

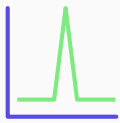
813·42 QT

Ultra-narrow linewidth laser



Skylark supplies ultra-narrow linewidth QT series lasers to our partners in quantum sensing, quantum metrology, and other related technologies, at the specific wavelengths related to the atomic transitions they need to target. Our QT laser series includes the 780·24 QT for rubidium, as well as the 689·4 QT, 698·4 QT and 813·42 QT for strontium.

Key features



Ultra-narrow linewidth
 ≤ 0.3 MHz



High power stability
 $\leq 2.0\%$ over 8 hours



High spectral stability
 ± 1 pm over 8 hours



Excellent beam quality



Designed for strontium atoms

Applications

Quantum research — strontium

Specifications

Output beam parameters:

| | |
|----------------------------------|--------------------------------------|
| Output power | up to 100 mW* |
| Wavelength | 813·42 nm |
| Spectral bandwidth | ≤ 0.3 MHz |
| Spatial mode | TEM ₀₀ |
| Spectral stability | ± 1.0 pm (over 8 hour operation) |
| Coherence length | > 100 m |
| Output power stability | $\leq 2.0\%$ (over 8 hour operation) |
| Output power noise | $\leq 0.1\%$ RMS (10 Hz – 10 MHz) |
| Beam divergence | ≤ 1 mrad, diffraction limited |
| Beam diameter at output aperture | 0.8 – 1.2 mm |
| Beam pointing stability | ≤ 5 μ rad/°C |
| Polarisation ratio | $\geq 100:1$, vertical |

Integration features:

| | |
|----------------------------|---------------------------|
| Plug-in USB connectivity | Combined heatsink |
| Versatile control software | Remote diagnostic support |

Laser head dimensions:

| | |
|-------------|--------------|
| L x W | 210 x 100 mm |
| Beam height | 65 mm |

Environmental conditions:

| | |
|--------------------------------|-------------------------|
| Ambient temperature range | 18 – 30 °C |
| Laser head interface stability | ± 1.5 °C |
| Storage | 0 – 50 °C |
| Humidity | 5 – 95%, non-condensing |

Optional accessories:

| | |
|-------------------------------|--|
| Heatsink | Fan-assisted |
| | Water-cooled with thermoelectric chiller |
| External power control module | 0 – 100%, continuous |
| Tuning range, mode-hop free | 25 – 50 GHz |

Low power alignment beam mode

* Other output powers available on request

Contact

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Designed &
manufactured
in the UK



AVOID EYE OR SKIN EXPOSURE TO
DIRECT OR SCATTERED RADIATION
CLASS 4 LASER PRODUCT
MAX. POWER: 1000 mW
(IEC 60825-1)