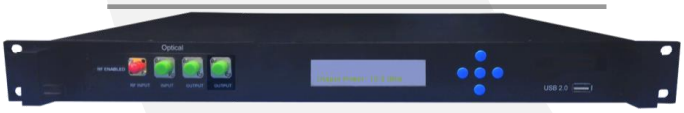
LM-DPSK-R



DEVICE

Lightwave Modulator for Dual Phase Shift Key, up to 50 Gb/s

OVERVIEW

The Optilab LM-DPSK-R is a high-performance Binary Phase Shift Key (DPSK) lightwave modulator solution designed for Optical Communication up to 40 Gb/s or beyond. The LM-DPSK-R incorporates an external laser source which couples into a low-drive & high-speed MZI modulator for BPSK/ DPSK modulation, with a broadband modulator driver. The LM-DPSK-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.

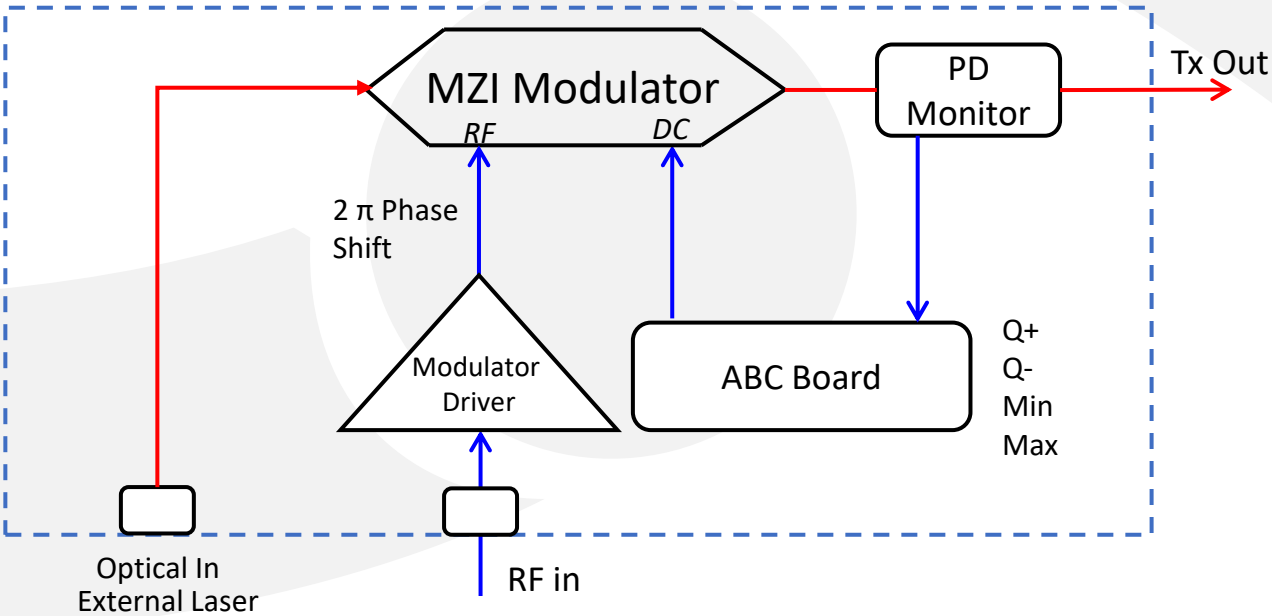
FEATURES

- Up to 50 Gb/s bit rate
- Integrated modulator driver
- Four auto bias modes
- Low drive modulator for 2 π modulation
- External User's Laser Selection
- RS-232 Communication

USE IN

- Optical communications
- Free space communication
- Picosecond pulse generation
- Research and development
- Test and measurement

FUNCTIONAL DIAGRAM



LM-DPSK-R

SPECIFICATIONS

GENERAL

Bit Rate/Bandwidth	See Table 1.0
External Optical Input Level	+ 20 dBm max.
Impedance	50 Ω typ.
Optical Output Power	6 dB 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	FC/APC, others optional
Input Fiber Type	PANDA PM
Output Fiber Type	SMF-28 standard; PANDA PM optional
RF Input Connector	See Table 1.0
Remote Control	USB 2.0 and LabVIEW software included
Alarm	Bias mode status, over temperature
Dimensions	1RU 482.6 (L) mm x 470.57 (W) mm x 44 (H) mm

TABLE 1.0 BANDWIDTH OPTIONS

Model #	Bit Rate	Analog Bandwidth	RF Connector
LM-DPSK-10-R	12 Gb/s min.	10 GHz typ.	SMA type
LM-DPSK-20-R	20 Gb/s min.	17 GHz typ.	K type
LM-DPSK-30-R	32 Gb/s min.	25 GHz typ.	K type
LM-DPSK-40-R	40 Gb/s min.	32 GHz typ.	K type
LM-DPSK-50-R	50 Gb/s min.	40 GHz typ.	V type

