SIEMENS

Data sheet for SIMOTICS S-1FK2



Figure similar

Article No. : 1FK2102-0AG10-0MA0-Z
A11+M00+R10

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

Item no. :
Consignment no. :
Project :

Basic data of geared motor	
Motor type	Permanent-magnet synchronous motor, Planetary gearbox, Natural cooling, Degree of protection IP64
Motor type	High Dynamic
Static torque at output $M_{2,0}$	1.23 Nm
Static current I_0	0.7 A
Maximum torque at output M_{2max} [1]	5.30 Nm
Maximum output speed n_{2max}	800 rpm
Moment of inertia motor + gearbox (related to the input) J_1	0.0425 kgcm²
Mass m	1.08 kg
Lubrication	Standard
Gearbox orientation	-

Rated data of geared motor	
SINAMICS S210, 1AC 230V	
Rated speed related to the gear output n_{2N}	300 rpm
Rated torque related to the gear output M_{2N}	0.99 Nm
Rated power P_N	0.031 kW

Basic data of gearbox	
Gearbox type and size	Planetary gearbox NRB040
Transmission ratio i	1 : 10 (Output to input)
Number of gear stages z	1
Output torque (fatigue strength) $M_{2N,G}$ [2]	5.0 Nm
Maximum permissible output torque (short-time, end of fatigue strength) $M_{2max,G}$	8.0 Nm
Emergency off output moment (1000 cycles) $M_{2Em.Off}$	27.0 Nm
Torsional backlash related to the output φ_2	15 '
Torsional stiffness related to the output c_{T2}	0.8 Nm/'
Maximum static radial force $F_{R\,max}$	200 N
Max. average radial force for 20000 h $F_{R\,eq\,20k}$ [3]	200 N
Maximum static axial force $F_{A\,max}$	240 N
Max. average axial force for 20000 h $F_{A\,eq\,20k}$ [4]	200 N
Max. bending moment on the flange to the motor M_8	5 Nm
Efficiency η_G	0.95
Degree of protection gearbox	IP64
Gearbox shaft end	Plain shaft

Basic motor data	
Maximum average torque (incl. derating due to mounted gearing) $M_{0,M}$	0.12 Nm
Maximum average continuous current (incl. derating due to mounted gearing) $I_{0,M}$	0.56 A
Maximum acceleration torque $M_{max,M}$ [2]	0.54 Nm
Maximum short-time permissible current $I_{max,M}$	3.10 A
Degree of protection motor	IP64
Connection type	OCC for S210
Connector size OCC	M12
Encoder system	Encoder AM22DQC: Absolute encoder 22 bit + 12 bit multiturn
Safety Integrated - Suitable encoder	Yes
Color of the housing	Standard (Anthracite, similar to RAL 7016)

Holding brake	
Holding torque	0.32 Nm
Average dynamic torque	0.32 Nm
Opening time	25 ms
Closing time	20 ms
Maximum single switching energy [5]	7.4 J
Service life, operating energy	1,750 J
Holding current [6]	0.1 A
Break-induced current for 500 ms [6]	0.6 A

[1] Fatigue limit range - utilization only with service life calculation

[2] The maximum acceleration torque M_max,M x of transmission ratio i is greater than the output torque (fatigue strength) M_2N,G. Depending on the load conditions, a service life calculation may be necessary.

[3] based on an output speed of 100 rpm and a force application point in the center of the shaft

[4] based on an output speed of 100 rpm

[5] Up to three consecutive emergency stops and up to 25% of all emergency stops as a Wmax high energy stop possible.

[6] Typcial value for 20°C ambient temperature. At -15°C the break-induced currents can be increased by up to 30%.