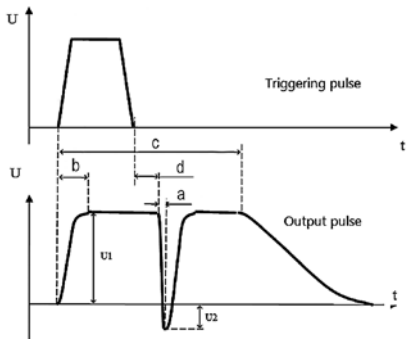
POCKELS CELLS DRIVER FOR Q-SWITCHING OF FLASHLAMP PUMPED LASERS – DQF

DQF drivers are designed for Q-switching of nanosecond lasers without use of phase retardation plate. High voltage is applied to Pockels cell in order to inhibit oscillation. Pockels cell is opened by negative polarity pulse allowing laser to radiate.

Driver DQF-0.1-8D is integrated with ±4 kV HV power supply. High voltage can be controlled either by onboard trimmer potentiometer or by using CAN interface. Control by CAN requires USB-CAN converter for computer control that is sold separately.

DQF-0.2-5 Pockels cell driver

DQF-0.1-8 Pockels cell driver with integrated HV Power supply



Timing diagram of DQF driver

Specifications

CATALOGUE NUMBER	DQF-0.2-5D	DQF-0.1-8D
Maximum high voltage to cell (HV) pulse amplitude (U1 + U2)	5 kV	7.5 kV
U1 value	equal to HV powering voltage	
U2 value	equal to 0.25×U1	equal to 0.3×U1
HV pulse fall time (a)	< 15 ns	< 12 ns
HV pulse rise time, typical (b)	60 µs	120 µs
HV pulse duration, typical (c)	300 µs (1200 µs optionally)	650 µs
HV pulse repetition rate	≤ 250 Hz	≤ 100 Hz
HV pulse delay (d)	40 ns	25 ns
External triggering pulse duration	100 – 1200 µs	120 – 650 µs
External triggering pulse amplitude	3 – 5 V (50 Ω)	3.5 – 5 V (50 Ω)
External triggering pulse rise & fall time	< 20 ns	
Board dimensions [1]	92 × 76 × 21 mm	92 × 72 × 33 mm
Mounting holes location for M3 studs	84 × 62 mm	
External powering requirements:		
DC supply	12 – 24 V, max 200 mA	12 V, max 80 mA
HV supply	4 kV, 1 mA	integrated in the driver

[1] Keep safety distance at least 5 mm from any side of board or any component to surrounding conductive parts.