

[Snapper solenoid]

Probably the fastest Rotary Solenoid in the World

The 'SNAPPER' rotary actuator from Geeplus is the fastest rotary solenoid available for high speed sorting, optical shutter, locking, or other applications. The 'Snapper' can be manufactured either as an extreme high speed, or as a high torque device.

The high speed permits downsizing, and increased throughput in sorting machinery. The rotary construction with armature balanced about the pivot point gives the 'Snapper' complete immunity to linearly applied shock. The combination of bistable operation, high holding torque (can be >8kgcm), and high shock resistance, suit it ideally for high-security locking applications.

Operating Characteristics - Speed and other Parameters

The operating characteristic is illustrated for a part with operating angle of 9° deg nominal. In order to achieve unambiguous selection, the diverter gate must be <1.5° or >7.5°. The 1.5° region at either limit of movement accommodates bounce while the selector settles. Between these positions, selection is ambiguous, the shaded regions indicate an area where an item must not be presented to the sorting mechanism.

The time to start (TTS) is the time taken to build up a strong enough field to start motion, this is a combination of electrical time constant to build up the coil current, and time to accelerate through the first 1.5° of motion. There will be some variation in this value.

Once the selector has passed the 7.5° point, it is again in an unambiguous state of selection. The time taken (TTE) to reach the end point (>7.5°) will also vary. In practice, the effective actuation time (TTEmax-TTSmin) can be <3ms.

Modification of Operating Characteristics

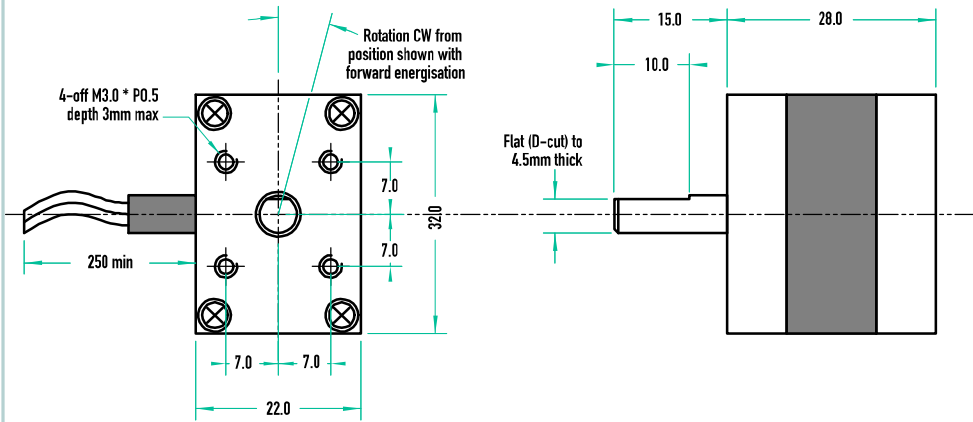
The internal construction of the 'Snapper' makes it very amenable to modification to suit different customer applications, The operating angle can readily be changed up to a maximum operating angle of 18-20°. Internal changes also allows easy adjustment of the following parameters; these are interlinked and cannot be changed independent of one another. As a group of characteristics, these can be anywhere between the extremes shown.

High Speed (<3ms), Holding Torque (<0.1Nm)	High Holding Torque (>0.8Nm)
Long Life (>30M cycles)	Reduced life (<5M cycles)
Low Audible Noise	High Audible Impact/Noise
Low Inductance (easy to drive)	High Inductance



[Snapper solenoid] (All dimensions are in mm, unless otherwise stated)

DERL32



DERL32 Timing Diagram

