

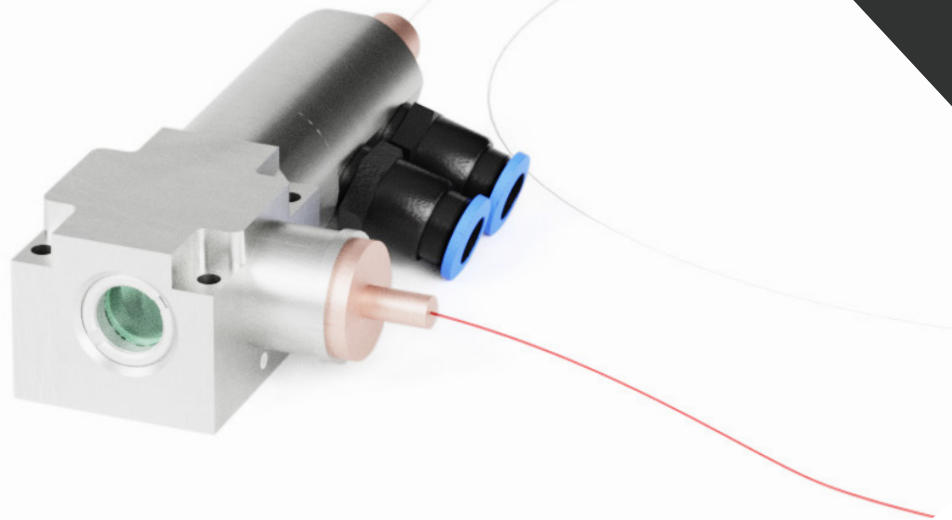
# TGModule B - PM

APPLICATIONS

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## KEY FEATURES

- High-power gain module based on patented tapered double clad fiber (T-DCF)
- Single mode output,  $M^2 < 1.3$
- Large mode area, low level of nonlinear effects
- Integrated, ready-to-splice pump coupling unit
- Direct water cooling for the pump coupling unit
- Easily integrated into an existing system

## SPECIFICATIONS

| PARAMETER   | MIN   | TYP  | MAX  | UNITS |
|---|---|------|------|-------|
| <b>OUTPUT</b>                                     |   |      |      |       |
| Output power <sup>1)</sup>                        |   | 100  |      | W     |
| Mode field diameter                               |   | 40   |      | μm    |
| Polarization extinction ratio (PER) <sup>2)</sup> | 15  | 17   |      | dB    |
| M <sup>2</sup>                                    | 1.0   | 1.2  | 1.3  |       |
| <b>INPUT</b>                                      |   |      |      |       |
| Wavelength  | 1030  | 1040 | 1065 | nm    |
| Input signal power                                |   |      |      | mW    |
| Pump power <sup>3)</sup>                          |   |      | 150  | W     |
| Pump wavelength                                   |   | 976  |      | nm    |
| Core NA   |   | 0.09 |      |       |
| Cladding NA                                       |   | 0.28 |      |       |
| <b>FIBERS</b>                                     |   |      |      |       |
| Input signal fiber                                | PM 10/125,<br>others upon request   |      |      |       |
| Pump fiber  | 200/220 NA 0.22 150 W or<br>105/125 NA 0.22 100 W or<br>4 x 105/125 NA 0.15,<br>others on request |      |      |       |
| <b>MECHANICAL</b>                                 |   |      |      |       |
| Gain fiber length                                 |   | 2.5  |      | m     |
| Gain fiber coiling diameter                       | 30  | 35   |      | cm    |
| Water flow <sup>4)</sup>                          | 5   |      | 10   | l/min |
| Pump assembly size                                | 108.5 mm x 58 mm x 29.5<br>mm   |      |      |       |

<sup>1)</sup> Output power depends on the applied pump power and seed input. The pump assembly is capable of handling up to 150 W of pump power and 100 W of output power.

<sup>2)</sup> Measured at 1040 nm for 19 dB PER input. Output PER will depend on PER of the seed source.

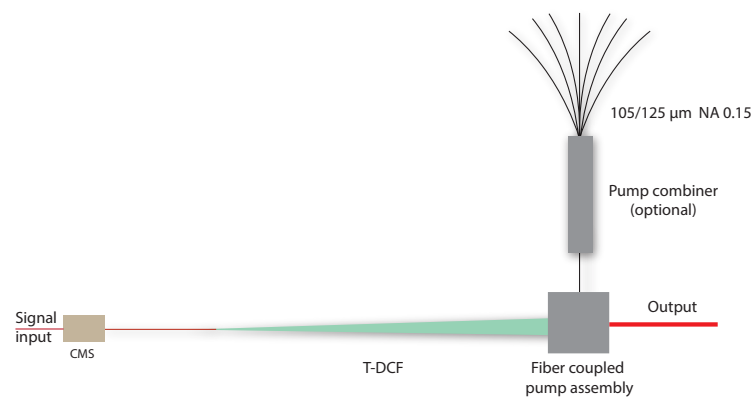
<sup>3)</sup> Maximum pump power depends on pump fiber selection.

<sup>4)</sup> Recommended water flow for both pump assembly and for the external heat sink for the gain fiber.

## OVERVIEW, SPECIFICATIONS

## DESCRIPTION

TGModule B-PM incorporates Ampliconyx patent protected, polarization maintaining ytterbium-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). The thick end of the T-DCF is terminated by a fiber-coupled, water-cooled pump coupling unit, which enables easy splicing of pump diodes with up to 150 W of pump power. Optional pump combiner allows many different pump diode configurations. The unit has a free-space single-mode output with typical beam quality of  $M^2 = 1.2$ . The unit is fully tested and ships with complete test report.

