

## Brushless DC Motors – Inner Rotor

# Brushless DC Motors - Inner Rotor

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# BH0831NH

8mm BLDC, inner rotor, slotless, sensored, high efficiency



<https://www.kocomotion.de/produkt/bh0831nh/>



## Produkte:

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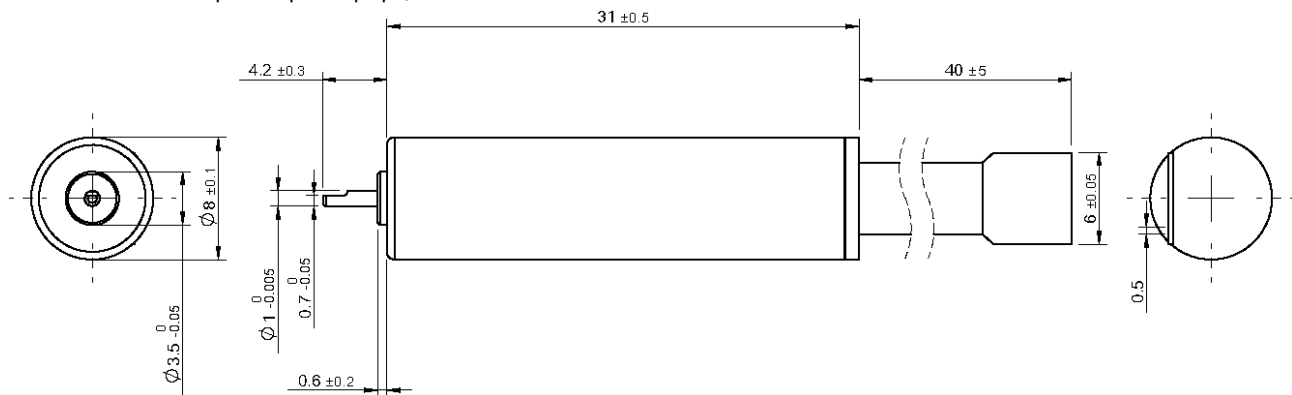
BH0831NH310-8.5-0003

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Motor Characteristics	BH0831NH310-8.5-0003
Voltage	8.5 V
Terminal resistance	2.83
No-load speed	31000 rpm
No-load current	0.16 A
Stall torque	7.0 mNm
Stall current	3.0 A
Nominal torque	1.3 mNm
Nominal speed	25280 rpm
Nominal current	0.67 A
Max. output power	6 W
Max. efficiency	59.2 %
Back-EMF constant	0.26 mV/rpm
Torque constant	2.48 mNm/A
KV Value	3650 rpm/V
Speed/torque gradient	4398 rpm/mNm
Rotor inertia	0.65 gcm <sup>2</sup>
Weight	51.5 g
Thermal resistance housing-ambient	47.4 K/W
Thermal resistance winding-housing	14.8 K/W
Thermal time constant motor	120 s
Thermal time constant winding	0.7 s

Motor Characteristics	BH0831NH310-8.5-0003
Operating temperature range	-20~+85
Thermal class of winding	125 °C
Axial play	0.3 mm
Radial play	0.01 mm
Axial load dynamic	0.05 N
Axial load static	10 N
Radial load at 3 mm from mounting face	0.2 N
No. of pole pairs	1
Bearings	2 ball bearings
Commutation	Hall Sensor
Protection class	20 IP

include \_\_DIR\_\_ . "/parts/spacer.php";



# BH0831NH310-8.5-0003

8mm BLDC, inner rotor, slotless, sensed, high efficiency



<https://www.kocomotion.de/produkt/bh0831nh310-8-5-0003/>



Specification	
Voltage	8.5 V
Terminal resistance	2.83
No-load speed	31000 rpm
No-load current	0.16 A
Stall torque	7.0 mNm
Stall current	3.0 A
Nominal torque	1.3 mNm
Nominal speed	25280 rpm
Nominal current	0.67 A
Max. output power	6 W
Max. efficiency	59.2 %
Back-EMF constant	0.26 mV/rpm
Torque constant	2.48 mNm/A
KV Value	3650 rpm/V
Speed/torque gradient	4398 rpm/mNm
Rotor inertia	0.65 gcm <sup>2</sup>
Weight	51.5 g
Thermal resistance housing-ambient	47.4 K/W
Thermal resistance winding-housing	14.8 K/W
Thermal time constant motor	120 s
Thermal time constant winding	0.7 s
Operating temperature range	-20~+85 °C
Thermal class of winding	125 °C
Axial play	0.3 mm



Specification	
Radial play	0.01 mm
Axial load dynamic	0.05 N
Axial load static	10 N
Radial load at 3 mm from mounting face	0.2 N
No. of pole pairs	1
Bearings	2 ball bearings
Commutation	Hall Sensor
Protection class	20 IP

## Optionen

- shaft length
- special coils
- gear heads
- bearing type
- Hall-sensor
- driver

## Anwendungen

- precision drives in medical equipment
- industrial automation

# BH1659NH2B

16mm BLDC, inner rotor, slotless, sensed, high efficiency



<https://www.kocomotion.de/produkt/bh1659nh2b/>



## Produkte:

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BH1659NH2B425-32.0-0030

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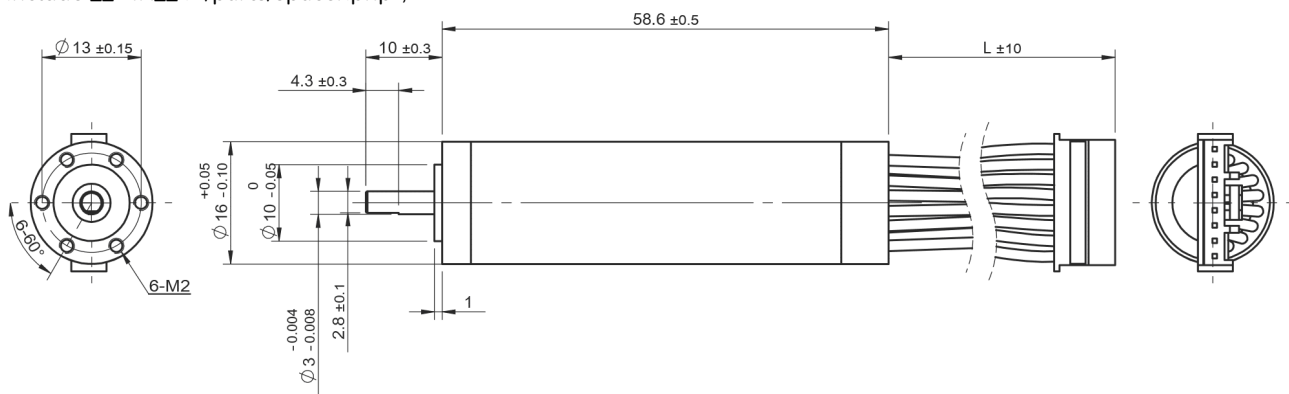
BH1659NH2B645-36.0-\*\*\*\*

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Characteristics	BH1659NH2B425-32.0-0030	BH1659NH2B645-36.0-****
Voltage	32.0 V	36.0 V
Terminal resistance	1.42	0.66
No-load speed	41000 rpm	64500 rpm
No-load current	0.12 A	0.19 A
Stall torque	166.2 mNm	288.7 mNm
Stall current	22.5 A	54.5 A
Nominal torque	8.6 mNm	11.5 mNm
Nominal speed	38880 rpm	61930 rpm
Nominal current	1.31 A	2.35 A
Max. output power	179 W	488 W
Max. efficiency	86.0 %	88.6 %
Back-EMF constant	0.776 mV/rpm	0.556 mV/rpm
Torque constant	7.41 mNm/A	5.31 mNm/A
KV Value	1280 rpm/V	1790 rpm/V
Speed/torque gradient	247 rpm/mNm	223 rpm/mNm
Rotor inertia	0.65 gcm <sup>2</sup>	0.65 g·cm <sup>2</sup>
Weight	51.5 g	52.0 g
Thermal resistance housing-ambient	15.3 K/W	15.3 K/W
Thermal resistance winding-housing	18.7 K/W	18.7 K/W
Thermal time constant motor	362 s	362 s

