

**Features:**

- Pulse on demand
- Up to 250MHz Modulation
- Up to 40W of output power
- TTL interface
- Excellent beam quality ( $M^2 < 1.1$ )
- All optical isolated
- Highly reliable laser diode pumps
- Convenient front panel control
- Maintenance free operation
- Compact & rugged design
- Including heat sink & fan
- Cables including
- Safety interlock
- Air cooled
- USB

**Applications:**

- Anilox engraving
- Annealing
- Atom trapping
- Cutting metals
- ITO patterning
- DAC heating
- Plastic welding
- Resistor trimming
- Soldering / Brazing
- Thin film patterning
- R&D
- Fine wire welding
- Flash memory repair
- Graphic texturing
- Cutting/scribing ceramics
- Lapping / polishing
- Laser tweezers
- Marking
- Medical
- Metal addition
- Metal welding (spot/seam)

**TONATA Product Line**1.0 $\mu$ m High Speed Modulation Fiber Lasers**ML-POD-R-TKS Series**

The ML-POD-R-TKS, "Turn Key System" is a compact „Pulse-on-Demand“ high power Fibre laser delivering up to 40W of output power at

1.0 $\mu$ m with modulation rates from DC to 250MHz (data rate) with a TTL signal. This technology uses direct modulation and avoids in some cases AOM's and EOM's. The advantage of the ML-POD-R-TKS is that a TTL signal can be used to directly modulate the laser. There are no optical limitations on spot sizes for imaging and other applications where fine spot sizes are needed with ultra high power intensities. Low contrast ratio's problems are no longer a problem with this approach. Wavelength choices of 1064nm and 1080nm make this versatile for material processing applications, printing and other PV and semi-conductor processing applications where high speed modulation is required along with high output power. The design and configuration of this laser render it unique and reliable. Our patented "Injection Technology" allows the use of highly reliable broad area laser diode pumps, for a cost-effective and maintenance-free operation. No after-installation service is required.

Manlight, based in Brittany, has chosen words in local Celt language, the Breton, to personalize its product portfolio. Each of the eight fiber laser and amplifier product lines starts with a letter of Manlight. **TONATA** in Breton stands for *Modulation*. Thus perfectly adapted to our 1.0 $\mu$ m high speed modulation fiber lasers.

[www.manlight-alcen.com](http://www.manlight-alcen.com)

### Ordering Information: MLxx-POD-R-TKS

xx = Average output power in Watts

#### Technical Specification:

Parameter	Value	Unit
Operation mode	Pulse on Demand	-
Nominal Seed Laser Wavelength	1075 typ.	nm
Seed Laser Wavelength Range	1060-1080	nm
Seed Laser Instantaneous Linewidth	> 100	MHz
Modulation Frequency	TTL input - DC to 250MHz <sup>2</sup>	
Nominal output power	from 100mW to 40W	W
Output power tunability	30 – 100	%
Long term stability (RMS, over 1h@25°C)	< +/- 2	%
Polarization	Random	-
Output fiber type	HI1060	
Output fibre length	typ. 50	cm
Output fibre termination	Collimated beam	-
Typical beam diameter @1/e <sup>2</sup>	1 or 5.5 typical	mm
Beam quality M <sup>2</sup>	<1.1	-
Dimensions	3U 19" (448 x 451 x 132)	mm <sup>3</sup>
Weight	< 15	kg
Storage / Operation Temperature	- 0 to + 50 / + 15 to + 35	°C
Control mode	ACC	-
Control interface	Front panel or USB	V
Operating voltage AC	88 to 264	V
Typ. power consumption (@ 25°C)	< 500	W

Operating and safety considerations

Manlight Fibre Amplifiers comply with CE, FDA & RoHS. All Manlight Fibre Lasers are patent pending.

The Manlight Fibre Amplifiers emit both invisible Class IV and visible Class II radiations. Direct and scattered radiation can be harmful to the human eye. Proper laser safety eyewear must be worn during operation. Information in this document is subject to change without notice.

#### Mechanical drawings:

