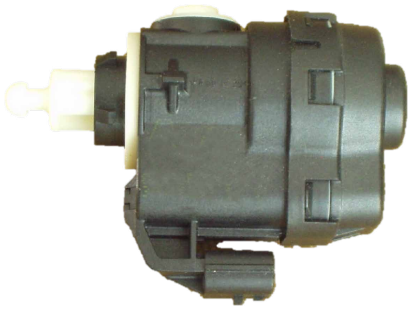
External Dynamic Leveler

EDL Direct

Characteristics:



Main function 1 :
The EDL leveler adjusts the headlamp light beam vertical position by translation of a shaft. The motor is a linear bipolar stepper.
It is operated by direct driving of the stepper motor bobbins.
The motor is placed in a watertight body in order to be mounted outside the headlamp housing by a bayonet fixation.

Main function 2 :
The EDL has a manual aiming for vertical adjustment of the headlamp.

Performance:

Performance (typical, other requirements can be passed)	
Electrical stroke	10 mm+/-0.2 between hard stops. 9.6mm available for leveling
Manual stroke	4.5mm up and down without clutch.
Nominal axial force	10 N (Max force = 70N at ambient temperature)
Temperature range of operation	-40° to +85°
Noise level	60 dBA (with micro at 400mm)
Speed	10 mm /s (at 13.5V, room T°, 10N, 300 Full Step/s
Initialization / referencing	In or out for bottom or top position on headlamp
Axial Assembly strength	>250 N for headlamp reflector assembly by clipping (at in stop)
Axial play	0.2 mm max (10N 23°C)
Weight	150g
Durability	> 5 million movements (dynamic leveling + motorway + high beam up)

Electrical connexion and control	
Voltage range / Nominal	10 to 16V / 13.5V
Connexion	4 pins Yazaki Rh or USCAR 120-S. No ground pin.
Stepper motor driver	Not included
Resolution	30 steps / mm
Solder	Leadfree
EMC	To be tested with the driving system and representative wiring.
Precision	+/-0.12mm
Typical driving parameters	673mA peak running current, 59mA holding current
Recommended driving speeds	200 Full Step/s Vmax, 29 Full Step/s Vmin
Winding resistance / inductance	7.5 W ± 10% / 10 mH ± 10%
Duty cycle	30% max

Design features (see drawing for details)	
Fixation on headlamp	By bayonet 4 lugs Φ 22mm, locking angle 16.5°
Sphere diameter	Φ 8mm
Location	External to headlamp on top or bottom position
Manual aiming interface	Hex 6mm or cross Phillips Nr2
Dimensions x y z	66 x 47 x 70 mm
Protection	IP 66, 100% line control under 50mbar, air leak 10cc/mn max