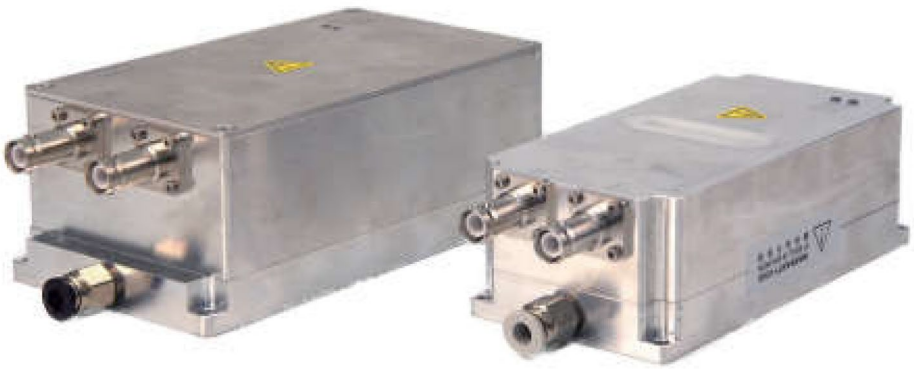
Photonics On Crystals

POC-OC-120220-Pockels Cells Drivers Datasheet

1 Key Features of Pockels Cells Drivers

- **Stable Operation**: Ensures stable and accurate voltage output for precise electro-optic device control.
- **Compatibility**: Fully adaptable to KD*P and BBO electro-optic crystals for high and low repetition rates.
- **High-Voltage Output**: Capable of generating voltages up to 8 kV for advanced modulation applications.
- **Customizable Waveforms**: Supports positive, negative, and square waveforms with a minimum pulse width of ~20 ns.
- **Industrial Integration**: Designed for seamless integration in industrial setups.



General Description

The Pockels Cells Drivers by Photonics of Crystals (POC) are precision-engineered for driving KD*P and BBO-based electro-optic devices. These drivers generate high-voltage signals corresponding to the input trigger frequency, ensuring optimal performance for modulation tasks. With applications in high-speed and low-speed environments, the drivers are suited for laser modulation, switching, and pulse shaping.

These drivers are available in integrated and split configurations. The integrated drivers support low repetition frequencies (~1 kHz), while split drivers are optimized for high-frequency applications (~1 MHz). The drivers produce highly customizable waveforms (positive, negative, and square), ensuring adaptability to specific operational needs. Built for industrial use, the devices combine durability with advanced functionality.

Applications

Photonics On Crystals

1. **Laser Modulation and Switching**:
   POC Pockels Cells Drivers are crucial for laser modulation tasks in precision manufacturing, where high-speed and accurate control are essential.
2. **Medical and Scientific Research**:
   The ability to create tailored waveforms makes these drivers indispensable in medical imaging and spectroscopy.
3. **Industrial Automation**:
   Used for laser cutting, welding, and marking, the drivers provide reliable modulation for various electro-optic systems.

Standard Product and Model Numbers

Integrated Drivers:

Working Mode	Max Voltage (kV)	Max Repetition Frequency	Trigger Mode	Control Mode
S (Square)	5 kV	1 kHz	E (External)	N (None)
S (Square)	4 kV	20 kHz	E (External)	N (None)

Split Drivers:

Working Mode	Max Voltage (kV)	Max Repetition Frequency	Trigger Mode	Control Mode
P (Positive)	2 kV	1 MHz	E (External)	N (None)
N (Negative)	4 kV	500 kHz	E (External)	N (None)
S (Square)	8 kV	1 kHz	E (External)	N (None)

Typical Specifications

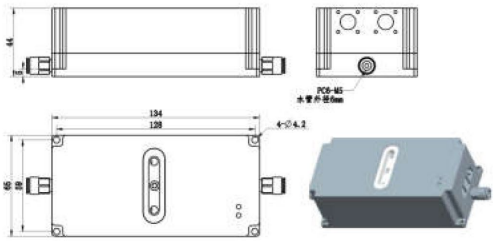
Feature	Integrated Driver	Split Driver
Voltage Range	Up to 5 kV	Up to 8 kV
Frequency Capability	1 kHz to 20 kHz	100 kHz to 1 MHz
Pulse Width	~20 ns	~20 ns
Waveform Types	Positive, Negative, Square	Positive, Negative, Square

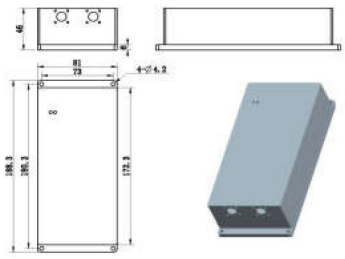
---

Housing Dimensions (mm)

Model	Dimensions (L × W × H)
Integrated	134 × 88 × 56
Split	204 × 128 × 56

Photonics On Crystals





POC Strength and Capabilities

Photonics of Crystals (POC) specializes in developing advanced photonics solutions tailored to meet industry and research needs. With a strong emphasis on precision engineering, POC offers:

1. **Customization Services**: Tailor-made solutions to meet specific application requirements.
2. **Global Expertise**: Proven track record of supporting clients across medical, industrial, and scientific sectors.
3. **Innovative Designs**: Focus on state-of-the-art technologies to drive efficiency and accuracy.
4. **Reliable Manufacturing**: In-house production facilities ensure consistent quality and performance.
5. **Customer Support**: Dedicated team for technical support and application-specific guidance.