
*TD36-3 on TD36-144mm magnet plate*

# TD36 series

| | Parameter | Remarks | Symbol | Unit | TD36-3 | TD36-6 |
|---|---|---|---|---|---|---|
| Performance | Winding type | | | | S | N |
| | Motor type, max voltage ph-ph | 3-phase synchronous | $U_{max}$ | $V_{ac,rms}$ ($V_{dc}$) | 230 (325) | |
| | Ultimate force @ 10 K/s increase | magnets @ 25°C | $F_u$ | N | 89 | 177 |
| | Peak force @ 6 K/s increase | magnets @ 25°C | $F_p$ | N | 75 | 149 |
| | Continuous force[1] | coils @ 105°C | $F_c$ | N | 40 | 72 |
| | Maximum speed[2] | @ $U_{max}$ @ $F_c$ | $v_{max}$ | m/s | 16.0 | 7.6 |
| | Motor force constant | $I \leq I_c$ | $K_f$ | $N/A_{rms}$ | 19.2 | 38.2 |
| | Motor constant | coils @ 25°C | S | $N^2/W$ | 39.8 | 79.2 |
| Electrical | Ultimate current | magnets @ 25°C | $I_u$ | $A_{rms}$ | 5.9 | |
| | Peak current | magnets @ 25°C | $I_p$ | $A_{rms}$ | 4.5 | |
| | Continuous current[1] | coils @ 100°C | $I_c$ | $A_{rms}$ | 2.1 | 1.9 |
| | Back EMF ph-ph $_{peak}$ | | $K_e$ | $V_{dc}$/m/s | 15.7 | 31.2 |
| | Resistance per phase | coils @ 25°C ex. cable | $R_{ph}$ | Ω | 3.1 | 6.1 |
| | Induction per phase | $I < 0.6\ I_p$ | $L_{ph}$ | mH | 8.0 | 16.0 |
| | Electrical time constant | | $\tau_e$ | ms | 2.6 | |
| Thermal | Continuous power loss[1] | coils @ 105°C | $P_c$ | W | 52 | 81 |
| | Thermal resistance | coils to mount. sfc. | $R_{th}$ | K/W | 1.63 | 0.99 |
| | Thermal time constant | | $\tau_{th}$ | s | 43 | 52 |
| | Temperature sensor | | | | Pt1000 | |
| Mechanical | Coil unit mass | ex. cables | m | kg | 0.24 | 0.41 |
| | Coil unit length | ex. cables | L | mm | 65 | 113 |
| | Motor attraction force | rms @ 0 A | $F_a$ | N | 154 | 308 |
| | Magnet pitch NN | | τ | mm | 24 | |
| | Cable mass | all cables | | kg/m | 0.07 | |
| | Cable type (power and sensor) | length 1 m | d | mm (AWG) | 4.3 (3x24+2x32) | |
| | Cable life (FLEX)[3] | minimum | | cycles | 15,000,000 | |
| | Bending radius static | minimum | | | 5x cable diameter | |
| | Bending radius dynamic | minimum | | | 8x cable diameter | |

| Magnet plate dimensions | | | |
|---|---|---|---|
| Le (mm) | 96 | 144 | 288 |
| M3 bolts | 4 | 6 | 12 |
| Mass (kg/m)[4] | | 1.3 | |
| *Magnet plates can be butted together.* | | | |

[4] *Low weight magnet plate available*

Approvals

[1] *These values are only applicable when the mounting surface is at 20°C and the motor is driven at continuous current. If these values differ in your application, please check our simulation tool.*

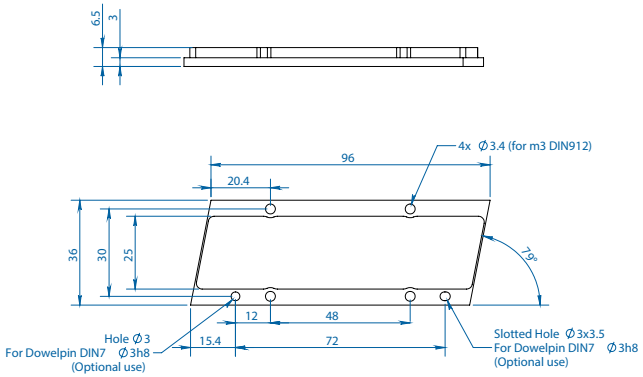
[2] *Actual values depend on bus voltage. Please check the F/v diagram in our simulation tool.*

[3] *Depending on bending radius, velocity and acceleration.*

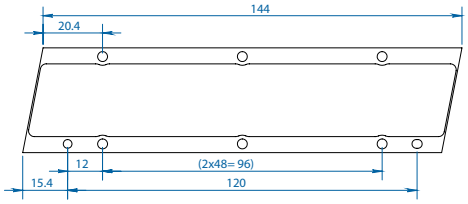
*All specifications ±10%*

## Magnet plates

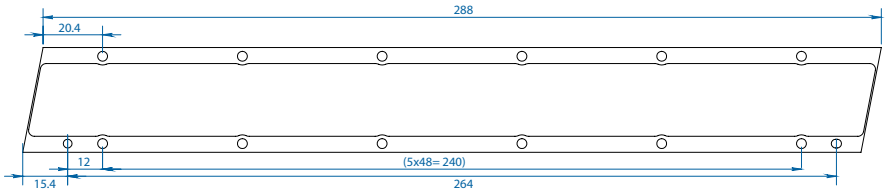
### TD36 96 mm



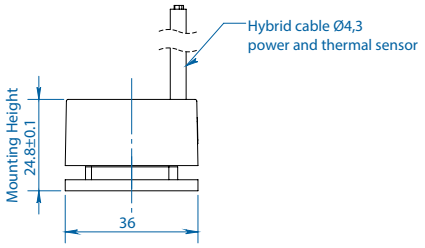

### TD36 144 mm



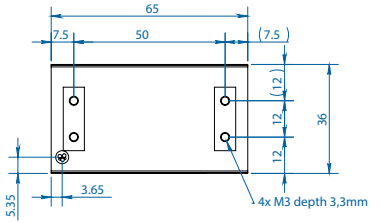

### TD36 288 mm



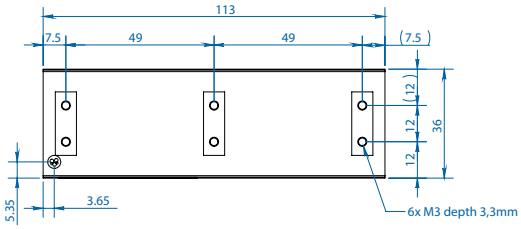

## Coil units




### TD36-3




### TD36 -6




*Mounting instructions and flatness or parallelism requirements can be found in the iron core installation manual. CAD files and the manual can be downloaded from our website.*

** All sizes are in mm*