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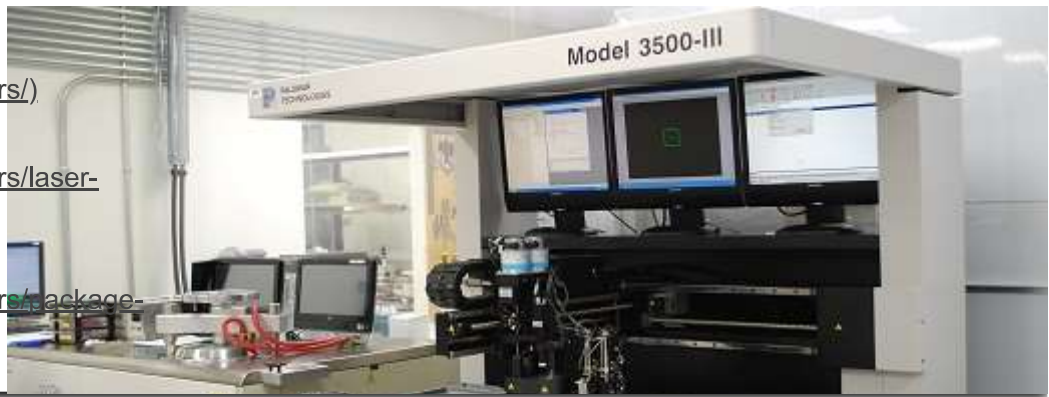
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Butterfly style packaging with fiber-coupled output

Norcada specializes in single-mode distributed feedback (DFB) semiconductor diode lasers in the near-IR and mid-IR spectrum regions for gas sensing and Tunable-Diode-Laser-Absorption-Spectroscopy (TDLAS) applications.

Near-IR DFB Lasers

Our near-IR DFB lasers cover the wavelength range from 1500nm to 1670nm. The near-IR DFB lasers are the most cost effective laser sources for TDLAS applications. Available wavelengths include:

- 1512nm for NH₃
- 1576nm for H₂S
- 1578nm for CO, CO₂
- 1654nm for CH₄

Other wavelengths are also available on custom request. Please **contact us** (https://www.norcada.com/lasers/?page_id=172) for further details.



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Norcada mid-IR laser in TO style package with collimation lens

Mid-IR DFB Lasers

Our semiconductor mid-IR DFB lasers are fabricated using MBE grown InGaAsSb/AlGaAsSb quantum well structures and the material system is ideally suited for the wavelength region of 1900-3600nm. Mid-IR DFB lasers offer significantly higher sensing sensitivity for many gas species that are of interest to industrial safety monitoring applications. Currently stocked wavelengths for our mid-IR DFB lasers include:

- 1854nm for H₂O
- 2004nm for CO₂
- 2009nm for CO₂ (with carbon isotope C¹³)
- 2327nm for CO (high temperature absorption applications)
- 2330nm for CO, CH₄
- 2334nm for CO, CH₄
- 2465nm
- 2476nm for HF
- 2485nm
- 2495nm
- 2505nm
- 3270nm for CH₄ (v3R3 line)

Other wavelengths are also available on custom request. Please **contact us** (https://www.norcada.com/lasers/?page_id=172) today to discuss your laser needs for TDLAS applications.

Laser Packaging Options

We offer standard TO style packaging and fiber-coupled packaging for our laser products depending on the customers applications. For TO packaging, we have two standard formats: TO39 (TO5) and TO66. All standard packages come with miniature Thermo Electric Cooler (TEC) inside the package to maintain laser temperature stability. Both TO39 and TO66 packages come with a slanted hermetic optical window (7 degrees tilt) to minimize back reflection.

The Butterfly style package offers the customers fiber-coupled laser output in a single-mode optical fibre which is terminated with a FC/APC type of connector.