

# Servo motor EMMT-AS-190-LK-HT-R3S

Part number: 8148396

FESTO



 General operating condition

## Data sheet

| Feature   | Value   |
|---|---|
| Ambient temperature   | -15 °C ... 40 °C  |
| Note on ambient temperature   | Up to 80 °C with derating of -1.5% per degree Celsius         |
| Max. installation height  | 4000 m  |
| Information on max. installation height                             | with 1,000 m and longer only with derating of -1.0% per 100 m |
| Storage temperature   | -20 °C ... 70 °C  |
| Relative air humidity   | 0 - 90 %  |
| Conforms to standard  | IEC 60034   |
| Thermal class according to EN 60034-1                               | F   |
| Max. winding temperature  | 155 °C  |
| Rating class according to EN 60034-1                                | S1  |
| Temperature monitoring  | Digital motor temperature transmission via EnDat® 2.2         |
| Motor type as per EN 60034-7  | IM V1<br>IM V3  |
| Mounting position   | Any   |
| Degree of protection  | IP21  |
| Note on degree of protection  | IP67 for motor housing, incl. connection technology           |
| Concentricity, coaxiality, axial runout according to DIN SPEC 42955 | N   |
| Balancing quality   | G 2.5   |
| Detent torque   | <1.0% of peak torque  |
| Bearing lifetime, under nominal conditions                          | 20000 h   |
| Featherkey shaft design   | DIN 6885<br>A 10 x 8 x 45                                     |
| Interface code, motor out   | 190B  |
| Electrical connection 1, connection type                            | Hybrid plug   |
| Electrical connection 1, connection technology                      | M40x1   |
| Electrical connection 1, number of pins/wires                       | 15  |
| Electrical connection for input 1, connection pattern               | 00997380  |
| Contamination level   | 2   |
| Note on materials   | RoHS-compliant  |
| Corrosion resistance class (CRC)                                    | 0 - No corrosion stress                                       |
| LABS (PWIS) conformity  | VDMA24364 zone III  |
| Vibration resistance  | as per EN 60068-2-6   |
| Shock resistance  | as per EN 60068-2-29<br>15 g/11 ms as per EN 60068-2-27       |
| Certification   | RCM compliance mark<br>c UL us - Recognized (OL)              |

| Feature  | Value  |
|--|--|
| CE marking (see declaration of conformity)                   | As per EU EMC directive<br>As per EU low voltage directive<br>As per EU RoHS directive |
| UKCA marking (see declaration of conformity)                 | To UK RoHS instructions<br>To UK instructions for electrical equipment                 |
| Certificate issuing authority                                | UL E342973   |
| Nominal operating voltage DC                                 | 680 V  |
| Type of winding switch                                       | Star inside  |
| Number of pole pairs   | 5  |
| Stall torque   | 93.7 Nm  |
| Nominal torque   | 82.4 Nm  |
| Peak torque  | 183.3 Nm   |
| Nominal rotary speed   | 1000 rpm   |
| Max. rotational speed  | 1654 rpm   |
| Max. mechanical speed  | 8000 rpm   |
| Angular acceleration   | $\leq 100000 \text{ rad/s}^2$  |
| Motor nominal power  | 8629 W   |
| Continuous stall current                                     | 22.8 A   |
| Motor nominal current  | 20 A   |
| Peak current   | 49.7 A   |
| Motor constants  | 4.12 Nm/A  |
| Standstill torque constant                                   | 4.79 Nm/A  |
| Voltage constant, phase-to-phase                             | 289.7 mVmin  |
| Phase-phase winding resistance                               | 0.358 Ohm  |
| Winding inductance phase-phase                               | 13.8 mH  |
| Winding longitudinal inductivity Ld (phase)                  | 6.95 mH  |
| Cross inductivity Lq (phase)                                 | 6.9 mH   |
| Electric time constant                                       | 38.8 ms  |
| Thermal time constant  | 80 min   |
| Thermal resistance   | 0.3 K/W  |
| Measuring flange   | 450 x 450 x 30 mm, steel   |
| Total output inertia moment                                  | 145 kgcm <sup>2</sup>  |
| Product weight   | 53000 g  |
| Permissible axial shaft load                                 | 520 N  |
| Permissible radial shaft load                                | 2620 N   |
| Rotor position sensor  | Absolute encoder, single-turn  |
| Rotor position sensor for manufacturer designation           | ECl 1319   |
| Rotor position encoder for absolutely detectable revolutions | 1  |
| Rotor position sensor interface                              | EnDat® 22  |
| Rotor position sensor measuring principle                    | Inductive  |
| Rotor position encoder for DC operating voltage              | 5 V  |
| Rotor position encoder for DC operating voltage range        | 3.6 V ... 14 V   |
| Rotor position encoder for positional values per revolution  | 524288   |
| Rotor position sensor resolution                             | 19 bit   |
| Rotor position encoder system accuracy angle measurement     | -65 arcsec ... 65 arcsec   |
| MTTF, subcomponent   | 190 years, rotor position sensor   |
| Energy efficiency  | ENEFF (CN) / Class 1   |