

LT-OOK-R



DEVICE

Lightwave Transmitter for ON OFF Key, up to 50 Gb/s

OVERVIEW

The Optilab LT-OOK-R is a high performance ON OFF Key (OOK) lightwave transmitter designed for Optical Communication up to 50 Gb/s or beyond. The LT-OOK-R incorporates an internal laser source (DFB, tunable laser) which couples into a high speed MZI modulator for OOK modulation, with a broadband modulator driver. The LT-OOK-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.

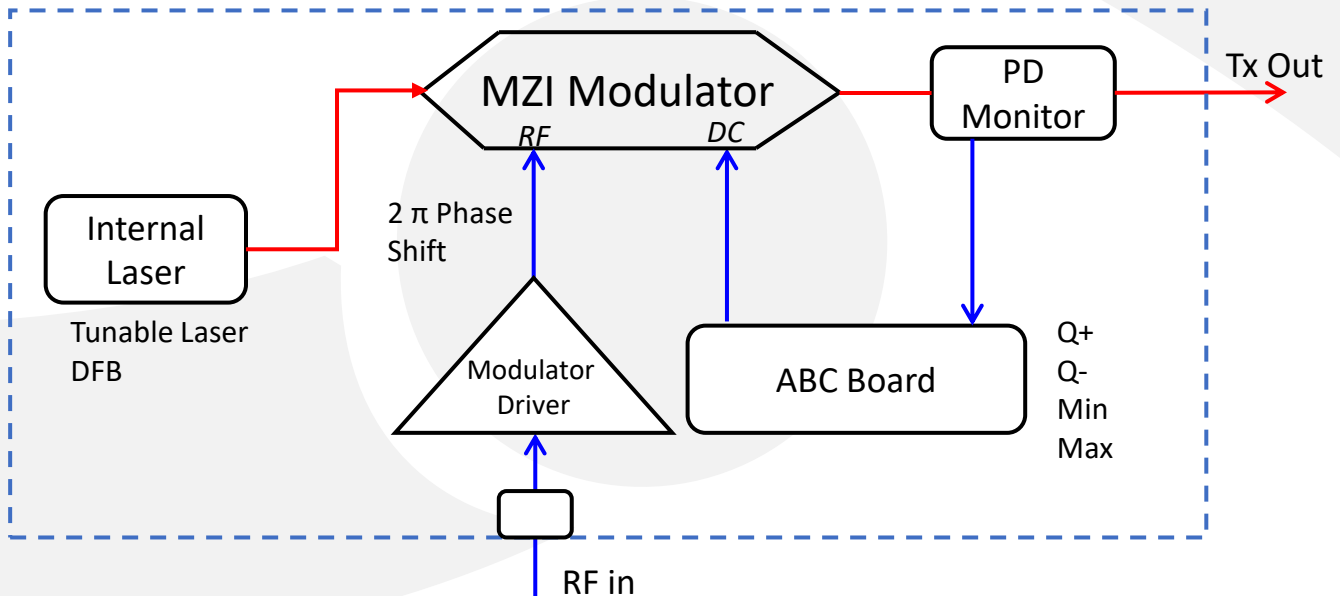
FEATURES

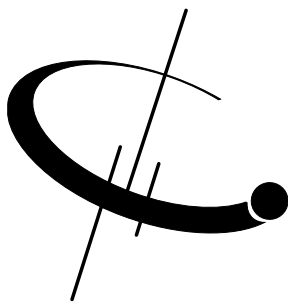
- Up to 50 Gb/s bit rate
- Integrated Modulator Driver
- Internal Automatic Bias Controller
- Low drive modulator for 2π modulation
- Integrated DFB or Tunable Laser
- RS-232 Communication

USE IN

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

FUNCTIONAL DIAGRAM





LT-00K-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 dBm 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
LT-00K-10-R	12 Gb/s min.	10 GHz typ.	SMA type
LT-00K-20-R	20 Gb/s min.	17 GHz typ.	K type
LT-00K-30-R	32 Gb/s min.	25 GHz typ.	K type
LT-00K-40-R	40 Gb/s min.	32 GHz typ.	K type
LT-00K-50-R	50 Gb/s min.	40 GHz typ.	V type

TABLE 2.0
LASER SOURCE
OPTIONS

Model #	Laser Source	Wavelength	Linewidth
LT-00K-R-DD	DFB D band	1310 \pm 10 nm	3 MHz typ.
LT-00K-R-DC	DFB C band	1550 \pm 10 nm	3 MHz typ.
LT-00K-R-DL	DFB L band	1580 \pm 10 nm	3 MHz typ.
LT-00K-R-TC	Tunable C band	1527 - 1567 nm	2MHz typ. < 100 kHz Optional *
LT-00K-R-TL	Tunable L band	1570 - 1608 nm	2MHz typ. < 100 kHz Optional *
LT-00K-R-CL	Tunable C+L band	1527 - 1608 nm	2MHz typ. < 100 kHz Optional *

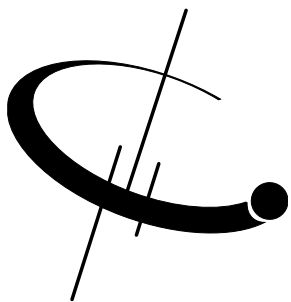
* Intrinsic linewidth

ORDERING OPTIONS

LT-00K-XX-R-YY-ZZ

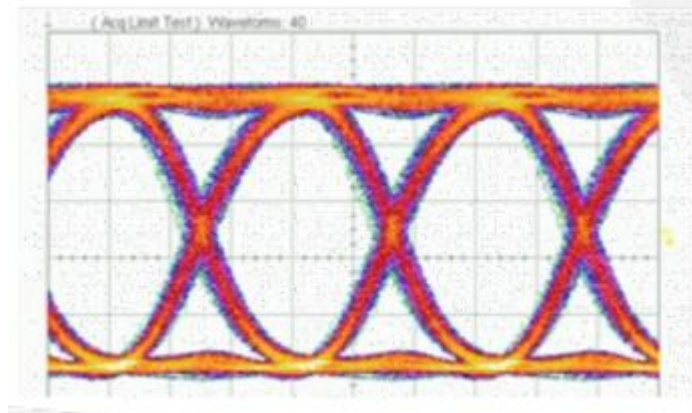
- XX** Bandwidth: See Table 1.0
- YY** Laser Source: See Table 2.0
- ZZ** PM: Polarization Maintaining Output





LT-00K-R

EYE DIAGRAM



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

