

RS40k Spectrometer



The RS40k is a single-mode fibre-fed echelle spectrometer which delivers high-resolution over the optical-NIR wavelength range in a single exposure. It has a compact and robust design, boasting a physical footprint of an A4 sized paper. But compactness has not compromised quality - the spectrometer has a resolving power of $R \sim 40,000$ (where $R = \lambda/d\lambda$) and no moving parts.

Product Highlights

- High-resolution over large bandwidth
- Compact footprint
- High sensitivity sCMOS detector
- Low polarisation dependency
- RedSolve control software
- Python API

Key Specifications

1. Optical performance

Spectral range	430-950 nm
Resolving Power [$R = \lambda/d\lambda$]	44,000 - 32,000 (430-950 nm)
Wavelength repeatability	< 20 pm
Fibre input	SMF FC/PC
Detector	cooled sCMOS
Exposure time	0.001-20 s
Data acquisition	up to 5 Hz

2. Mechanical & Electrical

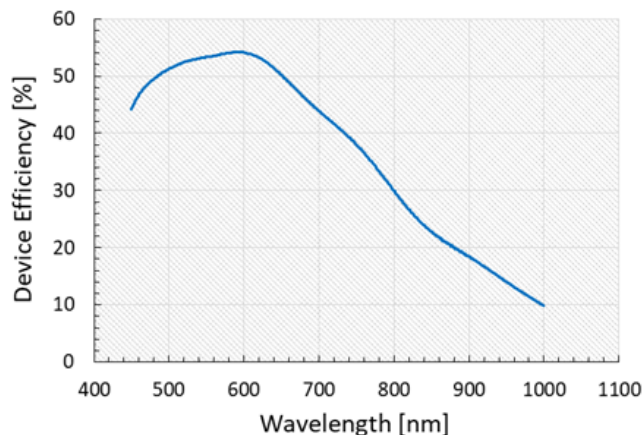
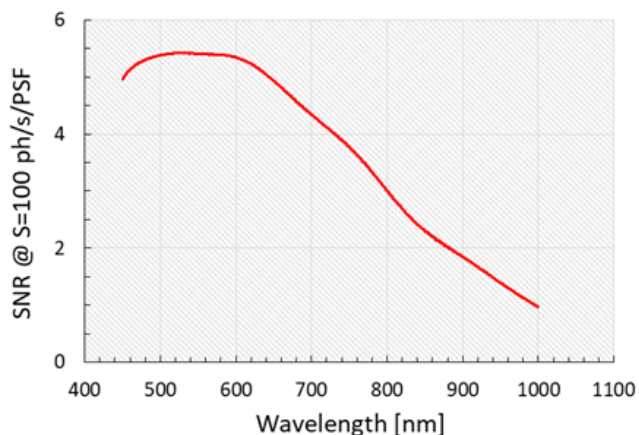
Weight	8.7 kg (18.1 lbs)
Dimensions (L/W/H)	29.2 x 32 x 10.5 cm (11.5 x 12.6 x 4.1 inch)
Power supply	24 V or USB-C
Data interface	USB 3.1 Gen 1

3. Operational

Temperature range	15-35 °C
Humidity range	0-70 % non-condensing

Performance

The left figure shows the signal-to-noise ratio (SNR) for a monochromatic signal of 100 ph/s. The right figure shows the device efficiency, excluding coupling and transmission losses of the SMF.



Product Applications

- Quantum-source spectroscopy
- Simultaneous multi-element analysis
- Real-time laser spectrum analysis
- Astrophotonics

What's in the box?

- RS40k spectrometer
- S-405XP and 780HP single-mode fibres with FC/PC to FC/APC connectors
- USB 3.0 cable
- 24V power supply and cable
- USB flash drive with unique wavelength calibration file

Contact Details



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