les limites d'émission correspondantes qui s'appliquent à un tel matériel.

- Group 1 equipment: group 1 contains all equipment which is not classified as group 2 equipment, and includes equipment such as laboratory and scientific equipment, industrial process, measurement and control equipment.

Group 2 equipment: group 2 contains all ISM RF equipment in which radio-frequency energy in the frequency range 9 kHz to 400 GHz is intentionally generated and used or only used locally, in the form of electromagnetic radiation, inductive and/or capacitive coupling, for the treatment of material for inspection/analysis purposes, or for transfer of electromagnetic energy.

Appareils du groupe 1 : le groupe 1 réunit tous les appareils compris dans le domaine d'application de la présente Norme, qui ne sont pas classés comme étant des appareils du groupe 2. Le groupe 1 inclut les appareils scientifiques et de laboratoire, les processus industriels, appareils de mesure ou de contrôle.

Appareils du groupe 2 : le groupe 2 réunit tous les appareils ISM à fréquences radioélectriques dans lesquels de l'énergie à fréquences radioélectriques dans la plage de fréquences comprises entre 9 kHz et 400 GHz est produite et utilisée volontairement ou uniquement utilisée localement sous forme de rayonnement électromagnétique, de couplage inductif et/ou capacitif, pour le traitement de la matière, à des fins d'examen ou d'analyse ou pour le transfert d'énergie électromagnétique.

### **Supplier's Declaration of Conformity (SDoC)**

The SDoC for your product is as follows:

CAN ICES-001 (A) / NMB-001 (A)

## EU and UK Electromagnetic Compatibility Regulatory Statement



### CAUTION

The Module Compliance Board is a sub-assembly not intended for incorporation into an apparatus and as such is excluded from the EU Electromagnetic Compatibility Directive and the UK Electromagnetic Compatibility Regulations.

## Simplified EU and UK Declaration of Conformity

The full text of the declaration of conformity is available at the following Internet address: [www.exfo.com/en/resources/legal-documentation](http://www.exfo.com/en/resources/legal-documentation).

## EU Economic Operator

**EXFO Solutions SAS**  
2, rue Jacqueline Auriol,  
Saint-Jacques-de-la-Lande,  
35091 Rennes Cedex 9  
FRANCE

## UK Economic Operator

**EXFO Europe Service Center**  
Winchester House, School Lane  
Chandlers Ford, Hampshire S053 4DG  
ENGLAND

Tel.: +44 2380 246800  
Fax: +44 2380 246801  
[support.europe@exfo.com](mailto:support.europe@exfo.com)



## General Safety Information



### **WARNING**

Do not install or terminate fibers while a light source is active. Never look directly into a live fiber and ensure that your eyes are protected at all times.



### **WARNING**

The use of controls, adjustments and procedures, namely for operation and maintenance, other than those specified herein may result in hazardous radiation exposure or impair the protection provided by this unit.



### **WARNING**

If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.



### **WARNING**

Use only accessories designed for your unit and approved by EXFO. For a complete list of accessories available for your unit, refer to its technical specifications or contact EXFO.




### **IMPORTANT**

Refer to the documentation provided by the manufacturers of any accessories used with your EXFO product. It may contain environmental and/or operating conditions limiting their use.



## IMPORTANT




When you see the following symbol on your unit , make sure that you refer to the instructions provided in your user documentation. Ensure that you understand and meet the required conditions before using your product.



## IMPORTANT



When you see the following symbol on your unit , it indicates that the unit is equipped with a laser source, or that it can be used with instruments equipped with a laser source. These instruments include, but are not limited to, modules and external optical units.



## IMPORTANT

Other safety instructions relevant for your product are located throughout this documentation, depending on the action to perform. Make sure to read them carefully when they apply to your situation.



## CAUTION

The use of voltages higher than those indicated on the MCB board, in this notice, or in the user guide may damage the unit.

## **Laser Safety Information**

Your instrument is in compliance with standards IEC 60825-1: 2014 and 21 CFR 1040.10, as per Laser Notice No. 42, dated December 18, 1989.

Laser radiation may be encountered at the optical output port.

The following label indicates that a product contains a Class 1 source:



For use with only Class 1 transceivers.






### **WARNING**

Verify the Laser class of the transceiver before powering up the Module Compliance Board.

## Other Safety Symbols on Your Unit

One or more of the following symbols may also appear on your unit.

Symbol	Meaning
	Direct current
	The unit is equipped with an earth (ground) terminal.
	Caution hot surface



### WARNING

- Use this unit indoors only.
- Operation of any electrical instrument around flammable gases or fumes constitutes a major safety hazard.
- To avoid electrical shock, do not operate the unit if any part of the board is damaged.
- Only authorized personnel should carry out adjustments, maintenance or repair of opened units under voltage. A person qualified in first aid must also be present. Do not replace any components of the Module Compliance Board Series while the power cable is connected.
- Unless otherwise specified, all interfaces are intended for connection to ES1 circuits only.
- Capacitors inside the unit may be charged even if the unit has been disconnected from its electrical supply.



