

LiNbO₃ Modulator

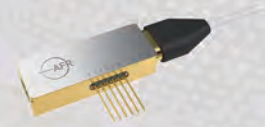


Thin-Film

C+L Band 70 GHz Intensity Modulator

- X-Cut Thin-Film LiNbO₃ Waveguides
- Optical Extinction Ratio \geq 25 dB
- Low Drive Voltage

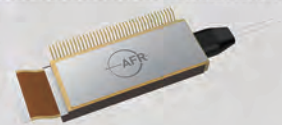
For Digital/Analog Transmission



C+L Band 130 GBaud CDM

- Optical Extinction Ratio \geq 23 dB
- Compatible with OIF-HB-CDM-2.0 IA Type-3

For DP-QPSK, DP-16QAM and DP-64QAM Coding



O-Band TFLN Modulator Chips

- Low Drive Voltage
- Low Optical Insertion Loss

For QSFP-DD/OSFP/OSFP-XD Type Transceiver Modules



Bulk

C-Band 40 GHz IQ Modulator

- Bandwidth Operating $>$ 30 GHz
- Optical Insertion Loss: 5 dB (typ.)
- Optical Extinction Ratio \geq 24 dB

Space-Grade



Dual Output Analog Modulator

- X-Cut, Y-Propagating LiNbO₃ substrate
- 1550 nm Window
- Low Optical Insertion Loss
- Enables Low CSO on both Outputs

For CATV Applications



C-Band 20/40 GHz Intensity Modulator

- 3 dB Bandwidth up to 32 GHz
- Low Optical Insertion Loss & Low Drive Voltage
- Integrated Polarizer
- Extended Operating Temperature at - 55 to + 85 °C

For Digital/Analog Transmission



C-Band 10 GHz Zero-Chirp Modulator

- Electro-Optic Bandwidth up to 12.5 GHz
- Optical Insertion Loss $<$ 4.5 dB
- Optical Extinction Ratio: 24 dB (typ.)
- RF V_π Voltage: 5 V (typ. @ 1 kHz)

For High Frequency RF Signal Over Fiber Optic Links



Phase Modulator

- 1060 nm band or C-band
- Frequency Response up to 10 GHz
- Low Optical Insertion Loss
- Extended Operating Temperature at - 55 to + 85 °C

For Ultra-Fast High Power Lasers and Quantum Applications



AFR Company Profile

Advanced Fiber Resources (AFR), established in 2000, is a leading supplier of fiber optical components. With its strong R&D and design capabilities, high efficient manufacturing process and strict quality control, AFR designs and manufactures standard and custom components, modulators, and provides contract manufacturing solutions to our customers. Our products are widely used in fiber laser, telecom, data center, fiber sensing, autonomous driving, biomedical equipment, as well as research institutes and universities around the globe. AFR's products have been sold to customers in more than 40 countries and regions worldwide.



24
Years of History



2017
IPO in China



115,000
m² Facility



300
Engineers



600
Customers



2,000
Employees

AFR MILAN: A world leader in LN modulators with 40 years of history



1988

First Lithium Niobate (LiNbO₃) Process

1994

CATV Modulator Installation

2001

40 Gb/s Modulator

2007

Z-Cut Modulators

2011

100G Modulators PM-QPSK

2019

Acquired by AFR

1993

First Field Installed 2.5 Gb/s Modulators

1998

Field Deployed 10 Gb/s Modulator

2002

Integrated Modulator & Driver Module

2010

40G DQPSK Modulators

2016

400G



Advanced Fiber Resources

No. 399, Chuangxin 3rd Road, Tangjia, Zhuhai, China 519080
Tel: +86 756 389 8088
E-mail: sales@fiber-resources.com
www.fiber-resources.com



AFR Milan

Via Federico Fellini, 4-San Donato Milanese (MI) 20097, Italy
Tel: +39 02 51884270
E-mail: salesmilan@fiber-resources.com
www.afrmilan.com