

LPG-650

Pulsed Laser for Time-Resolved Detector Diagnostics



Applications

- Time response of high speed photomultipliers
- Gating measurement of image intensifiers

Features

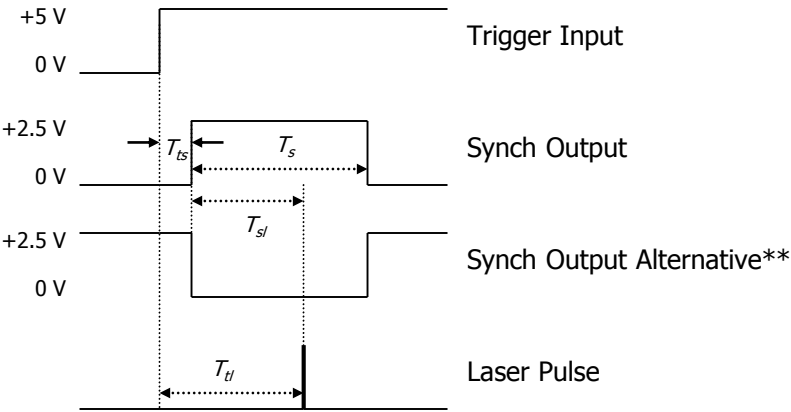
- Specifically designed for time-resolved diagnostics of high speed optical detectors
- Simple to use with only a trigger input and synch output connector
- A lens control allows the beam to be de-focussed and spread across the detector area
- A variable width control allows pulse widths from 45 ps up to 800 ps

<i>LPG-650 Parameters</i>	Minimum	Maximum
Wavelength λ	645 nm	660 nm
Linewidth $\Delta\lambda$	3 nm	
Laser Class	Class 1	
Pulse Energy	8 pJ	100 pJ
Repetition Rate	0 Hz "Single Shot"	300 KHz Self-limited
Trigger Input	+3.2 V High Ω input	+5.5 V High Ω input
Power Supply	+9 V	+15 V
Supply Current @ +12 V	85 mA (No Trigger)	125 mA
Synch Pulse Output Impedance	50 Ω	

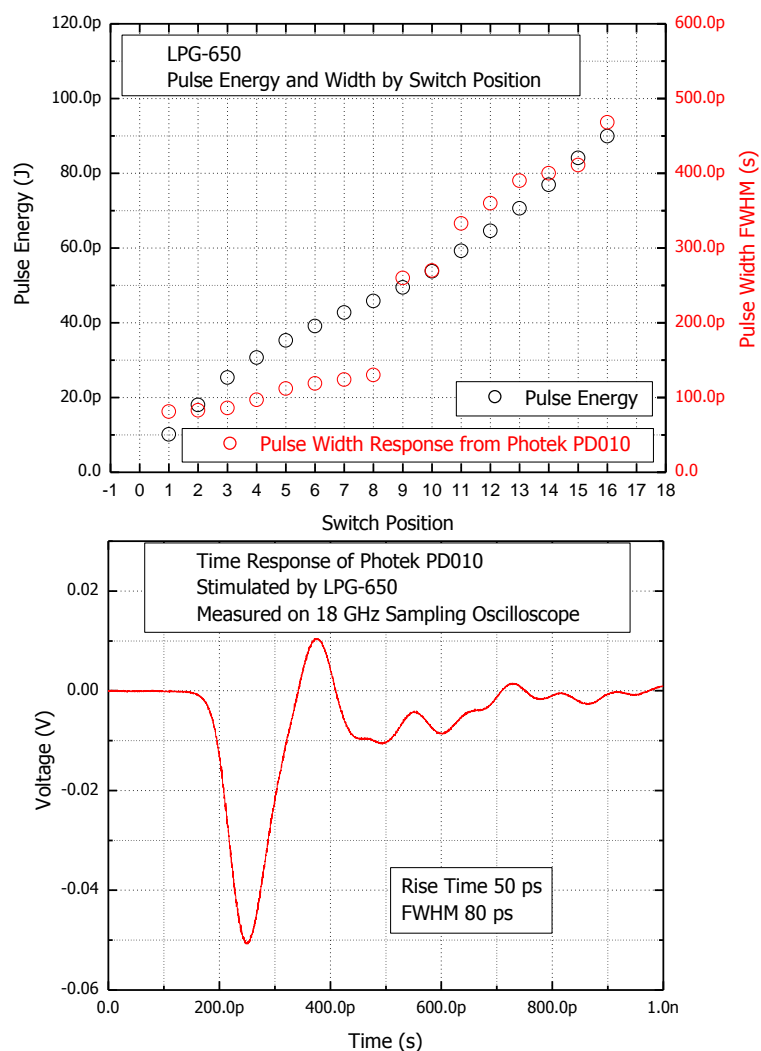
Typical Timing Parameters

Trigger – Laser Delay T_{tl}^*	46 ns
Trigger – Synch Delay T_{ts}	14 ns
Synch – Laser Delay T_{sl}	32 ns
Synch Pulse Width T_s	90 ns
T_{tl} Jitter	3 ps r.m.s.
T_{sl} Jitter	2 ps r.m.s.

*Can be reduced down to a minimum of 29 ns.
This will also reduce T_{sl} to 15 ns.

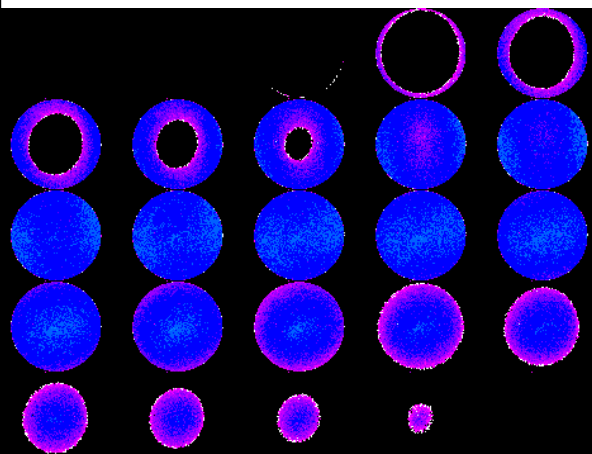


**Available on request



Gating Measurement

The true optical gating of an image intensifier is observed by synchronising the LPG-650 laser pulse with the gate unit, then adjusting the relative delay and stepping the laser through the gate pulse.



This result shows a LPG-650 laser pulse being stepped through a 4 ns gate window generated by a PHOTEK GM200-3N gate unit on a PHOTEK MCP118 image intensifier. Each step represents an extra 200 ps delay on the laser pulse.

Mechanical	
Height	54 mm (not including mounting post)
Width	61 mm
Length	149 mm (approx)
Weight	260 g
Mounting Post Length	30 mm, 40 mm, 50 mm, 60 mm*, 80 mm, 100 mm, 120 mm, 150 mm, 200 mm, 250 mm, 300 mm
Mounting Post Diameter	12mm*, 20 mm
Trigger Input Connector	SMA
Power Supply Connector	SMB
Synch Output Connector	SMA
*Standard Issue	

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