



Figure similar

MLFB-Ordering data

1FK7042-2AK71-1BG0

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

| Engineering data   |                         | Mechanical data             |                                    |                        |   |
|--|-------------------------|-----------------------------|------------------------------------|------------------------|---|
| Rated speed (100 K)  | 6000 rpm                | Motor type                  | Permanent-magnet synchronous motor |                        |   |
| Number of poles  | 8                       | Motor type                  | Compact                            |                        |   |
| Rated torque (100 K)   | 1.5 Nm                  | Shaft height                | 48                                 |                        |   |
| Rated current  | 2.5 A                   | Cooling                     | Natural cooling                    |                        |   |
| Static torque (60 K)   | 2.50 Nm                 | Radial runout tolerance     | 0.040 mm                           |                        |   |
| Static torque (100 K)  | 3.0 Nm                  | Concentricity tolerance     | 0.08 mm                            |                        |   |
| Stall current (60 K)   | 3.55 A                  | Axial runout tolerance      | 0.08 mm                            |                        |   |
| Stall current (100 K)  | 4.40 A                  | Vibration severity grade    | Grade A                            |                        |   |
| Moment of inertia  | 2.900 kgcm <sup>2</sup> | Connector size              | 1                                  |                        |   |
| Efficiency   | 89.0 %                  | Degree of protection        | IP64                               |                        |   |
| <th colspan="2">Physical constants</th> <td>Design acc. to Code I</td> <td>IM B5 (IM V1, IM V3)</td> |                         | Physical constants          |                                    | Design acc. to Code I  | IM B5 (IM V1, IM V3)                                  |
|  |                         | Torque constant             | 0.68 Nm/A                          | Temperature monitoring | Pt1000 temperature sensor                             |
|  |                         | Voltage constant at 20° C   | 44.5 V/1000*min <sup>-1</sup>      | Electrical connectors  | Connectors for signals and power rotatable            |
|  |                         | Winding resistance at 20° C | 1.15 Ω                             | Color of the housing   | Standard (Anthracite RAL 7016)                        |
|  |                         | Rotating field inductance   | 8.6 mH                             | Holding brake          | without holding brake                                 |
|  |                         | Electrical time constant    | 7.50 ms                            | Shaft extension        | Plain shaft   |
|  |                         | Mechanical time constant    | 2.15 ms                            | Encoder system         | Encoder AS24DQI: absolute encoder single-turn 24 bits |
|  |                         | Thermal time constant       | 30 min                             |                        |   |
|  |                         | Shaft torsional stiffness   | 15500 Nm/rad                       |                        |   |
|  |                         | Net weight of the motor     | 4.6 kg                             |                        |   |



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### Optimum operating point

Optimum speed 5000 rpm

Optimum power 1.0 kW

### Limiting data

Max. permissible speed (mech.) 9000 rpm

Max. permissible speed (inverter) 9000 rpm

Maximum torque 10.5 Nm

Maximum current 15.3 A

### Recommended Motor Module

Rated inverter current 5 A

Maximum inverter current 15 A

Maximum torque 10.30 Nm