Characteristics	BH1659NH2B425-32.0-0030	BH1659NH2B645-36.0-****
Thermal time constant winding	233 s	233 s
Operating temperature range	-40~+120	-40~+120
Thermal class of winding	155 °C	155 °C
Axial play	0.012 mm	0.012 mm
Radial play	0.008 mm	0.008 mm
Axial load dynamic	1.5 N	1.5 N
Axial load static	60 N	60 N
Radial load at 3 mm from mounting face	10 N	10 N
No. of pole pairs	1	1
Bearings	2 ball bearings	2 ball bearings
Commutation	Hall Sensor	Hall Sensor
Protection class	20 IP	20 IP

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# BH1659NH2B425-32.0-0030

16mm BLDC, inner rotor, slotless, sensed, high efficiency



<https://www.kocomotion.de/produkt/bh1659nh2b425-32-0-0030/>



Specification	
Voltage	32.0 V
Terminal resistance	1.42
No-load speed	41000 rpm
No-load current	0.12 A
Stall torque	166.2 mNm
Stall current	22.5 A
Nominal torque	8.6 mNm
Nominal speed	38880 rpm
Nominal current	1.31 A
Max. output power	179 W
Max. efficiency	86.0 %
Back-EMF constant	0.776 mV/rpm
Torque constant	7.41 mNm/A
KV Value	1280 rpm/V
Speed/torque gradient	247 rpm/mNm
Rotor inertia	0.65 gcm <sup>2</sup>
Weight	51.5 g
Thermal resistance housing-ambient	15.3 K/W
Thermal resistance winding-housing	18.7 K/W
Thermal time constant motor	362 s
Thermal time constant winding	233 s
Operating temperature range	-40~+120 °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	1.5 N
Axial load static	60 N
Radial load at 3 mm from mounting face	10 N
No. of pole pairs	1
Bearings	2 ball bearings
Commutation	Hall Sensor
Protection class	20 IP

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- encoder
- driver

## Anwendungen

- industrial automation
- medical equipment
- robotics
- electrical tools

# BH1659NH2B645-36.0-\*\*\*\*

16mm BLDC, inner rotor, slotless, sensed, high efficiency



<https://www.kocomotion.de/produkt/bh1659nh2b645-36-0/>



Specification	
Voltage	36.0 V
Terminal resistance	0.66
No-load speed	64500 rpm
No-load current	0.19 A
Stall torque	288.7 mNm
Stall current	54.5 A
Nominal torque	11.5 mNm
Nominal speed	61930 rpm
Nominal current	2.35 A
Max. output power	488 W
Max. efficiency	88.6 %
Back-EMF constant	0.556 mV/rpm
Torque constant	5.31 mNm/A
KV Value	1790 rpm/V
Speed/torque gradient	223 rpm/mNm
Rotor inertia	0.65 g·cm <sup>2</sup>
Weight	52.0 g
Thermal resistance housing-ambient	15.3 K/W
Thermal resistance winding-housing	18.7 K/W
Thermal time constant motor	362 s
Thermal time constant winding	233 s
Operating temperature range	-40~+120 °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	1.5 N
Axial load static	60 N
Radial load at 3 mm from mounting face	10 N
No. of pole pairs	1
Bearings	2 ball bearings
Commutation	Hall Sensor
Protection class	20 IP

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- encoder
- driver

## Anwendungen

- industrial automation
- medical equipment
- robotics
- electrical tools

# BH2245NH2B

22mm BLDC, inner rotor, slotless, sensed, high efficiency



<https://www.kocomotion.de/produkt/bh2245nh2b/>



## Produkte:

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BH2245NH2B01-400-24.0-0024

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BH2245NH2B02-640-24.0-\*\*\*\*

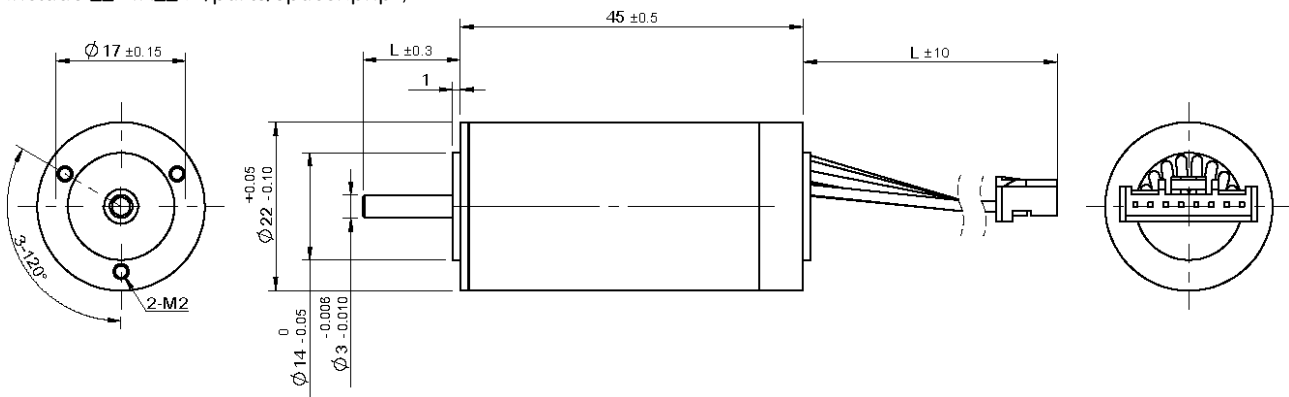
20

Motor Characteristics	BH2245NH2B01-400-24.0-0024	BH2245NH2B02-640-24.0-****
Voltage	24.0 V	24.0 V
Terminal resistance	0.44	0.44
No-load speed	39000 rpm	39000 rpm
No-load current	0.21 A	0.21 A
Stall torque	318.1 mNm	318.1 mNm
Stall current	54.5 A	54.5 A
Nominal torque	11 mNm	11 mNm
Nominal speed	37650 rpm	37650 rpm
Nominal current	2.1 A	2.1 A
Max. output power	325 W	325 W
Max. efficiency	88.1 %	88.1 %
Back-EMF constant	0.613 mV/rpm	0.613 mV/rpm
Torque constant	5.85 mNm/A	5.85 mNm/A
KV Value	1630 rpm/V	2710 rpm/V
Speed/torque gradient	123 rpm/mNm	123 rpm/mNm
Rotor inertia	1.49 gcm <sup>2</sup>	1.49 gcm <sup>2</sup>
Weight	92.0 g	92.0 g
Thermal resistance housing-ambient	6.41 K/W	6.41 K/W
Thermal resistance winding-housing	0.37 K/W	0.37 K/W
Thermal time constant motor	885 s	885 s



Motor Characteristics	BH2245NH2B01-400-24.0-0024	BH2245NH2B02-640-24.0-****
Thermal time constant winding	830 s	830 s
Operating temperature range	-40~+120	-40~+120
Thermal class of winding	155 °C	155 °C
Axial play	0.012 mm	0.012 mm
Radial play	0.008 mm	0.008 mm
Axial load dynamic	1.5 N	1.5 N
Axial load static	60 N	60 N
Radial load at 3 mm from mounting face	10 N	10 N
No. of pole pairs	1	1
Bearings	2 ball bearings	2 ball bearings
Commutation	Hall Sensor	Hall Sensor
Protection class	20 IP	20 IP

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# BH2245NH2B01-400-24.0-0024



