SIEMENS

Data sheet for SIMOTICS S-1FK2

Figure similar

Article No. : 1FK2104-6AF10-2MA0-Z
A31+M00+R05

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 $M_{2,0}$	15.00 Nm
Static current I_0	3.0 A
Maximum torque at output M_{2max}	48.50 Nm
Maximum output speed n_{2max}	1,400 rpm
Moment of inertia motor + gearbox (related to the input) J_1	1.263 kgcm²
Mass m	6.41 kg
Lubrication	Standard

Rated data of geared motor	
SINAMICS S210, 3AC 400V	
Rated speed related to the gear output n_{2N}	500 rpm
Rated torque related to the gear output M_{2N}	11.80 Nm
Rated power P_N	0.618 kW

Basic data of gearbox	
Gearbox type and size	Planetary gearbox NRB080
Transmission ratio i	1 : 5 (Output to input)
Number of gear stages z	1
Output torque (fatigue strength) $M_{2N,G}$	110.0 Nm
Maximum permissible output torque (short-time, end of fatigue strength) $M_{2max,G}$	176.0 Nm
Emergency off output moment (1000 cycles) $M_{2Em.Off}$	220.0 Nm
Torsional backlash related to the output φ_2	7 '
Torsional stiffness related to the output c_{T2}	10.0 Nm/'
Maximum static radial force $F_{R\,max}$	1,250 N
Max. average radial force for 20000 h $F_{R\,eq\,20k}$ [4)]	750 N
Maximum static axial force $F_{A\,max}$	1,600 N
Max. average axial force for 20000 h $F_{A\,eq\,20k}$ [5)]	1,000 N
Max. average breakdown torque M_K	31 Nm
Max. bending moment on the flange to the motor M_B	16 Nm
Efficiency η_G	0.98
Degree of protection gearbox	IP64
Gearbox shaft extension	Plain shaft

Basic motor data	
Maximum average torque (incl. derating due to mounted gearing) $M_{0,M}$	3.00 Nm
Maximum average continuous current (incl. derating due to mounted gearing) $I_{0,M}$	2.81 A
Maximum acceleration torque $M_{max,M}$	9.72 Nm
Maximum short-time permissible current $I_{max,M}$	10.90 A
Degree of protection motor	IP64
Connection type	OCC for S210
Connector size	M17
Encoder system	Encoder AM22DQC: Absolute encoder 22 bit + 12 bit multiturn

Holding brake	
Holding torque	3.30 Nm
Average dynamic torque	3.30 Nm
Opening time	50 ms
Closing time	40 ms
Maximum single switching energy[1)]	270 J
Service life, operating energy	120,000 J
Holding current[2)]	0.2 A
Break-induced current for 500 ms[2)]	1.2 A

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

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

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

[5)] based on an output speed of 100 rpm