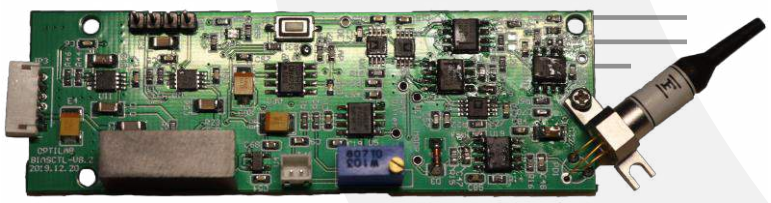
# BCB-4



DEVICE

## Modulator Bias Control Board, Four Bias Mode

OVERVIEW

The Optilab BCB-4 is a compact bias control board designed to maintain the linear operating point of optical intensity modulators. Featuring a compact miniature design for OEM integration, the BCB-4 allows for a stable Q+, Q-, Min and Max operation over long periods of time. With a single +5V DC power and RS485 multi-addressing control and monitor interface, the BCB-4 unit is the ideal choice for industrial and OEM applications when paired with any of Optilab's wide variety of optical modulators, contact Optilab for more information.

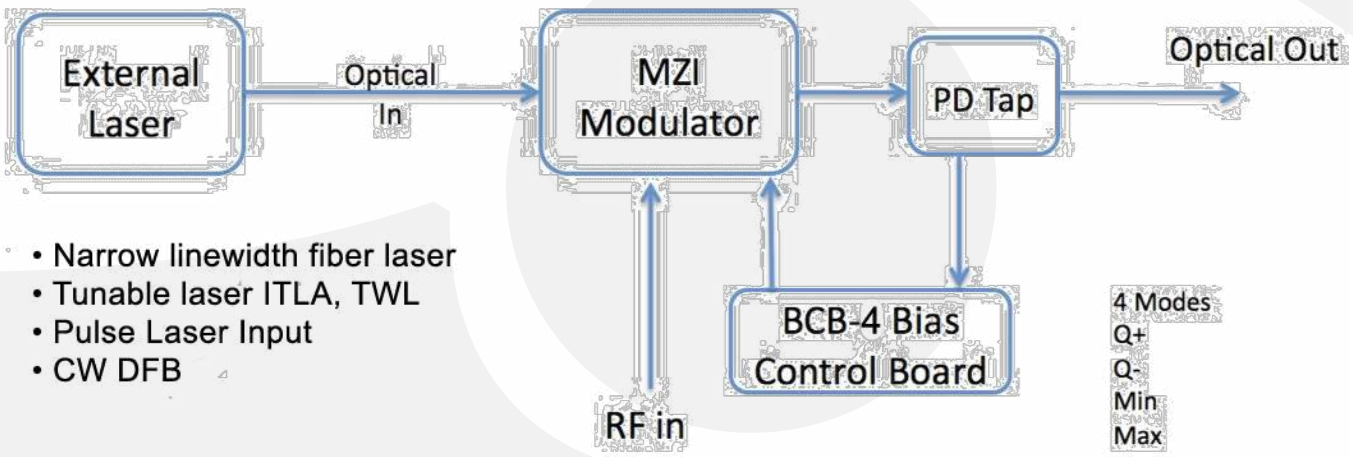
FEATURES

- Q+, Q-, Min., Max. bias setting modes
- On-Board Photodiode
- RS-485 Control
- Single +5V DC Power

USE IN

- RF/IF Signal Distribution
- Satellite Communication
- Optical Communications
- Bandwidth RFoF Transmission
- Picosecond Pulse Generation
- High Bandwidth RFoF Transmission
- Pulse picking/gating