**CAUTION**



Position the unit so that the air can circulate freely around it.



**CAUTION**

A fan must be installed for cooling the transceiver. Monitor and ensure the transceiver does not exceed its maximum operating temperature.

# Equipment Ratings

Equipment Ratings		
Temperature	Operation	-40 °C to 85 °C (-40 °F to 185 °F)
	Storage	-40 °C to 70 °C (-40 °F to 158 °F)
Relative humidity		up to 95 % non-condensing
Maximum operation altitude		5000 m (9842 ft)
Pollution degree		2
Overvoltage category		I
Measurement category		Not rated for measurement categories II, III, or IV
Input power	QSFPDD-O QSFPDD-K OSFP-O OSFP-K DSFP	3.1 - 3.5 V  ; 6 A max
	QSFP28-K QSFP56-O SFPDD SFP28-90 SFP28-180	3.1 - 3.5 V  ; 2.5 A max

## General Maintenance

To help ensure long, trouble-free operation:

- Keep the unit free of dust.
- Store unit at room temperature in a clean and dry area. Keep the unit out of direct sunlight.
- Avoid high humidity or significant temperature fluctuations.
- Avoid unnecessary shocks and vibrations.
- If any liquids are spilled on or into the unit, turn off the power immediately, disconnect from any external power source, and let the unit dry completely.

**Note:** *Equipment is to be serviced by the manufacturer only.*

## Recycling and Disposal



This symbol on the product means that you should recycle or dispose of your product (including electric and electronic accessories) properly, in accordance with local regulations. Do not dispose of it in ordinary garbage receptacles.

For complete recycling/disposal information, visit the EXFO Web site at [www.exfo.com/recycle](http://www.exfo.com/recycle).

## **Contacting the Technical Support Group**

To obtain after-sales service or technical support for this product, contact EXFO at one of the following numbers. The Technical Support Group is available to take your calls from Monday to Friday, 8:00 a.m. to 7:00 p.m. (Eastern Time in North America).

### **Technical Support Group**

400 Godin Avenue  
Quebec (Quebec) G1M 2K2  
CANADA

1 866 683-0155 (USA and Canada)  
Tel.: 1 418 683-5498  
Fax: 1 418 683-9224  
[support@exfo.com](mailto:support@exfo.com)

For detailed information about technical support, and for a list of other worldwide locations, visit the EXFO Web site at [www.exfo.com](http://www.exfo.com).

If you have comments or suggestions about this user documentation, you can send them to [customer.feedback.manual@exfo.com](mailto:customer.feedback.manual@exfo.com).

To accelerate the process, please have information such as the name and the serial number (see the product identification label), as well as a description of your problem, close at hand.





## Contacting the Technical Support Group

CHINESE REGULATION ON RESTRICTION OF HAZARDOUS SUBSTANCES (RoHS) 中国关于有害物质限制的规定						
NAMES AND CONTENTS OF THE TOXIC OR HAZARDOUS SUBSTANCES OR ELEMENTS CONTAINED IN THIS EXFO PRODUCT 包含在本 EXFO 产品中的有毒有害物质或元素的名称及含量						
Part Name 部件名称	Lead 铅 (Pb)	Mercury 汞 (Hg)	Cadmium 镉 (Cd)	Hexavalent Chromium 六价铬 (Cr(VI))	Polybrominated biphenyls 多溴联苯 (PBB)	Polybrominated diphenyl ethers 多溴二苯醚 (PBDE)
Enclosure 外壳	O	O	O	O	O	O
Electronic and electrical sub-assembly 电子和电气组件	X	O	X	O	X	X
Optical sub-assembly <sup>a</sup> 光学组件 <sup>a</sup>	X	O	O	O	O	O
Mechanical sub-assembly <sup>a</sup> 机械组件 <sup>a</sup>	O	O	O	O	O	O
Note: 注: This table is prepared in accordance with the provisions of SJ/T 11364. 本表依据 SJ/T 11364 的规定编制。 O: Indicates that said hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement of GB/T 26572. O: 表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 标准规定的限量要求以下。 X: indicates that said hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement of GB/T 26572. Due to the limitations in current technologies, parts with the “X” mark cannot eliminate hazardous substances. X: 表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 标准规定的限量要求。 标记“X”的部件，皆因全球技术发展水平限制而无法实现有害物质的替代。 a. If applicable. 如果适用。						

## Contacting the Technical Support Group

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### MARKING REQUIREMENTS 标注要求

Product 产品	Environmental protection use period (years) 环境保护使用期限 (年)	Logo 标志
This EXFO product 本 EXFO 产品	10	
Battery <sup>a</sup> 电池	5	

a. If applicable.  
如果适用。