

Article No. : **1FK2203-4AK10-0MA0-Z**  
**B42+M01+R16**



Figure similar

Client order no. :  
 Order no. :  
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 Remarks :

Item 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	Compact
Static torque at output $M_{2,0}$	16.30 Nm
Static current $I_0$	2.0 A
Maximum torque at output $M_{2,max}$	55.00 Nm
Maximum output speed $n_{2,max}$	375 rpm
Moment of inertia motor + gearbox (related to the input) $J_1$	2.13 kgcm <sup>2</sup>
Mass $m$	11.31 kg
Lubrication	Standard

### Rated data of geared motor

#### SINAMICS S210, 3AC 400V

Rated speed related to the gear output $n_{2N}$	125 rpm
Rated torque related to the gear output $M_{2N}$	13.10 Nm
Rated power $P_N$	0.172 kW

### Basic data of gearbox

Gearbox type and size	Planetary gearbox NRK120
Transmission ratio $i$	1 : 16 (Output to input)
Number of gear stages $z$	2
Output torque (fatigue strength) $M_{2N,G}$	195.0 Nm
Maximum permissible output torque (short-time, end of fatigue strength) $M_{2,max,G}$	312.0 Nm
Emergency off output moment (1000 cycles) $M_{2Em,Off}$	520.0 Nm
Torsional backlash related to the output $\varphi_2$	9'
Torsional stiffness related to the output $c_{T2}$	40.0 Nm/'
Maximum static radial force $F_{R,max}$	4,000 N
Max. average radial force for 20000 h $F_{R,eq}$ <sup>3)</sup>	2,500 N
Maximum static axial force $F_{A,max}$	5,900 N
Max. average axial force for 20000 h $F_{A,eq}$ <sup>4)</sup>	4,000 N
Max. average breakdown torque $M_K$	Nm
Max. bending moment on the flange to the motor $M_B$	40 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) $M_{0,M}$	1.02 Nm
Maximum average continuous current (incl. derating due to mounted gearing) $I_{0,M}$	1.65 A
Maximum acceleration torque $M_{max,M}$	3.49 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 AM22DQC: Absolute encoder 22 bit + 12 bit multiturn
Color of the housing	Standard (Anthracite, similar to RAL 7016)

### Holding brake

Holding torque	1.30 Nm
Average dynamic torque	1.30 Nm
Opening time	40 ms
Closing time	30 ms
Maximum single switching energy <sup>5)</sup>	62 J
Service life, operating energy	17,500 J
Holding current <sup>6)</sup>	0.15 A
Break-induced current for 500 ms <sup>6)</sup>	0.8 A

<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

<sup>5)</sup>Up to three consecutive emergency stops and up to 25% of all emergency stops as a  $W_{max}$  high energy stop possible.

<sup>6)</sup>Typical value for 20°C ambient temperature. At -15°C the break-induced currents can be increased by up to 30%.