ORDERING OPTIONS

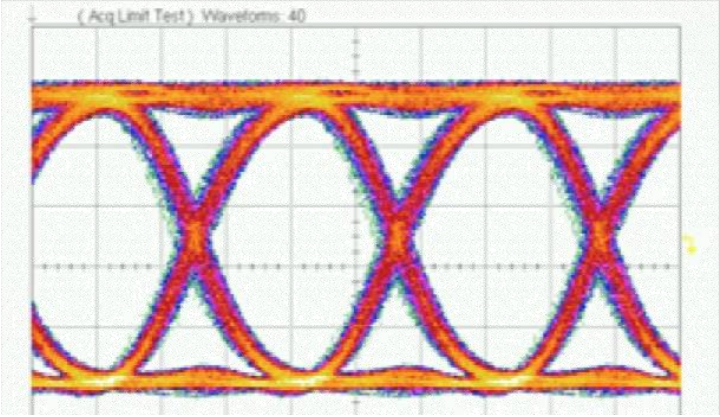
LM-DPSK-XX-R-YY-ZZ

XX Bandwidth: See Table 1.0

YY PM: Polarization Maintaining Output Fiber

LM-DPSK-R

EYE DIAGRAM

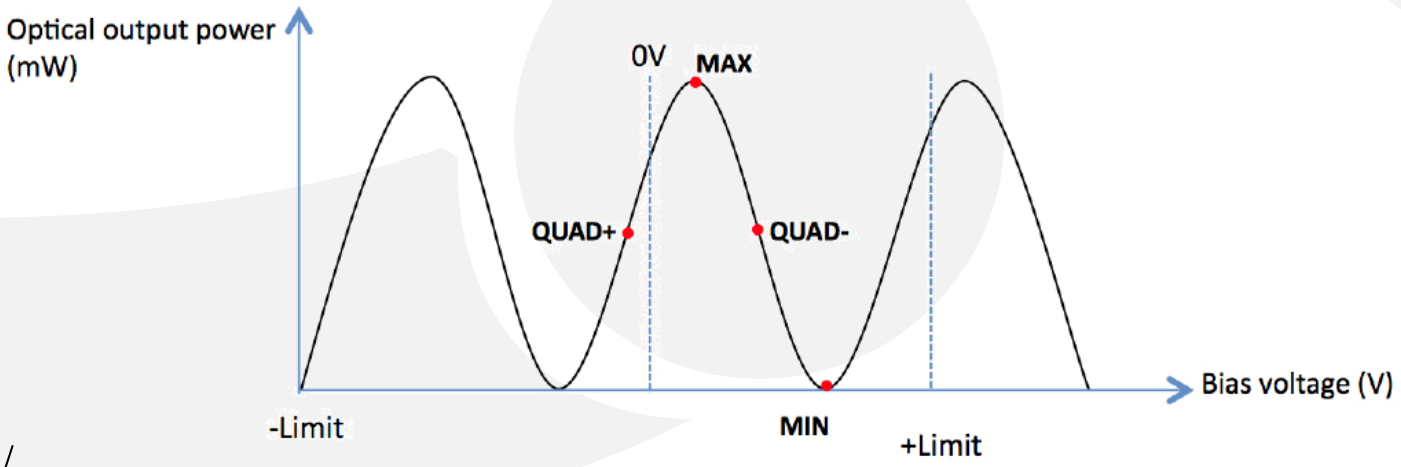


BIAS CONTROL MODE

Mode	Operation 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

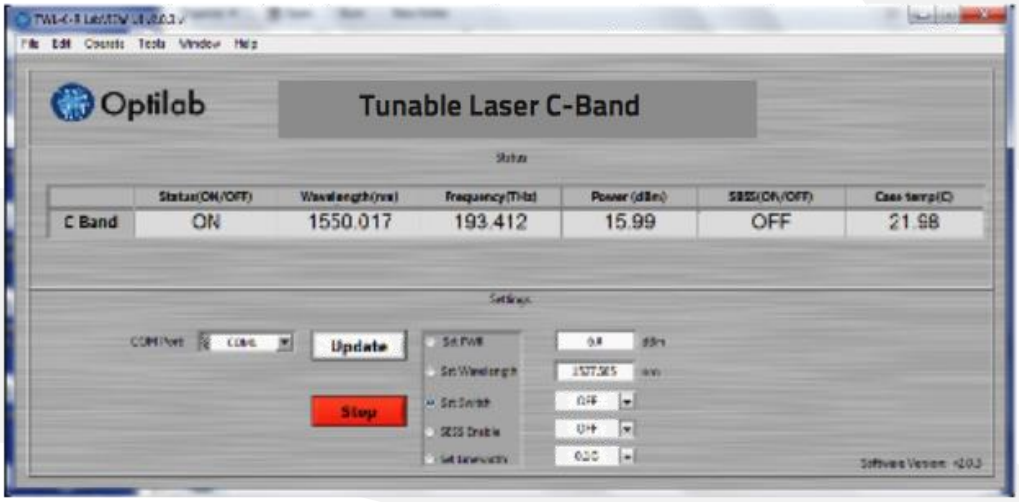
BIAS SETTING MODES FOR LM-DPSK-R

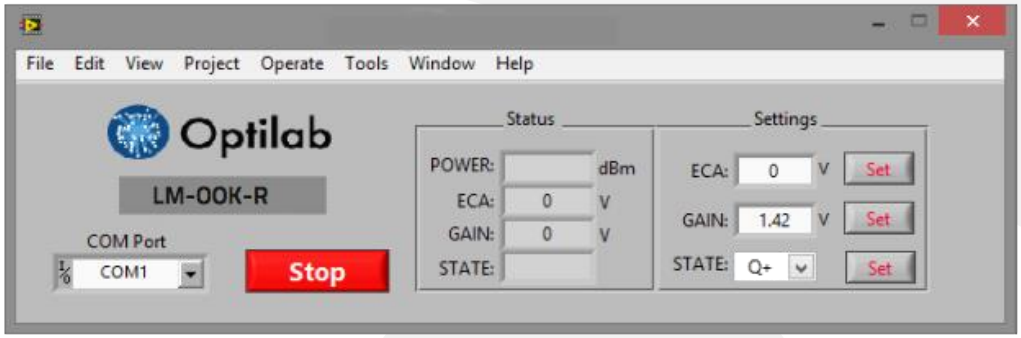
Based on a sophisticated phase measurement of a small dither signal, the LM-DPSK-R provides four selectable operating modes: quadrature (Quad +), inverted quadrature (Quad -), minimum (Min), or maximum (Max) points.



