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IRT Eurocard

Type OFM-4260 & OFX-4260

4 Channel CWDM Fibre Optic Multiplexer / Demultiplexer

Designed and manufactured in Australia

**IRT can be found on the Internet at:
<http://www.irtelectronics.com>**

IRT Eurocard
Type OFM-4260 & OFX-4260
4 Channel CWDM Fibre Optic
Multiplexer / Demultiplexer
Instruction Book

Table of Contents

Section	Page
Operational Safety	2
General Description	3
Technical Specifications	4
Installation	5
Front and rear layouts	6
Maintenance & Storage	7
Warranty & Service	7
Equipment return	7
Drawing List Index	8

This instruction book applies to units later than S/N 0605001.

Operational Safety:

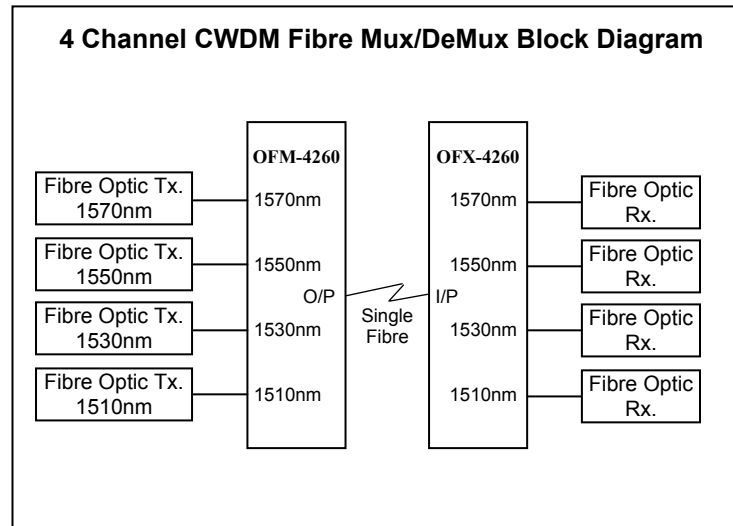
WARNING

Operation of electronic equipment involves the use of voltages and currents that may be dangerous to human life. Note that under certain conditions dangerous potentials may exist in some circuits when power controls are in the **OFF** position. Maintenance personnel should observe all safety regulations.

Do not make any adjustments inside equipment with power **ON** unless proper precautions are observed. All internal adjustments should only be made by suitably qualified personnel. All operational adjustments are available externally without the need for removing covers or use of extender cards.

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4 Channel CWDM Fibre Optic
Multiplexer / Demultiplexer

General Description



The OFM-4260 and OFX-4260 form a coarse wave division optical wavelength division multiplexer / demultiplexer (CWDM) pair for combining and separating up to four optical signals of 1510nm, 1530nm, 1550nm and 1570nm wavelengths for uni-directional transmission on the one fibre.

With the high cost of hiring or installing additional dark fibre it makes economical sense to maximise the use of existing infrastructure.

Used in combination with IRT's extensive range of fibre transmitters / receivers and interface modules, a myriad of different signals types can be sent down the one fibre. With IRT's four channel fibre multiplexer/demultiplexer modules, for example, up to sixteen SDI signals can be sent down a single fibre. Or up to sixty-four ASI signals can be sent when also used with IRT's ASI multiplexer/demultiplexer modules.

The OFM-4260 and OFX-4260 are designed to mount in either IRT's 1RU or 4000 series 3RU frames.

Standard features:

- **Four set CWDM optical wavelength inputs and outputs**
- **Low insertion loss**
- **SC/PC type of optical connectors**

Technical Specifications

IRT Eurocard module Type OFM-4260 & OFX-4260

Type	4 Channel CWDM multiplexer/demultiplexer.
Wavelengths	1510 nm, 1530 nm, 1550 nm & 1570 nm.
Fibre	Single mode.
Connector Type	SC/PC.
Maximum Power Handling	300 mW.
Bandwidth @ -0.5 dB	> 15 nm.
Insertion loss	< 2.5 dB (< 2.0 dB typically).
Passband Ripple	< 0.3 dB.
Uniformity	< 1.5 dB.
Return Loss	> 50 dB.
Directivity	> 50 dB.
Channel Isolation	> 30 dB.
Non Adjacent Channel Isolation	> 40 dB.
Polarization Dependent Loss	< 0.15 dB.

