

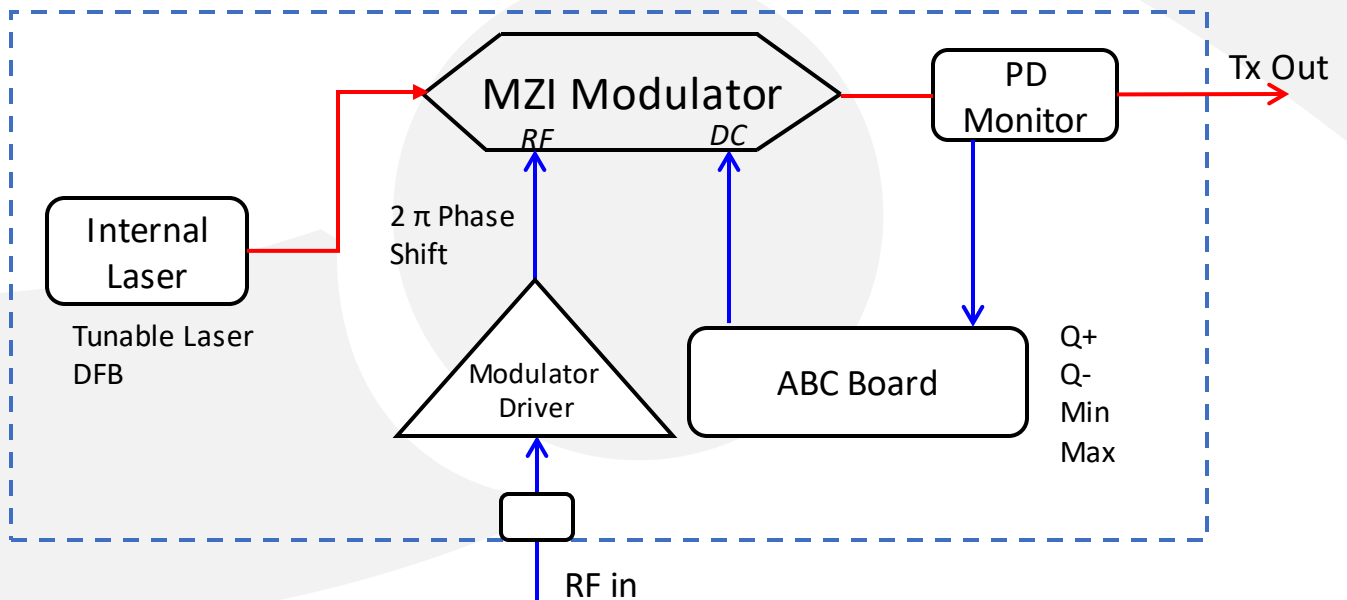
DEVICE **Lightwave Transmitter for Dual Phase Shift Key, up to 50 Gb/s**

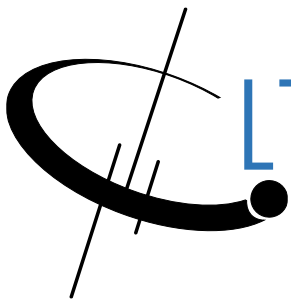
OVERVIEW The Optilab LT-DPSK-R is a high-performance Differential Phase Shift Key (DPSK) lightwave transmitter designed for Optical Communication up to 40 Gb/s or beyond. The LT-DPSK-R incorporates an internal laser source (DFB or tunable laser) which couples into a low-drive & high-speed MZI modulator for BPSK/ DPSK modulation, with a broadband modulator driver. The LT-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 remote control through RS232 communication can be performed. Contact Optilab for more information.

- FEATURES
- Up to 50 Gb/s bit rate
 - Integrated Modulator Driver
 - Internal Automatic Bias Controller
 - Low drive modulator for 2π modulation
 - Integrated DFB or Tunable Laser
 - RS-232 Communication

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

FUNCTIONAL DIAGRAM





LT-DPSK-R

SPECIFICATIONS

GENERAL

Bit Rate/Bandwidth	See Table 1.0
Internal Laser Source	See Table 2.0
Impedance	50 Ω typ.
Optical Output Power	6 dB typ.
Modulator Bias Mode	Automatic bias control modes
Input RF Voltage Range	250 mV to 750 mV 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 softw are 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
LT-DPSK-10-R	12 Gb/s min.	10 GHz typ.	SMA type
LT-DPSK-20-R	20 Gb/s min.	17 GHz typ.	K type
LT-DPSK-30-R	32 Gb/s min.	25 GHz typ.	K type
LT-DPSK-40-R	40 Gb/s min.	32 GHz typ.	K type
LT-DPSK-50-R	50 Gb/s min.	40 GHz typ.	V type

TABLE 2.0
LASER SOURCE
OPTIONS

Model #	Laser Source	Wavelength	Linewidth
LT-DPSK-R-DD	DFB D band	1310 \pm 10 nm	3 MHz typ.
LT-DPSK-R-DC	DFB C band	1550 \pm 10 nm	3 MHz typ.
LT-DPSK-R-DL	DFB L band	1580 \pm 10 nm	3 MHz typ.
LT-DPSK-R-TC	Tunable C band	1527 - 1567 nm	2MHz typ. < 100 kHz Optional *
LT-DPSK-R-TL	Tunable L band	1570 - 1608 nm	2MHz typ. < 100 kHz Optional *
LT-DPSK-R-CL	Tunable C+L band	1527 - 1608 nm	2MHz typ. < 100 kHz Optional *

