TALON

High-Performance Spectrometer for THz-Raman™ spectroscopy

The TALON is a robust industrial grade camera-based spectrometer especially well-suited for Raman spectroscopy. With its large numerical aperture of 0.3 (f-number 1.6), high diffraction efficiency transmission grating and deeply cooled Andor's iVac 316 camera, this is an ideal solution for demanding Raman spectroscopy application requiring the highest levels of resolution and sensitivity. An SMA terminated fiber is utilized for the optical input.



KEY SPECIFICATIONS

- Wavelength range: 740-1040 nm enabling anti-stokes and low frequency/THz-Raman™ with 785, 808 and 830 nm excitation laser wavelengths.
- SMA fiber input
- High resolution of 0.4 nm (6 cm @ 830 nm)
- High NA of 0.3 (f-number 1.6)
- Highly efficient transmission grating design (Peak DE up to 95%)
- High detector QE (Peak QE up to 95%)
- Error free imaging of tall slit in image plane

ANDOR CAMERA FEATURES

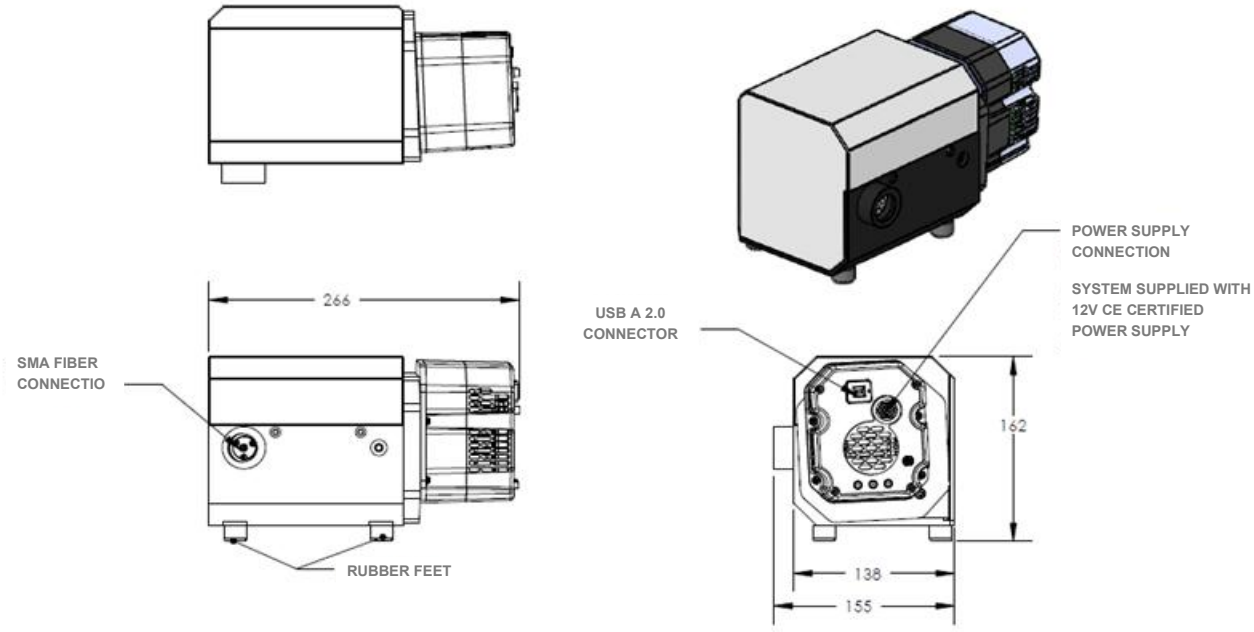
- The spectrometer is by default equipped with the vacuum sealed Andor iVac 316 camera that allows for cooling down to -60 C at normal ambient conditions.
- The camera sensor is a back-illuminated Low Dark Current Deep-Depletion (LCD-DD) CCD, which provides dark current levels as low as 0.033 e-/pixel/ sec, while having a Quantum Efficiency of up to 95 percent. The electronic read noise is likewise low with levels down to 6.0 e-.
- The detector array consists of 2000x256 (15x15 µm) pixels. Data is read over a standard USB 2.0 connection in a 16-bit format

ONDAX

Specifications	
Spectrometer Slit	20 X 3000 µm
Excitation Wavelength - 785 nm	-770 cm^{-1} to +3120 cm^{-1}
Excitation Wavelength - 808 nm	-1130 cm^{-1} to +2760 cm^{-1}
Excitation Wavelength - 830 nm	-1460 cm^{-1} to +2430 cm^{-1}
Wavelength Accuracy	<0.05 nm
Resolution	0.4 nm (typical) – 20µm slit (3.3 – 6.3 cm^{-1})
Stray Light (Monochromatic Input)	<0.03% (at +/- 40nm from peak)
Camera (Andor iVac 316)[1]	2000 X 256 pixels (15 X 15 µm pixel size. 30 X 3.84 mm area)
Temperature Induced Drift	<0.01 nm/K
Operating Temperature Range*	0° to +40° C
Storage Temperature Range*	-25° to +50° C
Dimensions	155 X 162 X 266 mm (Exc. Fiber)
Weight	4 kg (Exc. Fiber)

[1] Vacuum sealed deeply cooled to -60° C
*Non-condensing

Outline Drawing (all dimensions in mm)



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