22mm BLDC, inner rotor, slotless, sensored, high efficiency



<https://www.kocomotion.de/produkt/bh2245nh2b01-400-24-0-0024/>

Specification	
Voltage	24.0 V
Terminal resistance	0.44
No-load speed	39000 rpm
No-load current	0.21 A
Stall torque	318.1 mNm
Stall current	54.5 A
Nominal torque	11 mNm
Nominal speed	37650 rpm
Nominal current	2.1 A
Max. output power	325 W
Max. efficiency	88.1 %
Back-EMF constant	0.613 mV/rpm
Torque constant	5.85 mNm/A
KV Value	1630 rpm/V
Speed/torque gradient	123 rpm/mNm
Rotor inertia	1.49 gcm <sup>2</sup>
Weight	92.0 g
Thermal resistance housing-ambient	6.41 K/W
Thermal resistance winding-housing	0.37 K/W
Thermal time constant motor	885 s
Thermal time constant winding	830 s
Operating temperature range	-40~+120 °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	1.5 N
Axial load static	60 N
Radial load at 3 mm from mounting face	10 N
No. of pole pairs	1
Bearings	2 ball bearings
Commutation	Hall Sensor
Protection class	20 IP

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- Hall-sensor
- encoder
- driver

## Anwendungen

- precision drives in medical equipment
- industrial automation

# BH2245NH2B02-640-24.0-

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22mm BLDC, inner rotor, slotless, sensed, high efficiency



<https://www.kocomotion.de/produkt/bh2245nh2b02-640-24-0/>



Specification	
Voltage	24.0 V
Terminal resistance	0.44
No-load speed	39000 rpm
No-load current	0.21 A
Stall torque	318.1 mNm
Stall current	54.5 A
Nominal torque	11 mNm
Nominal speed	37650 rpm
Nominal current	2.1 A
Max. output power	325 W
Max. efficiency	88.1 %
Back-EMF constant	0.613 mV/rpm
Torque constant	5.85 mNm/A
KV Value	2710 rpm/V
Speed/torque gradient	123 rpm/mNm
Rotor inertia	1.49 gcm <sup>2</sup>
Weight	92.0 g
Thermal resistance housing-ambient	6.41 K/W
Thermal resistance winding-housing	0.37 K/W
Thermal time constant motor	885 s
Thermal time constant winding	830 s
Operating temperature range	-40~+120 °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	1.5 N
Axial load static	60 N
Radial load at 3 mm from mounting face	10 N
No. of pole pairs	1
Bearings	2 ball bearings
Commutation	Hall Sensor
Protection class	20 IP

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- Hall-sensor
- encoder
- driver

## Anwendungen

- precision drives in medical equipment
- industrial automation

# BH2260NH2B

22mm BLDC, inner rotor, slotless, sensed, high efficiency



<https://www.kocomotion.de/produkt/bh2260nh2b/>



## Produkte:

Seite

BH2260NH2B01-530-24.0-\*\*\*\*

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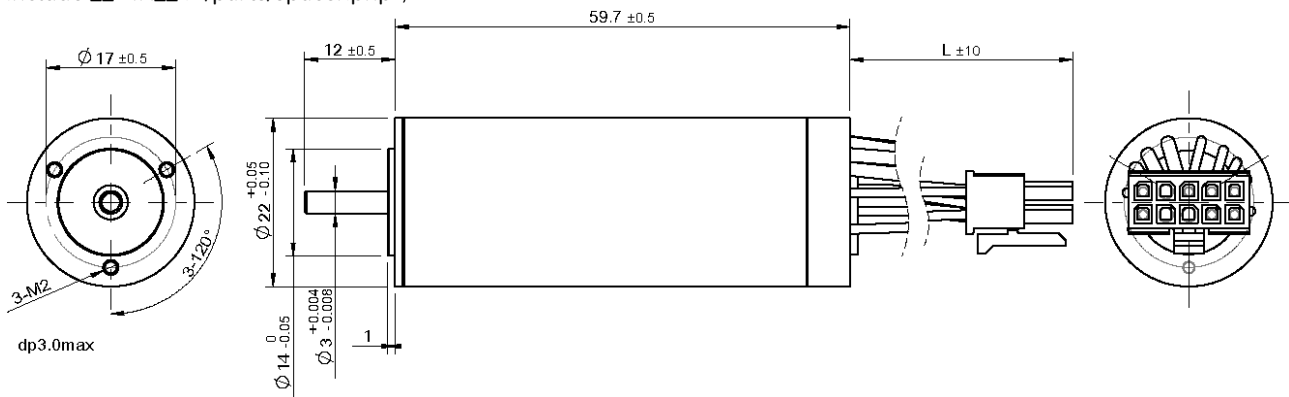
BH2260NH2B\*\*-530-36.0-\*\*\*\*

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Motor Characteristics	BH2260NH2B01-530-24.0-****	BH2260NH2B**-530-36.0-****
Voltage	24.0 V	24.0 V
Terminal resistance	0.15	0.15
No-load speed	53000 rpm	53000 rpm
No-load current	0.38 A	0.38 A
Stall torque	688.6 mNm	688.6 mNm
Stall current	160.0 A	160.0 A
Nominal torque	17.2 mNm	17.2 mNm
Nominal speed	51680 rpm	51680 rpm
Nominal current	4.4 A	4.4 A
Max. output power	956 W	956 W
Max. efficiency	90.6 %	90.6 %
Back-EMF constant	0.452 mV/rpm	0.452 mV/rpm
Torque constant	4.31 mNm/A	4.31 mNm/A
KV Value	2210 rpm/V	1610 rpm/V
Speed/torque gradient	77 rpm/mNm	77 rpm/mNm
Rotor inertia	2.53 gcm <sup>2</sup>	2.53 gcm <sup>2</sup>
Weight	107 g	107 g
Thermal resistance housing-ambient	5.28 K/W	5.28 K/W
Thermal resistance winding-housing	0.57 K/W	0.57 K/W
Thermal time constant motor	900 s	900 s

Motor Characteristics	BH2260NH2B01-530-24.0-****	BH2260NH2B**-530-36.0-****
Thermal time constant winding	850 s	850 s
Operating temperature range	-40~+120	-
Thermal class of winding	155 °C	155 °C
Axial play	0.012 mm	0.012 mm
Radial play	0.008 mm	0.008 mm
Axial load dynamic	1.5 N	1.5 N
Axial load static	60 N	60 N
Radial load at 3 mm from mounting face	10 N	10 N
No. of pole pairs	1	1
Bearings	2 ball bearings	2 ball bearings
Commutation	Hall Sensor	Hall Sensor
Protection class	20 IP	20 IP

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# BH2260NH2B01-530- 24.0-\*\*\*\*



22mm BLDC, inner rotor, slotless, sensed, high efficiency



<https://www.kocomotion.de/produkt/bh2260nh2b01-530-24-0/>

Specification	
Voltage	24.0 V
Terminal resistance	0.15
No-load speed	53000 rpm
No-load current	0.38 A
Stall torque	688.6 mNm
Stall current	160.0 A
Nominal torque	17.2 mNm
Nominal speed	51680 rpm
Nominal current	4.4 A
Max. output power	956 W
Max. efficiency	90.6 %
Back-EMF constant	0.452 mV/rpm
Torque constant	4.31 mNm/A
KV Value	2210 rpm/V
Speed/torque gradient	77 rpm/mNm
Rotor inertia	2.53 gcm <sup>2</sup>
Weight	107 g
Thermal resistance housing-ambient	5.28 K/W
Thermal resistance winding-housing	0.57 K/W
Thermal time constant motor	900 s
Thermal time constant winding	850 s
Operating temperature range	-40~+120 °C
Thermal class of winding	155 °C
Axial play	0.012 mm



Specification	
Radial play	0.008 mm
Axial load dynamic	1.5 N
Axial load static	60 N
Radial load at 3 mm from mounting face	10 N
No. of pole pairs	1
Bearings	2 ball bearings
Commutation	Hall Sensor
Protection class	20 IP

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- Hall-sensor
- encoder
- driver

