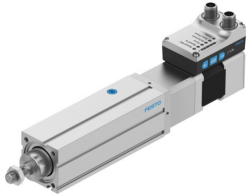


# Electric cylinder unit

## EPCS-BS-45-50-10P-A-ST-M-H1-PLK-AA

FESTO

Part number: 8118281



[PDF](#) General operating condition

## Data sheet

| Feature                                      | Value  |
|--|--|
| Size   | 45   |
| Stroke                                       | 50 mm  |
| Stroke reserve                               | 0 mm   |
| Piston rod thread                            | M10x1.25   |
| Reversing backlash                           | 100 µm   |
| Screw diameter                               | 10 mm  |
| Spindle pitch                                | 10 mm/U  |
| Max. angle of rotation of the piston rod +/- | 1 deg  |
| Mounting position                            | Any  |
| Piston rod end                               | External thread  |
| Motor type                                   | Stepper motor  |
| Structural design                            | with ball screw drive<br>With integrated drive   |
| Spindle type                                 | Ball screw drive   |
| Symbol                                       | 00997294   |
| Protection against torsion/guide             | With plain-bearing guide   |
| Homing                                       | Fixed stop block positive<br>Fixed stop block, negative<br>Reference switch                                  |
| Rotor position sensor                        | Absolute encoder, single-turn  |
| 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                         | Integrated end-position sensing  |
| Display                                      | LED  |
| Ready status indication                      | LED  |
| Max. acceleration                            | 5 m/s <sup>2</sup>   |
| Max. speed                                   | 0.23 m/s   |
| Speed "Speed Press"                          | 0.01 m/s   |
| Repetition accuracy                          | ±0.02 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                     | 3000 mA  |
| Logic max. current consumption               | 0.3 A  |

| Feature   | Value  |
|---|--|
| DC nominal voltage  | 24 V   |
| Nominal current   | 3 A  |
| Parameterization interface                                | IO-Link®<br>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<br>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                |
| Corrosion resistance class (CRC)                          | 0 - No corrosion stress  |
| LABS (PWIS) conformity                                    | VDMA24364 zone III   |
| Cleanroom suitability, measured according to ISO 14644-14 | Class 9 according to ISO 14644-1   |
| Storage temperature                                       | -20 °C ... 60 °C   |
| Relative air humidity                                     | Non-condensing   |
| 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.         |
| Max. torque Mx  | 0 Nm   |
| Max. torque My  | 2.9 Nm   |
| Max. torque Mz  | 2.9 Nm   |
| Max. radial force on actuator shaft                       | 180 N  |
| Max. feed force Fx  | 250 N  |
| Guide value for payload, horizontal                       | 40 kg  |
| Guide value for payload, vertical                         | 13 kg  |
| Maintenance interval                                      | Life-time lubrication  |
| Moving mass at 0 mm stroke                                | 179 g  |
| Additional moving mass per 10 mm stroke                   | 4.9 g  |
| Product weight  | 1390 g   |
| Basic weight with 0 mm stroke                             | 1185 g   |
| Additional weight per 10 mm stroke                        | 41 g   |
| Number of digital logic outputs 24 V DC                   | 2  |
| Number of digital logic inputs                            | 2  |
| Logic input specification                                 | Based on IEC 61131-2, type 1   |
| Work range of logic input                                 | 24 V   |
| Characteristics 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 kBd)   |
| IO-Link®, port class                                      | A  |
| IO-Link®, number of ports                                 | 1  |
| IO-Link®, process data width OUT                          | 2 Byte   |

| 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 width IN        | 2 Byte  |
| 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®, minimum cycle time           | 1 ms  |
| IO-Link®, data memory required         | 500 byte  |
| Max. cable length                      | 15 m outputs<br>15 m inputs<br>20 m for IO-Link® operation  |
| Switching logic at outputs             | NPN (negative switching)<br>PNP (positive switching)  |
| Input switching logic                  | NPN (negative switching)<br>PNP (positive switching)  |
| 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<br>With accessories  |
| Note on materials                      | RoHS-compliant  |
| Housing material                       | Wrought aluminum alloy, smooth-anodized   |
| Piston rod material                    | High-alloy stainless steel  |
| Ball screw nut material                | Steel   |
| Spindle material                       | Roller bearing steel  |