



Figure similar

Article No. : 1FK7042-2AF21-1QA1

Client order no. :  
Order no. :  
Offer no. :  
Remarks :

Item no. :  
Consignment no. :  
Project :

### Engineering data

|                       |                         |
|-----------------------|-------------------------|
| Rated speed (100 K)   | 3,000 rpm               |
| Number of poles       | 8                       |
| Rated torque (100 K)  | 2.6 Nm                  |
| Rated current         | 3.5 A                   |
| Static torque (60 K)  | 2.50 Nm                 |
| Static torque (100 K) | 3.00 Nm                 |
| Stall current (60 K)  | 3.20 A                  |
| Stall current (100 K) | 3.95 A                  |
| Moment of inertia     | 2.900 kgcm <sup>2</sup> |
| Efficiency            | 88.0 %                  |

### Physical constants

|                             |                               |
|-----------------------------|-------------------------------|
| Torque constant             | 0.76 Nm/A                     |
| Voltage constant at 20° C   | 49.6 V/1000*min <sup>-1</sup> |
| Winding resistance at 20° C | 1.44 Ω                        |
| Rotating field inductance   | 10.6 mH                       |
| Electrical time constant    | 7.40 ms                       |
| Mechanical time constant    | 2.15 ms                       |
| Thermal time constant       | 30 min                        |
| Shaft torsional stiffness   | 15,500 Nm/rad                 |
| Net weight of the motor     | 4.6 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  |
| Design acc. to Code I    | IM B5 (IM V1, IM V3)                                  |
| Temperature monitoring   | Pt1000 temperature sensor                             |
| Electrical connectors    | Connectors for signals and power rotatable            |
| Color of the housing     | Standard (Anthracite RAL 7016)                        |
| Holding brake            | without holding brake                                 |
| Shaft end                | Feather key   |
| Encoder system           | Encoder AS20DQI: absolute encoder single-turn 20 bits |

### Optimum operating point

|               |           |
|---------------|-----------|
| Optimum speed | 3,000 rpm |
| Optimum power | 0.8 kW    |

### Limiting data

|                                   |           |
|-----------------------------------|-----------|
| Max. permissible speed (mech.)    | 9,000 rpm |
| Max. permissible speed (inverter) | 5,800 rpm |
| Maximum torque                    | 10.5 Nm   |
| Maximum current                   | 13.8 A    |

### Recommended Motor Module

|                          |         |
|--------------------------|---------|
| Rated inverter current   | 4 A     |
| Maximum inverter current | 8 A     |
| Maximum torque           | 6.00 Nm |