

Fast electrically tunable lens EL-10-30-C



Design faster and more compact optical systems without complex mechanics using the electrically focus tunable lens EL-10-30-C. By applying a current of 0 to 300mA, the focal length of the 10 mm aperture lens can be tuned to a specific value within milliseconds. The EL-10-30-C also features threads on either side for easy mounting as well as the possibility to replace the cover glass with a fixed focus offset lens, allowing for free adjustment of the focal length range according to the requirements of your application.



EL-10-30-C
(OEM version)



EL-10-30-Ci
(industrial version)

The EL-10-30-C has two main optical configurations:

1. The basic configuration has planar cover glasses and a focal tuning range of 200mm down to 100mm, making this the best choice for macro imaging.
2. The "MV" configuration is optimized for the machine vision market. It contains a negative offset lens so that the over all focal tuning range goes from slightly negative down to 286mm, making this the ideal choice for combinations with infinity corrected fixed-focus lenses.

The following table summarizes the main specifications of the EL-10-30-C series:

Standard products*	Tuning range with Lens Driver 4 (0 - 250mA)	Integrated offset lens	Cover glass coating	Wavefront error**
EL-10-30-C-VIS-LD	200 to 100 mm 5 to 10 dpt	No	400 - 700nm	<0.15 / <0.25 λ
EL-10-30-C-NIR-LD	200 to 100 mm 5 to 10 dpt	No	700 - 1100nm	<0.15 / <0.25 λ
EL-10-30-C-VIS-LD-MV	-667 to +286mm -1.5 to +3.5 dpt	Yes (-150mm)	400 - 700nm	<0.15 / <0.25 λ
EL-10-30-C-NIR-LD-MV	-667 to +286 mm -1.5 to +3.5 dpt	Yes (-150mm)	700 - 1100nm	<0.15 / <0.25 λ

* All the above models are available with a 6-pin FPC connector (OEM version) or with a 6-pin Hirose connector (industrial version)

** Wavefront error provided in λ RMS @525nm with optical axis vertical / horizontal

Since 2014 all lenses offer "Focal Power Mode", which makes use of calibration data saved directly on the lens, allowing for open loop control including temperature compensation at a repeatability of typically +/-0.1 diopters.

Applications

Applications for Optotune's EL-10-30-C are among others:

- Machine vision
- Microscopy
- Biometric systems
- Optical coherence tomography