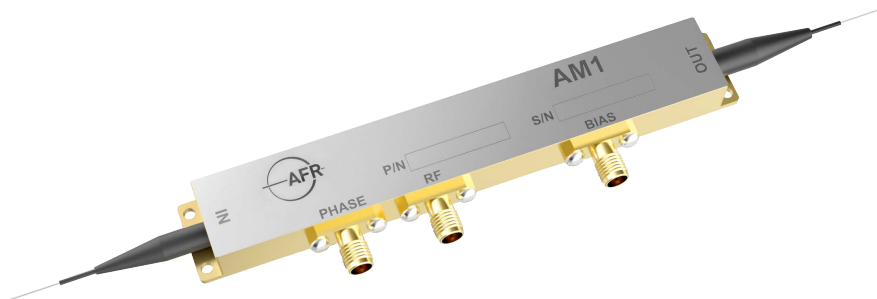


Dual Output Analog Modulator AM-1



AFR dual output analog modulator is designed according to the widely accepted for use in externally modulated 1550nm CATV transmitters. A polarizer is integrated for optimum CSO suppression. The modulator can be actively controlled by electronic to provide high levels of CSO and CTB suppression, as needed for CATV application.

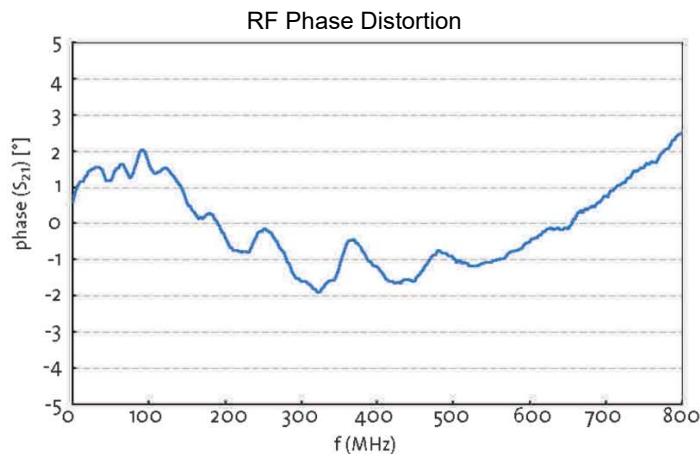
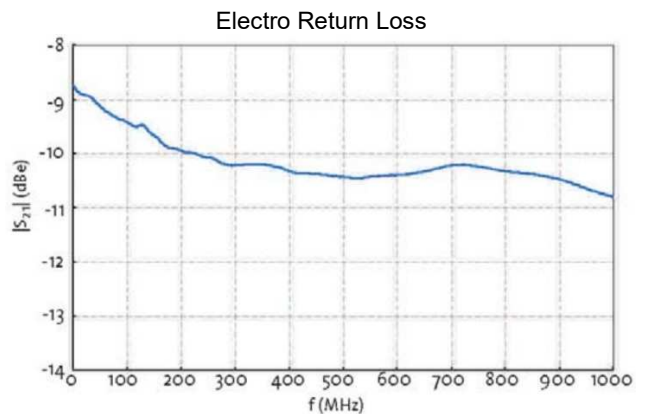
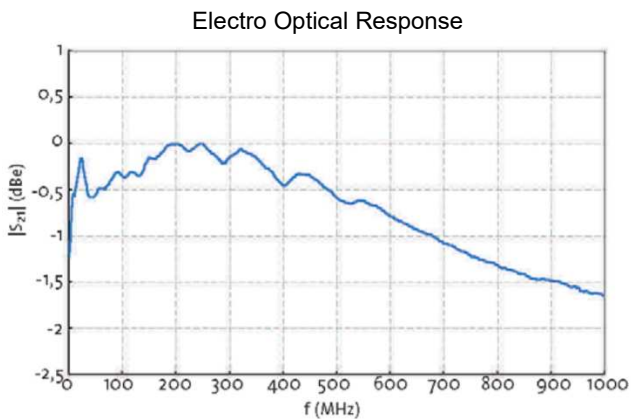
Key Features

- Titanium indiffused waveguides
- X-cut, Y-propagating LiNbO₃ substrates
- 1550nm window
- Travelling wave electrode design
- Separate bias electrode
- Dual output port, 180° phase difference
- Enables low CSO on both outputs
- Low drive voltage
- Low insertion loss
- High efficiency phase modulator electrode

Applications

- Externally intensity modulation in analogue transmission systems for CATV

Performance Characteristics



Absolute Maximum Ratings

Parameters	Min.	Max.	Unit	Conditions
Maximum RF input power		25	dBm	
Maximum phase input power		35	dBm	
Maximum optical input power		100	mW	CW
Maximum operating temperature variation rate		1	°C/min	
Storage temperature	-20	+70	°C	
Operating case temperature (T _{op})	0	70	°C	

