Optical systems for a competitive advantage
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Renegade UV-VIS Spectrometer

Torrent Photonics' OEM-ready UV-VIS spectrometer unit is ready to integrate into your spectroscopy system. Built on Torrent's proprietary transmission gratings on fused silica, it offers exceptionally high sensitivity.

Key Features



High Sensitivity
Transmissive design for strong signal capture

Compact
Small footprint, customizable for OEM solutions

Thermally Robust Design
Fused silica optics and transmissive layout contribute to low thermal drift

Custom Firmware
Firware options for ease of integration

UV-Optimized Grating
Tranmissive grating optimized for UV response

Why a Transmissive Grating?

Torrent's grating technology vs. traditional reflective-grating designs

Higher Sensitivity
Transmissive gratings provide higher sensitivity than traditional reflective grating spectrometers.

UV-Optimized Optics
The grating is made on a fused silica substrate, delivering optimal throughput into the deep UV.

High Thermal Stability
An average of less than 0.5 nm shift is observable over the full 0° to 55°C temperature range and wavelength range.

Built for OEM Integration



90 x 60 x 18 mm
22 mm w/ connector

145 g
Lightweight module

3.3 v | 60 mA
Low power draw

SPI or USB
Custom options available

0° to 55°C
Non-condensing

200 µs to 10 s
Integration time

UV-VIS Specifications

Wavelength Range:	190 nm - 850 nm
Optical Resolution:	1.25 nm FWHM (with 20 um slit)
Integration Time:	200 µs to 10 s
Dark Nosie:	Approximately 250 counts/sec at 20C
Dynamic Range:	5000:1
Input Fiber Connection:	SMA
Signal-to-Noise Ratio:	300:1
Detector:	Hamamatsu S11639
Grating:	1250 lp/mm fused silica transmission grating
Pixels:	2048
Entrance Slit:	20 µm (custom options available)
Numerical Aperture:	0.22 NA
Stray Light:	0.01% with 532 nm laser (or with a 532 nm monochromatic source)
Operating Temperature:	0°C to 55°C, non-condensing
Dimensions:	90 x 60 x 18 mm body, 90 x 60 x 22 mm with connector
Weight:	145 g
ADC Resolution:	65,000 Counts
Inputs/Outputs:	COTS options: SPI, USB Custom: ModBus, CAN, EtherCAT, Ethernet/IP, SECS/GEM300
Trigger Modes:	Internal or external source; single, multiple accumulate, multiple average
Power Consumption:	3.3 V, 60 mA
Thermal Drift:	<1 nm over operating temperature range, typically <0.5 nm

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