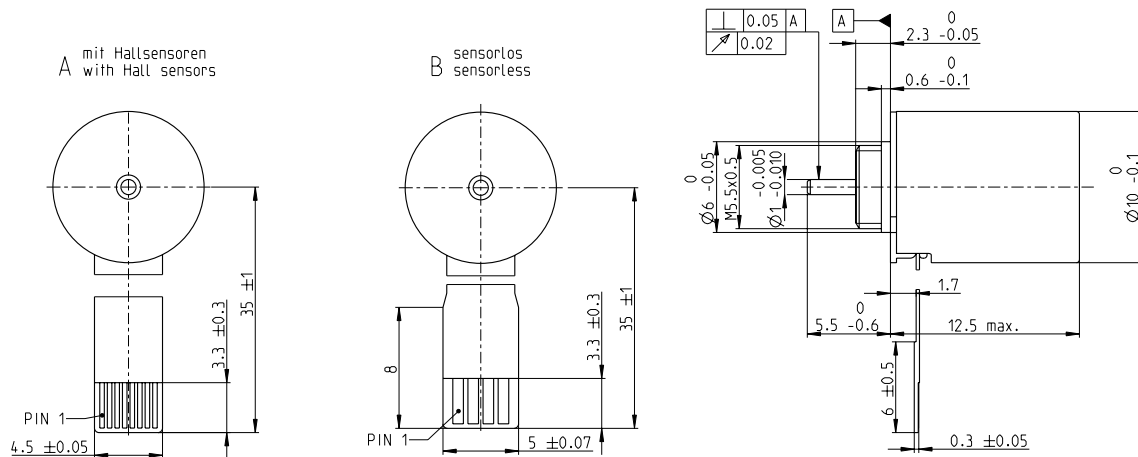




M 2:1

	Stock program Standard program Special program (on request)	Part numbers		
A with Hall sensors	624161	624162	624163	
B sensorless	371119	371120	371122	

Motor data (provisional)									
Values at nominal voltage									
1	Nominal voltage	V	3	4.5	6				
2	No load speed	rpm	13900	13900	15600				
3	No load current	mA	51.5	34.7	31.1				
4	Nominal speed	rpm	3950	3620	5240				
5	Nominal torque	mNm	0.734	0.702	0.684				
6	Nominal current	A	0.418	0.27	0.222				
7	Stall torque ¹	mNm	1.09	1.01	1.1				
8	Stall current	A	0.584	0.364	0.332				
9	Max. efficiency	%	51.9	50.4	50.9				
Characteristics									
10	Terminal resistance phase to phase	Ω	5.14	12.4	18.1				
11	Terminal inductance phase to phase	mH	0.127	0.281	0.4				
12	Torque constant	mNm/A	1.86	2.77	3.3				
13	Speed constant	rpm/V	5120	3450	2890				
14	Speed/torque gradient	rpm/mNm	14100	15400	15800				
15	Mechanical time constant	ms	35.1	38.2	39.3				
16	Rotor inertia	gcm ²	0.237	0.237	0.237				

Specifications	Operating range	Comments
Thermal data 17 Thermal resistance housing-ambient 49.2 K/W 18 Thermal resistance winding-housing 13.2 K/W 19 Thermal time constant winding 1.35 s 20 Thermal time constant motor 73.8 s 21 Ambient temperature -20...+85°C 22 Max. winding temperature +100°C	n [rpm] M [mNm] I [A]	Continuous operation In observation of above listed thermal resistance (lines 17 and 18) and an ambient temperature of 25°C, the maximum permissible winding temperature will be reached during continuous operation = thermal limit. Short term operation The motor may be briefly overloaded (recurring). — Assigned power rating
Mechanical data (preloaded ball bearings) 23 Max. speed 25 000 rpm 24 Axial play at axial load < 0.35 N 0 mm > 0.35 N 0.1 mm 25 Radial play preloaded 26 Max. axial load (dynamic) 0.15 N 27 Max. force for press fits (static) (static, shaft supported) 70 N 28 Max. radial load, 4 mm from flange 0.4 N		

Other specifications		Modular system	Details on catalog page 56
29	Number of pole pairs	4	
30	Number of phases	3	Motor Control
31	Weight of motor	3 g 414 GP 10 A	547 DEC Module 24/2

Values listed in the table are nominal.

Connection	with Hall sensors	sensorless
Pin 1	Motor winding 1	Motor winding 1
Pin 2	Motor winding 2	Motor winding 2
Pin 3	Motor winding 3	Motor winding 3
Pin 4	V _{Hall} 2.5...5.5 VDC	Y
Pin 5	GND	
Pin 6	Hall sensor 1	
Pin 7	Hall sensor 2	
Pin 8	Hall sensor 3	

Output signals: CMOS compatible push-pull stage.

Compatible connector:

Type	Part number	Part number
Molex	52745-0897	52207-0460
FCI	SFV8R-2STBE1HLF	SFW4R-2STGE1LF

Pin for design with Hall sensors:
FPC, 8-pol, Pitch 0.5 mm, top contact style

Option: Sleeve bearings in place of ball bearings

¹Calculation does not include saturation effect (p. 83/190)