



## TE5910 | TC3 Motion Designer

The dimensioning of drive axes, in conjunction with the optimum selection of motor, gear unit, drive controllers and accessories, is the basis for an efficient machine design. The TC3 Motion Designer is optionally integrated in the TwinCAT automation platform, or it can be used as a stand-alone project engineering tool for mechanical design.

### Mechanics

The TC3 Motion Designer supports the designer in the configuration of typical mechanical systems such as pinion rack, spindle nut, winder, crank drive, etc.

### Motion profiles

Rough estimates for simple load cases with motion profiles, e.g. based on a 1/2 or 1/3 rule or a 7-segment profile, are easy to realise with a few mouse clicks. More complex tasks and kinematic systems, perhaps in conjunction with more sophisticated motion profiles, including cam gears according to VDI 2143, are also taken account of in the TC3 Motion Designer. Export functions enable the configuration to be transferred directly to the TwinCAT System Manager, without the need for repeated inputs.

### Optimisation function

An optimisation algorithm makes the selection of gear units and motors straightforward. It suggests the optimum combination based on mechanical and cost considerations, taking into account adjustable filters. The connected database provides access to all available gear units, motors and servo drives offered by Beckhoff, including the compact Drive Technology range with servo terminals. The automatic geometry matching feature checks the compatibility of motor and gear unit and prevents selection of unsuitable combinations.

### Report functions

The axis configuration is documented in a report. A choice of short or detailed report is available.

With a single click the designer can call up the technical data sheet for the motor and gear unit, and with a further click the corresponding 3D model of the drive components for integration in the design software.

### Parts list generator

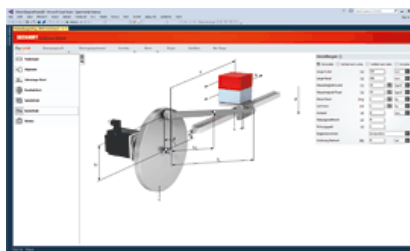
The integrated parts list generator can be used directly for preparing the purchase order. Accessories such as cables, chokes and installation material are also considered.

### Multi-axis design

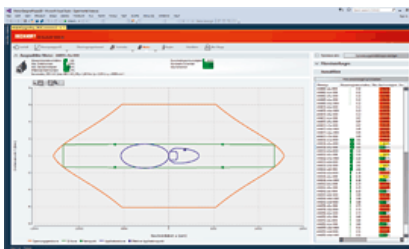
The TC3 Motion Designer regards the machine as a holistic unit, including all drive axes: All load cycles, including their temporal dependence and their influence on the common DC-Link, are taken into account. Selection of the optimum supply module or the common brake resistor is guaranteed.



The optimisation algorithm suggests the economically and mechanically optimal motor/gear unit combination according to the criteria that have been set.



The selected mechanism is graphically displayed and can be adapted precisely to the real application through further settings.



The axis utilisation can be directly classified in the 4-quadrant view.

With the parts list editor all required components can be directly added. The complete parts list of all components can be exported in common formats, e.g. Excel.



The Motion Designer enables the direct observation of the curves of position, speed, torque and acceleration over time for each axis.

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| <b>Technical data</b> | <b>TE5910</b>  |
| <b>Target system</b>  | Windows 7/8/10 |

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|-----------------------------|--|
| <b>Ordering information</b> |  |
| <b>TE5910</b>               | TC3 Motion Designer for drive dimensioning |