

JENOPTIK

Integrated optical amplitude modulator

Fast amplitude modulation from visible to infrared spectral range with integrated optical solutions.

**SHARING EXCELLENCE**

The Integrated Optical Amplitude Modulator AMxxx is a compact fiber-coupled waveguide-based electro-optical modulator that works based on  $\text{MgO}:\text{LiNbO}_3$  and  $\text{LiNbO}_3$  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. Each modulator may be fitted with a control & driver unit on special request.

#### Benefits

- Application in the VIS or IR spectrum
- High modulation frequencies
- Single mode fiber-coupling
- High extinction ratio
- Low switching voltage

#### Applications

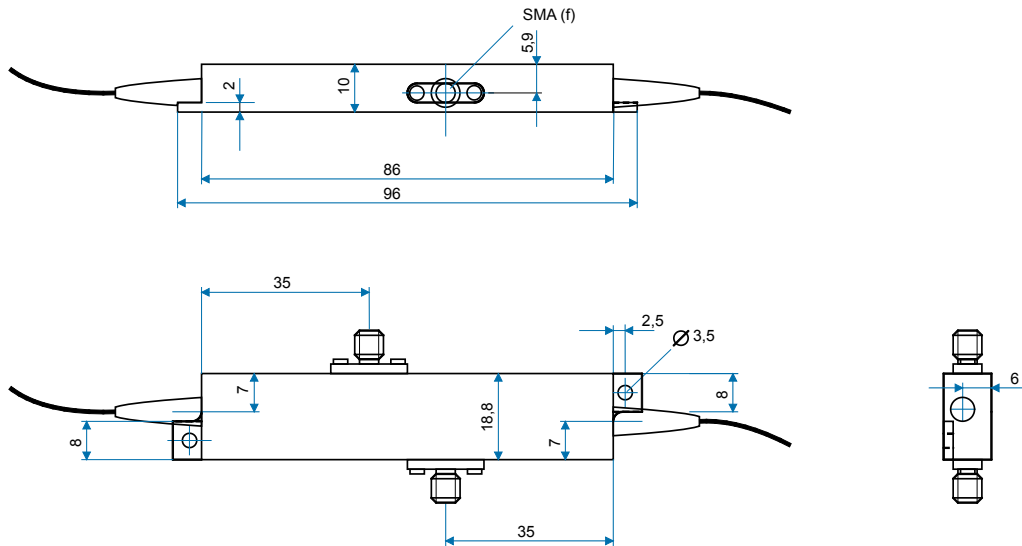
- Analog and digital modulation
- Short laser pulse generation
- Pulse generation in oscillator amplifier systems
- Pulse picking
- Laser Scanning Microscopy
- Metrology

# Waveguide-based electro-optical light modulator

## Integrated optical amplitude modulator AMxxx

### Specifications

	AM635	AM705	AM830	AM1064	AM1550
Wavelength [nm] Other wavelengths on request	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
Minimum optical rise time 10/90, typical	200 ps	200 ps	200 ps	200 ps	200 ps
Optical connection, input	Standard Fiber connector	Polarization maintaining single mode fiber Bare fiber, FC/PC connector or FC/APC connector			
Optical connection, output	Standard Optional Fiber connector	Polarization maintaining single mode fiber Single mode or multi mode fiber Bare fiber, FC/PC or FC/APC connector			
Half wave voltage, typical	2.5 V	2.5 V	2.5 V	3 V	5 V
Maximum bias modulation frequency (sine) [kHz]	1	1	1	1	1
Maximum optical input power (cw)	20 mW	20 mW	50 mW	300 mW	300 mW
Dimensions L x W x H [mm] (housing, without fiber feed-through)	96 x 19 x 10				



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.