

Above: Example of layout for Fluorescence spectrometer



Features and Benefits

- Extended detection to LWIR region**
 Wide range of flanged single point detectors for detection up to 12 μm
- Plug-and-play controllers**
 USB-driven data acquisition unit and simple universal BNC connection to detectors
- User-friendly detection configuration**
 All single point detector fitted as standard with adapters to Shamrock spectrographs for easy integration and in-field upgradability
- Comprehensive experiment builder interface**
 Pre-acquisition programming of complex wavelength scanning sequences including synchronisation of gratings & filters, shutters and up to 2 detectors and monochromators
- Dedicated Scanning software**
 Interactive graphical interface with Quick-access bar for rapid monochromators, detectors and motorized accessories set-up
- 3 main software acquisition modes**
 Scanning, photon counting and time-resolved / lifetime analysis
- Software-controlled lock-in amplifier and chopper options**
 Prerequisite for Signal-to-Noise enhancement
- Monochromator IR optics coatings**
 Optional silver-protected coated mirrors and gratings for maximum efficiency in the near-infrared region
- Standard gold-plated focusing optics for MCT and InSb**
 Maximizes collection in the LWIR region

Extending Spectroscopy into SWIR and LWIR

This latest addition to the Andor Spectroscopy portfolio provides a perfect complement to Andor extensive range of market leading CCD, InGaAs ICCD and EMCCD detectors. Shamrock spectrograph dual detector outputs configurations allow combination of multiple detectors for acquisition from 180 nm to 12 μm in one single setup. Solis Scanning software is a dedicated single interface for seamless set-up and synchronization of single point detectors, spectrographs, monochromators data acquisition unit and lock-in amplifiers, with an intuitive interface for complex experiment acquisition sequences.

Specifications Summary

Model number	Detector type	Wavelength coverage	Active area (mm)	Cooling
ACC-SR-ASM-0042	MCT*	2 - 12 μm	1 x 1	LN ₂
ACC-SR-ASM-0043	InSb *	1 - 5.5 μm	\varnothing 2	LN ₂
ACC-SR-ASM-0045	PbS	0.8 - 2.9 μm	4 x 5	Uncooled
ACC-SR-ASM-0044	InGaAs	0.8 - 1.9 μm	\varnothing 3	-40°C TE
ACC-SR-ASM-0046	Si	200 - 1100 nm	\varnothing 11.28	Uncooled
ACC-SR-ASM-0047	PMT (R928)	185 - 900 nm	8 x 24	Uncooled
ACC-SR-ASM-0048	PMT (R1527P)	185 - 680 nm	8 x 24	Uncooled

* Including gold coated focusing mirror for maximum collection efficiency

Photomultiplier Tubes

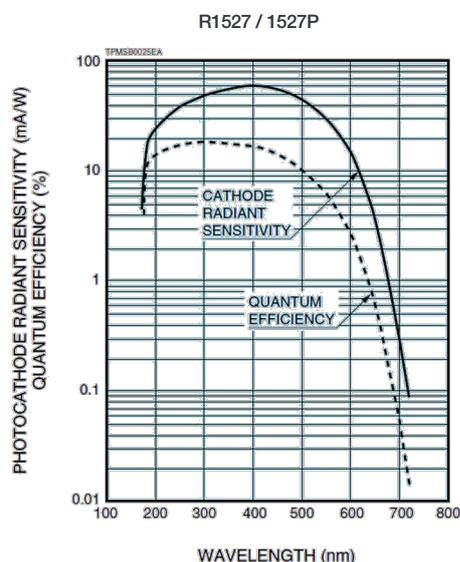
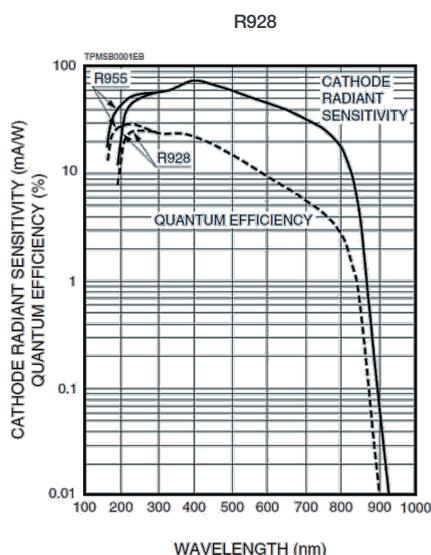
Features

- Enclosure for electromagnetic and optical shielding
- Standard mounting flange for Shamrock monochromator and sample chamber
- R1527P option optimized for low dark current – ideal for VIS photon counting applications
- Other types available on request
- Ideal for applications such as broadband Absorption – Transmission, Luminescence or Spectrophotometry and low-light acquisition down to single photon
- Requires ACC-SR-ASZ-0053 high voltage power supply unit



Specifications ^{•1}

Model number	ACC-SR-ASM-0047	ACC-SR-ASM-0048
Photomultiplier type	R928	R1527P
Configuration	Side window housing	Side window housing
Photocathode material	Multialkali	Bi-Alkali
Spectral range (nm)	185 - 900	185 - 680
Active area (min., mm)	8 x 24	8 x 24
Wavelength maximum response (nm)	400 nm	400 nm
Cathode radiant sensitivity @ peak wavelength (mA/W, typ.)	74	60
Supply voltage anode - cathode (maximum, V)	1250	1250
Equivalent Noise Input - ENI (W, typ.)	1.30E ⁻¹⁶	3.70E ⁻¹⁷
Anode dark current (nA, typ @ +25°C ambient [max])	3 [50]	0.1 [0.5]
Anode dark counts (cts, typ. @ +25°C ambient)	-	10 [50]
Anode pulse rise time (ns, typ.)	2.2	2.2
Electron transit time (ns, typ.)	22	22
Cooling	Room temperature	Room temperature
Window material	UV glass	UV glass
Storage temperature (°C)	-30 to +50	-80 to +50



Graphs courtesy of Hamamatsu Photonic UK Limited

Si photodiodes

Features

- Super-blue enhanced for wide wavelength coverage from 200 to 1100 nm
- Standard mounting flange for Shamrock monochromator and sample chamber
- Simple BNC connection to data acquisition unit
- Price performance option for wide range of non-light starved UV-NIR Spectroscopy applications
- No need for I-V amplifier – already integrated into data acquisition unit



Specifications ^{•1}

Model number	ACC-SR-ASM-0046
Photodiode material	UV-enhanced silicon
Spectral range (nm)	200 - 1100
Active area (mm)	Ø 11.28
Wavelength maximum response (nm)	~ 840
Sensitivity @ peak wavelength (A/W, typ.)	0.54
Sensitivity @ 254 nm (A/W, typ. [min.])	0.14 [0.09]
Rise time (µs, typ.)	5.9
NEP @ 254 nm (W.Hz ⁻¹ , typ.)	4.50E ⁻¹³
Cooling	Room temperature
Operating ambient temperature (°C)	-10 to +60
Storage temperature (°C)	-20 to +70

