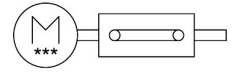


# Electric cylinder unit EPCE-TB-60-10-FL-ST-M-H1-PLK-AA

Part number: 8102163

**FESTO**



 [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                                             | Electric cylinder<br>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                               | User interface<br>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                                                                                                   |

| Feature                                      | Value                                                                            |
|----------------------------------------------|----------------------------------------------------------------------------------|
| Nominal voltage DC                           | 24 V                                                                             |
| Nominal current                              | 5.3 A                                                                            |
| 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 instructions for EMC<br>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                                  | 198 g                                                                            |
| Moving mass for 0 mm stroke                  | 188 g                                                                            |
| Additional moving mass per 10 mm stroke      | 9.75 g                                                                           |
| Product weight                               | 1396 g                                                                           |
| Basic weight for 0 mm stroke                 | 1350 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                                                                                |

| Feature                                | Value                                                                                                   |
|----------------------------------------|---------------------------------------------------------------------------------------------------------|
| IO-Link, Number of ports               | 1                                                                                                       |
| IO-Link, Process data length OUT       | 2 bytes                                                                                                 |
| 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                       | Via female thread<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                                                                        |