FUNCTIONAL DIAGRAM



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## SPECIFICATIONS

### GENERAL

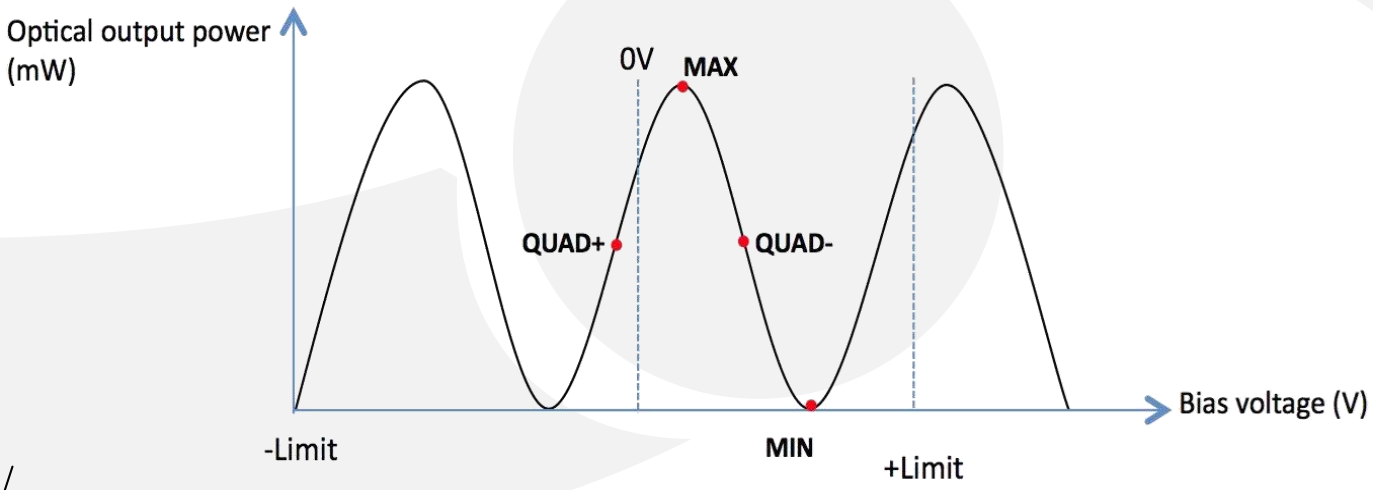
| | |
|---|---|
| Modulator Type | Mach Zehnder Interferometer |
| Bias Control Principle | Small Signal Dithering/Phase lock loop |
| Dither Frequency | 1 kHz |
| Dither Amplitude | 20 to 300 mVpp adjustable |
| Feedback Optical Power @ MAX | -20 to -5 dBm |
| Bias Output Voltage | ± 10 V |
| Modulator Voltage $V_{PI}$ Range | 3 -8 V |

### MECHANICAL

| | |
|---|---|
| Operating Temperature | -10°C to +60°C |
| Storage Temperature | -60°C to +90°C |
| Power Supply Requirements | 5 V, 100 mA typ. |
| Control Interface | RS-485 |
| Alarm | LED DC Power status |
| Dimensions | 132 mm x 26 mm x 8 mm |

### 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 |



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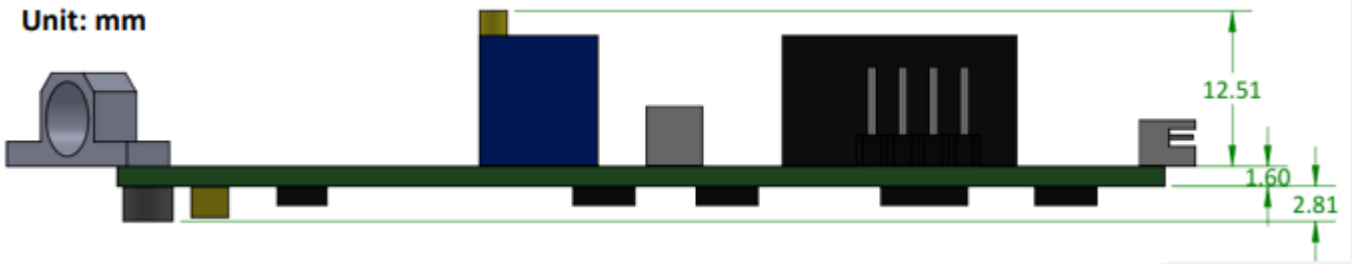
## MECHANICAL DRAWING




## CONTROL AND PINOUT