

# Integrated motor EMCA-EC-67-S-1TE-CO

Part number: 8034238

**FESTO**



## Data sheet

| Feature                                   | Value                                                                                                                                                                      |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| KC characters                             | KC EMC                                                                                                                                                                     |
| Type code                                 | EMCA                                                                                                                                                                       |
| Controller operating mode                 | PWM MOSFET power output stage<br>Cascade controller with<br>P position controller<br>PI speed controller<br>PI current regulator                                           |
| Rotor position sensor                     | Absolute encoder, single-turn                                                                                                                                              |
| Rotor position sensor measuring principle | Magnetic                                                                                                                                                                   |
| Protective function                       | I <sup>2</sup> t monitoring<br>Temperature monitoring<br>Current monitoring<br>Voltage failure detection<br>Contouring error monitoring<br>Software end position detection |
| Safety function                           | Safe torque off (STO)                                                                                                                                                      |
| Safety integrity level (SIL)              | Safe torque off (STO)/SIL 2                                                                                                                                                |
| Performance Level (PL)                    | Safe torque off (STO)/category 3, performance level d                                                                                                                      |
| Display                                   | LED                                                                                                                                                                        |
| Max. rotational speed                     | 3500 1/min                                                                                                                                                                 |
| Nominal rotary speed                      | 3100 1/min                                                                                                                                                                 |
| Braking resistor, external                | 6 Ohm                                                                                                                                                                      |
| Diagnostic coverage                       | 90 %                                                                                                                                                                       |
| Characteristics of digital logic outputs  | Freely configurable in some cases<br>Not galvanically isolated                                                                                                             |
| Hardware fault tolerance                  | 1                                                                                                                                                                          |
| Max. current of digital logic outputs     | 100 mA                                                                                                                                                                     |
| Max. positive test pulse with 0 signal    | 10000 µs                                                                                                                                                                   |
| Max. negative test pulse on 1 signal      | 600 µs                                                                                                                                                                     |
| Motor nominal power                       | 120 W                                                                                                                                                                      |
| DC nominal voltage                        | 24 V                                                                                                                                                                       |
| Nominal current                           | 6.9 A                                                                                                                                                                      |
| Parameterization interface                | Ethernet                                                                                                                                                                   |
| Protocol                                  | CANopen                                                                                                                                                                    |
| SFF safe failure fraction                 | >90 %                                                                                                                                                                      |
| Max. number of positioning sets           | 64                                                                                                                                                                         |
| Rotor position sensor resolution          | 12 bit                                                                                                                                                                     |
| Motor peak power                          | 158 W                                                                                                                                                                      |

| Feature                                    | Value                                                                                   |
|--------------------------------------------|-----------------------------------------------------------------------------------------|
| Peak current                               | 10.2 A                                                                                  |
| Permissible voltage fluctuations           | +/- 20 %                                                                                |
| Certificate issuing authority              | German Technical Control Board (TÜV) 01/205/5514.00/16<br>UL E331130                    |
| CE marking (see declaration of conformity) | As per EU EMC directive<br>as per EU machinery directive                                |
| Vibration resistance                       | Transport application test with severity level 2 as per FN 942017-4 and<br>EN 60068-2-6 |
| Shock resistance                           | Shock test with severity level 2 as per FN 942017-5 and EN 60068-2-27                   |
| Corrosion resistance class (CRC)           | 1 - Low corrosion stress                                                                |
| Storage temperature                        | -25 °C ... 70 °C                                                                        |
| Relative air humidity                      | 0 - 95 %<br>Non-condensing                                                              |
| Degree of protection                       | IP54                                                                                    |
| Ambient temperature                        | 0 °C ... 50 °C                                                                          |
| Note on ambient temperature                | Above an ambient temperature of 20 °C, the power must be reduced by<br>1.75% per °C.    |
| Certification                              | RCM compliance mark<br>c UL us - Recognized (OL)                                        |
| Rotor mass moment of inertia               | 0.175 kgcm <sup>2</sup>                                                                 |
| Nominal torque                             | 0.37 Nm                                                                                 |
| Peak torque                                | 0.85 Nm                                                                                 |
| Permissible axial shaft load               | 60 N                                                                                    |
| Permissible radial shaft load              | 100 N                                                                                   |
| PFH                                        | 1.0E-9                                                                                  |
| PFD                                        | 1.86E-5                                                                                 |
| Proof test interval                        | 20 y                                                                                    |
| Product weight                             | 1900 g                                                                                  |
| Number of digital logic outputs 24 V DC    | 2                                                                                       |
| Number of digital logic inputs             | 2                                                                                       |
| Communication profile                      | CiA402<br>FHPP                                                                          |
| Logic input specification                  | Based on IEC 61131-2                                                                    |
| Work range of logic input                  | 24 V                                                                                    |
| Characteristics of logic input             | Galvanically connected to logic potential                                               |
| Ethernet, supported protocols              | TCP/IP                                                                                  |
| Input switching logic                      | PNP (positive switching)                                                                |
| Switching logic at outputs                 | PNP (positive switching)                                                                |
| Type of mounting                           | Screwed tightly<br>With through-hole                                                    |
| Note on materials                          | Contains paint-wetting impairment substances<br>RoHS-compliant                          |