## Anwendungen

- precision drives in medical equipment
- industrial automation

# BH2260NH2B\*\*-530- 36.0-\*\*\*\*



22mm BLDC, inner rotor, slotless, sensored, high efficiency



<https://www.kocomotion.de/produkt/bh2260nh2b-530-36-0/>

Specification	
Voltage	24.0 V
Terminal resistance	0.15
No-load speed	53000 rpm
No-load current	0.38 A
Stall torque	688.6 mNm
Stall current	160.0 A
Nominal torque	17.2 mNm
Nominal speed	51680 rpm
Nominal current	4.4 A
Max. output power	956 W
Max. efficiency	90.6 %
Back-EMF constant	0.452 mV/rpm
Torque constant	4.31 mNm/A
KV Value	1610 rpm/V
Speed/torque gradient	77 rpm/mNm
Rotor inertia	2.53 gcm <sup>2</sup>
Weight	107 g
Thermal resistance housing-ambient	5.28 K/W
Thermal resistance winding-housing	0.57 K/W
Thermal time constant motor	900 s
Thermal time constant winding	850 s
Operating temperature range	- °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	1.5 N
Axial load static	60 N
Radial load at 3 mm from mounting face	10 N
No. of pole pairs	1
Bearings	2 ball bearings
Commutation	Hall Sensor
Protection class	20 IP

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- Hall-sensor
- encoder
- driver

## Anwendungen

- precision drives in medical equipment
- industrial automation

# B0815N2B

8mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b0815n2b/>



Produkte:	Seite
B0815N2B02-81-3.7	30
B0815N2B04-200-5.0	32
B0815N2B05-323-3.7	34

Characteristics	B0815N2B02-81-3.7	B0815N2B04-200-5.0	B0815N2B05-323-3.7
Voltage	3.7 V	5.0 V	3.7 V
Terminal resistance	36.5	11.8	3.1
No-load speed	8100 rpm	20000 rpm	32300 rpm
No-load current	0.02 A	0.05 A	0.1 A
Stall torque	0.32 mNm	0.79 mNm	1.1 mNm
Stall current	0.1 A	0.42 A	1.2 A
Nominal torque	0.1 mNm	0.2 mNm	0.2 mNm
Nominal speed	6800 rpm	16100 rpm	27800 rpm
Nominal current	0.03 A	0.13 A	0.26 A
Max. output power	0.07 W	0.4 W	0.92 W
Max. efficiency	38 %	43.0 %	50 %
Back-EMF constant	0.39 mV/rpm	0.22 mV/rpm	0.10 mV/rpm
Torque constant	3.70 mNm/A	2.10 mNm/A	1.00 mNm/A
KV Value	2180 rpm/V	4000 rpm/V	8730 rpm/V
Speed/torque gradient	25310 rpm/mNm	25310 rpm/mNm	29360 rpm/mNm
Rotor inertia	0.02 gcm <sup>2</sup>	0.02 gcm <sup>2</sup>	0.02 gcm <sup>2</sup>
Weight	3 g	3 g	3 g
Thermal resistance housing-ambient	110 K/W	110 K/W	110 K/W
Thermal resistance winding-housing	26 K/W	26 K/W	26 K/W

Characteristics	B0815N2B02-81-3.7	B0815N2B04-200-5.0	B0815N2B05-323-3.7
Thermal time constant motor	63 s	63 s	63 s
Thermal time constant winding	57 s	57 s	57 s
Operating temperature range	-40~+100	-40~+100	-40~+100
Thermal class of winding	130 °C	130 °C	130 °C
Axial play	0.012 mm	0.012 mm	0.012 mm
Radial play	0.008 mm	0.008 mm	0.008 mm
Axial load dynamic	1 N	1 N	1 N
Axial load static	25 N	25 N	25 N
Radial load at 3 mm from mounting face	6.3 N	6.3 N	6.3 N
No. of pole pairs	1	1	1
Bearings	2 ball bearings	2 ball bearings	2 ball bearings
Protection class	20 IP	20 IP	20 IP
Commutation	Sensorless	Sensorless	Sensorless

# B0815N2B02-81-3.7

8mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b0815n2b02-81-3-7/>



Specification	
Voltage	3.7 V
Terminal resistance	36.5
No-load speed	8100 rpm
No-load current	0.02 A
Stall torque	0.32 mNm
Stall current	0.1 A
Nominal torque	0.1 mNm
Nominal speed	6800 rpm
Nominal current	0.03 A
Max. output power	0.07 W
Max. efficiency	38 %
Back-EMF constant	0.39 mV/rpm
Torque constant	3.70 mNm/A
KV Value	2180 rpm/V
Speed/torque gradient	25310 rpm/mNm
Rotor inertia	0.02 gcm <sup>2</sup>
Weight	3 g
Thermal resistance housing-ambient	110 K/W
Thermal resistance winding-housing	26 K/W
Thermal time constant motor	63 s
Thermal time constant winding	57 s
Operating temperature range	-40~+100 °C
Thermal class of winding	130 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	1 N
Axial load static	25 N
Radial load at 3 mm from mounting face	6.3 N
No. of pole pairs	1
Bearings	2 ball bearings
Protection class	20 IP
Commutation	Sensorless

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- Hall-sensor
- encoder
- driver

## Anwendungen

- precision drives in medical equipment
- industrial automation

# B0815N2B04-200-5.0

8mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b0815n2b04-200-5-0/>



Specification	
Voltage	5.0 V
Terminal resistance	11.8
No-load speed	20000 rpm
No-load current	0.05 A
Stall torque	0.79 mNm
Stall current	0.42 A
Nominal torque	0.2 mNm
Nominal speed	16100 rpm
Nominal current	0.13 A
Max. output power	0.4 W
Max. efficiency	43.0 %
Back-EMF constant	0.22 mV/rpm
Torque constant	2.10 mNm/A
KV Value	4000 rpm/V
Speed/torque gradient	25310 rpm/mNm
Rotor inertia	0.02 gcm <sup>2</sup>
Weight	3 g
Thermal resistance housing-ambient	110 K/W
Thermal resistance winding-housing	26 K/W
Thermal time constant motor	63 s
Thermal time constant winding	57 s
Operating temperature range	-40~+100 °C
Thermal class of winding	130 °C
Axial play	0.012 mm



Specification	
Radial play	0.008 mm
Axial load dynamic	1 N
Axial load static	25 N
Radial load at 3 mm from mounting face	6.3 N
No. of pole pairs	1
Bearings	2 ball bearings
Protection class	20 IP
Commutation	Sensorless

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- Hall-sensor
- encoder
- driver

## Anwendungen

- precision drives in medical equipment
- industrial automation

# B0815N2B05-323-3.7

8mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b0815n2b05-323-3-7/>



Specification	
Voltage	3.7 V
Terminal resistance	3.1
No-load speed	32300 rpm
No-load current	0.1 A
Stall torque	1.1 mNm
Stall current	1.2 A
Nominal torque	0.2 mNm
Nominal speed	27800 rpm
Nominal current	0.26 A
Max. output power	0.92 W
Max. efficiency	50 %
Back-EMF constant	0.10 mV/rpm
Torque constant	1.00 mNm/A
KV Value	8730 rpm/V
Speed/torque gradient	29360 rpm/mNm
Rotor inertia	0.02 gcm <sup>2</sup>
Weight	3 g
Thermal resistance housing-ambient	110 K/W
Thermal resistance winding-housing	26 K/W
Thermal time constant motor	63 s
Thermal time constant winding	57 s
Operating temperature range	-40~+100 °C
Thermal class of winding	130 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	1 N
Axial load static	25 N
Radial load at 3 mm from mounting face	6.3 N
No. of pole pairs	1
Bearings	2 ball bearings
Protection class	20 IP
Commutation	Sensorless

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- Hall-sensor
- encoder
- driver

## Anwendungen

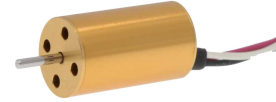
- precision drives in medical equipment
- industrial automation

