

Features

- » Compatible With Most Optical Modulators
- » Adjustable Input to Output Power Ratio Control
- » Local or Remote Adjustment of Control Ratio and Reset
- » Includes Optical Power Monitors
- » Simple to Integrate Into System
- » Includes Power Supply

Applications

- » Optical Modulator Communications Systems
- » RF and Microwave Photonic Transmitters
- » Spectroscopy Systems
- » Optical Test Systems
- » Optical Modulator Component Evaluation
- » Optical Delay Lines

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Description

The PSI-0404-11 ditherless modulator bias controller (MBC) offers a simple solution for precise control of electro-optical modulators. This controller accurately prevents bias point drift from any user defined point on the Mach-Zehnder transmission voltage curve by holding a fixed power ratio of the optical input and output of the modulator under control. Through the use of integrated optical tap coupler/power monitor devices, the PSI-0404-11 monitors the ratio of DC optical power level at the modulator's input and output ports. Precise feedback control circuitry maintains a user-set ratio through automatic adjustment of the bias voltage applied to the modulator under control.

Along with standard configurations, PSI can modify the PSI-0404-11 to meet system requirements . **Please contact PSI with you application needs.**

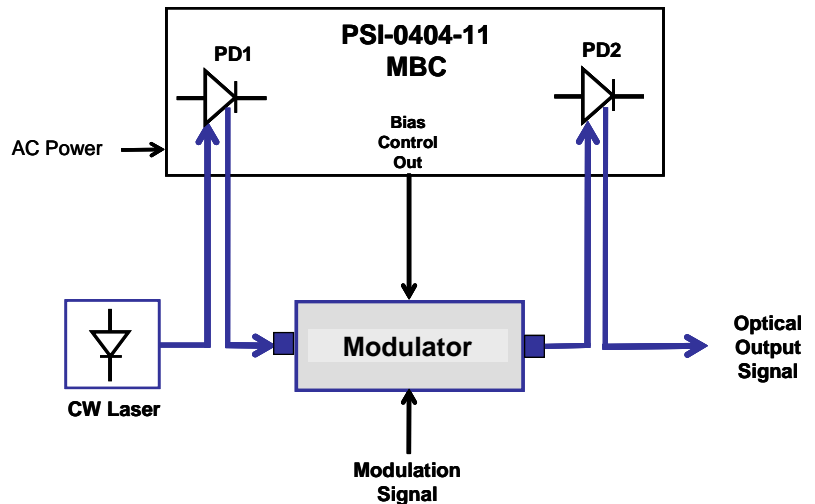


Figure 1: Typical System Configuration

Ordering Information

PSI Part Number	Description
PSI-0404-11	Power Ratio Controller Note: Please provide the following information at time of quote: <ul style="list-style-type: none"> • For PD1 selection, please specify maximum optical input power (PM fiber is assumed). • For PD2 selection, please specify maximum optical power out from modulator and the required fiber type (PM or SM available).

Performance Characteristics

Parameter	Condition	Min	Typ	Max	Units
Maximum Optical Input Power to Modulator	User specified value required by system up to max.			23	dBm
Optical Input Dynamic Range	From user defined max. level	20			dB
Maximum Optical Output Power from Modulator	User defined value and optical modulator dependent			20	dBm
Optical Output Dynamic Range	From user defined max. level	20			dB
Power Ratio Accuracy	Up to 30 dB of combined range	1			%
	Up to 40 dB of combined range	10			%
PD1 and PD2 Insertion Loss Range	Varies by Optical Power Selection	< 0.05 to <0.4			dB

Environmental Characteristics

Parameter	Condition	Min	Typ	Max	Units
Operating Temperature		-20		70	°C
Storage Temperature		-40		85	°C

Power Supply

Parameter	Condition	Min	Typ	Max	Units
PCB Supply Power	J1 Connector		16		V _{AC}
Power Supply Module (provided)	120 V _{AC} Input to 16 V _{AC} Output unit supplied with unit				

Pin-out and Jumper Descriptions

Designator	Pin	Description
J1	1	16 V _{AC} Input
J2	1	Modulator Bias Output Signal
	2	Ground
	3	Remote Controller Reset (Ground to Reset)
J3	1	Remote Ratio Set (or PD2 Monitor)
	2	Remote Ratio Set, Variable
	3	Remote Ratio Set (or PD1 Monitor)
JP2		Bias Polarity
JP3		Ratio Control Select: Local / Remote

Mechanical Dimensions

