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Data sheet for SIMOTICS S-1FK7 servo geared motor



Figure similar

Article No. : 1FK7042-5AF71-1EU5-Z
B13+G65+H21

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	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	3.010 kgcm²

Physical constants	
Torque constant	1.40 Nm/A
Voltage constant at 20° C	89.0 V/1000*min⁻¹
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	16,000 Nm/rad
Net weight of the motor	19.3 kg

Recommended Motor Module	
Rated inverter current	3 A
Maximum inverter current	6 A
Maximum torque	8.40 Nm

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	M23
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	without holding brake
Shaft end	Fitted key and keyway
Encoder system	Encoder AM2048S/R: absolute encoder 2048 S/R, 4096 revolutions multi-turn, with EnDat interface

Gearbox data	
Gearbox type	Bevel geared B / K
Designation	K102
Gearbox ratio	10
Output speed at the gearbox shaft	296 rpm
Rated output torque at duty type S3-60 %	26 Nm
Acceleration torque max.	92 Nm
Power at duty type S3-60%	0.79 kW
Radial output shaft loading, max.	2,037 N
Precise ratio	507/50
Overload factor	3.10
Type of construction	no value
Mounting position	EL 2
Connector position	Connector position on gearbox side 2, top
Type	Foot-mounted and tapped hole group
Gearbox shaft end	Solid shaft with fitted key
Gearbox output arrangement	Gearbox side 3
Arrangement of shrink disk	no value

Subject to change. Calculated values may differ from nameplate ratings. © Copyright Siemens

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Limiting data	
Max. permissible speed (mech.)	9,000 rpm
Max. permissible speed (inverter)	6,500 rpm
Maximum torque	10.5 Nm
Maximum current	7.4 A

Special design	
B13	Bevel geared motors
G65	Foot-mounted and tapped hole group, Solid shaft with fitted key (Gearbox side 3)
H21	Connector position on gearbox side 2, top