* Intrinsic linewidth

ORDERING OPTIONS

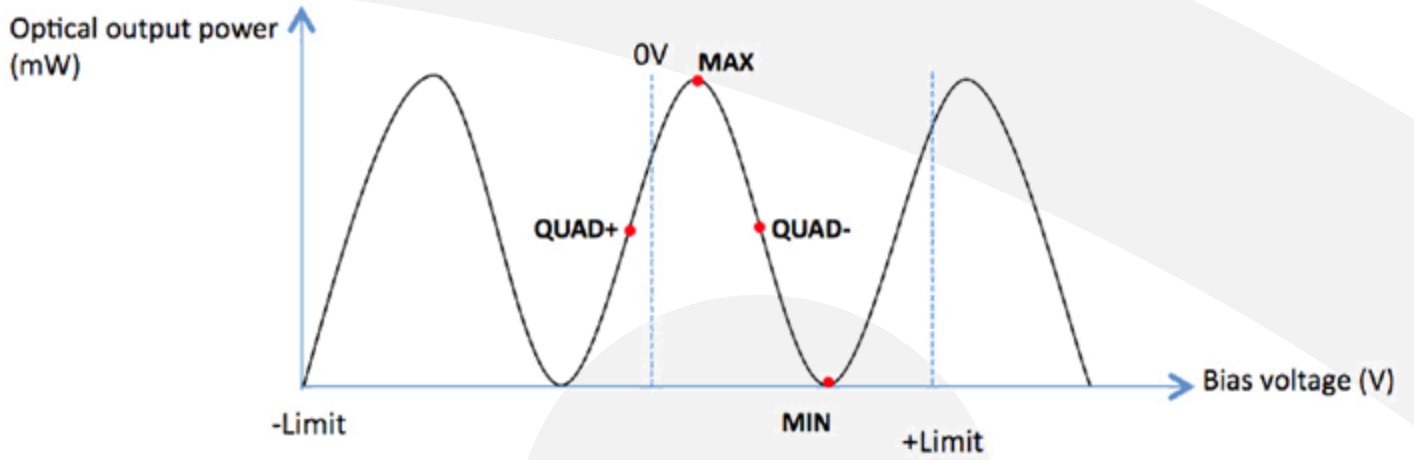
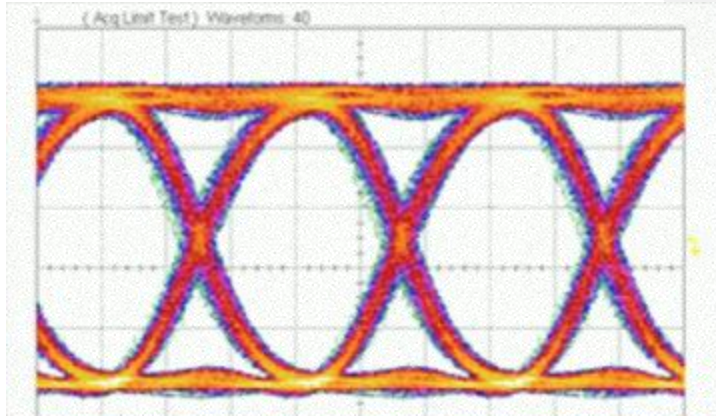
LT-DPSK-XX-R-YY-ZZ

- XX** Bandwidth: See Table 1.0
- YY** Laser Source: See Table 2.0
- ZZ** PM: Polarization Maintaining Output



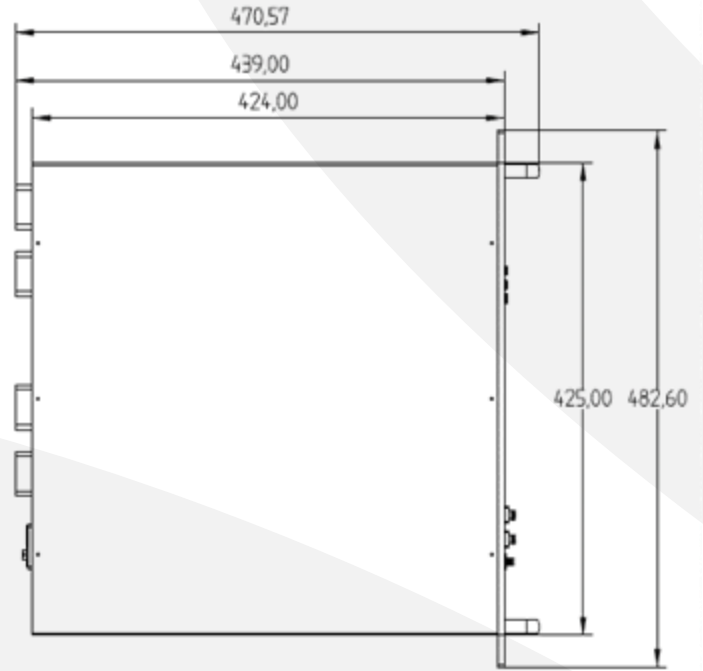
LT-DPSK-R

EYE DIAGRAM



LT-DPSK-R

MECHANICAL DRAWING



RELATED ITEM

- LM-DPSK-R



The Optilab LM-DPSK-R is a high-performance Differential Phase Shift Key (DPSK) lightwave modulator solution designed for optical communication up to 40 Gb/s or beyond with optional user's external laser selection. Contact Optilab for more information.

