Drive selection for the bicycle's steering mechanism

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Abstract

This report gives a short overview of the different drives and motor controllers that were considered for the bicycle's steering mechanism.

1 Requirements

The drive for the steering mechnanism needs to provide a minimal continuous torque of 15 to 20 Nm at a speed of at least 33 rpm. The supply voltage can be either 24 or 48 V. The backlash of the gearhead should be as low as possible. Since there will be an iteration of the bicycle design after the drive was selected, there were no specific requirements regarding the dimensions and weight. In general the optimal solution is as small and also as light as possible.

2 Options

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2.1 Sensodrive

2.2 Maxon

2.3 Robodrive

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3 Conclusion