



Product Line Card Quantum Applications

2025 V1

For customized projects please Contact us:

info@simtrum.com

Light Analysis



Linewidth Analyzer

Wavelength 450 - 1625 nm
Effective linewidth range 1 kHz - 100 MHz



Fiber Spectrometers (200nm-5um)

Wavelength 200 nm - 5 um
Detector Model Hamamatsu
Resolution < 1nm



Wavemeters

Wavelength 380 nm - 2600 nm
Measurement Speed 76 kHz
Absolute Accuracy 200 MHz



VIS-NIR Beam Profiler(350-1750nm)

Wavelength 350 - 1750 nm
Resolution 4096*3072
Sensor pixel size 3.45 - 17 um

Lock-in Voltage Amplifier



Single-channel Lock-in Amplifier

Frequency range DC-60MHz
Input noise 3nV/sqrt(Hz)



Dual-channel Lock-in Amplifier

Frequency range DC-400MHz
Input noise 2.5nV/sqrt(Hz)

Optical Frequency Comb



Standardized Repetition Locking Optical Combs

Operating Wavelength (Customizable) 1560 nm
 Spectral Bandwidth (Customizable) >20 nm
 Output Power (Customizable) 100 mW



Fully Locked Optical Frequency Combs

Operating Wavelength (Customizable) 1560 nm
 3dB Spectral Bandwidth (Customizable) >30 nm
 Output Power (Customizable) 30-100 mW



Asynchronous Optical Sampling Light Source

Wavelength 1560 ± 10 nm
 3dB Spectral Bandwidth 20 nm
 Output Power 50 mW



Optical Frequency Comb Accessories

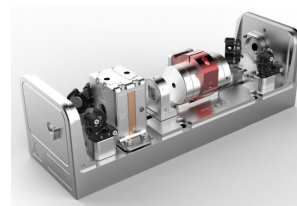
Wavelength 1560 ± 10 nm
 Input Pulse Repetition Rate 100-250 MHz
 Input Pulse Energy 2 nJ

Quantum Cascade Lasers



MIR Multi-Channel Widely Tunable External Cavity QCL-Glider

Spectral Linewidth 1-2 cm^{-1}
 Tuning Range 50-300 cm^{-1}
 Grating Period 100-450 gr/mm



Tapered Amplifier

Operating Wavelength (Customizable) 630-671nm
 Tuning Range 1 nm
 Output Power 250-4000 mW



Saturated Absorption Spectroscopy Frequency Stabilization Module

Frequency Stability < 10MHz(12h)
 Operating Wavelength Range 400-1600 nm
 Modulation Frequency 0-100kHz



Active Power Stabilization Module (QTM-APS)

Operating Wavelength 780-950 nm
 Max. Output Efficiency 1.5 dB
 Power Stability 0.1%@8hrs

Acousto-Optic Device

Multi-wavelength/Multi-aperture/Multi-frequency



Free Space Acousto-Optic Modulators (AOM)

Wavelength 266-10640 nm
Aperture 0.5-8 mm
Frequency 40-200 MHz



Fiber Coupled Acousto-Optic Modulators

Wavelength 780-940 nm
Loss < 3 dB
Frequency 40-300 MHz



Fiber-coupled Acousto-optic Tunable Filter

Wavelength 800-1700 nm
Loss < 3 dB
Frequency 60-100 MHz



Free Space Acousto-Optic Tunable Filter

Wavelength 200-4500 nm
Aperture 3-20 mm
Frequency 18-135 MHz



Acousto-Optic Q-switch (AOQ)

Wavelength 1064-10600 nm
Aperture 1-11 mm
Frequency 20-80 MHz



Acousto-Optic Frequency Shift (AOFS)

Wavelength 633-1064 nm
Aperture 1-3 mm
Frequency 20-115 MHz



Phase Modulators

Wavelength 280-960 nm
Aperture 2-3 mm
Frequency 25 MHz-1 GHz



Acousto-Optic Deflector (AODF)

