

Gear motors

EC-motor with planetary gearing for automated spindle positioning cycles

BG440 - planetary gearing



BG440

Features

- Brushless EC-DC motor
- With integrated rotation speed electronics
- Nominal power 20 W or 40 W
- Direct connection to spindle position display

Technical data - electrical ratings

Voltage supply	24 (20...30) VDC
Residual ripple	<5 %
Nominal current	1.5 A, 2.8 A
Nominal rating	20 W, 40 W
Undervoltage shutdown	≤10.5 V
External backup	6.3 AT (required)
Overheat protection	120 °C (final power output circuit)
Peak current	≤3.5 A
Control signals	Rotation speed 1 Rotation speed 2 Counterclockwise Clockwise Enable
Outputs	Motor malfunction (Error)
Inputs	Enable Start counterclockwise Start clockwise

Technical data - mechanical design

Shaft type	∅12 mm solid shaft
Operating temperature	-10...+50 °C
Protection DIN EN 60529	IP 54
Connection	- Round connector 8-pin, motor supply - Round connector 12-pin, between motor - SPA DIN45326, Binder series 723
Nominal torque	≤2.4 Nm (with 20 W) ≤4.4 Nm (with 40 W)
Starting torque	≤5 Nm (with 20 W) ≤10 Nm (with 40 W)
Operating speed	≤72 rpm (highspeed) ≤4 rpm (slowspeed)
Scaling ratio	50:1
Number of stages	2
Efficiency (factor)	0.81
Shaft loading	≤500 N axial ≤350 N radial
Dimensions	∅52 x 155.5 mm (BG440.25) ∅52 x 180.5 mm (BG440.50)
Weight approx.	1300 g (type: BG440.25), 1400 g (type: BG440.50)
Material	Aluminium profile, anodized in black

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Part number

BG440.		0	52	01	
				01	<u>Firmware</u> Firmware version 01
			52		<u>Gear transmission</u> ø52 mm
		0			<u>Scaling</u> 50:1
	25				<u>Performance</u> 20 W
	50				40 W

Description

Motors of the BG440 series are EC motors (brushless DC-motors) with integrated rotation speed electronics. BG440 series comprises two designs with different dimensions and output power of 20 W and 40 W. The EC motor featuring a fully assembled planetary gearing is a compact drive in electric spindle positioning operations of the multi-conDrive system.

It provides a separate round connector output enabling direct motor connection to the spindle position display (N 142, N 152). This "interface" provides the motor with the control signals for "clockwise", "counterclockwise" and "off" as well as with the signal for recalling two permanent motor speed parameters relating to high and low speed. Already predefined ramps for acceleration respectively deceleration secure smooth motor start and slow-down.

Accessories

Connectors and cables

Z 165.M01	Motor supply cable 1.5 m, 8-pin mating connector
Z 165.M02	Motor supply cable 3 m, 8-pin mating connector
Z 165.M03	Motor supply cable 10 m, 8-pin mating connector

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Terminal assignment

Connector – Motor, 8-pin

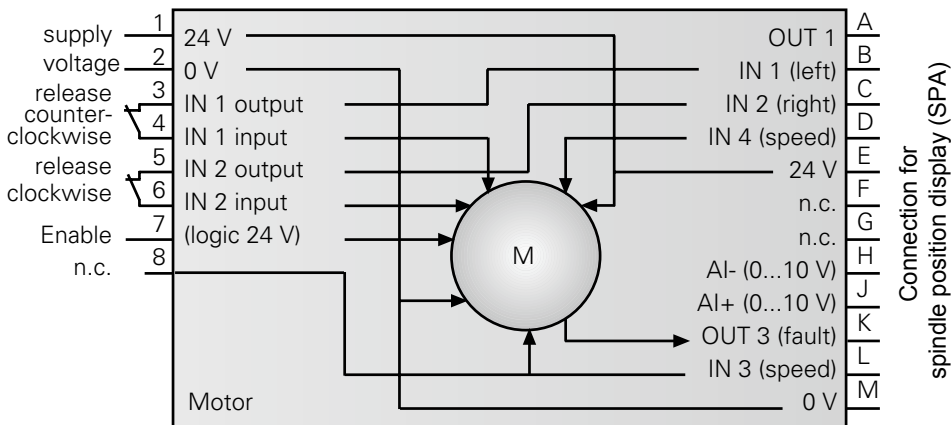
Connector	Assignment	Function
Pin 1	U _E	+24 VDC motor supply
Pin 2	GND	0 V related to ground für U _E
Pin 3	OUT left	Release counterclockwise
Pin 4	IN left	Release counterclockwise
Pin 5	OUT right	Release clockwise
Pin 6	IN right	Release clockwise
Pin 7	Enable	Logic +24 V
Pin 8	n.c.	n.c.

Connector – SPA, 12-pin

Connector	Assignment	Function
Pin A	–	–
Pin B	IN 1	Motor left
Pin C	IN 2	Motor right
Pin D	IN 4*	Speed
Pin E	+24 V	n.c.
Pin F	n.c.	n.c.
Pin G	n.c.	n.c.
Pin H	–	n.c.
Pin J	–	n.c.
Pin K	OUT 3	Error signal
Pin L	IN 3*	Speed
Pin M	GND	GND

IN 3*	IN 4*	Rotation speed
1	0	200
1	1	3600

Circuit diagram



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Dimensions

