

# Toothed belt axis unit ELGS-TB-KF-45-1000-ST-M-H1-PLK-AA

Part number: 8083670

**FESTO**



## Data sheet

| Feature                                   | Value                                                                                                        |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Drive pinion effective diameter           | 19.1 mm                                                                                                      |
| Working stroke                            | 1000 mm                                                                                                      |
| Size                                      | 45                                                                                                           |
| Stroke reserve                            | 0 mm                                                                                                         |
| Toothed belt elongation                   | 0.187 %                                                                                                      |
| Toothed belt pitch                        | 2 mm                                                                                                         |
| Mounting position                         | Horizontal                                                                                                   |
| Guide                                     | Recirculating ball bearing                                                                                   |
| Structural design                         | Electromechanical linear axis<br>With toothed belt<br>With integrated actuator                               |
| Position sensing                          | Motor encoder<br>Via proximity switch                                                                        |
| Rotor position sensor                     | Absolute single-turn encoder                                                                                 |
| Rotor position sensor measuring principle | Magnetic                                                                                                     |
| Temperature monitoring                    | Shutdown in the event of over temperature<br>Integrated precise CMOS temperature sensor with analogue output |
| Additional functions                      | User interface<br>Integrated end-position sensing                                                            |
| Display                                   | LED                                                                                                          |
| Max. acceleration                         | 6 m/s <sup>2</sup>                                                                                           |
| Max. speed                                | 1.2 m/s                                                                                                      |
| Repetition accuracy                       | ±0.1 mm                                                                                                      |
| Characteristics of digital logic outputs  | Configurable<br>Not galvanically isolated                                                                    |
| Duty cycle                                | 100%                                                                                                         |
| Insulation protection class               | B                                                                                                            |
| Max. current of digital logic outputs     | 100 mA                                                                                                       |
| Max. current consumption                  | 5.3 A                                                                                                        |
| Logic max. current consumption            | 0.3 A                                                                                                        |
| DC nominal voltage                        | 24 V                                                                                                         |
| Nominal current                           | 5.3 A                                                                                                        |
| Parameterization interface                | IO-Link®                                                                                                     |

| Feature                                                                    | Value                                                                                                   |
|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
|                                                                            | User interface                                                                                          |
| 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                                                                                                       |
| Certification                                                              | RCM compliance mark                                                                                     |
| CE marking (see declaration of conformity)                                 | As per EU EMC directive<br>As per EU RoHS directive                                                     |
| LABS (PWIS) conformity                                                     | VDMA24364 Zone III                                                                                      |
| Storage temperature                                                        | -20 °C...60 °C                                                                                          |
| Relative air humidity                                                      | 0 - 90%                                                                                                 |
| Degree of protection                                                       | IP40                                                                                                    |
| 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                                                      | 140000 mm <sup>4</sup>                                                                                  |
| 2nd moment of area Iz                                                      | 170000 mm <sup>4</sup>                                                                                  |
| Max. force Fy                                                              | 880 N                                                                                                   |
| Max. force Fz                                                              | 880 N                                                                                                   |
| Fy with theoretical service life of 100 km (from a guide perspective only) | 3240 N                                                                                                  |
| Fz with theoretical service life of 100 km (from a guide perspective only) | 3240 N                                                                                                  |
| Mx with theoretical service life of 100 km (from a guide perspective only) | 20 Nm                                                                                                   |
| My with theoretical service life of 100 km (from a guide perspective only) | 17 Nm                                                                                                   |
| Mz with theoretical service life of 100 km (from a guide perspective only) | 17 Nm                                                                                                   |
| Max. feed force Fx                                                         | 75 N                                                                                                    |
| Guide value for payload, horizontal                                        | 2.5 kg                                                                                                  |
| Feed constant                                                              | 60 mm/U                                                                                                 |
| Moving mass                                                                | 169 g                                                                                                   |
| Moving mass at 0 mm stroke                                                 | 169 g                                                                                                   |
| Slide weight                                                               | 55 g                                                                                                    |
| Product weight                                                             | 4090 g                                                                                                  |
| 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                                                                                                       |
| Number of digital logic inputs                                             | 2                                                                                                       |
| Work range of logic input                                                  | 24 V                                                                                                    |
| Characteristics of logic input                                             | Configurable<br>Not galvanically isolated                                                               |
| IO-Link®, process data content OUT                                         | Move in 1 bit<br>Move out 1 bit<br>Quit Error 1 bit<br>Move Intermediate 1 bit                          |
| IO-Link®, process data content IN                                          | State Device 1 bit<br>State In 1 bit<br>State Intermediate 1 bit<br>State Move 1 bit<br>State Out 1 bit |
| IO-Link®, service data contents IN                                         | 32-bit force<br>32-bit position<br>32-bit speed                                                         |
| IO-Link®, data memory required                                             | 0.5 KB                                                                                                  |
| Input switching logic                                                      | PNP (positive switching)                                                                                |
| Logic interface, connection type                                           | Plug                                                                                                    |
| Logic interface, connection technology                                     | M12x1, A-coded as per EN 61076-2-101                                                                    |

| Feature                                | Value                                                                     |
|----------------------------------------|---------------------------------------------------------------------------|
| Logic interface, number of poles/wires | 8                                                                         |
| Type of mounting                       | With internal thread<br>With centering sleeve and pin<br>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 strip steel                                                     |
| Slide carriage material                | Quenched and tempered steel                                               |
| Guide rail material                    | Quenched and tempered steel                                               |
| Toothed belt material                  | Neoprene with glass fiber                                                 |