

PCD-04

Pockels Cell Driver - 04

The driver is designed to control the electro-optical Q-switch (Pockels Cell) in the "switch-on" mode.

Driver provides high-voltage quasi-rectangular pulses with nanosecond rising and falling edges.

Connection Diagram

Connector J1 (input) – DF13-6P-1.25H (Hirose)

- | | |
|---|---|
| <p>1 Pin 1 Power supply + 5 V & 500 mA max;</p> <p>2 Pin 2 Power supply GND;</p> <p>3 Pin 3 Trigger input + (3 ÷ 8) V;
Input impedance 50R;
Duration > 40 ns;</p> | <p>4 Pin 4 Trigger GND;</p> <p>5 Pin 5 Output voltage measure signal;
DC voltage scale 1:10000; ^{Note 1}</p> <p>6 Pin 6 Output voltage measure GND.</p> |
|---|---|

Connector SMA (input)

Trigger input + 5 V;
Impedance 50 R;
Duration > 20 ns.

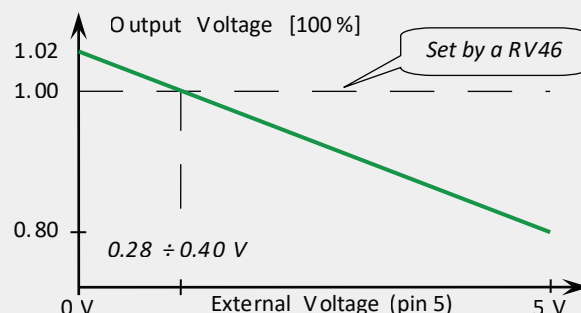
Connector J2 (output) – SM02B-BHSS (JST)

- | |
|--|
| <p>1 Pin 1 First high voltage output;</p> <p>2 Pin 2 Second high voltage output.</p> |
|--|

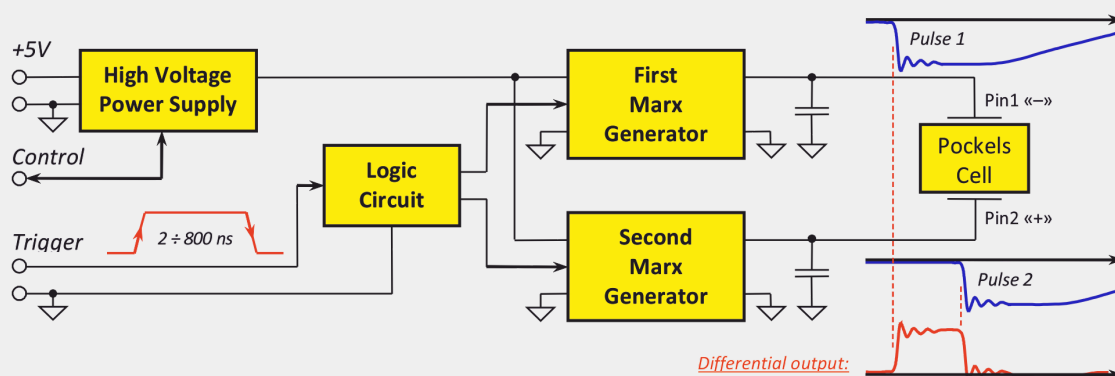
Note 1

Pin 5 and **Pin 6** can be used for setting the amplitude of the output voltage pulse from -20 % to +2 % (from value set by potentiometer RV46).

If 0 V is set on **Pin 5** from an external source, the pulse amplitude will be ~ 2 % higher than the set value. If 5 V is set on the **Pin 5**, the pulse amplitude will be lower by ~ 20 %. The input impedance of the **Pin 5** is 43 kOhms.



General schematic and output waveform of the Pockels Cell Driver - 04

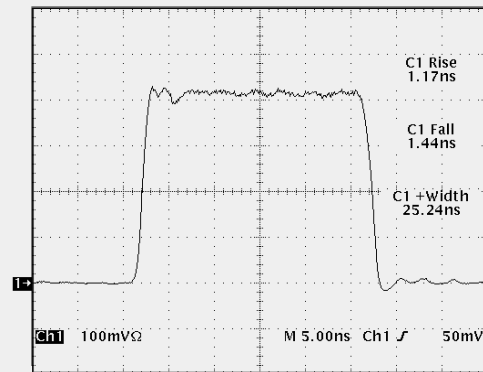


Waveforms of the transmitted light beam

HV pulse amplitude: $V_{\text{PULSE}} = 3800 \text{ V}$

Pockels cell half wave voltage: $V_{\lambda/2} = 3800 \text{ V}$

Tek Stop 10.0GS/s ET





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