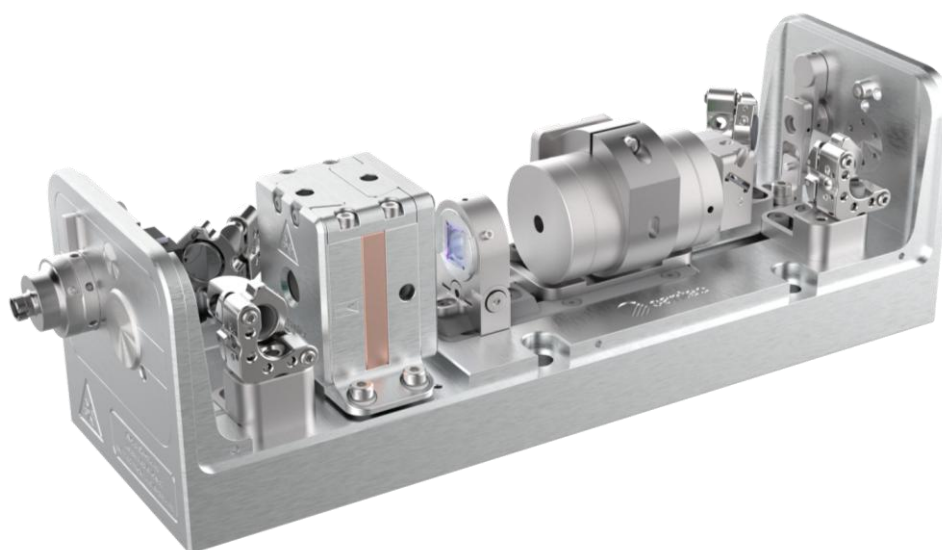




MOA(L) Optical Amplifier



The Santec Optical Amplifier is a high-power extension for single-frequency external cavity diode lasers.

Laser power is increased by up to 5 W, while maintaining the tunability and linewidth of the injection seed laser.

Replacement of the amplifier diode and alignment are easily accomplished by the end-user. Options include 35 dB or 70 dB of output isolation and 35 dB on the input (wavelength dependent), and fibre coupling of input or output or both. Wavelength options extend from 650 nm to 1140 nm, and power from 250 mW to 5000 mW.

Also available in the MOA larger chassis size for more input isolator options, or as a cateye laser seeded amplifier MSA.

Features

- Wavelength 650 nm – 1140 nm
- Output power up to 5 W
- Optional input and output Faraday isolators
- Optional input and output fibre coupling
- Simple customer TA diode replacement
- Stable flexure alignment

Applications

- Laser cooling and trapping
- Bose-Einstein condensation
- Quantum optics: squeezed light
- Electromagnetic transparency and slow light
- Time and frequency standards
- Laser spectroscopy
- Physics teaching labs

Optical Amplifier/Seeded Amplifier

Specifications MOA(L)

Wavelength/frequency

Wavelength	650 nm – 1140 nm
Gain bandwidth	10 nm to 30 nm, wavelength dependent
Power	250 mW, 500 mW, 1 W, 2 W, 3 W, 4 W, 5 W options, wavelength dependent
Gain	Up to 23 dB (200x)
Seed input power	10 mW to 60 mW, depending on amplifier diode
ASE suppression	>45 dB

Optical

Beam diameter ($1/e^2$)	Typically 1.8 x 3.0 mm, wavelength dependent
Beam quality	M^2 from 1.1 to 1.7
Beam divergence	<1.5 mrad (650 – 670 nm: <2.5 mrad)
Polarisation	Linear 100:1

Thermal

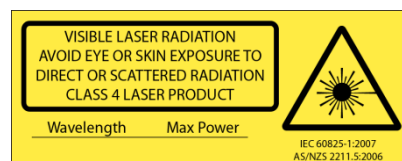
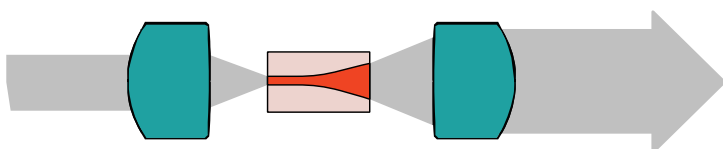
TEC	$\pm 14V$ 3.3 A $Q = 34$ W standard
Sensor	NTC 10 k Ω
Cooling	Quick-fit water cooling, ϕ 6 mm

Electronics

Protection	Relay, reverse diode, photodiode cutout
Indicator	Laser ON/OFF (LED)
Connectors	DE9 (temperature control) and DE15 (current control)

Dimensions

Dimensions	290 x 95 x 93 mm (LxWxH)
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