LM-DPQAM-R

DEVICE

Lightwave Modulator for DP-QAM

OVERVIEW

The Optilab LM-DPQAM-R is a high performance Dual Polarization Quadrature Amplitude Modulation (DP-QAM) lightwave modulator designed for Optical Communication up to 400 Gb/s or beyond. The LM-DPQAM-R incorporates an external laser source (DFB, tunable laser) which couples into a four IQ drive speed MZI modulator for DPQAM modulation, with four broadband modulator drivers. The LM-DPQAM-R can also be used for Quadrature Amplitude Modulation (QAM). The LM-DPQAM-R has a built-in Automatic Bias Control board which allows for stable long-term operation, with up to 4 bias operating modes. Adjustable RF gain through the front panel interface and LabVIEW software can be performed. Contact Optilab for more information.

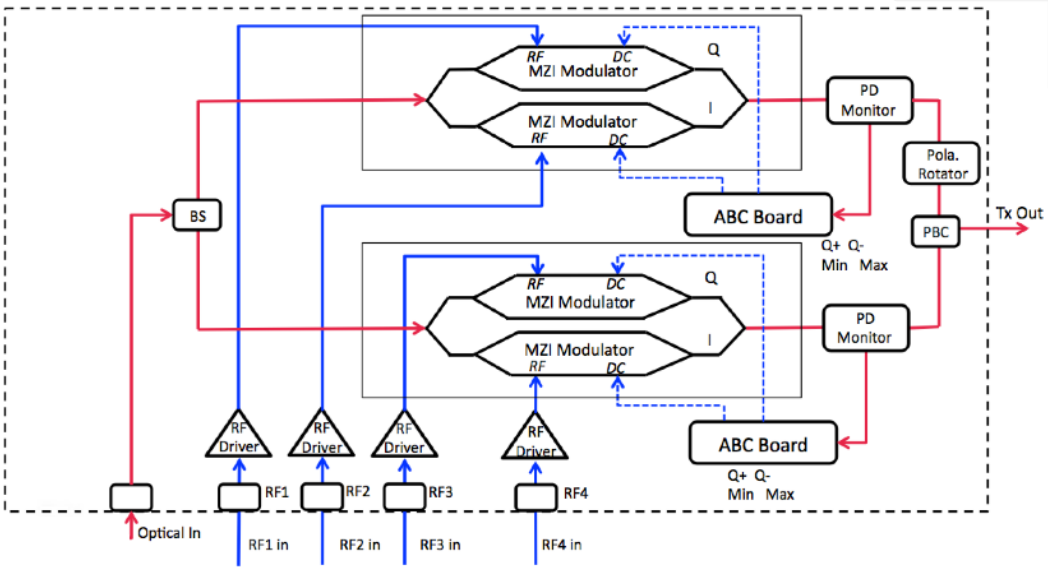
FEATURES

- Up to 400 Gb/s bit rate
- Quadrature modulator driver
- Four IQ modulators
- Four auto bias modes

USE IN

- Optical communications
- Analog transmission
- Picosecond pulse generation
- Research and development
- Test and measurement

FUNCTIONAL DIAGRAM



LM-DPQAM-R

SPECIFICATIONS

GENERAL

Bit Rate/Bandwidth	See Table 1.0
External Optical Input Level	+ 20 dBm max.
Impedance	50 Ω typ.
Modulator Bias Mode	Automatic bias control modes
Input RF Voltage Range	250 mW to 750 mW typ.
Eye Crossing Adjustment	Available

MECHANICAL

Operating Temperature	-10°C to +60°C
Storage Temperature	-50°C to +90°C
Power Supply Requirements	110/220 VAC, 50-60 Hz
Optical Connectors	Diamond ADT-UNI APC
Input Fiber Type	PANDA PM
Output Fiber Type	SMF-28 standard; PANDA PM optional
RF Input Connector	K type
Remote Control	USB 2.0 and LabVIEW software included
Alarm	Bias mode status, over temperature
Dimensions	1RU 482.60(L) x 470.57(W) x 44.00(H)

TABLE 1.0
BANDWIDTH OPTIONS

Model #	Bit Rate	Analog Bandwidth
LM-DPQAM-100-R	100 Gb/s min.	15 GHz typ. For each modulator
LM-DPQAM-200-R	200 Gb/s min.	25 GHz typ. For each modulator
LM-DPQAM-400-R	400 Gb/s min.	32 GHz typ. For each modulator

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BIAS CONTROL MODE

Mode	Operating Conditions	Modulation Format
Q+	Set to quadrature point of positive slope	Analog, NRZ
Q-	Set to quadrature point of negative slope	Analog, NRZ
Min	Set to min. point of modulator curve	Pulse, RZ, BPSK
Max	Set to max. point of modulator curve	Pulse, RZ

OPTIONS

LM-DPQAM-XX-R-YY

XX Bandwidth: See Table 1.0

YY PM: Polarization Maintaining Output (PM)