

# EC-i 52 Ø52 mm, brushless, 180 watt

High Torque

EC-i

M 1:2

- Stock program
- Standard program
- Special program (on request)

## Part numbers

	with Hall sensors	574740	574741	579164	579165
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## Motor data (provisional)

Values at nominal voltage					
1 Nominal voltage	V	18	24	36	48
2 No load speed	rpm	4860	4720	4870	4950
3 No load current	mA	1000	716	500	384
4 Nominal speed	rpm	4360	4210	4370	4470
5 Nominal torque	mNm	399	438	448	423
6 Nominal current (max. continuous current)	A	11.5	9.03	6.33	4.59
7 Stall torque	mNm	4370	4580	4930	4930
8 Stall current	A	298	257	222	169
9 Max. efficiency	%	88.6	89.6	90.6	90.5
Characteristics					
10 Terminal resistance phase to phase	Ω	0.0604	0.0935	0.162	0.284
11 Terminal inductance phase to phase	mH	0.0653	0.123	0.261	0.45
12 Torque constant	mNm/A	35	48.1	70	91.9
13 Speed constant	rpm/V	273	198	136	104
14 Speed/torque gradient	rpm/mNm	0.471	0.386	0.316	0.321
15 Mechanical time constant	ms	0.839	0.687	0.563	0.572
16 Rotor inertia	gcm <sup>2</sup>	170	170	170	170

## Specifications

17 Thermal resistance housing-ambient	4.32 K/W
18 Thermal resistance winding-housing	0.63 K/W
19 Thermal time constant winding	22.7 s
20 Thermal time constant motor	1780 s
21 Ambient temperature	-40...+100°C
22 Max. winding temperature	+155°C

## Mechanical data (preloaded ball bearings)

23 Max. speed	6000 rpm
24 Axial play at axial load < 15 N	0 mm
> 15 N	0.14 mm
25 Radial play	preloaded
26 Max. axial load (dynamic)	12 N
27 Max. force for press fits (static)	150 N
(static, shaft supported)	6000 N
28 Max. radial load, 5 mm from flange	110 N

## Other specifications

29 Number of pole pairs	8
30 Number of phases	3
31 Weight of motor	823

Values listed in the table are nominal.

## Connection motor (Cable AWG 16)

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
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## Connection sensor (Cable AWG 26)

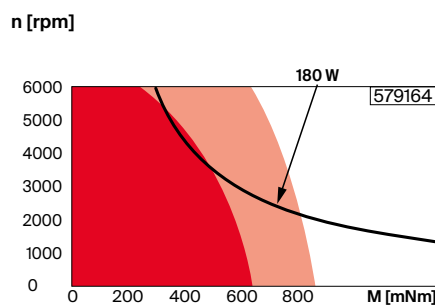
yellow	Hall sensor 1	Pin 1
brown	Hall sensor 2	Pin 2
grey	Hall sensor 3	Pin 3
blue	GND	Pin 4
green	V <sub>Hall</sub> 4.5...24 VDC	Pin 5
	N.C.	Pin 6

## Connector Article number

Molex	430-25-0600
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Wiring diagram for Hall sensors see p. 69

## Operating range



- Continuous operation
- Continuous operation with reduced thermal resistance  $R_{th2}$  50%
- Intermittent operation
- Assigned power rating

## Modular system

Gear		Sensor		Motor Control	
8	444_GP 52 C	509_ENX 16 EASY	509_ENX 16 EASY	552_ESCON Module 50/8 HE	
3	455_GSW 55 A	510_ENX 16 EASY XT	510_ENX 16 EASY XT	553_ESCON 70/10	
823	456_GSW 62 A	511_ENX 16 EASY Absolute	511_ENX 16 EASY Absolute	557_ESCON2 Micro 60/5	
	458_GB 80'	512_ENX 16 EASY Absolute XT	512_ENX 16 EASY Absolute XT	558_ESCON2 Module 60/12	
	459_GB 12'	518_ENX 22 EMT	518_ENX 22 EMT	559_ESCON2 Compact 60/12	
		519_ENX 16 RIO	519_ENX 16 RIO	565_EPOS4 Module 50/8	
		526_TSX 40 MAG	526_TSX 40 MAG	565_EPOS4 Module 50/15	
		527_TSX 40 RIO	527_TSX 40 RIO	567_EPOS4 Compact 50/8	
				568_EPOS4 Compact 50/15	
				569_EPOS4 70/15	
				570_EPOS4 Disk 60/8	
				571_EPOS4 Disk 60/12	