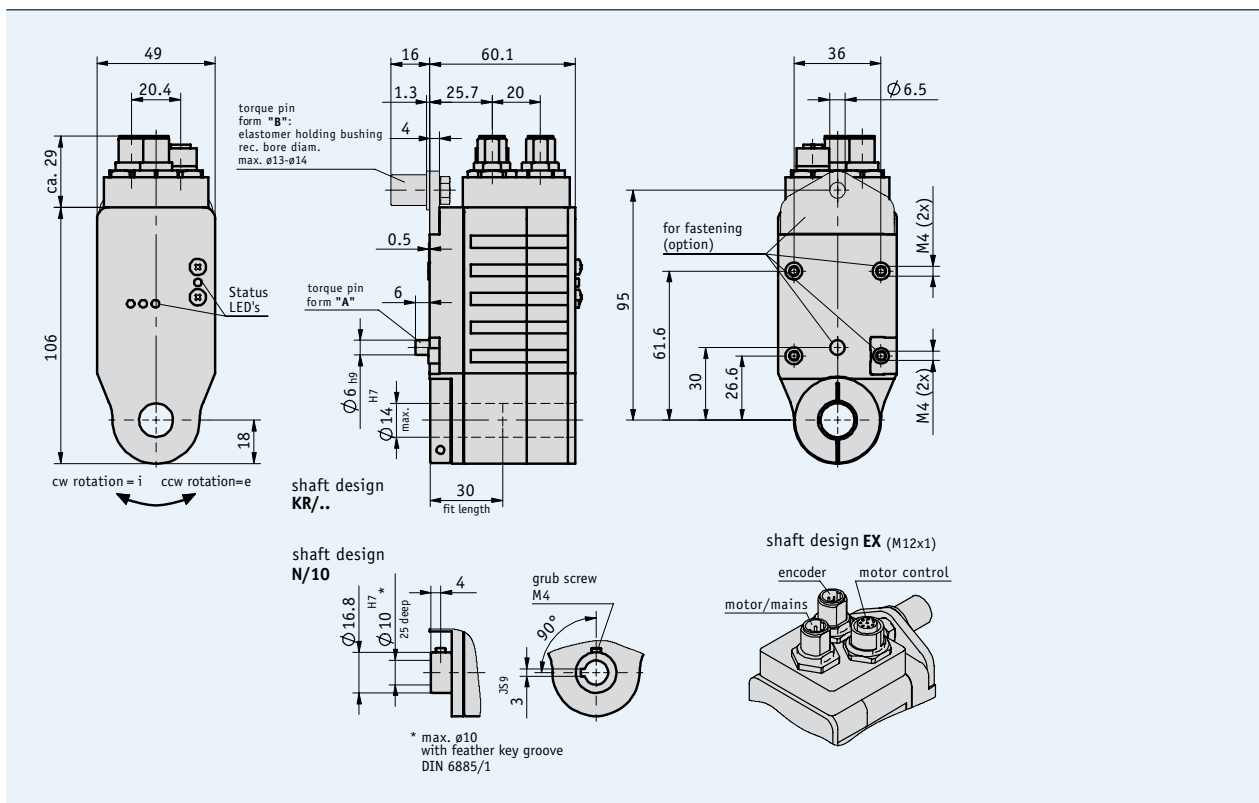


## Profile

- Space-saving, easy mounting
- Through hollow shafts up to max.  $\varnothing$  14 mm
- Integrated magnetic position encoder on output shaft
- Brushless EC motor with a long service life
- Integrated power and control electronics with inverse polarity and overload protection
- Electrical connection via M12 connector



## Mechanical data

Feature	Technical data	Additional information
Hollow shaft	browned steel	
Housing	aluminum, zinc die-cast powder-coated	
Nominal torque	1.6 Nm, 200 rpm	with $i = 24$
	3.2 Nm, 100 rpm	with $i = 48$
Shock resistance	50 g, 11 ms	DIN EN 60068-2-27
Vibration resistance axial, radial	10 g, 50 Hz	DIN EN 60068-2-6
Operating temperature	0 ... +80 °C	condensation inadmissible
Ambient temperature	0 ... +45 °C	
Operating mode	short-time operation S2, 25 % duty cycle	DIN 57530, VDE 0530 part 1
Interference protection class	EN 61000-6-2, EN 61000-6-4	
Protection category	IP50, IP63, IP65	DIN VDE 0470
Weight	approx. 0.7 kg	

