

PCD-N SERIES OEM POCKELS CELL DRIVER



Fig. 1. External view of PCD-N-2 driver



Fig. 2. External view of PCD-N-3x driver

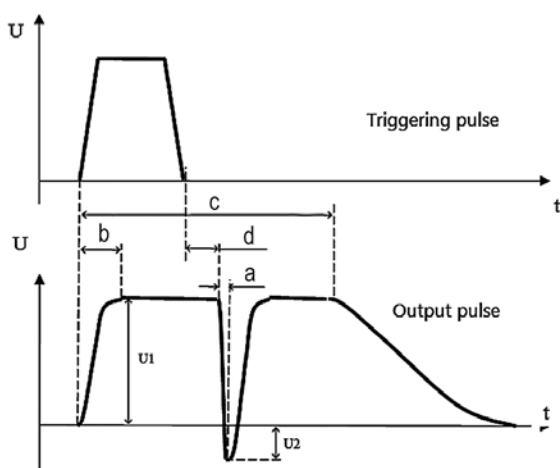


Fig. 3. Control time diagram of PCD-N series drivers

Drivers PCD-N-2 and PCD-N-3 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 need for external HV power supply, HV05Wm is suitable.

Drivers PCD-N-3D and PCD-N-3B is integrated with ± 4 kV HV power supply. Voltage control is done using CAN interface. EKSPLA suggest CAN-USB converter with Can browser software for Windows® operating system. Can browser can be kept disconnected after proper voltage value was set.

Drivers PCD-N-2D and PCD-N-3D are designed for operation with DKDP crystals, drivers PCD-N-2B and PCD-N-3B – for BBO.

SPECIFICATIONS

Model	PCD-N-2D	PCD-N-2B	PCD-N-3D	PCD-N-3B
Maximum high voltage to cell (HV) pulse amplitude ($U_1 + U_2$)	5 kV	4 kV	8 kV	7.6 kV
U_1 value (Fig. 3)	equal to HV powering voltage		equal to HV powering voltage	
U_2 value (Fig. 3)	equal to $0.25 \times U_1$	0 V	equal to $0.3 \times U_1$	0 V
HV pulse fall time (a)	< 15 ns		< 12 ns	
HV pulse rise time, typical (b)	60 μ s		120 μ s	
HV pulse duration, typical (c)	300 μ s (1200 μ s optionally)		650 μ s	
HV pulse repetition rate	≤ 250 Hz		≤ 100 Hz	
HV pulse delay (d)	40 ns		25 ns	
External triggering pulse duration	100 – 1200 μ s		120 – 650 μ s	
External triggering pulse amplitude	3 – 5 V (50 Ω)		3.5 – 5 V (50 Ω)	
External triggering pulse rise & fall time	< 20 ns		< 20 ns	
Board dimensions	92 \times 70 \times 22 mm *		92 \times 72 \times 35 mm *	
Mounting holes location for M3 studs	84 \times 62 mm		84 \times 62 mm	
External powering requirements:				
DC supply	12 – 24 V, max 200 mA		12 V, max 100 mA	
HV supply	4 kV, 1 mA		n/a	

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