

# Electric cylinder unit

## EPCE-TB-60-10-FL-MF-ST-M-H1-PLK-AA

FESTO

Part number: 8102166



[PDF](#) [General operating condition](#)

### Data sheet

| Feature  | Value   |
|--|---|
| Effective diameter of drive pinion                 | 10.18 mm  |
| Size   | 60  |
| Stroke   | 10 mm   |
| Stroke reserve                                     | 0 mm  |
| Piston rod thread                                  | M10x1.25  |
| Toothed-belt stretch                               | 0.375 %   |
| Toothed-belt pitch                                 | 2 mm  |
| Mounting position                                  | optional  |
| Piston-rod end                                     | Male thread   |
| Type of motor                                      | Stepper motor   |
| Position detection                                 | Motor encoder   |
| Design   | With toothed belt<br>With integrated drive  |
| Symbol   | 00997342  |
| Protection against torque/guide                    | With plain-bearing guide  |
| Referencing  | Positive fixed stop block<br>Negative fixed stop block  |
| Rotor position sensor                              | Absolute single-turn encoder  |
| Rotor position sensor, encoder measuring principle | Magnetic  |
| Temperature monitoring                             | Switch-off for excessive temperature<br>Integrated precise CMOS temperature sensor with analogue output |
| Additional functions                               | Integrated end-position sensing   |
| Display  | LED   |
| Ready status indication                            | LED   |
| Max. acceleration                                  | 9 m/s <sup>2</sup>  |
| Max. speed   | 0.6 m/s   |
| Speed "Speed press"                                | 0.02 m/s  |
| Repetition accuracy                                | ±0.05 mm  |
| Features of digital logic outputs                  | Configurable<br>Not galvanically isolated   |
| Duty cycle   | 100%  |
| Insulation protection class                        | B   |
| Max. current digital logic outputs                 | 100 mA  |
| Max. current consumption                           | 5300 mA   |
| Max. current consumption, logic                    | 0.3 A   |
| Nominal voltage DC                                 | 24 V  |
| Nominal current                                    | 5.3 A   |

| Feature                                      | Value  |
|--|--|
| Parameterisation interface                   | IO-Link<br>User interface  |
| Rotor position transducer resolution         | 16 bit   |
| Permissible voltage fluctuations             | +/- 15%  |
| Power supply, connection type                | Plugs  |
| power supply, connection system              | M12x1, T-coded according to EN 61076-2-111                                       |
| Power supply, number of pins/wires           | 4  |
| Power supply, connection pattern             | 00995989   |
| Approval                                     | RCM trademark  |
| KC mark                                      | KC-EMV   |
| CE mark (see declaration of conformity)      | To EU EMC Directive<br>In accordance with EU RoHS Directive                      |
| UKCA marking (see declaration of conformity) | To UK RoHS instructions  |
| Vibration resistance                         | Transport application test with severity level 1 to FN 942017-4 and EN 60068-2-6 |
| Shock resistance                             | Shock test with severity level 1 to FN 942017-5 and EN 60068-2-27                |
| Corrosion resistance class CRC               | 0 - No corrosion stress  |
| LABS (PWIS) conformity                       | VDMA24364 zone III   |
| 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                  | Power must be reduced by 2% per K at ambient temperatures above 30°C.            |
| Impact energy in end positions               | 0.016 J  |
| Max. moment Mx                               | 0 Nm   |
| Max. moment My                               | 1 Nm   |
| Max. moment Mz                               | 1 Nm   |
| Max. feed force Fx                           | 150 N  |
| Reference value effective load, horizontal   | 10 kg  |
| Reference value effective load, vertical     | 5 kg   |
| Feed constant                                | 32 mm/U  |
| Reference service life                       | 100 km   |
| Maintenance interval                         | Life-time lubrication  |
| Moving mass                                  | 207 g  |
| Moving mass for 0 mm stroke                  | 197 g  |
| Additional moving mass per 10 mm stroke      | 9.75 g   |
| Product weight                               | 1453 g   |
| Basic weight for 0 mm stroke                 | 1407 g   |
| Additional weight per 10 mm stroke           | 46 g   |
| Number of digital logic outputs 24 V DC      | 2  |
| Number of digital logic inputs               | 2  |
| Specification logic input                    | Based on IEC 61131-2, type 1   |
| Working range of logic input                 | 24 V   |
| Features of logic input                      | Configurable<br>Not galvanically isolated  |
| IO-Link, SIO-Mode support                    | Yes  |
| IO-Link, Protocol version                    | Device V 1.1   |
| IO-Link, communication mode                  | COM3 (230.4 kBaud)   |
| IO-Link, Port class                          | A  |
| IO-Link, Number of ports                     | 1  |
| IO-Link, Process data length OUT             | 2 bytes  |

| Feature                                | Value   |
|--|---|
| 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 length IN        | 2 bytes   |
| 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 IN               | Speed 32 bit<br>Position 32 bit<br>Force 32 bit   |
| IO-Link, Min. cycle time               | 1 ms  |
| IO-Link, Data storage required         | 500 Byte  |
| Max. cable length                      | 15 m outputs<br>15 m inputs<br>20 m with IO-Link® operation   |
| Switching logic for outputs            | PNP (positive switching)  |
| Switching logic for inputs             | PNP (positive switching)  |
| IO-Link, connection technology         | Plugs   |
| Logic interface, connection type       | Plug  |
| Logic interface, connection technology | M12x1, A-coded according to EN 61076-2-101  |
| Logic interface, number of pins/wires  | 8   |
| Logic interface, plug pattern          | 00992264  |
| Type of mounting                       | With through-hole<br>Via female thread<br>Via centring sleeve<br>With accessories                       |
| Note on materials                      | RoHS-compliant  |
| Material cover                         | Anodised wrought aluminium alloy  |
| Material housing                       | Anodised wrought aluminium alloy  |
| Material piston rod                    | High-alloy stainless steel  |
| Material toothed belt                  | Polychloroprene with glass fibre  |