## Electrical data

### Motor/control data

Feature	Technical data	Additional information
Voltage supply	+24 V DC $\pm 10\%$	with inverse-polarity protection
Power consumption, fed	58 W	
Rated current with output value 100 %	2.4 A $\pm 7\%$ (50W-M)	max. load current 2.58 A
Idle current (with gear)	300 mA $\pm 20\%$	
PWM (pulse width modulation)	$\sim 16$ kHz continuous, 0 ... 100 %	soft start
Inputs	analog, digital	digital with LED indicator
Digital inputs	15 ... 30 V, typically 10 mA	
Analog inputs	0 ... +10 V, -10 ... +10 V	impedance $> 1.3$ M $\Omega$

### Encoder data

Feature	LD24	OP
Voltage supply	24 V DC $\pm 20\%$	24 V DC $\pm 20\%$
Power consumption	$\leq 25$ mA	$\leq 25$ mA
Output circuit	line driver (RS422)	push-pull (OP)
Output signals	(A, B, 0, /A, /B, /0)	(A, B, 0, /A, /B, /0)
Pulse frequency max.	20 kHz	20 kHz

## Pin assignment

### Motor/network

Signal	PIN
+	1
N.C.	2
-	3
N.C.	4

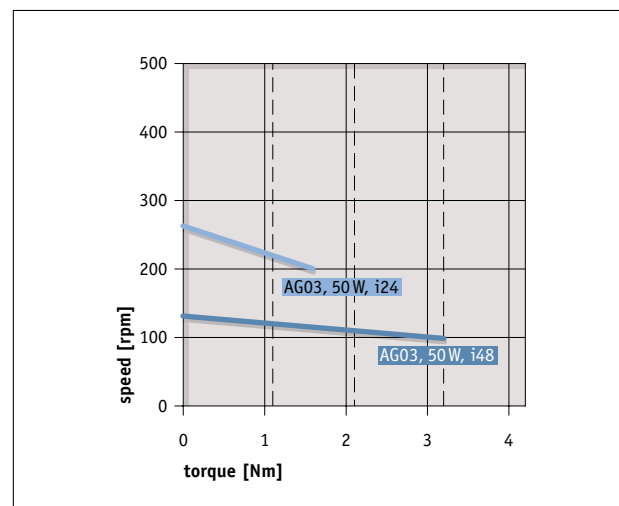
### Encoder, LD24/OP, 8-pin

Signal	PIN	Additional information
+SUB	1	sensor
SGND	2	sensor
A	3	
/A	4	
B	5	
/B	6	
0	7	
I	8	

### Motor control PWM

digital	Analog unipolar	Analog bipolar	PIN
Clockwise plus	enable plus	enable plus	1
Clockwise ground	enable ground	enable ground	2
Counter-clockwise plus	cw/ccw plus	N.C.	3
Counter-clockwise ground	cw/ccw ground	N.C.	4
Fast/creep plus	analog 0 ... +10 V	analog -10 ... +10 V	5
Fast/creep ground	analog ground	analog ground	6
N.C.	N.C.	N.C.	7, 8

## Performance curve



## Order

### Order table

Feature	Order text	Specification	Additional information	
Gear ratio	48	i = 48	25 % duty cycle	
	24	i = 24	25 % duty cycle	
Protection category	IP50	B		
	IP63			
	IP65			
Shaft design	KR/14	C	clamp ring, Ø 14 mm	
	KR/12		clamp ring, Ø 12 mm	
	N/10		keyway JS9 DIN 6885, 1, Ø 10 mm	
Torque support (form)	A	D	bolt, Ø 6 mm	
	B		lug I	incl. elastomer bushing
Encoder	LD24	E	incremental encoder 1024 pulses	
	OP		push-pull with inversion	
	0		without	
Motor control PWM	SD	F	digital	galvanically isolated
	SUP		analog unipolar	0 ... +10 V
	SBP		analog bipolar	-10 ... +10 V

4.1

### Order code

AG03 -  - 50W-M -  -  -  - EX -  -  - OFB

**Scope of delivery:** AG03, User information

**Accessories:**

Mating connectors

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**Additional information:**

General information and areas of application

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