JENOPTIK

MORE LIGHT

Integrated optical amplitude modulator | bias version

Waveguide-based electro-optical light modulator

The Integrated Optical Amplitude Modulator AMxxxb is a compact fiber-coupled waveguide-based electro-optical modulator that works based on $MgO:LiNbO_3$ and $LiNbO_3$ crystals. Providing fast electrooptical response, it allows amplitude modulation with frequencies as high as the Gigahertz range.

Available modulators can handle wavelengths in the visible and the infrared spectral range. Standard-designed modulators use polarization maintaining single mode fibers to couple the light in and out. They may also be configured with fiber systems or connectors of different types.

The modulator can be used with the „Pulse Selector IOM" as pulse picker.

Benefits

– Application in the VIS or IR spectrum
– High modulation frequencies
– Single mode fiber-coupling
– Separate RF and bias inputs
– High extinction ratio
– Low switching voltage

Applications

– Analog and digital modulation
– Short laser pulse generation
– Pulse generation in oscillator amplifier systems
– Pulse picking
– Metrology

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Specifications

		AM635b	AM705b	AM830b	AM1064b	AM1550b
Wavelength [nm] Other wavelengths on request (AMXXXb)		635	705	830	1064	1550
Spectral bandwidth [nm]		± 20	± 20	± 30	± 40	± 50
Insertion loss, typical [dB]		7	7	6	5.5	4.5
Extinction, typical		500 : 1	500 : 1	800 : 1	1000 : 1	1000 : 1
Optical connection, input	Standard Fiber connector	Polarization maintaining single mode fiber* Without / FC/PC / FC/APC**				
Optical connection, output	Standard Optional Fiber connector	Polarization maintaining single mode fiber* Single mode fiber Without / FC/PC / FC/APC**				
Half wave voltage RF / bias [V]		2.5 / 2.5	2.5 / 2.5	2.5 / 2.5	3 / 3	5 / 5
Minimum optical rise time RF 10/90, typical		500 ps	500 ps	500 ps	500 ps	500 ps
Maximum bias modulation frequency (sine) [kHz]		1	1	1	1	1
Maximum optical input power (cw) [mW]		20	20	30	300	300
Dimensions L x W x H [mm] (housing, without fiber feed-through)		96 x 31 x 10				

* Standard: bow-tie-type, optional: Panda-type
** Standard: wide-key connector, optional: small-key connector
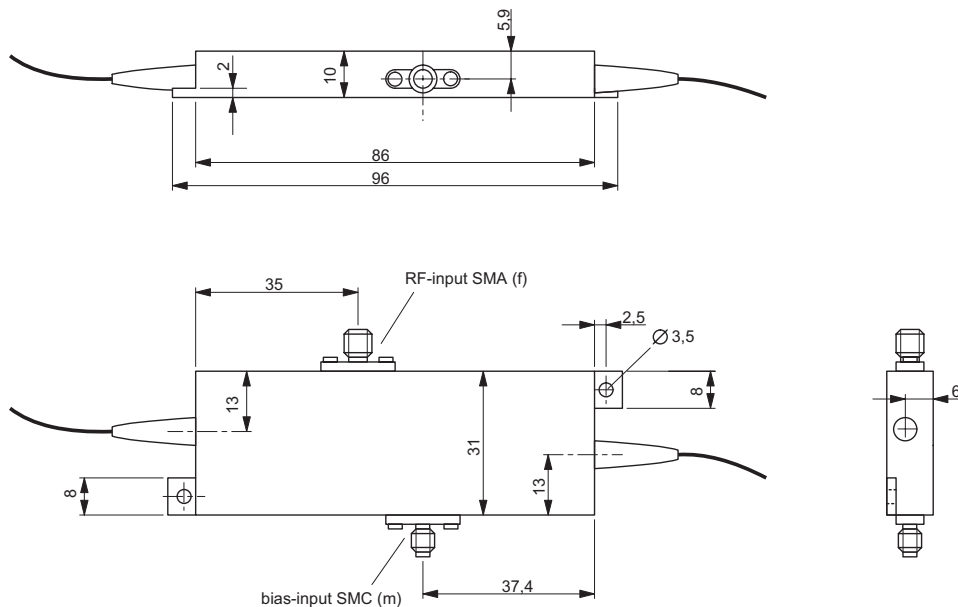
Dimensions amplitude modulator (mm)

It is our policy to constantly improve the design and specifications. Accordingly, the details represented herein cannot be regarded as final and binding.

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