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Figure similar

MLFB-Ordering data 1FK7103-5AF71-1DH5

Client order no. :  
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Project :

| Engineering data            |                               | Mechanical data          |                                                                                                                            |
|-----------------------------|-------------------------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Rated speed (100 K)         | 3000 rpm                      | Motor type               | Permanent-magnet synchronous motor                                                                                         |
| Number of poles             | 8                             | Motor type               | Compact                                                                                                                    |
| Rated torque (100 K)        | 14.0 Nm                       | Shaft height             | 100                                                                                                                        |
| Rated current               | 12.0 A                        | Cooling                  | Natural cooling                                                                                                            |
| Static torque (60 K)        | 30.00 Nm                      | Radial runout tolerance  | 0.050 mm                                                                                                                   |
| Static torque (100 K)       | 36.00 Nm                      | Concentricity tolerance  | 0.10 mm                                                                                                                    |
| Stall current (60 K)        | 22.80 A                       | Axial runout tolerance   | 0.10 mm                                                                                                                    |
| Stall current (100 K)       | 27.50 A                       | Vibration severity grade | Grade A                                                                                                                    |
| Moment of inertia           | 118.000 kgcm²                 | Connector size           | 1.5                                                                                                                        |
| Efficiency                  | 93.0 %                        | Degree of protection     | IP65 and DE flange IP67                                                                                                    |
| Physical constants          |                               | Design acc. to Code I    | IM B5 (IM V1, IM V3)                                                                                                       |
| Torque constant             | 1.35 Nm/A                     | Temperature monitoring   | KTY84 temperature sensor in the stator winding                                                                             |
| Voltage constant at 20° C   | 86.0 V/1000*min <sup>-1</sup> | Electrical connectors    | Connectors for signals and power rotatable                                                                                 |
| Winding resistance at 20° C | 0.09 Ω                        | Color of the housing     | Standard (Anthracite RAL 7016)                                                                                             |
| Rotating field inductance   | 2.0 mH                        | Holding brake            | with holding brake                                                                                                         |
| Electrical time constant    | 22.20 ms                      | Shaft end                | Plain shaft                                                                                                                |
| Mechanical time constant    | 1.55 ms                       | Encoder system           | Encoder IC22DQ: incremental encoder 22 bits (resolution 4194304, encoder-internal 2048 S/R) + commutation position 11 bits |
| Thermal time constant       | 65 min                        |                          |                                                                                                                            |
| Shaft torsional stiffness   | 149000 Nm/rad                 |                          |                                                                                                                            |
| Net weight of the motor     | 32.0 kg                       |                          |                                                                                                                            |

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| Optimum operating point           |                        | Recommended Motor Module |          |
|-----------------------------------|------------------------|--------------------------|----------|
| Optimum speed                     | 2500 rpm               | Rated inverter current   | 30 A     |
| Optimum power                     | 5.4 kW                 | Maximum inverter current | 56 A     |
| Limiting data                     |                        | Maximum torque           | 73.00 Nm |
| Max. permissible speed (mech.)    | 5000 rpm               |                          |          |
| Max. permissible speed (inverter) | 6700 rpm               |                          |          |
| Maximum torque                    | 108.0 Nm               |                          |          |
| Maximum current                   | 84.0 A                 |                          |          |
| Holding brake                     |                        |                          |          |
| Holding brake version             | Permanent-magnet brake |                          |          |
| Holding torque                    | 43.0 Nm                |                          |          |
| Power supply voltage              | DC 24 V ± 10 %         |                          |          |
| Coil current                      | 1.0 A                  |                          |          |
| Opening time                      | 300 ms                 |                          |          |
| Closing time                      | 70 ms                  |                          |          |
| Highest braking work              | 3380 J                 |                          |          |