

# Electric cylinder unit

## EPCS-BS-45-150-3P-A-ST-M-H1-PLK-AA

FESTO

Part number: 8118277



### Data sheet

| Feature  | Value  |
|--|--|
| Size   | 45   |
| Stroke   | 150 mm   |
| Stroke reserve                                     | 0 mm   |
| Piston rod thread                                  | M10x1.25   |
| Reversing backlash theoretical                     | 100 µm   |
| Spindle diameter                                   | 10 mm  |
| Spindle pitch                                      | 3 mm/U   |
| Torsional backlash at piston rod +/-               | 1 deg  |
| Mounting position                                  | optional   |
| Piston-rod end                                     | Male thread  |
| Type of motor                                      | Stepper motor  |
| Design   | Electric cylinder<br>With ball screw drive<br>With integrated drive        |
| Spindle type                                       | Ball screw drive   |
| Symbol   | 00997294   |
| Protection against torque/guide                    | With plain-bearing guide   |
| Referencing  | Positive fixed stop block<br>Negative fixed stop block<br>Reference switch |
| Rotor position sensor                              | Absolute single-turn encoder   |
| Rotor position sensor, encoder measuring principle | Magnetic   |
| Additional functions                               | User interface<br>Integrated end-position sensing                          |
| Display  | LED  |
| Ready status indication                            | LED  |
| Max. acceleration                                  | 1.5 m/s <sup>2</sup>   |
| Max. speed   | 0.074 m/s  |
| Repetition accuracy                                | ±0.02 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                           | 3000 mA  |
| Nominal voltage DC                                 | 24 V   |
| Nominal current                                    | 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                      |
| CE 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%<br>Non-condensing  |
| Degree of protection                       | IP40   |
| Ambient temperature                        | 0 °C ... 50 °C   |
| Note on ambient temperature                | Power must be reduced by 2% per K at ambient temperatures above 30°C.            |
| Max. moment Mx                             | 0 Nm   |
| Max. moment My                             | 2.9 Nm   |
| Max. moment Mz                             | 2.9 Nm   |
| Max. radial force at drive shaft           | 180 N  |
| Max. feed force Fx                         | 450 N  |
| Reference value effective load, horizontal | 60 kg  |
| Reference value effective load, vertical   | 23 kg  |
| Moving mass for 0 mm stroke                | 179 g  |
| Additional moving mass per 10 mm stroke    | 4.9 g  |
| Product weight                             | 1800 g   |
| Basic weight for 0 mm stroke               | 1185 g   |
| Additional weight per 10 mm stroke         | 41 g   |
| Number of digital logic outputs 24 V DC    | 2  |
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| 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  |
| IO-Link, Process data content OUT          | 1-bit (move in)<br>1-bit (move out)<br>1-bit (quit error)                        |
| IO-Link, Process data length IN            | 2 bytes  |

| Feature                                | Value   |
|--|---|
| IO-Link, Process data content IN       | 1-bit (state device)<br>1-bit (state move)<br>1-bit (state in)<br>1-bit (state out) |
| IO-Link, Service data IN               | 32-bit force<br>32-bit position<br>32-bit speed                                     |
| 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            | NPN (negative switching)<br>PNP (positive switching)                                |
| Switching logic for inputs             | NPN (negative switching)<br>PNP (positive switching)                                |
| 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 housing                       | Smooth-anodised wrought aluminium alloy   |
| Material piston rod                    | High-alloy stainless steel  |
| Material spindle nut                   | Steel   |
| Material spindle                       | Rolled steel  |