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GAIN MODULE AMPX-Tm-TGM

APPLICATIONS

SCIENCE

INDUSTRY

AEROSPACE



KEY FEATURES

- Polarization maintaining
- Average output power – Tested up to 40 W
- Peak power – Tested up to 5 kW
- Slope efficiency ~ 50 %
- Beam quality $M^2 < 1.4$
- Rigid, water cooled metal housing

DESCRIPTION

The Tapered Gain Module AMPX-Tm-TGM is an modification of water-cooled amplifier module TGMC, incorporating additional forward pumping. The module includes Ampliconyx patent protected, polarization-maintaining thulium doped tapered double clad fiber (T-DCF) (US 8,433,168 B2, Japan 5390524, People's Republic of China ZL 200880119087.7, EPO 08805462.2 pending), and it is ideally suited for demanding short pulse applications.

This gain module has high level of integration with built-in pump diode(s) for forward pumping, ready-to-splice seed input and backward pump input. The GAIN MODULE AMPX-Tm-TGM can be designed and assembled to match customer needs and could incorporate pump diodes according to customer request. The module has a standard single-mode fiber (SM1950 or PM-1950) input and free-space output with excellent single-mode beam quality ($M^2 < 1.4$) and power up to 40 W. Built-in thermistors can be used to monitor the operating temperatures of the critical parts: the pump diodes, the gain fiber. Spatial filter at the output of the amplifier allows to remove unwanted ASE radiation at high power levels.

The module is fully tested and shipped with complete test report and user manual.

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SPECIFICATIONS

PARAMETER	MIN	TYP	MAX	UNITS
OUTPUT				
Output power ¹⁾	-	30	40	W
M ²	1.0	1.2	1.4	-
INPUT				
Wavelength	1820	1950	2040	nm
Input signal power	10	50	300	mW
FIBERS				
Input signal fiber	SM1950 or PM-1950, others upon request			
Pump fiber	MM 110/130 NA 0.22, MM 210/230 NA 0.22, others upon request			
MECHANICAL				
Dimensions	811 mm x 427 mm x 115 mm			
Water flow	5	-	10	l/min

¹⁾ The output power is specified for 1950 nm, 220 mW, 100 MHz, 70 ps seed signal input. Depending on the actual user seed input, the expected output power might be different.

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ORDERING INFORMATION

AMPX-Tm-TGM - - - - - W

Wavelength: 1950
others upon request

MFD

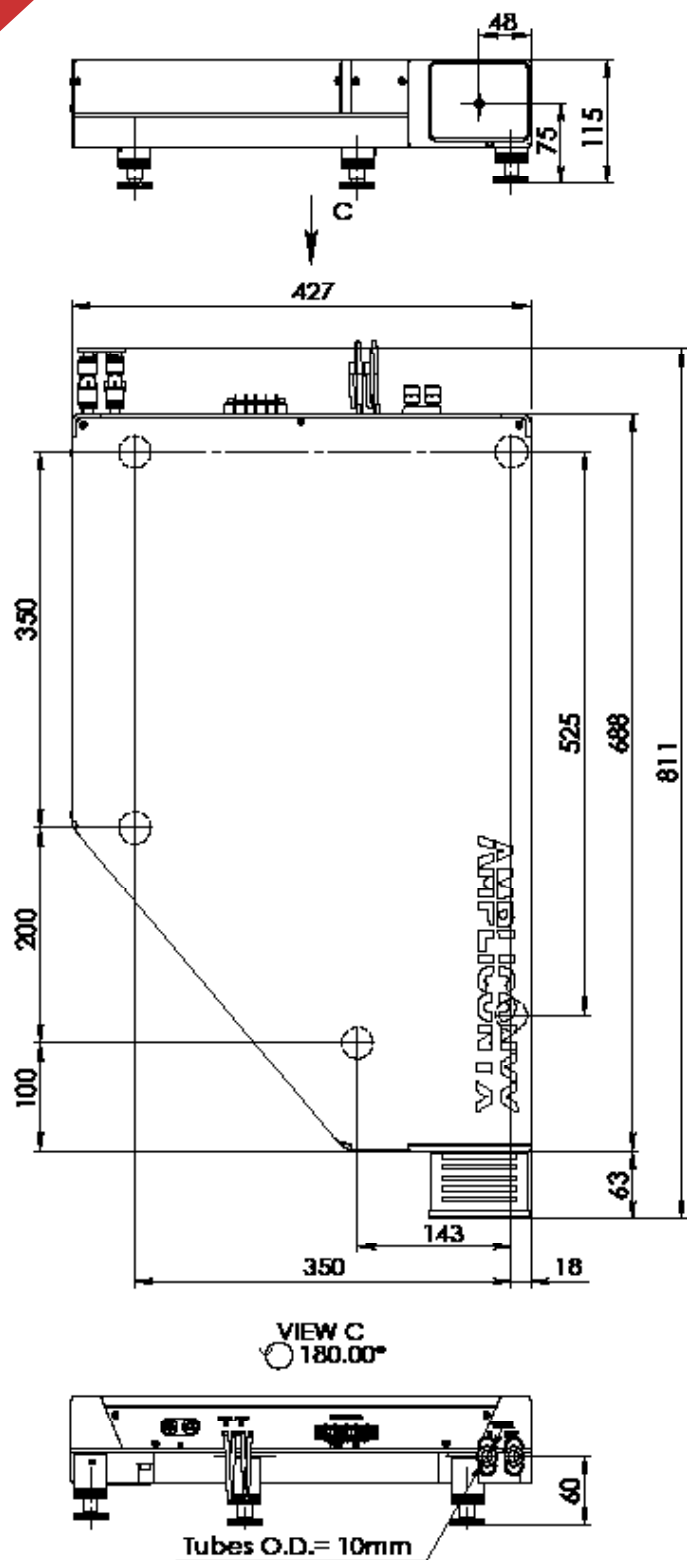
Signal fiber: SM-1950
PM-1950
others upon request

Pump diode power

Example: AMPX-Tm-TGM-1950-30-SM1950-90W

PERFORMANCE, DIMENSIONS

DIMENSIONS



EXAMPLE AMPLIFICATION

