

Toothed belt axis unit ELGS-TB-KF-60-500-ST-M-H1-PLK-AA

Part number: 8083572

FESTO



[PDF](#) General operating condition

Data sheet

| Feature | Value |
|---|--|
| Drive pinion effective diameter | 24.83 mm |
| Working stroke | 500 mm |
| Size | 60 |
| Stroke reserve | 0 mm |
| Toothed belt elongation | 0.124 % |
| Toothed belt pitch | 3 mm |
| Mounting position | Horizontal |
| Guide | Recirculating ball bearing guide |
| Structural design | with toothed belt With integrated drive |
| Motor type | Stepper motor |
| Symbol | 00997293 |
| Position sensing | Motor encoder For proximity sensor |
| Homing | Fixed stop block positive Fixed stop block, negative |
| Rotor position sensor | Absolute encoder, single-turn |
| Rotor position sensor measuring principle | Magnetic |
| Temperature monitoring | Shutdown in the event of over temperature Integrated precise CMOS temperature sensor with analogue output |
| Additional functions | Integrated end-position sensing |
| Display | LED |
| Ready status indication | LED |
| Max. acceleration | 6 m/s ² |
| Max. speed | 1.3 m/s |
| Speed "Speed Press" | 0.026 m/s |
| Repetition accuracy | ±0.1 mm |
| Characteristics of digital logic outputs | Configurable Not galvanically isolated |
| Duty cycle | 100% |
| Insulation protection class | B |
| Max. current of digital logic outputs | 100 mA |
| Max. current consumption | 5300 mA |
| Logic max. current consumption | 0.3 A |
| DC nominal voltage | 24 V |
| Nominal current | 5.3 A |

| Feature | Value |
|--|--|
| Parameterization interface | IO-Link® User interface |
| Rotor position sensor resolution | 16 bit |
| Permissible voltage fluctuations | +/- 15 % |
| Power supply, type of connection | Plug |
| Power supply, connection technology | M12x1, T-coded as per EN 61076-2-111 |
| Power supply, number of pins/wires | 4 |
| Power supply, connection pattern | 00995989 |
| Certification | RCM compliance mark |
| KC characters | KC EMC |
| CE marking (see declaration of conformity) | As per EU EMC directive As per EU RoHS directive |
| UKCA marking (see declaration of conformity) | To UK RoHS instructions |
| Vibration resistance | Transport application test with severity level 1 as per FN 942017-4 and EN 60068-2-6 |
| Shock resistance | Shock test with severity level 1 as per FN 942017-5 and EN 60068-2-27 |
| LABS (PWIS) conformity | VDMA24364 zone III |
| Cleanroom suitability, measured according to ISO 14644-14 | Class 7 according to ISO 14644-1 |
| Storage temperature | -20 °C ... 60 °C |
| Relative air humidity | 0 - 90 % |
| Degree of protection | IP40 |
| Protection class | III |
| Ambient temperature | 0 °C ... 50 °C |
| Note on ambient temperature | Above an ambient temperature of 30°C, the power must be reduced by 2% per K. |
| 2nd moment of area Iy | 441000 mm ⁴ |
| 2nd moment of area Iz | 542000 mm ⁴ |
| Max. force Fy | 3641 N |
| Max. force Fz | 3641 N |
| Max. force Fy total axis | 600 N |
| Max. force Fz total axis | 1800 N |
| Fy with theoretical service life of 100 km (from a guide perspective only) | 13400 N |
| Fz with theoretical service life of 100 km (from a guide perspective only) | 13400 N |
| Max. torque Mx | 29.1 Nm |
| Max. torque My | 31.8 Nm |
| Max. torque Mz | 31.8 Nm |
| Max. moment Mx total axis | 29.1 Nm |
| Max. moment My total axis | 31.8 Nm |
| Max. moment Mz total axis | 31.8 Nm |
| Mx with theoretical service life of 100 km (from a guide perspective only) | 107 Nm |
| My with theoretical service life of 100 km (from a guide perspective only) | 117 Nm |
| Mz with theoretical service life of 100 km (from a guide perspective only) | 117 Nm |
| Max. feed force Fx | 65 N |
| Guide value for payload, horizontal | 4 kg |
| Torsion moment of inertia It | 29800 mm ⁴ |
| Feed constant | 78 mm/U |
| Reference service life | 5000 km |
| Maintenance interval | Life-time lubrication |
| Moving mass | 482 g |
| Moving mass at 0 mm stroke | 482 g |
| Slide weight | 139 g |
| Product weight | 5105 g |

| Feature | Value |
|---|---|
| Dynamic deflection (load moved) | 0.05% of axis length, maximum 0.5 mm |
| Static deflection (load at standstill) | 0.1 % of axis length |
| Number of digital logic outputs 24 V DC | 2 |
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| Logic input specification | Based on IEC 61131-2, type 1 |
| Work range of logic input | 24 V |
| IO-Link®, SIO mode support | Yes |
| Characteristics of logic input | Configurable Not galvanically isolated |
| IO-Link®, protocol version | Device V 1.1 |
| IO-Link®, communication mode | COM3 (230.4 kBd) |
| IO-Link®, port class | A |
| IO-Link®, number of ports | 1 |
| IO-Link®, process data width OUT | 2 Byte |
| IO-Link®, process data content OUT | Move in 1 bit Move out 1 bit Quit Error 1 bit Move Intermediate 1 bit |
| IO-Link®, process data width IN | 2 Byte |
| IO-Link®, process data content IN | State Device 1 bit State In 1 bit State Intermediate 1 bit State Move 1 bit State Out 1 bit |
| IO-Link®, service data contents IN | 32 bit force 32 bit position 32 bit speed |
| IO-Link®, minimum cycle time | 1 ms |
| IO-Link®, data memory required | 500 byte |
| Max. cable length | 15 m outputs 15 m inputs 20 m for IO-Link® operation |
| Switching logic at outputs | PNP (positive switching) |
| Input switching logic | PNP (positive switching) |
| IO-Link®, Connection technology | Plug |
| Logic interface, connection type | Plug |
| Logic interface, connection technology | M12x1, A-coded as per EN 61076-2-101 |
| Logic interface, number of poles/wires | 8 |
| Logic interface, connection pattern | 00992264 |
| Type of mounting | With internal thread With centering sleeve and pin With accessories |
| Material of end caps | Die cast aluminum, painted |
| Profile material | Wrought aluminum alloy, anodized |
| Note on materials | RoHS-compliant |
| Cover strip material | Stainless steel strip |
| Drive cover material | Die cast aluminum, painted |
| Slide carriage material | Tempered steel |
| Guide rail material | Tempered steel |
| Belt pulley material | High-alloy stainless steel |
| Slide material | Die-cast aluminum |
| Toothed belt material | Polychloroprene with glass fiber |