

# electric cylinder unit

## EPCE-TB-60-20-FL-ST-M-H1-PLK-AA

Part number: 8102162

FESTO



### Data sheet

| Feature                                     | Value   |
|---|---|
| Effective diameter of drive pinion          | 10.18 mm  |
| Size  | 60  |
| Stroke                                      | 20 mm   |
| Stroke reserve                              | 0 mm  |
| Piston rod thread                           | M10x1,25  |
| Toothed-belt stretch                        | 0.375 %   |
| Toothed-belt pitch                          | 2 mm  |
| Assembly position                           | Any   |
| Piston-rod end                              | Male thread   |
| Motor type                                  | Stepper motor   |
| Position detection                          | Motor encoder   |
| Design structure                            | Electric cylinder<br>With toothed belt<br>with integrated drive                                 |
| Protection against torque/guide             | with plain-bearing guide  |
| Referencing                                 | Fixed stop block positive<br>Fixed stop block negative  |
| Rotor position sensor                       | Absolute single turn encoder  |
| Rotary position encoder measuring principle | Magnetic  |
| Temperature monitoring                      | Shutdown at over-temperature<br>Integrated precise CMOS temperature sensor with analogue output |
| Additional functions                        | User interface<br>Integrated end-position sensing   |
| Display                                     | LED   |
| Ready status display                        | 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  |
| Digital logic output characteristics        | configurable<br>Not electrically isolated   |
| Duty cycle                                  | 100 %   |
| Insulation protection class                 | B   |
| Max. current, digital logic outputs         | 100 mA  |
| Max. current consumption                    | 5.3 A   |
| Max. current consumption, logic             | 300 mA  |
| Nominal voltage DC                          | 24 V  |
| Nominal current                             | 5.3 A   |
| Parameters configuring interface            | IO-Link<br>User interface   |
| Rotor position encoder resolution           | 16 Bit  |
| Permissible voltage fluctuation             | +/- 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   |
| Authorization                               | RCM Mark  |

| <b>Feature</b>                               | <b>Value</b>  |
|--|---|
| KC mark                                      | KC-EMV  |
| CE symbol (see declaration of conformity)    | according to EU-EMV guideline<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 as per FN 942017-4 and EN 60068-2-6                    |
| Shock resistance                             | Shock test with severity level 1 in accordance with FN 942017-5 and EN 60068-2-27                       |
| Corrosion resistance classification CRC      | 0 - No corrosion stress   |
| PWIS conformity                              | VDMA24364 zone III  |
| Storage temperature                          | -20 ... 60 °C   |
| Relative air humidity                        | 0 - 90 %  |
| Protection class                             | IP40  |
| Safety class                                 | III   |
| Ambient temperature                          | 0 ... 50 °C   |
| Note on ambient temperature                  | Above an ambient temperature of 30 °C, the power must be reduced by 2% per K.                           |
| Impact energy in end positions               | 0.016 J   |
| Max. torque Mx                               | 0 Nm  |
| Max. torque My                               | 1 Nm  |
| Max. torque Mz                               | 1 Nm  |
| Max. feed force Fx                           | 150 N   |
| Reference value for working load, horizontal | 10 kg   |
| Reference value for working load, vertical   | 5 kg  |
| Feed constant                                | 32 mm/U   |
| Reference value, running performance         | 200 km  |
| Maintenance interval                         | Life-time lubrication   |
| Moving mass                                  | 208 g   |
| Moving mass with 0 mm stroke                 | 188 g   |
| Additional mass factor per 10 mm of stroke   | 9.75 g  |
| Product weight                               | 1,442 g   |
| Basic weight for 0 mm stroke                 | 1,350 g   |
| Additional weight per 10 mm stroke           | 46 g  |
| Number of 24 V DC digital logic outputs      | 2   |
| Number of digital logic inputs               | 2   |
| Specification, logic input                   | Based on IEC 61131-2, type 1  |
| Logic input working range                    | 24 V  |
| Logic input characteristics                  | configurable<br>Not electrically isolated   |
| IO-Link, SIO mode support                    | Yes   |
| IO-Link, protocol                            | Device V 1.1  |
| IO-Link, communication mode                  | COM3 (230.4 kbd)  |
| IO-Link, port type                           | 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<br>Move out 1 bit<br>Quit Error 1 bit<br>Move Intermediate 1 bit                          |
| IO-Link, process data width IN               | 2 Byte  |
| IO-Link, process data content IN             | State In 1 bit<br>State Out 1 bit<br>State Move 1 bit<br>State Device 1 bit<br>State Intermediate 1 bit |
| IO-Link, Service data contents IN            | Speed 32 bit<br>Position 32 bit<br>Force 32 bit   |
| IO-Link, minimum cycle time                  | 1 ms  |
| IO-Link, data memory required                | 0.5 Kilobyte  |

| <b>Feature</b>                         | <b>Value</b>   |
|--|--|
| Max. line length                       | 15 m outputs<br>15 m inputs<br>20 m with IO-Link operation |
| Switching logic, outputs               | PNP (positive-switching)                                   |
| Input circuit logic                    | PNP (positive-switching)                                   |
| IO-Link, connection technology         | Plug   |
| Logic interface, connection type       | Plug   |
| Logic interface, connection technology | M12x1, A-coded in accordance with EN 61076-2-101           |
| Logic interface, number of poles/wires | 8  |
| Logic interface, connection pattern    | 00992264   |
| Mounting type                          | with internal (female) thread<br>with accessories          |
| Materials note                         | Conforms to RoHS   |
| Material cover                         | Anodised wrought aluminium alloy                           |
| Material housing                       | Anodised wrought aluminium alloy                           |
| Material piston rod                    | High alloy steel, non-corrosive                            |
| Material toothed belt                  | Polychloroprene with glass fibers                          |