

# Servo motor

## EMME-AS-100-M-HS-AMXB

Part number: 4267601

FESTO



 General operating condition

## Data sheet

| Feature                                    | Value                                                                                               |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------|
| Ambient temperature                        | -10 °C ... 40 °C                                                                                    |
| Storage temperature                        | -20 °C ... 70 °C                                                                                    |
| Relative air humidity                      | 0 - 90%                                                                                             |
| Conforms to standard                       | IEC 60034                                                                                           |
| Insulation protection class                | F                                                                                                   |
| Rating class as per EN 60034-1             | S1                                                                                                  |
| Degree of protection                       | IP21                                                                                                |
| Electrical connector system                | Plug                                                                                                |
| Note on materials                          | RoHS-compliant                                                                                      |
| Corrosion resistance class CRC             | 0 - No corrosion stress                                                                             |
| LABS (PWIS) conformity                     | VDMA24364 zone III                                                                                  |
| Approval                                   | RCM trademark<br>c UL us - Recognized (OL)                                                          |
| CE mark (see declaration of conformity)    | To EU EMC Directive<br>To EU Low Voltage Directive<br>In accordance with EU RoHS Directive          |
| CE marking (see declaration of conformity) | To UK instructions for EMC<br>To UK RoHS instructions<br>To UK regulations for electrical equipment |
| Nominal operating voltage DC               | 565 V                                                                                               |
| Nominal voltage DC                         | 565 V                                                                                               |
| Type of winding switch                     | Star inside                                                                                         |
| Number of pole pairs                       | 3                                                                                                   |
| Standstill torque                          | 7.5 Nm                                                                                              |
| Nominal torque                             | 6.4 Nm                                                                                              |
| Peak torque                                | 30 Nm                                                                                               |
| Nominal rotary speed                       | 3000 rpm                                                                                            |
| Max. rotational speed                      | 3941 rpm                                                                                            |
| Nominal power rating of motor              | 2000 W                                                                                              |
| Continuous stall current                   | 4.6 A                                                                                               |
| Nominal motor current                      | 4.1 A                                                                                               |
| Peak current                               | 18.4 A                                                                                              |
| Motor constant                             | 1.561 Nm/A                                                                                          |
| Voltage constant, phase-to-phase           | 101.4 mV/min                                                                                        |
| Phase-phase winding resistance             | 3.2 Ohm                                                                                             |
| Phase-phase winding inductance             | 12 mH                                                                                               |
| Total mass moment of inertia of output     | 7.2 kgcm <sup>2</sup>                                                                               |

| Feature                                              | Value                                                          |
|------------------------------------------------------|----------------------------------------------------------------|
| Product weight                                       | 8550 g                                                         |
| Permissible axial shaft load                         | 136 N                                                          |
| Permissible radial shaft load                        | 680 N                                                          |
| Rotor position sensor                                | Absolute multi-turn safety encoder                             |
| Rotor position encoder interface                     | HIPERFACE®                                                     |
| Rotor position sensor, encoder measuring principle   | Optical                                                        |
| Rotor pos. enc., sin/cosin p/r                       | 128                                                            |
| Rotor pos. encoder, typ. res.                        | 15 bit                                                         |
| Rot. pos. enc., typ. ang. acc.                       | 20 arcmin                                                      |
| Brake holding torque                                 | 9 Nm                                                           |
| Operating voltage DC for brake                       | 24 V                                                           |
| Power consumption, brake                             | 18 W                                                           |
| Mass moment of inertia of brake                      | 0.654 kgcm <sup>2</sup>                                        |
| Switching cycles holding brake                       | 5 million idle actuations (without friction work!)             |
| Safety Integrity Level (SIL), subcomponent           | SIL 2, rotor position sensor<br>SILCL 2, rotor position sensor |
| Performance Level, subcomponent                      | Category 3, performance level d, rotor position encoder        |
| PFHd, subcomponent                                   | 1.3 x 10E-8, rotor position sensor                             |
| Duration of use Tm, subcomponent                     | 20 years, rotor position sensor                                |
| Mean time to failure (MTTF), subcomponent            | 1037 years, holding brake                                      |
| Mean time to dangerous failure (MTTFd), subcomponent | 874 years, rotor position sensor                               |
| Energy efficiency                                    | ENEFF (CN) / Class 2                                           |