# B1020N

10mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b1020n/>



## Produkte:

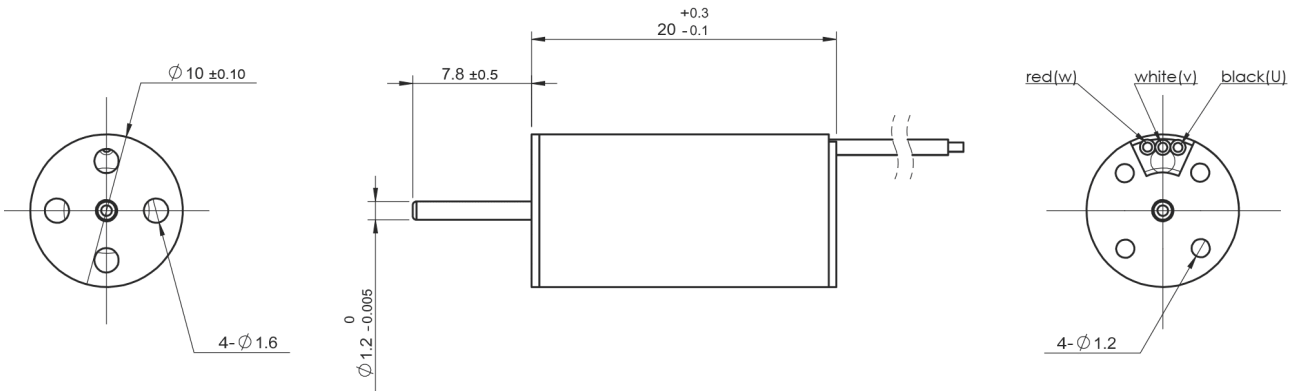
Seite

B1020N01-393-7.4	38
B1020N03-85-3.7	40
B1020N05-382-7.4	42

Characteristics	B1020N01-393-7.4	B1020N03-85-3.7	B1020N05-382-7.4
Voltage	7.4 V	3.7 V	7.4 V
Terminal resistance	1.08	6.2	1.4
No-load speed	39300 rpm	8500 rpm	38200 rpm
No-load current	0.32 A	0.07 A	0.24 A
Stall torque	11.2 mNm	1.9 mNm	8.9 mNm
Stall current	6.85 A	0.6 A	5.3 A
Nominal torque	2.6 mNm	1.0 mNm	2.6 mNm
Nominal speed	30000 rpm	4300 rpm	27000 rpm
Nominal current	1.85 A	0.35 A	1.7 A
Max. output power	11.5 W	0.4 W	9.0 W
Max. efficiency	61 %	43 %	61 %
Back-EMF constant	0.18 mV/rpm	0.38 mV/rpm	0.18 mV/rpm
Torque constant	1.70 mNm/A	3.67 mNm/A	1.76 mNm/A
KV Value	5300 rpm/V	2290 rpm/V	5160 rpm/V
Speed/torque gradient	3500 rpm/mNm	4358 rpm/mNm	4290 rpm/mNm
Rotor inertia	0.06 gcm <sup>2</sup>	0.06 gcm <sup>2</sup>	0.06 gcm <sup>2</sup>
Weight	6.8 g	6.8 g	6.8 g
Thermal resistance housing-ambient	44 K/W	44 K/W	44 K/W
Thermal resistance winding-housing	10 K/W	10 K/W	10 K/W

Characteristics	B1020N01-393-7.4	B1020N03-85-3.7	B1020N05-382-7.4
Thermal time constant motor	124 s	124 s	124 s
Thermal time constant winding	119 s	119 s	119 s
Operating temperature range	-20~+100	-20~+100	-20~+100
Thermal class of winding	155 °C	155 °C	155 °C
Axial play	0.012 mm	0.012 mm	0.012 mm
Radial play	0.008 mm	0.008 mm	0.008 mm
Axial load dynamic	1 N	1 N	1 N
Axial load static	25 N	25 N	25 N
Radial load at 3 mm from mounting face	6.3 N	6.3 N	6.3 N
No. of pole pairs	1	1	1
Bearings	2 sleeve bearings	2 sleeve bearings	2 sleeve bearings
Protection class	20 IP	20 IP	20 IP
Commutation	Sensorless	Sensorless	Sensorless

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# B1020N01-393-7.4

10mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b1020n01-393-7-4/>



Specification	
Voltage	7.4 V
Terminal resistance	1.08
No-load speed	39300 rpm
No-load current	0.32 A
Stall torque	11.2 mNm
Stall current	6.85 A
Nominal torque	2.6 mNm
Nominal speed	30000 rpm
Nominal current	1.85 A
Max. output power	11.5 W
Max. efficiency	61 %
Back-EMF constant	0.18 mV/rpm
Torque constant	1.70 mNm/A
KV Value	5300 rpm/V
Speed/torque gradient	3500 rpm/mNm
Rotor inertia	0.06 gcm <sup>2</sup>
Weight	6.8 g
Thermal resistance housing-ambient	44 K/W
Thermal resistance winding-housing	10 K/W
Thermal time constant motor	124 s
Thermal time constant winding	119 s
Operating temperature range	-20~+100 °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	1 N
Axial load static	25 N
Radial load at 3 mm from mounting face	6.3 N
No. of pole pairs	1
Bearings	2 sleeve bearings
Protection class	20 IP
Commutation	Sensorless

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- encoder
- driver

## Anwendungen

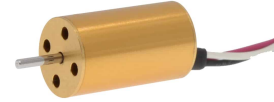
- precision drives in medical equipment
- industrial automation

# B1020N03-85-3.7

10mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b1020n03-85-3-7/>



Specification	
Voltage	3.7 V
Terminal resistance	6.2
No-load speed	8500 rpm
No-load current	0.07 A
Stall torque	1.9 mNm
Stall current	0.6 A
Nominal torque	1.0 mNm
Nominal speed	4300 rpm
Nominal current	0.35 A
Max. output power	0.4 W
Max. efficiency	43 %
Back-EMF constant	0.38 mV/rpm
Torque constant	3.67 mNm/A
KV Value	2290 rpm/V
Speed/torque gradient	4358 rpm/mNm
Rotor inertia	0.06 gcm <sup>2</sup>
Weight	6.8 g
Thermal resistance housing-ambient	44 K/W
Thermal resistance winding-housing	10 K/W
Thermal time constant motor	124 s
Thermal time constant winding	119 s
Operating temperature range	-20~+100 °C
Thermal class of winding	155 °C
Axial play	0.012 mm



Specification	
Radial play	0.008 mm
Axial load dynamic	1 N
Axial load static	25 N
Radial load at 3 mm from mounting face	6.3 N
No. of pole pairs	1
Bearings	2 sleeve bearings
Protection class	20 IP
Commutation	Sensorless

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- encoder
- driver

## Anwendungen

- precision drives in medical equipment
- industrial automation

# B1020N05-382-7.4

10mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b1020n05-382-7-4/>



Specification	
Voltage	7.4 V
Terminal resistance	1.4
No-load speed	38200 rpm
No-load current	0.24 A
Stall torque	8.9 mNm
Stall current	5.3 A
Nominal torque	2.6 mNm
Nominal speed	27000 rpm
Nominal current	1.7 A
Max. output power	9.0 W
Max. efficiency	61 %
Back-EMF constant	0.18 mV/rpm
Torque constant	1.76 mNm/A
KV Value	5160 rpm/V
Speed/torque gradient	4290 rpm/mNm
Rotor inertia	0.06 gcm <sup>2</sup>
Weight	6.8 g
Thermal resistance housing-ambient	44 K/W
Thermal resistance winding-housing	10 K/W
Thermal time constant motor	124 s
Thermal time constant winding	119 s
Operating temperature range	-20~+100 °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	1 N
Axial load static	25 N
Radial load at 3 mm from mounting face	6.3 N
No. of pole pairs	1
Bearings	2 sleeve bearings
Protection class	20 IP
Commutation	Sensorless

