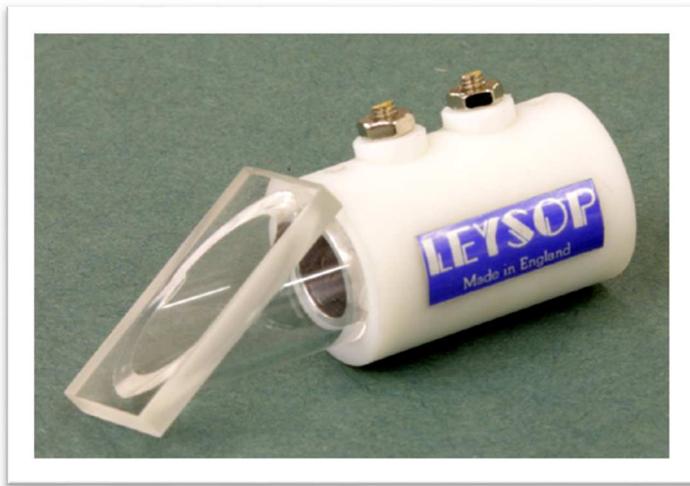


LEYSOP LTD

Manufacturers and suppliers of electro-optic components

Ultra-Compact Integrated Pockels Cell



Prompted by a need for even smaller components than our model EM510C we have developed this latest model EM508UC to provide a full, 8mm aperture in a package only 19mm diameter yet it also packs a factory pre-aligned thin film Brewster plate polarizer and quarter wave retardation plate making it ideal for pulsed quarter wave Q-switching.

The Brewster polarizer is required when Q-switching laser media that do not have strongly polarized gain cross-sections and of course, ND:YAG is a classic example (Nd:YVO₄ would not require the polarizer). The retardation plate is usually orientated towards the rear mirror so P-polarized light which passes through the polarizer during the pump phase is converted to S-

Longitudinal electric field
KD*P design

Dry construction

High power handling

High extinction ratio >300:1
(polarizer limited)

Low optical loss

Compact Ø19mm package

Integrated polarizer and
waveplate

polarization after a double pass and is rejected from the cavity by the polarizer. The cavity therefore experiences high loss during this phase. The application of a fast rise time (ask about our drivers) quarter wave pulse means that P-polarized light passing through the polarizer is no longer switched to S-polarization so this then experiences minimum loss and the P-polarization is then allowed to be amplified in the cavity and the giant, Q-switched pulse is produced.

www.leysop.com

LEYSOP LTD



Both the Brewster thin-film polarizer and the low order quarter wave retardation plate will be pre-aligned with the axes of the KD*P crystal. The standard orientation is for transmitted P=polarization to be parallel to the axis of the connecting studs, but if you prefer we can orientate the studs at 90° to the polarizing optical elements on request.

Provisional Specifications

Parameter	EM508UC
Aperture:	8mm
Wavelength Range:	1064nm *
Halfwave Voltage @ 1.06 μ m:	Approximately 6.2 kV static, 7.5kV dynamic
Maximum Voltage:	8kV
Optical Rise Time:	< 1.0 ns
Contrast Ratio @ 1.06 μ m:	>1000:1
Capacitance Unterminated:	< ~5 pF
Damage Threshold:	600 MW/cm ²
Insertion loss (P-polarization):	4%
Extinction ratio:	>300:1 **

* The standard wavelength is 1064nm but optionally devices may be made for other wavelengths depending on availability of the Brewster polarizer - 515nm, 532nm, 1030nm, 1047nm, and 1047nm are also possible at this time.

** Polarizer limited