



Figure similar

MLFB-Ordering data

1FK7042-2AF71-1BH0

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

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)                    | 2.6 Nm                  | Shaft height                | 48                                 |                        |   |
| Rated current                           | 2.0 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)                    | 1.80 A                  | Axial runout tolerance      | 0.08 mm                            |                        |   |
| Stall current (100 K)                   | 2.20 A                  | Vibration severity grade    | Grade A                            |                        |   |
| Moment of inertia                       | 3.200 kgcm <sup>2</sup> | Connector size              | 1                                  |                        |   |
| Efficiency                              | 89.0 %                  | Degree of protection        | IP64                               |                        |   |
| <th colspan="2">Physical constants</th> |                         | Physical constants          |                                    | Design acc. to Code I  | IM B5 (IM V1, IM V3)                                  |
|   |                         | Torque constant             | 1.38 Nm/A                          | Temperature monitoring | Pt1000 temperature sensor                             |
|   |                         | Voltage constant at 20° C   | 90.0 V/1000*min <sup>-1</sup>      | Electrical connectors  | Connectors for signals and power rotatable            |
|   |                         | Winding resistance at 20° C | 4.67 Ω                             | Color of the housing   | Standard (Anthracite RAL 7016)                        |
|   |                         | Rotating field inductance   | 35.0 mH                            | Holding brake          | with 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   | 11400 Nm/rad                       |                        |   |
|   |                         | Net weight of the motor     | 5.3 kg                             |                        |   |



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### Optimum operating point

|               |          |
|---------------|----------|
| Optimum speed | 3000 rpm |
| Optimum power | 0.8 kW   |

### Limiting data

|                                   |          |
|-----------------------------------|----------|
| Max. permissible speed (mech.)    | 9000 rpm |
| Max. permissible speed (inverter) | 6400 rpm |
| Maximum torque                    | 10.5 Nm  |
| Maximum current                   | 7.6 A    |

### Holding brake

|                       |                        |
|-----------------------|------------------------|
| Holding brake version | Permanent-magnet brake |
| Holding torque        | 4.0 Nm                 |
| Power supply voltage  | DC 24 V $\pm$ 10 %     |
| Coil current          | 0.5 A                  |
| Opening time          | 70 ms                  |
| Closing time          | 30 ms                  |
| Highest braking work  | 150 J                  |

### Recommended Motor Module

|                          |          |
|--------------------------|----------|
| Rated inverter current   | 3 A      |
| Maximum inverter current | 9 A      |
| Maximum torque           | 10.50 Nm |