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- encoder
- driver

## Anwendungen

- precision drives in medical equipment
- industrial automation

# B1023NH2B

10mm BLDC, inner rotor, slotless, Hall Sensor



<https://www.kocomotion.de/produkt/b1023nh2b/>



## Produkte:

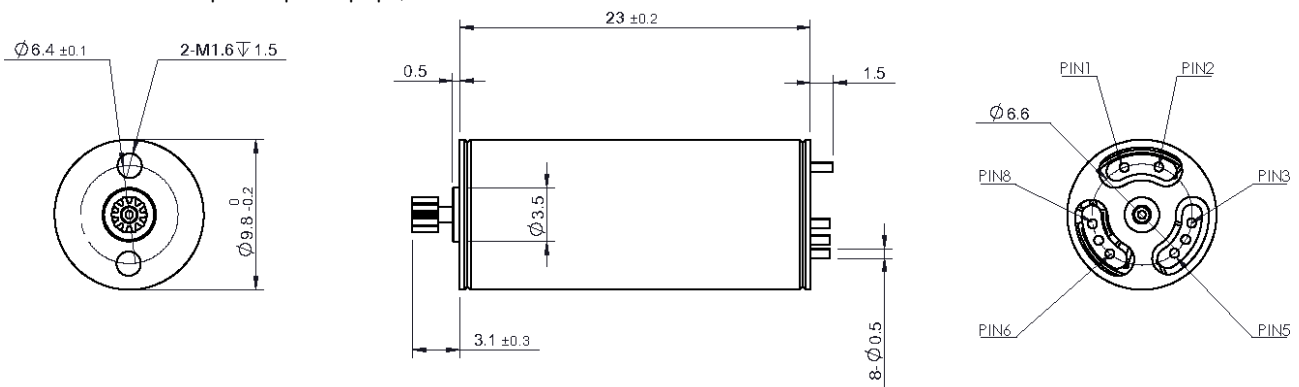
Seite

B1023NH2B05-382-7.4	46
B1023NH2B06-310-12.0	48
B1023NH2B03-85-3.7	50

Characteristics	B1023NH2B05-382-7.4	B1023NH2B06-310-12.0	B1023NH2B03-85-3.7
Voltage	7.4 V	12.0 V	3.7 V
Terminal resistance	1.4	6.05	6.2
No-load speed	38200 rpm	31000 rpm	8500 rpm
No-load current	0.30 A	0.12 A	0.07 A
Stall torque	8.7 mNm	6.40 mNm	1.90 mNm
Stall current	5.3 A	2.0 A	1.0 A
Nominal torque	1.7 mNm	2.0 mNm	0.6 mNm
Nominal speed	30750 rpm	21500 rpm	6077 rpm
Nominal current	1.27 A	0.7 A	0.23 A
Max. output power	8.7 W	5.2 W	0.43 W
Max. efficiency	57 %	56.0 %	43 %
Back-EMF constant	0.18 mV/rpm	0.36 mV/rpm	0.38 mV/rpm
Torque constant	1.75 mNm/A	3.47 mNm/A	3.66 mNm/A
KV Value	5160 rpm/V	2580 rpm/V	2290 rpm/V
Speed/torque gradient	4390 rpm/mNm	4843 rpm/mNm	4473 rpm/mNm
Rotor inertia	0.06 gcm <sup>2</sup>	0.06 gcm <sup>2</sup>	0.06 gcm <sup>2</sup>
Weight	8.3 g	8.3 g	8.3 g
Thermal resistance housing-ambient	44 K/W	44 K/W	44 K/W
Thermal resistance winding-housing	10 K/W	10 K/W	10 K/W

Characteristics	B1023NH2B05-382-7.4	B1023NH2B06-310-12.0	B1023NH2B03-85-3.7
Thermal time constant motor	124 s	124 s	124 s
Thermal time constant winding	119 s	119 s	119 s
Operating temperature range	-40~+100	-40~+100	-40~+100
Thermal class of winding	155 °C	155 °C	155 °C
Axial play	0.05 mm	0.05 mm	0.05 mm
Radial play	0.0125 mm	0.0125 mm	0.0125 mm
Axial load dynamic	1 N	1 N	1 N
Axial load static	25 N	25 N	25 N
Radial load at 3 mm from mounting face	6.3 N	6.3 N	6.3 N
No. of pole pairs	1	1	1
Bearings	2 ball bearings	2 ball bearings	2 ball bearings
Commutation	Hall Sensor	Hall Sensor	Hall Sensor
Protection class	20 IP	20 IP	20 IP

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# B1023NH2B05-382-7.4

10mm BLDC, inner rotor, slotless, Hall Sensor



<https://www.kocomotion.de/produkt/b1023nh2b05-382-7-4/>



Specification	
Voltage	7.4 V
Terminal resistance	1.4
No-load speed	38200 rpm
No-load current	0.30 A
Stall torque	8.7 mNm
Stall current	5.3 A
Nominal torque	1.7 mNm
Nominal speed	30750 rpm
Nominal current	1.27 A
Max. output power	8.7 W
Max. efficiency	57 %
Back-EMF constant	0.18 mV/rpm
Torque constant	1.75 mNm/A
KV Value	5160 rpm/V
Speed/torque gradient	4390 rpm/mNm
Rotor inertia	0.06 gcm <sup>2</sup>
Weight	8.3 g
Thermal resistance housing-ambient	44 K/W
Thermal resistance winding-housing	10 K/W
Thermal time constant motor	124 s
Thermal time constant winding	119 s
Operating temperature range	-40~+100 °C
Thermal class of winding	155 °C
Axial play	0.05 mm

Specification	
Radial play	0.0125 mm
Axial load dynamic	1 N
Axial load static	25 N
Radial load at 3 mm from mounting face	6.3 N
No. of pole pairs	1
Bearings	2 ball bearings
Commutation	Hall Sensor
Protection class	20 IP

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- Hall-sensor
- encoder
- driver

## Anwendungen

- precision drives in medical equipment
- industrial automation

# B1023NH2B06-310-12.0

10mm BLDC, inner rotor, slotless, Hall Sensor



<https://www.kocomotion.de/produkt/b1023nh2b06-310-12-0/>



Specification	
Voltage	12.0 V
Terminal resistance	6.05
No-load speed	31000 rpm
No-load current	0.12 A
Stall torque	6.40 mNm
Stall current	2.0 A
Nominal torque	2.0 mNm
Nominal speed	21500 rpm
Nominal current	0.7 A
Max. output power	5.2 W
Max. efficiency	56.0 %
Back-EMF constant	0.36 mV/rpm
Torque constant	3.47 mNm/A
KV Value	2580 rpm/V
Speed/torque gradient	4843 rpm/mNm
Rotor inertia	0.06 gcm <sup>2</sup>
Weight	8.3 g
Thermal resistance housing-ambient	44 K/W
Thermal resistance winding-housing	10 K/W
Thermal time constant motor	124 s
Thermal time constant winding	119 s
Operating temperature range	-40~+100 °C
Thermal class of winding	155 °C
Axial play	0.05 mm



Specification	
Radial play	0.0125 mm
Axial load dynamic	1 N
Axial load static	25 N
Radial load at 3 mm from mounting face	6.3 N
No. of pole pairs	1
Bearings	2 ball bearings
Commutation	Hall Sensor
Protection class	20 IP

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- Hall-sensor
- encoder
- driver

## Anwendungen

- precision drives in medical equipment
- industrial automation

# B1023NH2B03-85-3.7

10mm BLDC, inner rotor, slotless, Hall Sensor



<https://www.kocomotion.de/produkt/b1023nh2b03-85-3-7/>



Specification	
Voltage	3.7 V
Terminal resistance	6.2
No-load speed	8500 rpm
No-load current	0.07 A
Stall torque	1.90 mNm
Stall current	1.0 A
Nominal torque	0.6 mNm
Nominal speed	6077 rpm
Nominal current	0.23 A
Max. output power	0.43 W
Max. efficiency	43 %
Back-EMF constant	0.38 mV/rpm
Torque constant	3.66 mNm/A
KV Value	2290 rpm/V
Speed/torque gradient	4473 rpm/mNm
Rotor inertia	0.06 gcm <sup>2</sup>
Weight	8.3 g
Thermal resistance housing-ambient	44 K/W
Thermal resistance winding-housing	10 K/W
Thermal time constant motor	124 s
Thermal time constant winding	119 s
Operating temperature range	-40~+100 °C
Thermal class of winding	155 °C
Axial play	0.05 mm

Specification	
Radial play	0.0125 mm
Axial load dynamic	1 N
Axial load static	25 N
Radial load at 3 mm from mounting face	6.3 N
No. of pole pairs	1
Bearings	2 ball bearings
Commutation	Hall Sensor
Protection class	20 IP

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- Hall-sensor
- encoder
- driver