Other

Temperature range	-10 - 70° C ambient.
Mechanical	Suitable for mounting in IRT's 19" 4000 series 3RU rack frame or 1RU frame with input and output connections on the rear panel.
Finish	Front panel Grey background, black lettering & red IRT logo.
	Rear assembly Common connection mounted on bracket from main PCB.
Dimensions	6 HP x 3 U x 220 mm IRT Eurocard.

Due to our policy of continuing development, these specifications are subject to change without notice.

Installation

Pre-installation:

Handling:

This equipment may contain or be connected to static sensitive devices and proper static free handling precautions should be observed.

Where individual circuit cards are stored, they should be placed in antistatic bags. Proper antistatic procedures should be followed when inserting or removing cards from these bags.

Power:

AC mains supply: Ensure that operating voltage of unit and local supply voltage match and that correct rating fuse is installed for local supply.

DC supply: Ensure that the correct polarity is observed and that DC supply voltage is maintained within the operating range specified.

Earthing:

The earth path is dependent on the type of frame selected. In every case particular care should be taken to ensure that the frame is connected to earth for safety reasons. See frame manual for details.

Signal earth: For safety reasons a connection is made between signal earth and chassis earth. No attempt should be made to break this connection.

Installation in frame or chassis:

The OFM-4230 and OFX-4230 will only mount within an IRT 4000 series 3RU frame or 1000 series 1RU frame. There is no separate rear assembly on either of the OFM-4260 or OFX-4260 cards. Slide the unit through the front of the frame on the frame's inside runners. Screw in the front panel mounting screws to lock into place.

Fibre Connections:

The OFM-4260 and OFX-4260 cards come standard with SC/PC female types of connectors for connection with single mode fibre fitted with the corresponding mating male connectors.

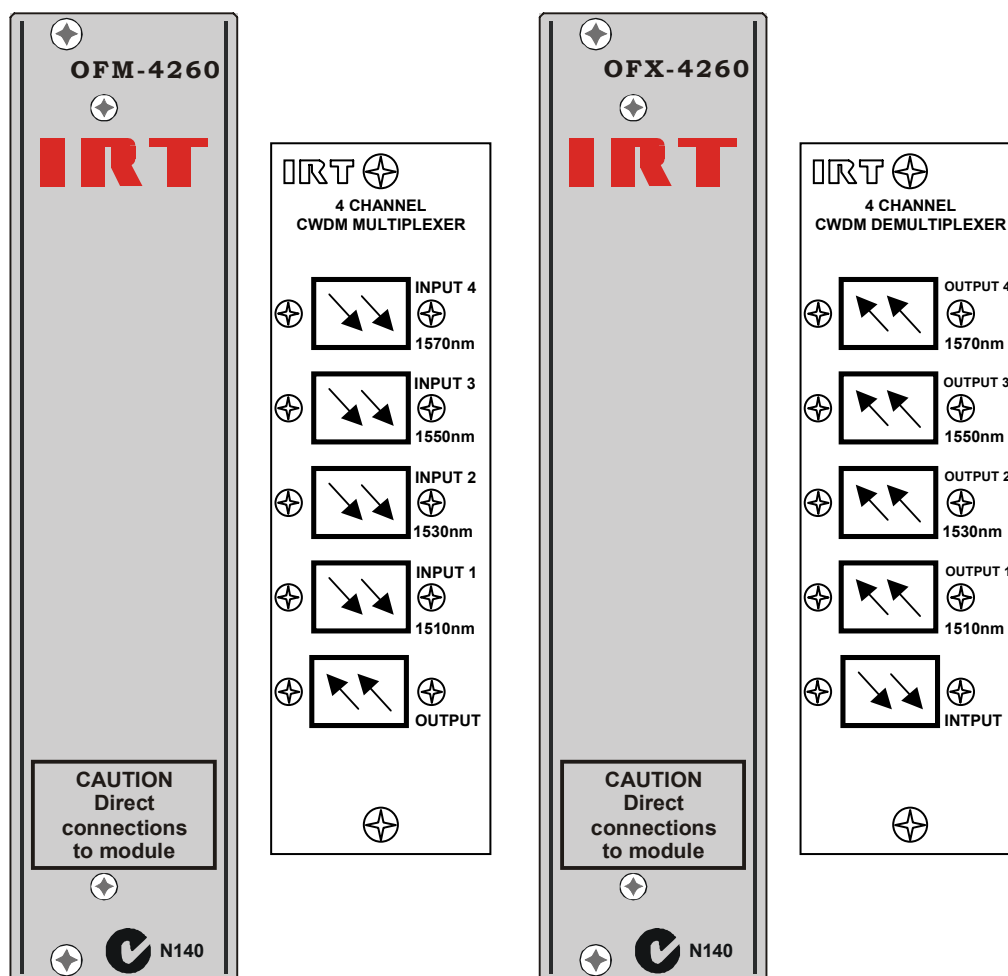
On the OFM-4260, there are four inputs labelled 1510nm, 1530nm, 1550nm and 1570nm. Each of these inputs must mate with the same corresponding wavelength of a dFB (CWDM) type of laser transmitter. Transmitters may be any type of IRT laser transmitter such as ASI/SDI, L-Band etc. just so long as they are fitted with a dFB laser at the appropriate wavelength.

