



**SESI
Micro-Pulse LIDAR
Type-5**



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Technical Specifications of SESI Micro-Pulse Lidar (Type-5) (Model MPL 1000 NP)

Transmitter :

Laser type: Diode Pumped Solid-State (DPSS) Nd:YLF, Nd:YAG, or Nd:YVO₄
(User's choice)
Wave Length: 523.5 nm (Nd:YLF), 526.5 nm (Nd:YLF), 532 nm (Nd:YAG or
Nd:YVO₄)
Laser Controller Operating Voltage: 110 ~ 230 VAC, 50~60 Hz

Transceiver :

Telescope: Schmidt-Cassegrain or Maksutov-Cassegrain telescope (User's choice)
Clear aperture: 200 mm for Schmidt-Cassegrain, 178 mm for Maksutov-Cassegrain
Focal ratio: F/10 for Schmidt-Cassegrain, F/13 for Maksutov-Cassegrain
Output pulse energy from lidar transmitter: ~7 micro joule with no hot spot over MPE
of ANSI Z136.1-2007 (Eye Safe for
Unaided Eye)
Pulse repetition rate: 2.5 KHz to 10 kHz variable
Pulse width: ~10 ns
Pulse to pulse energy variation: +/- 3 % RMS
Transmitter beam polarization: Unpolarized, or Linearly Polarized, or Circularly
Polarized (User's choice)
Receiver Field of view: < 100 μ rad

Aft Optics & Detectors :

Filter band width: 0.2 nm, out of band optical density better than 10
Detector type: Si-APD single photon counting modules (SPCMs) from PerkinElmer.
Dead-time correction: 9th order polynomial

Data Acquisition :

Multichannel Scaler (MCS): SESI proprietary MCS
MCS location: Inside LIDAR Transceiver
MCS control: Configuration setting through control computer
Range resolution: Minimum 3.75 m, maximum 960 m, in step of 3.75 m
Synchronization: Trigger provided by control computer
Communication between MCS and computer: Ethernet
Data averaging time: Minimum 0.1 sec, maximum 4.37 minute, in step of 0.1 sec
Maximum range: 55 km

Control and Data processing Computer :

Computer: PC Laptop computer
Operating environment: Windows-XP

Display :

Display modes: Raw data, Background subtracted data, Background subtracted and range corrected data

Color presentation: Time – Signal Strength false color presentation

Monitored Parameters: Laser energy, Detector temperature, Background signal
5 Cloud Base Heights (CBH) and Planetary Boundary Layer (BL) Height on Display Screen