



MODULATOR BIAS CONTROLLER – DUAL-BIAS-SIL

Features

- Designed to be used with either single LN MZ modulators or silicon based modulators
- For Dual DC-Port Modulator to reach very high extinction ratio at null locking point
- Null locking mode only
- Two operation modes: calibration mode and locking mode
- Calibration off mode for quick system setup in locking mode
- Pulse mode for more precise null locking with pulse applications
- Three modulators can be controlled by one controller
- Bias Port can deliver current up to 250 mA (Note: Current limit is configurable per user request)
- Bias Port voltage adjustment capabilities from -12V to +12V
- Adjustable pilot tone amplitude via GUI
- One PD is integrated
- Access for external photo-detector
- USB Type C interface
- GUI via USB port is included, user can stop pilot tone in manual mode
- All settings are remotely controllable through GUI
- All the parameters can be read and displayed at GUI
- RS232DB9 or RS232FW (Flywires) interface available as an option
- PCB board Size (2.7" x 3.27" x 0.65")



MBC-DUAL-BIAS-SIL

Product Description

The Dual Port Modulator Bias Controller is a null locking only miniature OEM version of the Modulator Bias Controller (MBC) family. It is designed to be used with MZ modulators with two DC ports for extremely high extinction ratio operation in analog systems and/or applications.

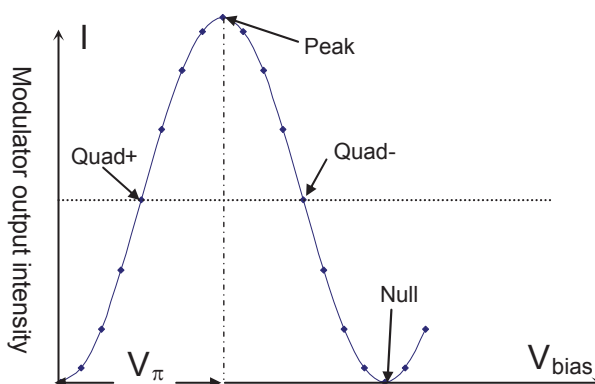


Figure 1. MZ modulator working function

Specifications

Parameters	Min.	Typ.	Max.
Optical Performance			
Detector Input Power ¹ (dBm)	-55		-40
Optical Wavelength ² (nm)	1000–1650		
Electrical Performance			
Bias Voltage (V)	-14		14
Bias Current (mA) ⁴		Configurable	250
Null Mode Extinction Ratio ³ (dB)		52	
Locking Mode	Null		
Pilot Tone			
Modulation Depth (NULL) %			0.1
Pilot Tone Amplitude (Vpp)(mV)	0	2	250

Parameters	Min.	Typ.	Max.
Power Supplies			
DC Positive Power Voltage (V)	16	16.5	17
DC Negative Power Voltage (V)	-16	-16.5	-17
DC Positive Power Current (mA)		190	
DC Negative Power Current (mA)		105	
General			
Operating Temperature (°C)	0–70		
Storage Temperature (°C)	-40–85		
Dimensions (inch)	2.7 x 3.57 x 0.65		
Weight (lb)	0.2		

¹ For a given input, detection power refers to the coupled optical power to both photodiodes of the bias controller when the modulator output is at its minimum attenuation (The detection power does not describe the detected power at locking status).

² With PD of different wavelength, the wavelength range can be expanded.

³ In this case, the modulator output power was greater than 0 dBm. 1% coupler was used.
The extinction ratio will be close to but not exceed the extinction ratio of the modulator.

⁴ Bias Current limit can be configured by manufacturer as per user request.

Part Number

MBC-DUAL-BIAS-SIL-PP-X

PP = Pigtailed Photodiode code:

PD = Pigtailed photodiode included

00 = Pigtailed photodiode not included

Leave connector code blank

X = Connector code:

3U = FC/UPC

3A = FC/APC

SCU = SC/UPC

SCA = SC/APC

LCU = LC/UPC

LCA = LC/APC