Wavelength 266-1083 nm
Aperture 1-26 mm
Frequency 70-230 MHz

AOM Driver/RF Low-Noise Signal Source



Flexible Multi-Channel Phase-Coherent Radio Frequency Source WL-FlexDDS

RF generators 8
Output frequency (sine wave)
0.3 MHz-400 MHz
DDS (direct digital synthesis) 1 GSps



Flexible Multi-Channel Phase-Coherent Radio Frequency Source WL-FlexDDS-NG

RF generators 12
slots (dual RF generator module) 6
data streaming capability > 30 MBytes/s



Dual-Channel 400 MHz Agile Waveform Generator WL-FlexDDS-NG-DUAL

sampling rate 1 GS/s
resolution 14 bit
frequency range 0.3-400 MHz

Electro-Optic Modulators/Spatial Light Modulator



Electro-optical Amplitude Modulator

Wavelength 780-1550 nm
Bandwidth 10-40 GHz
Loss < 5 dB



Electro-optic Phase Modulator

Wavelength 780-1550 nm
Bandwidth 300 MHz - 40 GHz
Loss < 3 dB



Phase Spatial Light Modulator

Wavelength 400 - 1700 nm
Resolution 1920×1080
Response Time 16-600 ms



Digital Micromirror SLM

Wavelength 350-2500 nm
Resolution 1920×1080
Real-time transmission rate
30-120 Hz

CW Narrow Linewidth Laser



Narrow Linewidth Package Modules (532-1064 nm)

Wavelength 532-1064 nm
Output Power 100-800 mW (Multimode)



Narrow Linewidth Laser Diodes (1530-1625 nm)

Center Wavelength C/L-band
(1525-1625 nm)
Output Power 10-20 mW



1/1.5 μ m High Power Narrow Linewidth Fiber Lasers

Center Wavelength 1020-1080 nm
Output Power 10-40 W
Linewidth 20 kHz



Erbium Doped Fiber Amplifier

Wavelength 1530-1565 nm
Output Power 13-45 dBm



Ytterbium Doped Fiber Amplifier

Wavelength 1030-1100 nm
Output Power 17-40 dBm



Thulium-Doped Fiber Amplifier

Wavelength 1920-2020 nm
Output Power 20-30 dBm



High Power SOA Butterfly Devices (1060-1560 nm)

Wavelength 1060-1650 nm
Output Power 8-25 dBm



Fiber Raman Amplifier

Wavelength 1425-1465 nm
/1528-1565 nm
Raman Gain 10/20 dB

Photodiode



Silicon photomultiplier (SIPM)(300-950nm)

Spectral Range 300 - 950 nm
Dark Voltage 2 mV
Peak Wavelength 420 nm



Single Photon Detector (SPD)(200-1700nm)

Spectral Range 200 - 1700 nm
Timing Resolution/Jitter < 40 ps
QE 25% - 35%



Photomultiplier Tubes (PMT)(160-900nm)

Spectral Range 160 - 900 nm
Peak Wavelength 380 - 500nm



Photodiode Detector (PD)

Spectral Range 200 nm-12 μ m
Bandwidth 10-70 GHz



Pyroelectric Infrared Detectors (2-12 μ m)

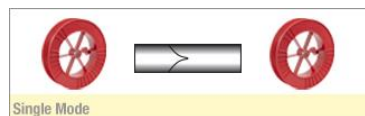
Spectral Range 2 - 12 μ m
Size/Pixel 1 mm $\times$ 1 mm -
3 mm $\times$ 3 mm



Single-Photon Avalanche Diode Array

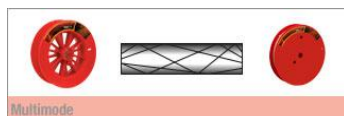
Array configuration
512 $\times$ 512
Spectral Range 400 -
900 nm

