



Technical Data

| Model | M-116.DG | M-116.DGH | M-116.2SH | Units |
|---|---|---|------------------------------|------------|
| Active axes | Rotation | Rotation | Rotation | |
| Motion and positioning | | | | |
| Rotation range | >360 | >360 | >360 | ° |
| Integrated sensor | Rotary encoder | Rotary encoder | – | |
| Sensor resolution | 2048 | 2048 | – | Cts./rev. |
| Design resolution | 2.45 (0.00013) | 3.16 (0.00018) | 16.9* (0.00097) | μrad (°) |
| Min. incremental motion | 50 | 25 | 30 | μrad |
| Backlash | 1000 | 500 | 500 | μrad |
| Unidirectional repeatability | 12 | 10 | 10 | μrad |
| Max. velocity | 20 | 20 | 20 | °/s |
| Mechanical properties | | | | |
| Worm gear ratio | 44:1 | 44:1 | 44:1 | |
| Gear ratio | 28.444:1 | 22.0335:1 | 22.0335:1 | |
| Motor resolution | – | – | 384* | steps/rev. |
| Axial force | ±15 | ±15 | 15 | N |
| Max. Torque (θ_x, θ_y) | ±1.5 | ±1.5 | ±1.5 | Nm |
| Max. Torque clockwise (θ_z) | 0.4 | 0.4 | 0.4 | Nm |
| Max. torque counterclockwise (θ_z) | 0.8 | 0.8 | 0.8 | Nm |
| Drive properties | | | | |
| Motor type | DC-motor, gearhead | DC-motor, gearhead | 2-phase stepper motor* | |
| Operating voltage | 0 to ±12 | 0 to ±12 | 24 | V |
| Electrical power | 1.75 | 1.75 | | W |
| Reference switch | optical | optical | optical | |
| Miscellaneous | | | | |
| Operating temperature range | -20 to +65 | -20 to +65 | -20 to +65 | °C |
| Material | Aluminum | Aluminum | Aluminum | |
| Mass | 0.4 | 0.4 | 0.4 | kg |
| Recommended controller/driver | C-863 single-axis C-843 PCI board, for up to 4 axes | C-863 single-axis (p. 4-114) C-843 PCI board (p. 4-120), for up to 4 axes | C-663 single-axis (p. 4-112) | |

*2-phase stepper motor, 24 V chopper voltage, max. 0.25 A/phase, 24 full steps/rev., motor resolution with C-663 stepper motor controller