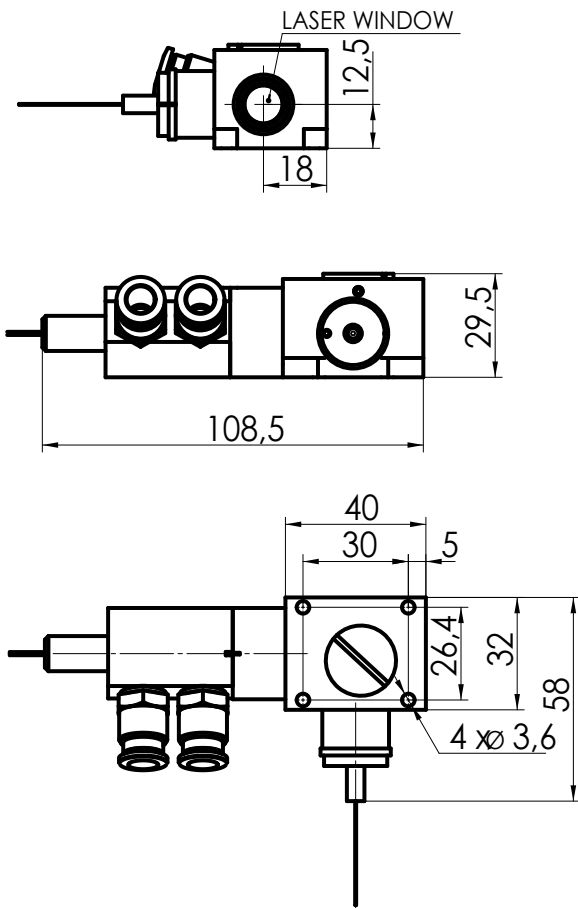


# AMPLICONYX

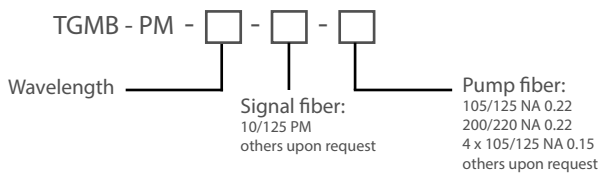
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# PERFORMANCE, DIMENSIONS

## DIMENSIONS



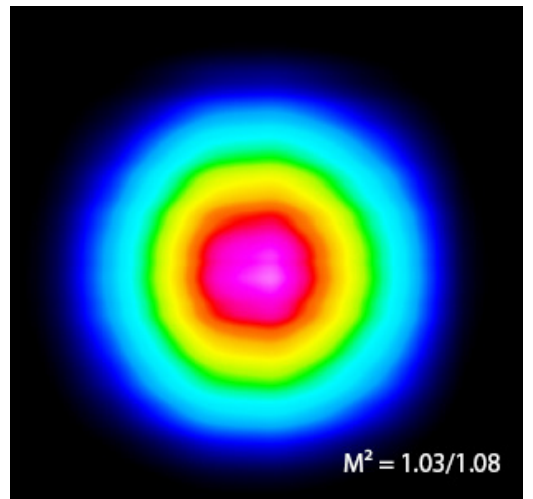
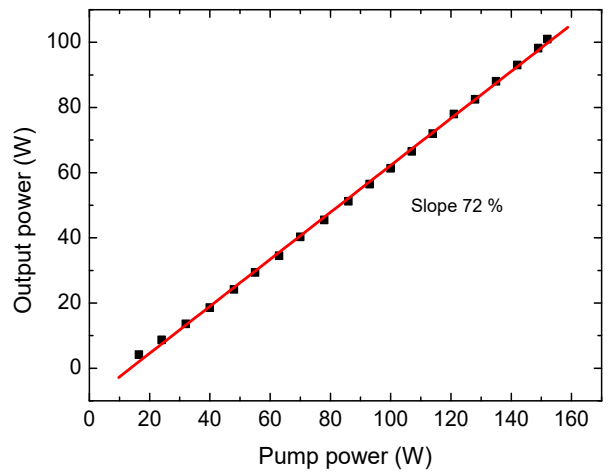
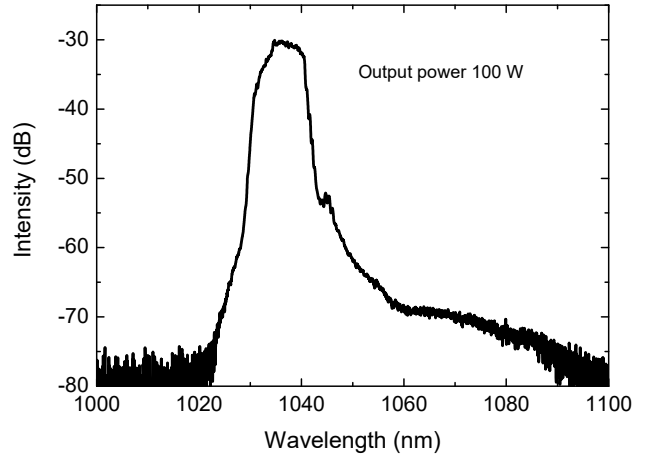
## ORDERING INFORMATION



Example: TGMB- PM - 1040 - 10/125 - 105/125

## EXAMPLE AMPLIFICATION

30 mW, 25 MHz, 40 ps input signal



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[www.ampliconyx.com](http://www.ampliconyx.com)

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