Fiber Optics



Single Mode Optical Fiber

Item # SM300
Operating Wavelength 320 - 430 nm
Cut-Off Wavelength 310 nm



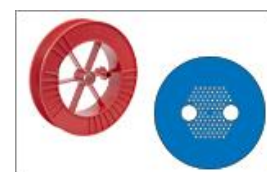
Multimode Optical Fiber

Item # PM-S405-XP
Operating Wavelength 400 - 680 nm
Cut-Off Wavelength 380 nm



Polarization-Maintaining Optical Fiber

Operating Wavelength 350 - 460 nm
MFD $2.3 \mu\text{m}@ 350 \text{ nm}$
NA 0.12



Photonic Crystal Fiber (PCF)

Design Wavelength 1060 / 1550 nm
Mode Field Diameter 6.7 / 9.0 nm
Operating Wavelength Range 1030 - 1090 / 1490 - 1680 nm



Fiber Collimators

Waist Diameter 1.01 / 2.41 mm
Waist Distance 4.13 / 11.11 mm



Polarization-Maintaining FC/PC Fiber Optic Patch Cables

Operating Wavelength 400 - 680 nm
Insertion Loss 1.2-1.5 dB



532nm/633nm In-line Isolator

Wavelength 532/633 nm
Isolation 28-45 dB
Insertion Loss 1.8-3.2 dB



532nm/633nm Polarization Beam Splitter/Combiner

Wavelength 532/633 nm
Insertion Loss 1.5-1.8 dB
Return Loss 50 dB



Pump Combiner/MFA/CPS

Pump Wavelength 800 - 1000 nm
Signal Wavelength 1030 - 1080/1450 - 1600 nm



Filter Coupler

Center Wavelength 780 - 1550 nm
Optical Power 500mW - 20 W

Optical Components

Custom Multi-Wavelength, Multi-Layer Coating - Low Volume



Polarization optics

Operating
Wavelength UV/VIS/IR



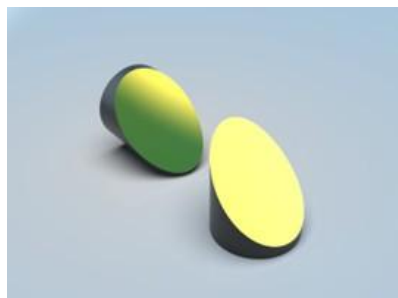
Dichroic Mirror

Thickness 3.5 mm
Diameter 25.4 mm



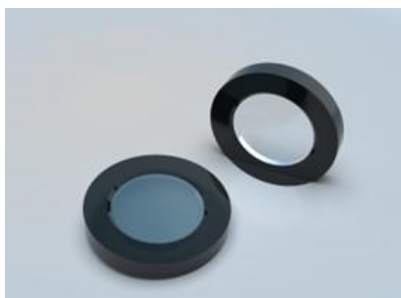
Filters

Wavelength 200 - 3000
nm Transmittance 93% - 99%



Mirrors

Focal Length
Tolerance ± 1 mm
Diameter
Tolerance ± 0.2 mm



Waveplates

Wavelength 355 - 10640 nm

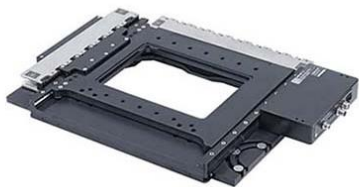


*Custom Multi-Wavelength,
Multi-Layer Coating - Low
Volume*



Spatial Optical Isolator

Optomechanics



Motor Stages

Built-in Controller
Minimum Incremental Move 50 nm
Accuracy 5 μ m



Galvo Mirror Systems

Max Beam Diameter 5 mm
2-Axis System Beam Offset 10 mm



Motorized Mirror Mount

Piezoelectric Linear Stroke
0.7 μ m@150V
For Rapid-Stepping Phase-Shifting
Applications



Rotation Stages

Rotation Angle 3 mrad



Motorized Precision Rotation Mount

Bidirectional Repeatability $\pm 0.1^\circ$
Backlash $\pm 0.3^\circ$
Max Rotation Velocity 25 deg/s



13mm Linear Stages

Minimum reading 10 μ m
Drive Direction Center/Right
Platform dimensions 40 $\times$ 40 mm