## Anwendungen

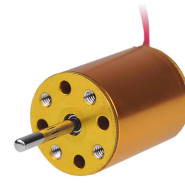
- precision drives in medical equipment
- industrial automation

# B1215N2B

12mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b1215n2b/>



## Produkte:

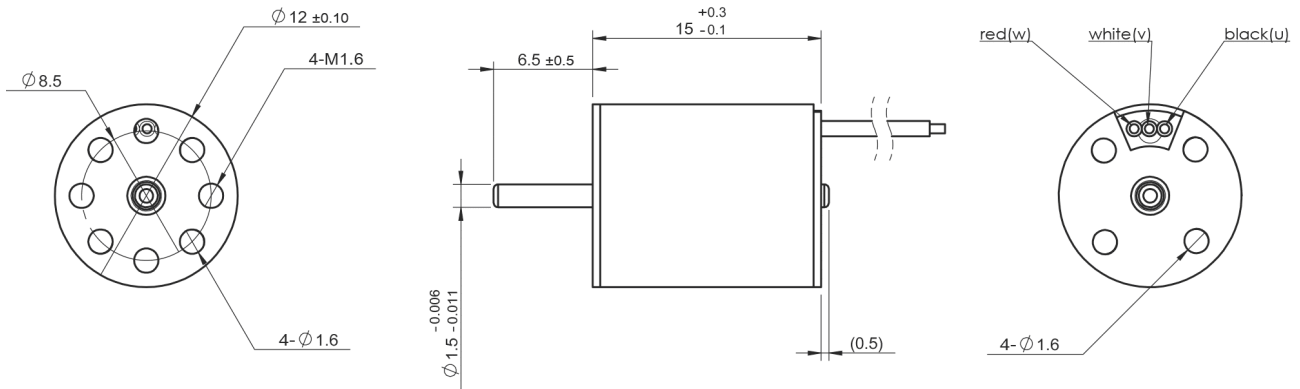
Seite

B1215N2B09-350-3.6	54
B1215N2B06-145-4.5	56
B1215N2B12-425-7.4	58

Characteristics	B1215N2B09-350-3.6	B1215N2B06-145-4.5	B1215N2B12-425-7.4
Voltage	3.6 V	4.5 V	7.4 V
Terminal resistance	0.67	5.2	2.6
No-load speed	35000 rpm	14500 rpm	42500 rpm
No-load current	0.3 A	0.1 A	0.2 A
Stall torque	4.7 mNm	2.0 mNm	4.0 mNm
Stall current	5.4 A	0.9 A	2.9 A
Nominal torque	0.7 mNm	1.0 mNm	0.3 mNm
Nominal speed	28200 rpm	4400 rpm	38000 rpm
Nominal current	1.1 A	0.5 A	0.4 A
Max. output power	4.3 W	0.8 W	4.6 W
Max. efficiency	58 %	44 %	54 %
Back-EMF constant	0.10 mV/rpm	0.27 mV/rpm	0.16 mV/rpm
Torque constant	0.93 mNm/A	2.62 mNm/A	1.55 mNm/A
KV Value	9720 rpm/V	3220 rpm/V	5740 rpm/V
Speed/torque gradient	7440 rpm/mNm	7230 rpm/mNm	10400 rpm/mNm
Rotor inertia	0.14 gcm <sup>2</sup>	0.14 gcm <sup>2</sup>	0.14 gcm <sup>2</sup>
Weight	7 g	7 g	7 g
Thermal resistance housing-ambient	37.8 K/W	37.8 K/W	37.8 K/W
Thermal resistance winding-housing	6.2 K/W	6.2 K/W	6.2 K/W

Characteristics	B1215N2B09-350-3.6	B1215N2B06-145-4.5	B1215N2B12-425-7.4
Thermal time constant motor	170 s	170 s	170 s
Thermal time constant winding	2 s	2 s	2 s
Operating temperature range	-40~+100	-40~+100	-40~+100
Thermal class of winding	155 °C	155 °C	155 °C
Axial play	0.012 mm	0.012 mm	0.012 mm
Radial play	0.008 mm	0.008 mm	0.008 mm
Axial load dynamic	1 N	1 N	1 N
Axial load static	25 N	25 N	25 N
Radial load at 3 mm from mounting face	6.3 N	6.3 N	6.3 N
No. of pole pairs	1	1	1
Bearings	2 ball bearings	2 ball bearings	2 ball bearings
Protection class	20 IP	20 IP	20 IP
Commutation	Sensorless	Sensorless	Sensorless

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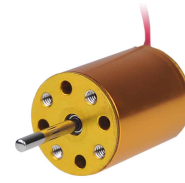


# B1215N2B09-350-3.6

12mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b1215n2b09-350-3-6/>



Specification	
Voltage	3.6 V
Terminal resistance	0.67
No-load speed	35000 rpm
No-load current	0.3 A
Stall torque	4.7 mNm
Stall current	5.4 A
Nominal torque	0.7 mNm
Nominal speed	28200 rpm
Nominal current	1.1 A
Max. output power	4.3 W
Max. efficiency	58 %
Back-EMF constant	0.10 mV/rpm
Torque constant	0.93 mNm/A
KV Value	9720 rpm/V
Speed/torque gradient	7440 rpm/mNm
Rotor inertia	0.14 gcm <sup>2</sup>
Weight	7 g
Thermal resistance housing-ambient	37.8 K/W
Thermal resistance winding-housing	6.2 K/W
Thermal time constant motor	170 s
Thermal time constant winding	2 s
Operating temperature range	-40~+100 °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	1 N
Axial load static	25 N
Radial load at 3 mm from mounting face	6.3 N
No. of pole pairs	1
Bearings	2 ball bearings
Protection class	20 IP
Commutation	Sensorless

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- encoder
- driver

## Anwendungen

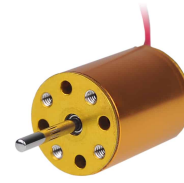
- precision drives in medical equipment
- industrial automation

# B1215N2B06-145-4.5

12mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b1215n2b06-145-4-5/>



Specification	
Voltage	4.5 V
Terminal resistance	5.2
No-load speed	14500 rpm
No-load current	0.1 A
Stall torque	2.0 mNm
Stall current	0.9 A
Nominal torque	1.0 mNm
Nominal speed	4400 rpm
Nominal current	0.5 A
Max. output power	0.8 W
Max. efficiency	44 %
Back-EMF constant	0.27 mV/rpm
Torque constant	2.62 mNm/A
KV Value	3220 rpm/V
Speed/torque gradient	7230 rpm/mNm
Rotor inertia	0.14 gcm <sup>2</sup>
Weight	7 g
Thermal resistance housing-ambient	37.8 K/W
Thermal resistance winding-housing	6.2 K/W
Thermal time constant motor	170 s
Thermal time constant winding	2 s
Operating temperature range	-40~+100 °C
Thermal class of winding	155 °C
Axial play	0.012 mm



Specification	
Radial play	0.008 mm
Axial load dynamic	1 N
Axial load static	25 N
Radial load at 3 mm from mounting face	6.3 N
No. of pole pairs	1
Bearings	2 ball bearings
Protection class	20 IP
Commutation	Sensorless

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- encoder
- driver

## Anwendungen

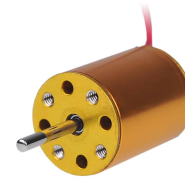
- precision drives in medical equipment
- industrial automation

# B1215N2B12-425-7.4

12mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b1215n2b12-425-7-4/>



Specification	
Voltage	7.4 V
Terminal resistance	2.6
No-load speed	42500 rpm
No-load current	0.2 A
Stall torque	4.0 mNm
Stall current	2.9 A
Nominal torque	0.3 mNm
Nominal speed	38000 rpm
Nominal current	0.4 A
Max. output power	4.6 W
Max. efficiency	54 %
Back-EMF constant	0.16 mV/rpm
Torque constant	1.55 mNm/A
KV Value	5740 rpm/V
Speed/torque gradient	10400 rpm/mNm
Rotor inertia	0.14 gcm <sup>2</sup>
Weight	7 g
Thermal resistance housing-ambient	37.8 K/W
Thermal resistance winding-housing	6.2 K/W
Thermal time constant motor	170 s
Thermal time constant winding	2 s
Operating temperature range	-40~+100 °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	1 N
Axial load static	25 N
Radial load at 3 mm from mounting face	6.3 N
No. of pole pairs	1
Bearings	2 ball bearings
Protection class	20 IP
Commutation	Sensorless

