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MLFB-Ordering data 1FK7042-5AF71-1KA2

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)        | 2.6 Nm                        | Shaft height             | 48                                                                                                                                            |
| Rated current               | 1.9 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           | 3.010 kgcm²                   | Connector size           | 1                                                                                                                                             |
| Efficiency                  | 89.0 %                        | Degree of protection     | IP65 and DE flange IP67                                                                                                                       |
| Physical constants          |                               | Design acc. to Code I    | IM B5 (IM V1, IM V3)                                                                                                                          |
| Torque constant             | 1.40 Nm/A                     | Temperature monitoring   | KTY84 temperature sensor in the stator winding                                                                                                |
| Voltage constant at 20° C   | 89.0 V/1000*min <sup>-1</sup> | Electrical connectors    | Connectors for signals and power rotatable                                                                                                    |
| Winding resistance at 20° C | 5.15 Ω                        | Color of the housing     | without                                                                                                                                       |
| Rotating field inductance   | 29.0 mH                       | Holding brake            | without holding brake                                                                                                                         |
| Electrical time constant    | 5.60 ms                       | Shaft end                | Feather key                                                                                                                                   |
| Mechanical time constant    | 2.37 ms                       | Encoder system           | Encoder AM16DQ: absolute encoder 16 bits (resolution 65536, encoder-internal 32 S/R) + 12 bits multi-turn (traversing range 4096 revolutions) |
| Thermal time constant       | 30 min                        |                          |                                                                                                                                               |
| Shaft torsional stiffness   | 16000 Nm/rad                  |                          |                                                                                                                                               |
| Net weight of the motor     | 4.9 kg                        |                          |                                                                                                                                               |

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| Optimum operating point           |          | Recommended Motor Module |         |
|-----------------------------------|----------|--------------------------|---------|
| Optimum speed                     | 3000 rpm | Rated inverter current   | 3 A     |
| Optimum power                     | 0.8 kW   | Maximum inverter current | 6 A     |
| Limiting data                     |          | Maximum torque           | 8.40 Nm |
| Max. permissible speed (mech.)    | 9000 rpm |                          |         |
| Max. permissible speed (inverter) | 6500 rpm |                          |         |
| Maximum torque                    | 10.5 Nm  |                          |         |
| Maximum current                   | 7.4 A    |                          |         |