The output of the OFM-4260 is the multiplexed version of the combined inputs. This feeds into the input of the OFX-4260 receiving unit.

On the OFX-4260, there are four outputs also labelled 1510nm, 1530nm, 1550nm and 1570nm. Each of these outputs must mate with a receiver module to match the corresponding input transmitter. Receiver modules are not wavelength sensitive and will work with any of the input wavelengths.

Front & rear panel connector diagrams

The following front panel and rear assembly drawings are not to scale and are intended to show connection order and approximate layout only.



Maintenance & storage

Maintenance:

No regular maintenance is required.

Care however should be taken to ensure that all connectors are kept clean and free from contamination of any kind. This is especially important in fibre optic equipment where cleanliness of optical connections is critical to performance.

Storage:

If the equipment is not to be used for an extended period, it is recommended the whole unit be placed in a sealed plastic bag to prevent dust contamination. In areas of high humidity a suitably sized bag of silica gel should be included to deter corrosion.

Where individual circuit cards are stored, they should be placed in antistatic bags. Proper antistatic procedures should be followed when inserting or removing cards from these bags.

Warranty & Service

Equipment is covered by a limited warranty period of three years from date of first delivery unless contrary conditions apply under a particular contract of supply. For situations when “**No Fault Found**” for repairs, a minimum charge of 1 hour’s labour, at IRT’s current labour charge rate, will apply, whether the equipment is within the warranty period or not.

Equipment warranty is limited to faults attributable to defects in original design or manufacture. Warranty on components shall be extended by IRT only to the extent obtainable from the component supplier.

Equipment return:

Before arranging service, ensure that the fault is in the unit to be serviced and not in associated equipment. If possible, confirm this by substitution.

Before returning equipment contact should be made with IRT or your local agent to determine whether the equipment can be serviced in the field or should be returned for repair.

The equipment should be properly packed for return observing antistatic procedures.

The following information should accompany the unit to be returned:

1. A fault report should be included indicating the nature of the fault
2. The operating conditions under which the fault initially occurred.
3. Any additional information, which may be of assistance in fault location and remedy.
4. A contact name and telephone and fax numbers.
5. Details of payment method for items not covered by warranty.
6. Full return address.
7. For situations when “**No Fault Found**” for repairs, a minimum charge of 1 hour’s labour will apply, whether the equipment is within the warranty period or not. Contact IRT for current hourly rate.

Please note that all freight charges are the responsibility of the customer.

The equipment should be returned **to the agent who originally supplied the equipment** or, where this is not possible, to IRT direct as follows.

Equipment Service
IRT Electronics Pty Ltd
26 Hotham Parade
ARTARMON
N.S.W. 2064
AUSTRALIA

Phone: 61 2 9439 3744
Email: service@irtelectronics.com

Fax: 61 2 9439 7439

Drawing List Index

Drawing #	Sheet #	Description
804623		OFM-4260 CWDM Optic Fibre Multiplexer schematic diagram.
804625		OFX-4260 CWDM Optic Fibre DeMultiplexer schematic diagram.