

## Data sheet for SIMOTICS S-1FK2

Article No. : **1FK2104-6AF00-2SB0-Z**  
**B32+M01+R15**



Figure similar

Client order no. :  
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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 $M_{2,0}$	44.50 Nm
Static current $I_0$	3.0 A
Maximum torque at output $M_{2max}^{1)}$	131.00 Nm
Maximum output speed $n_{2max}$	467 rpm
Moment of inertia motor + gearbox (related to the input) $J_1$	1.352 kgcm <sup>2</sup>
Mass $m$	7.34 kg
Lubrication	Standard

Rated data of geared motor	
<b>SINAMICS S120, BLM/SLM 3AC 400V</b>	
Rated speed related to the gear output $n_{2N}$	150 rpm
Rated torque related to the gear output $M_{2N}$	35.50 Nm
Rated power $P_N$	0.558 kW

Basic data of gearbox	
Gearbox type and size	Planetary gearbox NRK090
Transmission ratio $i$	1 : 15 (Output to input)
Number of gear stages $z$	2
Output torque (fatigue strength) $M_{2N,G}$	82.0 Nm
Maximum permissible output torque (short-time, end of fatigue strength) $M_{2max,G}^{2)}$	131.0 Nm
Emergency off output moment (1000 cycles) $M_{2Em,Off}$	220.0 Nm
Torsional backlash related to the output $\varphi_2$	9'
Torsional stiffness related to the output $c_{T2}$	15.4 Nm/'
Maximum static radial force $F_{Rmax}$	3,100 N
Max. average radial force for 20000 h $F_{Req}^{3)}$	1,900 N
Maximum static axial force $F_{Amax}$	3,800 N
Max. average axial force for 20000 h $F_{Aeq}^{4)}$	2,000 N
Max. average breakdown torque $M_K$	99 Nm
Max. bending moment on the flange to the motor $M_B$	16 Nm
Efficiency $\eta_G$	0.96
Degree of protection gearbox	IP64
Gearbox shaft end	Fitted key

Basic motor data	
Maximum average torque (incl. derating due to mounted gearing) $M_{0,M}$	2.97 Nm
Maximum average continuous current (incl. derating due to mounted gearing) $I_{0,M}$	2.78 A
Maximum acceleration torque $M_{max,M}^{2)}$	9.60 Nm
Maximum short-time permissible current $I_{max,M}$	10.90 A
Degree of protection motor	IP64
Connection type	Double cable connection for S120
Connector size	M17
Encoder system	Encoder AS22DQC: Absolute encoder single turn 22 bit
Color of the housing	Standard (Anthracite, similar to RAL 7016)

<sup>1)</sup>Fatigue limit range - for max. 30 000 revolutions of the output shaft, utilization only with service life calculation

<sup>2)</sup>The maximum acceleration torque  $M_{max,M}$  x of transmission ratio  $i$  is greater than the maximum permitted output torque (short-time fixed)  $M_{2max,G}$ . Depending on the load conditions, a torque limitation and service life calculation may be necessary.

<sup>3)</sup>based on an output speed of 100 rpm and a force application point in the center of the shaft

<sup>4)</sup>based on an output speed of 100 rpm