T_{op}=25°C, unless otherwise specified

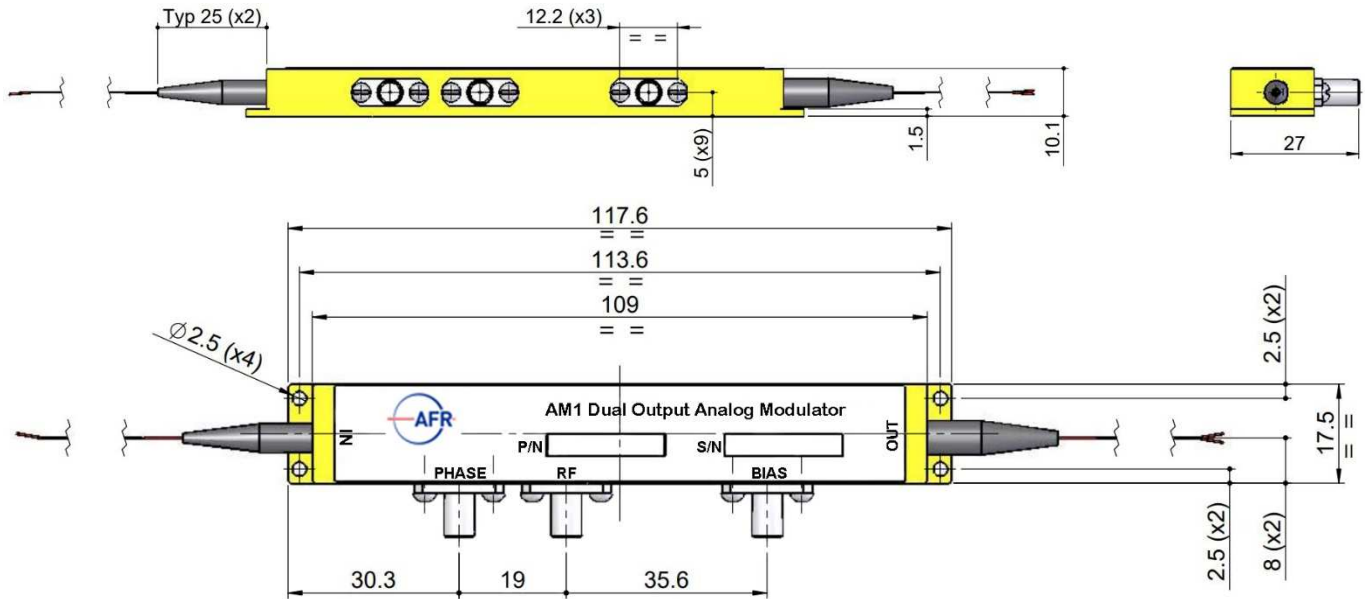
Optical and Electrical Specifications

Parameter	Min	Typical	Max	Unit
Optical				
Operating wavelength range	1540		1560	nm
Insertion loss		4	5	dB
Insertion loss impedance			0.8	dB
Extinction ratio	20			dB
Return loss (optical)	55			
Electrical				
E/O bandwidth roll-off (from 50 MHz to 200 MHz)			0.8	dB
E/O bandwidth roll-off (from 200 MHz to 1 GHz)			2.0	dB
RF power			12.5	dBm
RF V _π voltage (@ 1 kHz)		3.2	4.0	V
Bias V _π voltage (@ 1 kHz)		8.5	9.5	V
Phase V _π voltage (@ 2 kHz)			5.5	V
Phase V _π voltage (@ 6 kHz)			9.5	V
Optical phase flatness	-5		5	°
Return loss (electrical)			-8.7	dB
RF connector impedance		25		Ω
Bias connector impedance	1			kΩ
Phase connector impedance		50		Ω
Modulated phase difference between outputs	-0.5		0.5	°

T_{op}=25°C, BOL, wavelength 1555nm, unless otherwise specified

Insertion loss has to be measured before connectorization at the maximum of the modulator's transfer function and does not include the 3dB loss when operating in quadrature.

Mechanical Outline



Dimension are in mm.

Pin-out and Fiber Specifications

RF connector	SMA
Bias connector	SMA
Phase connector	SMA
Input fiber	Corning/Fujikura SM15P UV/UV400 (Panda fiber)
Output fiber	Corning SMF-28™

Ordering Information

For more information on this or other products and their availability, please contact your local AFR account manager or AFR directly at sales@fiber-resources.com.

Product Description	Part Number
1550nm Dual output analog LN Modulator - Input fiber : PMF, >1m, no connector - Output fiber : SMF28, >1m, no connector	792000500

RoHS Compliance

AFR is fully committed to environment protection and sustainable development and has set in place a comprehensive program for removing polluting and hazardous substrates from all of its products. The relevant evidence of 6/6 RoHS compliant with no exemption in case of no optical connector, under evaluation exemptions 6c for some optical connectors type.



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Reliability Requirements

The 1550nm dual output LN modulator is designed to meet Telcordia GR-468-Core requirements.

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