

Article No. : **1FK2204-5AF10-2MA0-Z**  
C22+M01+R40



Figure similar

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### Basic data of geared motor

Motor type	Permanent-magnet synchronous motor, Planetary gearbox, Natural cooling, Degree of protection IP64/IP65
Motor type	Compact
Static torque at output $M_{2,0}$	40.00 Nm
Static current $I_0$	1.1 A
Maximum torque at output $M_{2max}^{1)}$	64.00 Nm
Maximum output speed $n_{2max}$	187 rpm
Moment of inertia motor + gearbox (related to the input) $J_1$	1.398 kgcm <sup>2</sup>
Mass $m$	5.52 kg
Lubrication	Standard

### Rated data of geared motor

#### SINAMICS S210, 3AC 400V

Rated speed related to the gear output $n_{2N}$	75 rpm
Rated torque related to the gear output $M_{2N}$	40.00 Nm
Rated power $P_N$	0.314 kW

### Basic data of gearbox

Gearbox type and size	Planetary gearbox NLC060
Transmission ratio $i$	1 : 40 (Output to input)
Number of gear stages $z$	2
Output torque (fatigue strength) $M_{2N,G}$	40.0 Nm
Maximum permissible output torque (short-time, end of fatigue strength) $M_{2max,G}^{2)}$	64.0 Nm
Emergency off output moment (1000 cycles) $M_{2Em,Off}$	80.0 Nm
Torsional backlash related to the output $\varphi_2$	12 '
Torsional stiffness related to the output $c_{T2}$	4.2 Nm/'
Maximum static radial force $F_{R,max}$	3,200 N
Max. average radial force for 20000 h $F_{R,eq}^{3)}$	3,200 N
Maximum static axial force $F_{A,max}$	4,400 N
Max. average axial force for 20000 h $F_{A,eq}^{4)}$	4,400 N
Max. average breakdown torque $M_K$	Nm
Max. bending moment on the flange to the motor $M_B$	8 Nm
Efficiency $\eta_G$	0.93
Degree of protection gearbox	IP65
Gearbox shaft end	Fitted key

### Basic motor data

Maximum average torque (incl. derating due to mounted gearing) $M_{0,M}$	2.22 Nm
Maximum average continuous current (incl. derating due to mounted gearing) $I_{0,M}$	2.09 A
Maximum acceleration torque $M_{max,M}^{2)}$	6.84 Nm
Maximum short-time permissible current $I_{max,M}$	7.10 A
Degree of protection motor	IP64
Connection type	OCC for S210
Connector size	M17
Encoder system	Encoder AM22DQC: Absolute encoder 22 bit + 12 bit multitrack
Color of the housing	Standard (Anthracite, similar to RAL 7016)

### 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 <sup>5)</sup>	270 J
Service life, operating energy	120,000 J
Holding current <sup>6)</sup>	0.2 A
Break-induced current for 500 ms <sup>6)</sup>	1.2 A

<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

<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%.