

Characteristics:

IDL Mag3 offers a unique combination of a high performance stepper motor and an integrated manual aiming with clutch.

It allows precise aiming and leveling of high-end LED headlamps. It can be used for AFS motorway function and can contribute to glare-free high beam system performance.



Main function 1 :

The IDL leveler adjusts the headlamp light beam vertical position by translation of a shaft. The motor is a linear bipolar stepper driven by the headlamp control unit.

Main function 2 :

The IDL has a manual aiming for vertical adjustment of the headlamp. Its adjusting wheel is engaged on an input gear fixed on the headlamp housing.

Performance:

Performance (typical, other requirements can be passed)

■ Electrical stroke (mm)	10.15+/-0.35 between hard stops. 9.6 available for leveling
■ Manual stroke (mm)	+/-4 with clutch at end stops. Option : +/-5.7
■ Nominal axial force	15 N (Max force = 70N at 23°C)
■ Temperature range of operation	-40° to +105° 20N force min with recommended driving parameters
■ Noise level	60 dBA max (with micro at 300mm)
■ Speed	10 mm /s typical (at 300 Full Step/s)
■ Initialization	In or out for top or bottom position on headlamp
■ Axial Assembly strength max	250 N for headlamp reflector assembly by clipping (at in stop)
■ Axial play max (mm)	0.2 (15N)
■ Weight (g)	105 to 110
■ Durability	> 5 million movements (dynamic leveling / motorway / high beam up)

Electrical connexion and control

■ Voltage range / Nominal	10 to 16V / 13.5V
■ Connexion	5 pins custom : fits with JST XA or Eh : 2 bobbins + ground
■ Resolution	30 steps / mm
■ Motor type	Bipolar Stepper motor diam 36mm
■ EMC	To be checked according to car maker specifications. N/A to motor alone (no electronic component)
■ Typical driving parameters	See drawing

Design features (see drawings for details)

■ Fixation on headlamp	By bayonet 3 lugs Φ 22mm or by side screws
■ Sphere diameter (mm)	8 or 10
■ Location	Internal to headlamp on top or bottom position
■ Manual aiming interface	Input gear under customer responsibility Aiming wheel must be guided by headlamp housing or bracket
■ Protection	IP 40

