

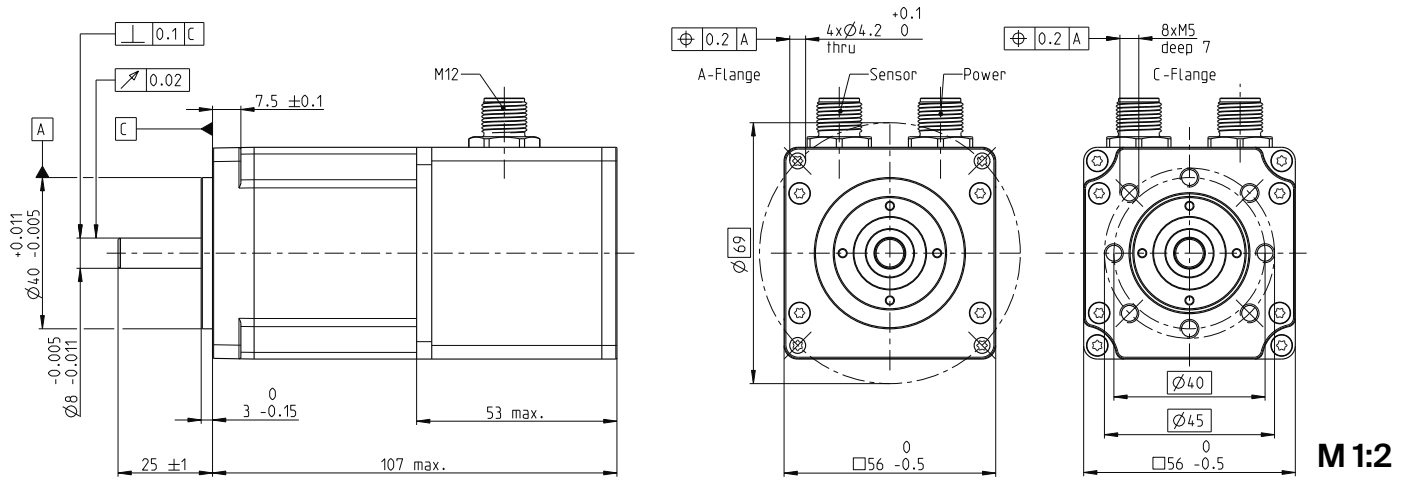
IDX 56 S □56 mm, brushless, BLDC motor

NEW



IDX

Key Data: 270/290 W, 462 mNm, 8000 rpm



M 1:2

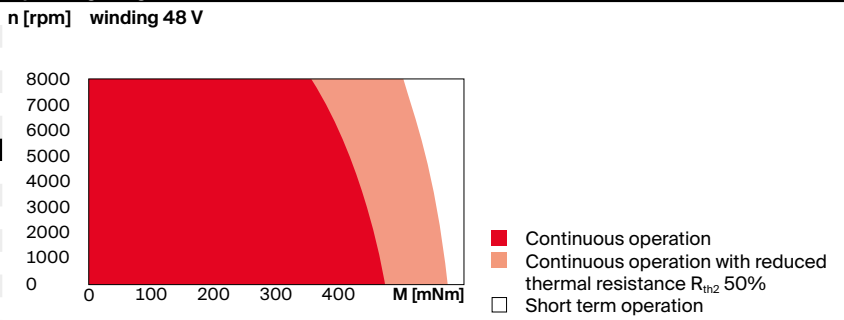
Motor Data

1_	Nominal voltage	V	24	48
2_	No load speed	rpm	7010	7030
3_	No load current	mA	710	356
4_	Nominal speed	rpm	5680	5690
5_	Nominal torque	mNm	459	462
6_	Nominal current (max. continuous current)	A	12.6	6.34
7_	Stall torque	mNm	3200	3250
8_	Stall current	A	300	158
9_	Max. efficiency	%	90.3	90.5
10_	Terminal resistance	Ω	0.0799	0.303
11_	Terminal inductance	mH	0.121	0.492
12_	Torque constant	mNm/A	32.3	64.4
13_	Speed constant	rpm/V	296	148
14_	Speed/torque gradient	rpm/mNm	0.732	0.699
15_	Mechanical time constant	ms	0.82	0.783
16_	Rotor inertia	gcm ²	107	107

Thermal data

17_	Thermal resistance housing-ambient	K/W	2.32
18_	Thermal resistance winding-housing	K/W	1.4
19_	Thermal time constant winding	s	27.6
20_	Thermal time constant motor	s	686
21_	Ambient temperature	°C	-40...+100
22_	Max. winding temperature	°C	155

Operating Range



Mechanical data ball bearings

23_	Max. speed	rpm	8000
24_	Axial play	mm	0..0.14
	Preload	N	16
	Direction of force		pull
25_	Radial play	preloaded	
26_	Max. axial load (dynamic)	N	12
27_	Max. force for press fits (static)	N	150
	(static, shaft supported)	N	
28_	Max. radial load [mm from flange]	N	110 [12.5]

Other specifications

29_	Number of pole pairs	8
30_	Number of phases	3
31_	Weight of motor	g 574
32_	Typical noise level [rpm]	dB(A) 55 [4000]

Modular System

Gear	Stages [opt.]	Sensor	Motor Control
390_GPX 52 A/UP	1-3	integrated	534_ESCON Module 50/8
391_GPX 52 LN	1-3		534_ESCON Module 50/8 HE
		Accessories	535_ESCON 70/10
		569_AB 42 S	543_EPOS4 Module 50/15
			545_EPOS4 Compact 50/15
			547_EPOS4 70/15

Power Connection (M12, male, 5 poles, L-coded)

- Pin 1 Motor winding 1
- Pin 2 Motor winding 2
- Pin 3 Motor winding 3
- Pin 4 U_{brake} + (optional)
- Pin 5 U_{brake} GND (optional)

Sensor Connection (M12, male, 17 poles, A-coded)

- | | | | |
|-------|-----------------------------|--------|---------------|
| Pin 1 | GND | Pin 10 | B |
| Pin 2 | NTC | Pin 11 | DATA/ |
| Pin 3 | V _{CC} 4.75...26 V | Pin 12 | DATA |
| Pin 4 | A | Pin 13 | CLK |
| Pin 5 | I/ | Pin 14 | CLK/ |
| Pin 6 | A/ | Pin 15 | Hall Sensor 3 |
| Pin 7 | B/ | Pin 16 | Hall Sensor 1 |
| Pin 8 | I | Pin 17 | Hall Sensor 2 |
| Pin 9 | NTC | | |

NTC resistor 25°C: 10 kOhm ±1%, beta (25-100°C): 3460 K

Wiring diagram for Hall sensors see p. 65

Configuration

Flange front: A-Flange/C-Flange
Encoder Interface: SSI/BiSS-C

Notes about the encoder

Output level incremental, RS422, with internal supply voltage 5 V
Input/output level absolute, RS422, with internal supply voltage 5 V
Resolution (not configurable) 1024 cpt / 4096 steps (12 bit)
More production information can be found online, under ENX 22 EASY INT