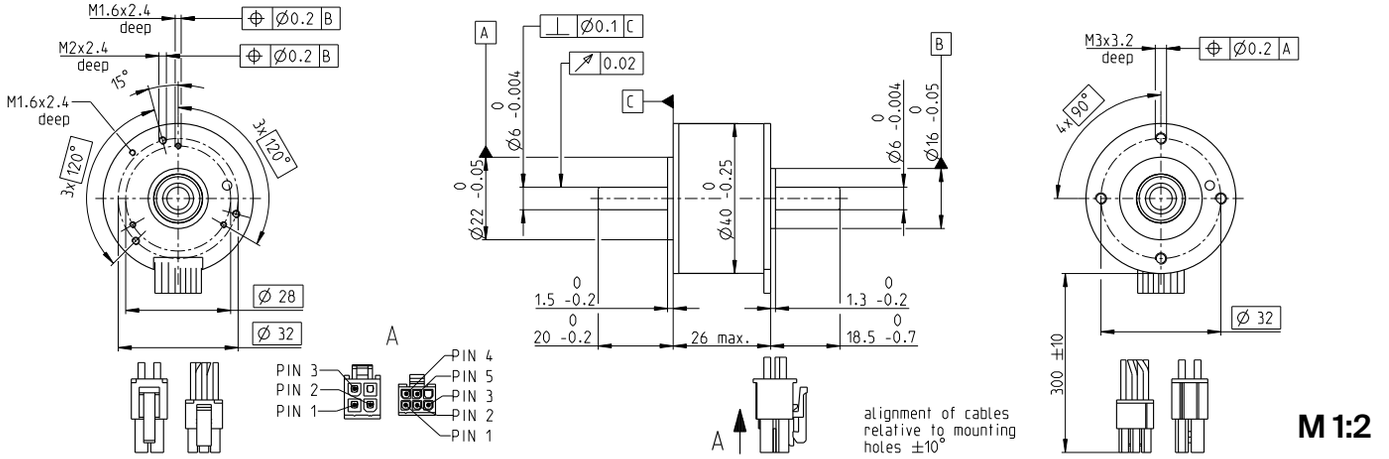
EC-i 40 ∅40 mm, brushless, 50 watt

High Torque



M 1:2

Stock program
Standard program
Special program (on request)

Part Numbers

with Hall sensors	496650	496651	496652	496653
Motor Data				
Values at nominal voltage				
1 Nominal voltage V	9	18	36	48
2 No load speed rpm	7780	7790	7350	7560
3 No load current mA	577	289	131	103
4 Nominal speed rpm	6390	6520	6080	6310
5 Nominal torque mNm	65.7	65.2	78.9	73.9
6 Nominal current (max. continuous current) A	5.95	2.95	1.62	1.19
7 Stall torque mNm	466	497	534	526
8 Stall current A	66.9	40.1	25.4	18.5
9 Max. efficiency %	82.3	83.7	86	85.5
Characteristics				
10 Terminal resistance phase to phase Ω	0.135	0.448	1.42	2.59
11 Terminal inductance phase to phase mH	0.064	0.255	1.15	1.93
12 Torque constant mNm/A	10.8	21.7	46.1	59.6
13 Speed constant rpm/V	881	440	207	160
14 Speed/torque gradient rpm/mNm	10.9	9.1	6.38	6.96
15 Mechanical time constant ms	1.47	1.22	0.855	0.933
16 Rotor inertia gcm²	12.8	12.8	12.8	12.8

Specifications

Thermal data

17	Thermal resistance housing-ambient	9.91 K/W
18	Thermal resistance winding-housing	3.77 K/W
19	Thermal time constant winding	26 s
20	Thermal time constant motor	892 s
21	Ambient temperature	-40...+100°C
22	Max. winding temperature	+155°C

Mechanical data (preloaded ball bearings)

23	Max. speed	10 000 rpm
24	Axial play at axial load < 9.0 N	0 mm
	> 9.0 N	0.15 mm
25	Radial play	preloaded
26	Max. axial load (dynamic)	7 N
27	Max. force for press fits (static)	87 N
	(static, shaft supported)	6500 N
28	Max. radial load, 5 mm from flange	21 N

Other specifications

29	Number of pole pairs	7
30	Number of phases	3
31	Weight of motor	180 g

Values listed in the table are nominal.

Connection motor (Cable AWG 20)

red	Motor winding 1	Pin 1
black	Motor winding 2	Pin 2
white	Motor winding 3	Pin 3
	N.C.	Pin 4

Connector	Article number
Molex	39-01-2040

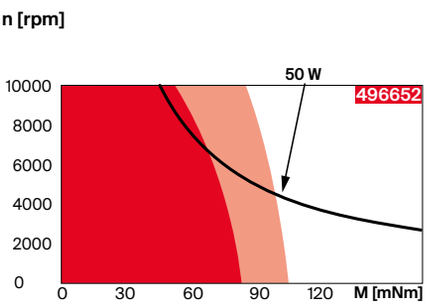
Connection sensor (Cable AWG 26)

yellow	Hall sensor 1	Pin 1
brown	Hall sensor 2	Pin 2
grey	Hall sensor 3	Pin 3
blue	GND	Pin 4
green	V_{Hall} 4.5...24 VDC	Pin 5
	N.C.	Pin 6

Connector	Article number
Molex	430-25-0600

Wiring diagram for Hall sensors see p. 67

Operating Range



Continuous operation
Continuous operation with reduced thermal resistance R_{th2} 50%
Intermittent operation

Assigned power rating

Comments

Modular System

Details on catalog page 50

Gear
454_GP 42 C

Sensor
505_ENX 16 EASY
506_ENX 16 EASY XT
507_ENX 16 EASY Absolute
508_ENX 16 EASY Absolute XT
516_ENX 22 EMT
517_ENX 16 RIO
524_TSX 40 MAG
525_TSX 40 RIO

Motor Control
547_DEC Module 50/5
551_ESCON 36/3 EC
551_ESCON Module 50/4 EC-S
551_ESCON Module 50/5
552_ESCON Module 50/8 HE
553_ESCON 50/5
553_ESCON 70/10
561_EPOS4 Micro 24/5
562_EPOS4 Module 50/5
563_EPOS4 Comp. 24/5 3-axes
563_EPOS4 Module 50/8
565_EPOS4 Compact 50/5
565_EPOS4 Compact 50/8
567_EPOS4 50/5
567_EPOS4 70/15
568_EPOS4 Disk 60/8
569_EPOS4 Disk 60/12