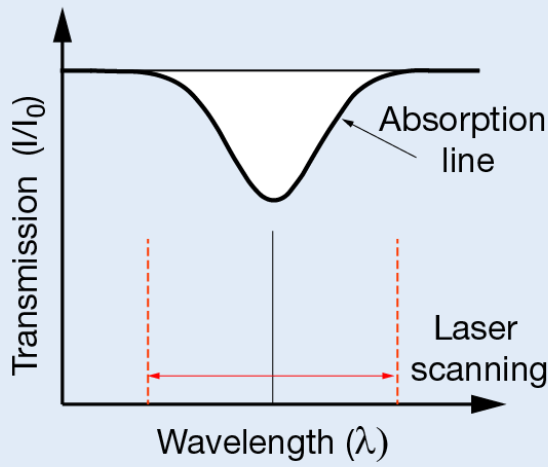
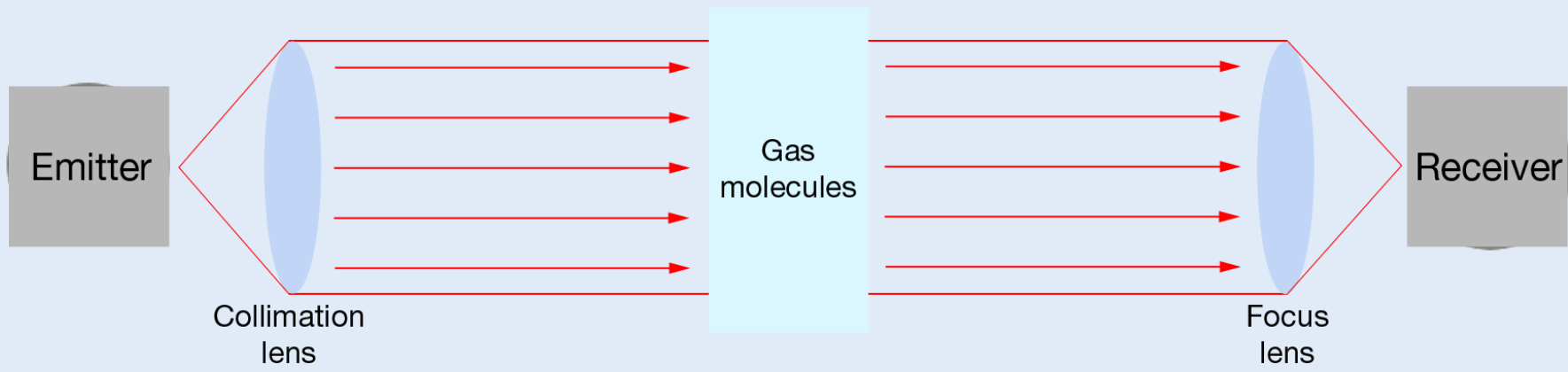


O₂ Sensing | TDLAS

(Tunable Diode Laser Absorption Spectroscopy)

Functional Principle

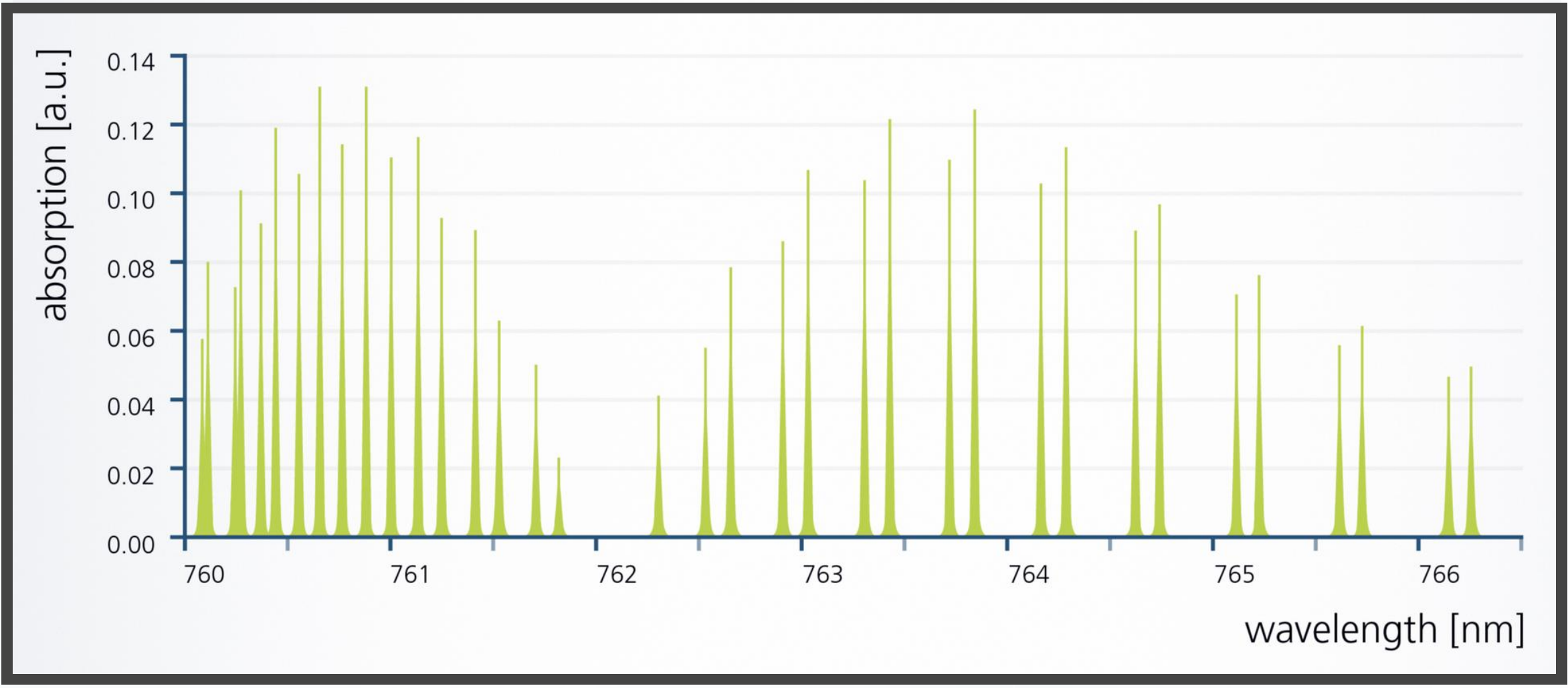
VCSEL **Wavelength (WL)** tuned with current (0.3 nm/mA to 0.6 nm/mA) and / or temperature using TEC (0.06 nm/K)
Transmitted light through gas container vs. WL measured
O₂ molecules absorb light at 760 nm and 763/4 nm
→ Oxygen concentration proportional to absorption dip in the measured transmission curve



VCSEL in TO Can w/
Thermo-Electric Cooler
(TEC) + Thermistor



Spectral Absorption Lines of O₂ Molecules



For technical questions: consumersensors@vishay.com