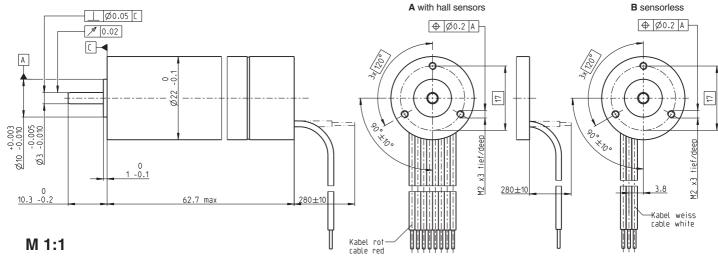
## EC 22 Ø22 mm, brushless, 50 Watt, sterilizable



IVI 1:1			U	cable red	φφφφφφφ	U	φφφ	
Stock program Standard program Special program (on request)		Article Nu	mbers					
A with h	nall sensors	266520	264443					
В	sensorless	275312	254168					
Motor Data								
Values at nominal voltage								
1 Nominal voltage	V	32	32					
2 No load speed	rpm	41100	23800					
3 No load current	mA	364	141					
4 Nominal speed	rpm	38900	21400					
5 Nominal torque (max. continuous torque)	mNm	28.6	34.9					
6 Nominal current (max. continuous current)	Α	4.18	2.82					
7 Stall torque	mNm	652	411					
8 Starting current	Α	88.2	32.1					
9 Max. efficiency	%	88	87					
Characteristics								
10 Terminal resistance phase to phase	Ω	0.363	0.997					
11 Terminal inductance phase to phase	mH	0.0490	0.147					
12 Torque constant	mNm/A	7.39	12.8					
13 Speed constant	rpm/V	1290	746					
14 Speed/torque gradient	rpm/mNm	63.4	58.1					
15 Mechanical time constant	ms	3.08	2.82					

Specifications							
Thermal data							
17 Thermal resistance housing-ambient	7.0 K/W						
18 Thermal resistance winding-housing	1.0 K/W						
19 Thermal time constant winding	5.06 s						
20 Thermal time constant motor	355 s						
21 Ambient temperature	-20+100°C						
22 Max. permissible winding temperature	+125°C						
Manhamian data (austra dad hall bar							

Mechanical data (preloaded ball bearings) Max. permissible speed 50000 rpm 24 Axial play at axial load < 5 N 0 mm max. 0.14 mm > 5 N25 Radial play preloaded 26 Max. axial load (dynamic) 27 Max. force for press fits (s 4 N 53 N Max. force for press fits (static) (static, shaft supported) 28 Max. radial loading, 5 mm from flange

### Other specifications

Number of pole pairs 30 Number of phases

Weight of motor

16 Rotor inertia

Values listed in the table are nominal.

Connection A motor (Cable AWG 22)

red Motor winding 1 Motor winding 2 black white Motor winding 3

**Connection A sensors** (Cable AWG 26) green V<sub>Hall</sub> 4.5 ... 24 VDC blue GND red/grey black/grey Hall sensor 1 Hall sensor 2 Hall sensor 3 Connection B (Cable AWG 22) red Motor winding 1 black Motor winding 2 white Motor winding 3

Wiring diagram for Hall sensors see p. 27

130 g

gcm<sup>2</sup>

3

Infusion pumps

4.63

#### Operating Range n [rpm] 50 W 50000 264443 40000 30000 20000 10000 20 30 40 50 M [mNm] 1.0 2.0 3.0 4.0 I [A]

4.63

In observation of above listed thermal resistance (lines 17 and 18) the maximum permissible winding temperature will be reached during continuous operation at 25°C ambient.

= Thermal limit.

Comments

#### Short term operation

The motor may be briefly overloaded (recurring).

Assigned power rating

# **Application**

# Medicine/surgery/chemicals

Hand tools that can be sterilized, such as bone saw, bone drilling and grinding machine Dermatological and dental tools

**ECG** Therapy aid, analysis and dialysis equipment

# **Sterilization information**

The motor can be sterilized at least 100 times in autoclave. No need to dismantle.

Sterilization with steam

+134°C ± 4°C Temperature Compression pressure up to 2.3 bar Rel. humidity 100% 20 minutes Cycle length

### maxon Modular System Overview on page 16 - 21 **Planetary Gearhead Recommended Electronics:** sterilizable Ø22 mm 0.5 - 2.0 Nm