



# LPG-650

## Pulsed Laser for Time-Resolved Detector Diagnostics

### 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



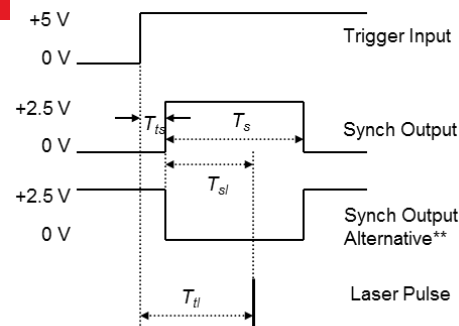
### APPLICATIONS

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

### PRODUCT OVERVIEW

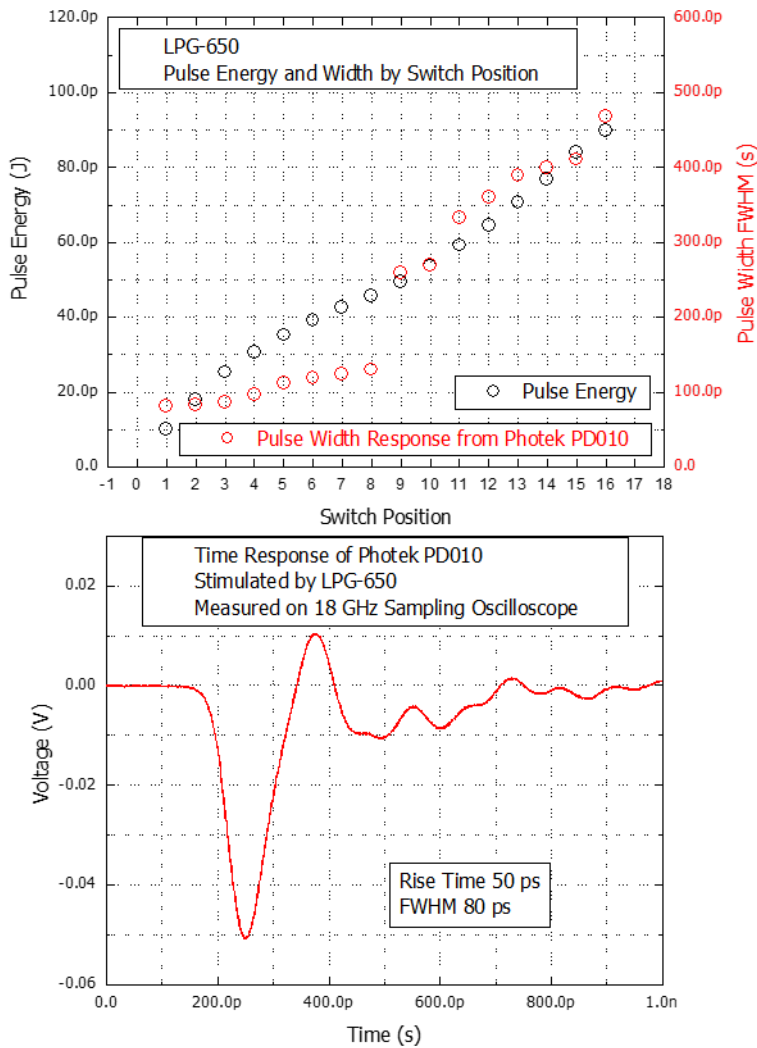
LPG-650 Parameters	Minimum	Maximum
Wavelength $\lambda$	645 nm	660 nm
Linewidth $\Delta\lambda$	3 nm	3 nm
Laser Class	Class 1	Class 1
Pulse Energy	8 pJ	100 pJ
Repetition Rate	0 Hz "Single Shot"	300 KHz Self-limited
Trigger Input	+3.2 V High $\Omega$ input	+5.5 V High $\Omega$ input
Power Supply	+9 V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

Typical Timing Parameters	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.



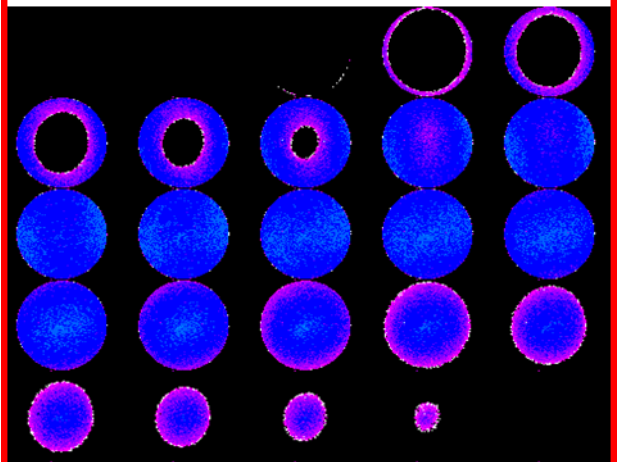
\*Can be reduced down to a minimum of 29 ns. This will also reduce  $T_{sl}$  to 15 ns.

\*\*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

### 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,
Mounting Post Diameter	12mm*, 20 mm
Trigger Input Connector	SMA
Power Supply Connector	SMB
Synch Output Connector	SMA

\*Standard Issue

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Datasheet No.	DS037
Issue	02
Date	19th December 2017