

# LEYSOP LTD

Manufacturers and suppliers of electro-optic components

## KD\*P Pockels Cells



Longitudinal electric field  
KD\*P design

Dry or fluid filled

High power handling

High extinction ratio

>1000:1

Low optical loss

Standard  $\varnothing$ 50mm package

The EM500 series of KD\*P longitudinal Pockels cells have been designed to give the most flexible connection options. They are normally used for Q-switching lasers or for extra-cavity applications such as pulse picking where the added safety of the MHV connectors ensures that there are no exposed high voltages.

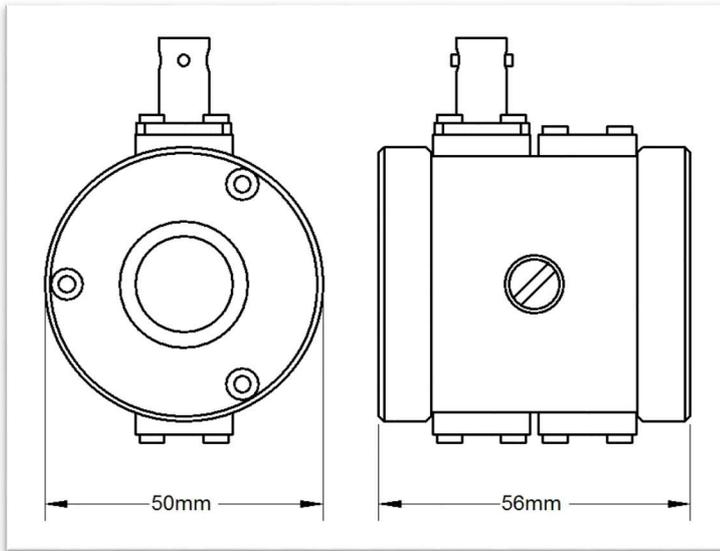
These cells are manufactured from crystals that have been specially selected for their low optical loss and strain free properties. They can be used at wavelengths in the optical range 0.3-1.2 $\mu$  and are normally supplied with windows optically coated at the customers specified wavelength. Like our other longitudinal field KD\*P Pockels cells, they can be provided in a low cost fluid filled option, or for higher power applications with a suitable AR

coating on the crystal. We also offer a special ultra-high transmission fluid filled version which can reduce insertion loss to under 0.5%.

These products can be supplied either in any configuration from one to four terminals; the choice will depend on the application and the specification of the driver (we can advise on what is best for your driver, and of course we offer drivers for most applications as well). Single terminal is most likely to be used for Q-switching. A through connection is ideal for connection in a fast transmission line setup and sub-ns switching is possible. The all-metal housing also offers excellent screening for such fast switching signals.

[www.leysop.com](http://www.leysop.com)

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EM508– EM512 dimensions

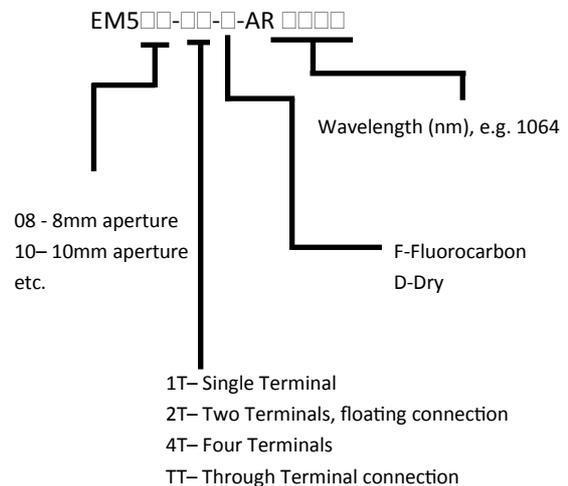
The longitudinal KD\*P Pockels cell has been the mainstay of electro-optic Q-switching for many years for good reason. It provides very high extinction (>1000:1) with larger apertures than are practical using alternative transverse field devices. The switching voltages required however are higher than for transverse field devices as there is no advantage to be obtained from increasing the crystal length. Devices can be used in either half wave or quarter wave switching modes for lower operating voltage.

## Product Specifications

Product Specification	EM500
Aperture	8, 10, 12, 15, 20mm
Wavelength range	0.3-1.2 $\mu$ m
Approximate Halfwave voltage (DC, 1064nm)	6.2kV
Approximate Halfwave voltage (AC, 1064nm)	7.5kV
Maximum voltage	10.0kV
Optical rise time	<1.0ns
Contrast (extinction ratio) @ 1064nm	>1000:1
Capacitance un-terminated	~5pF
Damage threshold (1064nm, 10ns pulse)	~600MW/cm <sup>2</sup>
Insertion loss	<4%
Physical dimensions	EM508-512: Ø50mm diameter x 56mm long EM515: Ø55mm diameter x 66mm long: EM520: Ø55mm diameter x 76mm long

Specifying the EM500 Pockels Cell Q-switch:

The Q-switch is available with apertures from 8mm to 20mm in both fluid filled (immersion) or dry type. Units may be supplied with windows either broadband (BBAR) coated or single wavelength (VEE) coated. The model code is thus:



Specifications for guidance only, subject to modification without notice.