LM-DPSK-R REMOTE LABVIEW INTERFACE

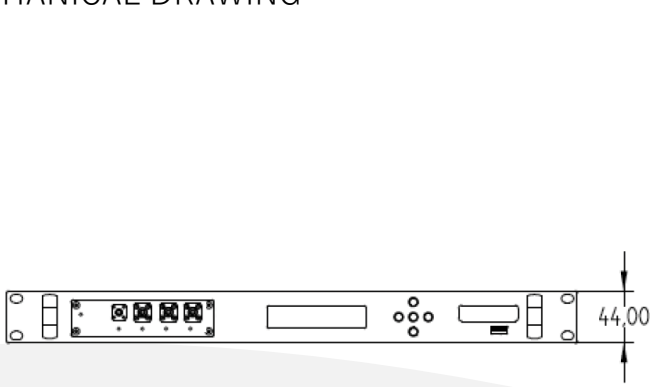
Optilab offers remote interface via Labview software for laser, modulator driver and MZI modulator parameter adjustment and status monitoring, contact Optilab for more details.

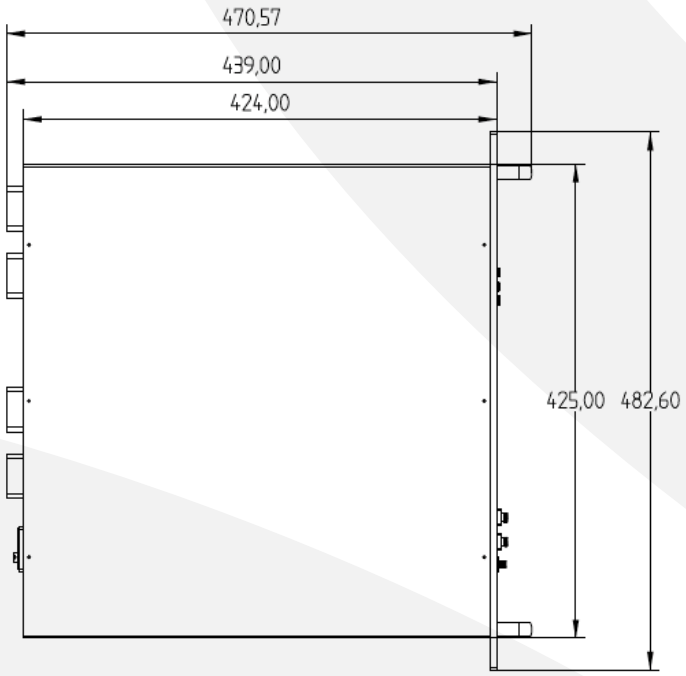




LM-DPSK-R

MECHANICAL DRAWING





RELATED ITEM

- LT-DPSK-R

The Optialb LT-DPSK-R is a high-performance Binary Phase Shift Key (DPSK) lightwave transmitter designed for optical communication up to 40 Gb/s or beyond using Integrated internal laser. Contact Optilab for more information.