

MLFB-Ordering data

1FK7042-5AF71-1FB5

Figure similar

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

### Engineering data

|                       |                         |
|-----------------------|-------------------------|
| Rated speed (100 K)   | 3000 rpm                |
| Number of poles       | 8                       |
| Rated torque (100 K)  | 2.6 Nm                  |
| Rated current         | 1.9 A                   |
| Static torque (60 K)  | 2.50 Nm                 |
| Static torque (100 K) | 3.00 Nm                 |
| Stall current (60 K)  | 1.80 A                  |
| Stall current (100 K) | 2.20 A                  |
| Moment of inertia     | 3.450 kgcm <sup>2</sup> |
| Efficiency            | 89.0 %                  |

### Physical constants

|                             |                               |
|-----------------------------|-------------------------------|
| Torque constant             | 1.40 Nm/A                     |
| Voltage constant at 20° C   | 89.0 V/1000*min <sup>-1</sup> |
| Winding resistance at 20° C | 5.15 Ω                        |
| Rotating field inductance   | 29.0 mH                       |
| Electrical time constant    | 5.60 ms                       |
| Mechanical time constant    | 2.37 ms                       |
| Thermal time constant       | 30 min                        |
| Shaft torsional stiffness   | 16000 Nm/rad                  |
| Net weight of the motor     | 5.4 kg                        |

### Mechanical data

|                          |   |
|--------------------------|---|
| Motor type               | Permanent-magnet synchronous motor  |
| Motor type               | Compact   |
| Shaft height             | 48  |
| Cooling                  | Natural cooling   |
| Radial runout tolerance  | 0.040 mm  |
| Concentricity tolerance  | 0.08 mm   |
| Axial runout tolerance   | 0.08 mm   |
| Vibration severity grade | Grade A   |
| Connector size           | 1   |
| Degree of protection     | IP65 and DE flange IP67   |
| Design acc. to Code I    | IM B5 (IM V1, IM V3)  |
| Temperature monitoring   | KTY84 temperature sensor in the stator winding  |
| Electrical connectors    | Connectors for signals and power rotatable  |
| Color of the housing     | Standard (Anthracite RAL 7016)  |
| Holding brake            | with holding brake  |
| Shaft end                | Feather key   |
| Encoder system           | Encoder AM22DQ: absolute encoder 22 bits (resolution 4194304, encoder-internal 2048 S/R) + 12 bits multi-turn (traversing range 4096 revolutions) |

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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) | 6500 rpm |
| Maximum torque                    | 10.5 Nm  |
| Maximum current                   | 7.4 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 | 6 A     |
| Maximum torque           | 8.40 Nm |