

NIR SINGLE PHOTON DETECTOR

LUMIGATE 100

100 MHz gated InGaAs/InP SPD for quantum communication, LiDAR and imaging.

Internal trigger / Sync / Gate control



100 MHz
gate rate

1 ns
min gate

900-1700
nm range

<=1 min
cooling

CORE ADVANTAGES

Faster setup, cleaner timing integration and flexible control

1

Built-in internal trigger

Selectable 1 / 10 / 100 MHz modes reduce external trigger needs.

2

Sync-ready output

LVTTTL sync output aligns counters and FPGAs.

3

Fine gate control

1 to 3 ns gate width with 100 ps steps for precise timing windows.

4

Low-noise gated detection

DCR <= 3E-6/gate max. at 1 ns gate and 20% PDE.

5

Fast readiness

<= 1 minute cooling helps shorten setup and restart cycles.

6

Flexible sensitivity

Selectable 10 / 15 / 20 / 25% PDE balances efficiency and noise.

APPLICATIONS

QKD and quantum communication

Quantum optics and imaging

Fluorescence spectroscopy

Single photon LiDAR

Technical Data

Readable specifications and measured performance examples for LUMIGATE 100.

SPECIFICATIONS

Wavelength range	900 to 1700 nm	Trigger input	SMA, LVTTTL input min. width: 1 ns
Gate frequency	External: 0.1 to 100 MHz Internal: 1 / 10 / 100 MHz	Trigger / Sync output	SMA, LVTTTL
Gate width	1 to 3 ns FWHM 100 ps step	Detection output	SMA, LVTTTL, 5 ns
PDE	10 / 15 / 20 / 25% selectable	Cooling time	<= 1 minute
Dark count rate	<= 2E-6/gate typ. <= 3E-6/gate max.	Operating temp.	-10 to 40 deg C
Dead time	0.1 to 100 us 100 ns step	Power supply	12 VDC, <= 25 W
Optical coupling	FC adapter SMF / MMF	Dimensions	71 x 138 x 57 mm excluding connector protrusion

MEASURED PERFORMANCE EXAMPLE

Dead time: 1 us | after-pulse range: 10 us

Gate width	Gate rate	PDE (%)	DCR (Hz)	After-pulse (%)
1 ns	10 MHz	10.1	3	0.17
1 ns	10 MHz	20.0	13	0.18
1 ns	100 MHz	10.3	46	1.05
1 ns	100 MHz	20.1	150	1.58
3 ns	10 MHz	19.8	66	1.46
3 ns	100 MHz	20.3	743	13.12

Jitter <= 200 ps @ max. PDE. Values are measured examples and may vary with operating conditions.

System-level value: internal trigger, sync output, fine gate control and fast cooling in one compact 100 MHz NIR SPD.