

Attachment no 1
for the inquiry no 17/eCAUSIS/2023

Technical parameters

Subject of the contract:

Electro-Optic Modulators (Intensity and Phase Modulators).

CPV code: 38636000-2 - Specialist optical instruments

Brief description of the subject of the contract:

The subject of the order are Electro-Optic Modulators (Intensity Modulators and Phase Modulator), which work in the near infrared range (O-band). The modulators should have controllers to precise settings their parameters. The setups should be capable of 10GHz modulating optical signal. The input and output fibers should be polarization-maintaining (PM); both terminated with FC/APC connectors. The input and output FC/APC connector key should aligned to the slow axis of the PM fiber.

I. Minimum technical parameters:

1. General requirements:

Name of parameter	Intensity Modulator	Phase Modulator
Wavelength	1310 nm	
E/O bandwidth	min. 10 GHz	
Input/ output fiber	Polarization - Maintaining Fiber (PM) with FC/APC connectors. The FC/APC connector key should aligned to the slow axis of the PM fiber.	
Insertion loss	max. 6dB	
V_{π} DC electrodes	max. 6V	---
DC Extinction Ratio	≥ 20 dB	---
RF Input Power	up to +28dBm	
S11	max. -7dB	
Control Module	<ul style="list-style-type: none"> • RF Amplifier • Modulator Bias Controller: <ul style="list-style-type: none"> ◦ - dither frequency: to at least 1kHz; ◦ - dither amplitude: min. range 20-450mVpp, ◦ - operation for the QUAD/MIN/MAX modes; 	RF Amplifier
Number of sets (EO modulator with Control Module)	2 sets	1 set

2. Documentation requirements:

The devices should include a user manual and a test report of the module.

3. Functional requirements:

10GHz modulate optical signal with amplitude adjustment.

Change phase of optical signal.

Compatible with optical fiber (FC/APC connector).

The modulators should be manufactured by the same manufacturer (optional requirement).