

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

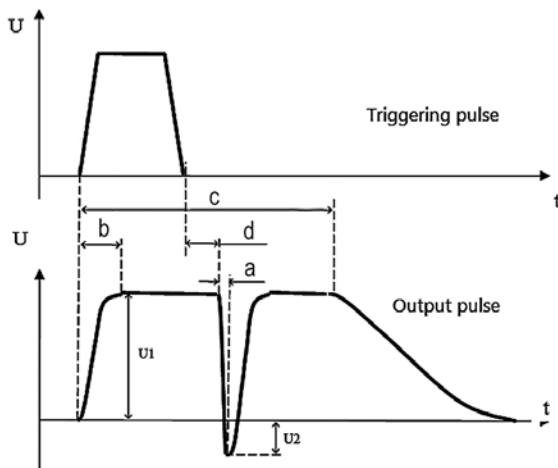


Fig. 3. Control time diagram of PCD-N series drivers

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 ¹⁾

Model	PCD-N-2D	PCD-N-2B	PCD-N-3D	PCD-N-3B
Maximum high voltage to cell (HV) pulse amplitude (U1 + U2)	5 kV	4 kV	8 kV	7.6 kV
U1 value (Fig. 3)	equal to HV powering voltage		equal to HV powering voltage	
U2 value (Fig. 3)	equal to 0.25×U1	0 V	equal to 0.3×U1	0 V
HV pulse fall time (a)	< 15 ns		< 12 ns	
HV pulse rise time, typical (b)	60 μ s		120 μ s	200 μ s
HV pulse duration, typical (c)	300 μ s (1200 μ s optionally)		650 μ s	
HV pulse repetition rate	\leq 250 Hz		\leq 100 Hz	
HV pulse delay (d)	40 ns		25 ns	
External triggering pulse duration	100 – 1200 μ s		120 – 650 μ s	200 – 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 ²⁾	92 × 70 × 22 mm		92 × 72 × 35 mm	
Mounting holes location for M3 studs	84 × 62 mm		84 × 62 mm	
External powering requirements:				
DC supply	12 – 24 V, max 200 mA		12 V, max 100 mA	
HV supply	4 kV, 1 mA		Internal	

¹⁾ Specifications are subject to changes without advance notice.

²⁾ Keep safety distance at least 5 mm from any side of board or any component to surrounding conductive parts.