

Article No. : **1FK2203-4AK00-2SA0-Z**  
**A12+M00+R12**



Figure similar

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	Compact
Static torque at output $M_{2,0}$	12.40 Nm
Static current $I_0$	1.9 A
Maximum torque at output $M_{2max}^{1)}$	32.00 Nm
Maximum output speed $n_{2max}$	666 rpm
Moment of inertia motor + gearbox (related to the input) $J_1$	0.422 kgcm <sup>2</sup>
Mass $m$	2.18 kg
Lubrication	Standard

### Rated data of geared motor

#### SINAMICS S210, 3AC 400V

Rated speed related to the gear output $n_{2N}$	200 rpm
Rated torque related to the gear output $M_{2N}$	8.40 Nm
Rated power $P_N$	0.176 kW

### Basic data of gearbox

Gearbox type and size	Planetary gearbox NRB040
Transmission ratio $i$	1 : 12 (Output to input)
Number of gear stages $z$	2
Output torque (fatigue strength) $M_{2N,G}$	20.0 Nm
Maximum permissible output torque (short-time, end of fatigue strength) $M_{2max,G}^{2)}$	32.0 Nm
Emergency off output moment (1000 cycles) $M_{2Em,Off}$	40.0 Nm
Torsional backlash related to the output $\varphi_2$	19 '
Torsional stiffness related to the output $c_{T2}$	1.0 Nm/'
Maximum static radial force $F_{R,max}$	200 N
Max. average radial force for 20000 h $F_{R,eq}^{3)}$	200 N
Maximum static axial force $F_{A,max}$	240 N
Max. average axial force for 20000 h $F_{A,eq}^{4)}$	200 N
Max. average breakdown torque $M_K$	Nm
Max. bending moment on the flange to the motor $M_B$	5 Nm
Efficiency $\eta_G$	0.95
Degree of protection gearbox	IP64
Gearbox shaft end	Plain shaft

### Basic motor data

Maximum average torque (incl. derating due to mounted gearing) $M_{0,M}$	1.03 Nm
Maximum average continuous current (incl. derating due to mounted gearing) $I_{0,M}$	1.65 A
Maximum acceleration torque $M_{max,M}^{2)}$	3.62 Nm
Maximum short-time permissible current $I_{max,M}$	6.70 A
Degree of protection motor	IP64
Connection type	OCC for S210
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  $M_{max,M} \times$  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