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- encoder
- driver

## Anwendungen

- precision drives in medical equipment
- industrial automation

# B1220N2B

12mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b1220n2b/>

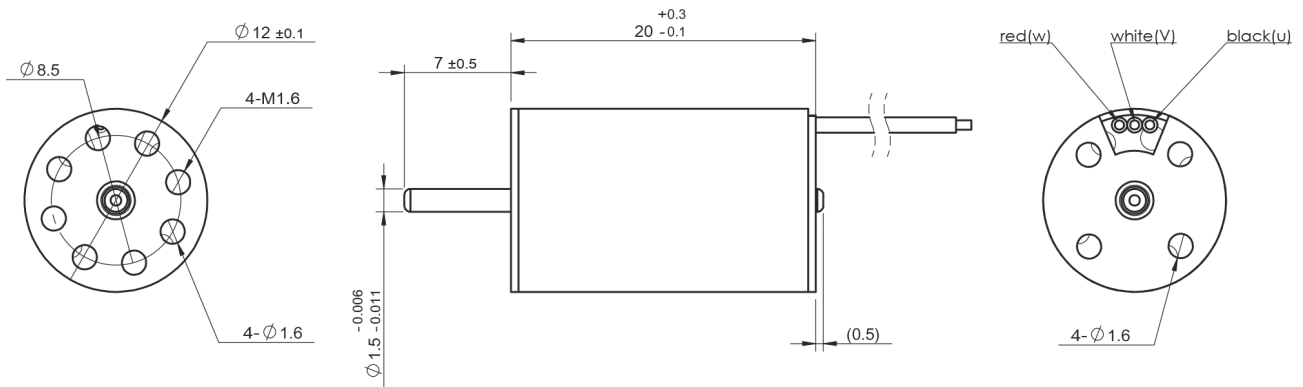


Produkte:	Seite
B1220N2B03-230-7.4	62
B1220N2B02-172-6.0	64
B1220N2B01-175-5.0	66

Characteristics	B1220N2B03-230-7.4	B1220N2B02-172-6.0	B1220N2B01-175-5.0
Voltage	7.4 V	6.0 V	5.0 V
Terminal resistance	3.8	3.4	2
No-load speed	23000 rpm	17200 rpm	17500 rpm
No-load current	0.1 A	0.15 A	0.18 A
Stall torque	5.3 mNm	4.9 mNm	5.8 mNm
Stall current	2 A	1.8 A	2.5 A
Nominal torque	1.3 mNm	1.3 mNm	1.4 mNm
Nominal speed	15300 rpm	10800 rpm	11600 rpm
Nominal current	0.57 A	0.6 A	0.78 A
Max. output power	3.3 W	2.2 W	2.5 W
Max. efficiency	62 %	50 %	51 %
Back-EMF constant	0.3 mV/rpm	0.3 mV/rpm	0.3 mV/rpm
Torque constant	2.9 mNm/A	3.0 mNm/A	2.5 mNm/A
KV Value	3100 rpm/V	2900 rpm/V	3500 rpm/V
Speed/torque gradient	3800 rpm/mNm	3700 rpm/mNm	3030 rpm/mNm
Rotor inertia	0.17 gcm <sup>2</sup>	0.17 gcm <sup>2</sup>	0.17 gcm <sup>2</sup>
Weight	9.5 g	9.5 g	9.5 g
Thermal resistance housing-ambient	32 K/W	32 K/W	32 K/W
Thermal resistance winding-housing	5.5 K/W	5.5 K/W	5.5 K/W

Characteristics	B1220N2B03-230-7.4	B1220N2B02-172-6.0	B1220N2B01-175-5.0
Thermal time constant motor	190 s	190 s	190 s
Thermal time constant winding	1.5 s	1.5 s	1.5 s
Operating temperature range	-40~+100	-40~+100	-40~+100
Thermal class of winding	155 °C	155 °C	155 °C
Axial play	0.012 mm	0.012 mm	0.012 mm
Radial play	0.008 mm	0.008 mm	0.008 mm
Axial load dynamic	1 N	1 N	1 N
Axial load static	25 N	25 N	25 N
Radial load at 3 mm from mounting face	6.3 N	6.3 N	6.3 N
No. of pole pairs	1	1	1
Bearings	2 ball bearings	2 ball bearings	2 ball bearings
Protection class	20 IP	20 IP	20 IP
Commutation	Sensorless	Sensorless	Sensorless

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# B1220N2B03-230-7.4

12mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b1220n2b03-230-7-4/>



Specification	
Voltage	7.4 V
Terminal resistance	3.8
No-load speed	23000 rpm
No-load current	0.1 A
Stall torque	5.3 mNm
Stall current	2 A
Nominal torque	1.3 mNm
Nominal speed	15300 rpm
Nominal current	0.57 A
Max. output power	3.3 W
Max. efficiency	62 %
Back-EMF constant	0.3 mV/rpm
Torque constant	2.9 mNm/A
KV Value	3100 rpm/V
Speed/torque gradient	3800 rpm/mNm
Rotor inertia	0.17 gcm <sup>2</sup>
Weight	9.5 g
Thermal resistance housing-ambient	32 K/W
Thermal resistance winding-housing	5.5 K/W
Thermal time constant motor	190 s
Thermal time constant winding	1.5 s
Operating temperature range	-40~+100 °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	1 N
Axial load static	25 N
Radial load at 3 mm from mounting face	6.3 N
No. of pole pairs	1
Bearings	2 ball bearings
Protection class	20 IP
Commutation	Sensorless

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- encoder
- driver

## Anwendungen

- precision drives in medical equipment
- industrial automation

# B1220N2B02-172-6.0

12mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b1220n2b02-172-6-0/>



Specification	
Voltage	6.0 V
Terminal resistance	3.4
No-load speed	17200 rpm
No-load current	0.15 A
Stall torque	4.9 mNm
Stall current	1.8 A
Nominal torque	1.3 mNm
Nominal speed	10800 rpm
Nominal current	0.6 A
Max. output power	2.2 W
Max. efficiency	50 %
Back-EMF constant	0.3 mV/rpm
Torque constant	3.0 mNm/A
KV Value	2900 rpm/V
Speed/torque gradient	3700 rpm/mNm
Rotor inertia	0.17 gcm <sup>2</sup>
Weight	9.5 g
Thermal resistance housing-ambient	32 K/W
Thermal resistance winding-housing	5.5 K/W
Thermal time constant motor	190 s
Thermal time constant winding	1.5 s
Operating temperature range	-40~+100 °C
Thermal class of winding	155 °C
Axial play	0.012 mm



Specification	
Radial play	0.008 mm
Axial load dynamic	1 N
Axial load static	25 N
Radial load at 3 mm from mounting face	6.3 N
No. of pole pairs	1
Bearings	2 ball bearings
Protection class	20 IP
Commutation	Sensorless

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- encoder
- driver

## Anwendungen

- precision drives in medical equipment
- industrial automation

# B1220N2B01-175-5.0

12mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b1220n2b01-175-5-0/>



Specification	
Voltage	5.0 V
Terminal resistance	2
No-load speed	17500 rpm
No-load current	0.18 A
Stall torque	5.8 mNm
Stall current	2.5 A
Nominal torque	1.4 mNm
Nominal speed	11600 rpm
Nominal current	0.78 A
Max. output power	2.5 W
Max. efficiency	51 %
Back-EMF constant	0.3 mV/rpm
Torque constant	2.5 mNm/A
KV Value	3500 rpm/V
Speed/torque gradient	3030 rpm/mNm
Rotor inertia	0.17 gcm <sup>2</sup>
Weight	9.5 g
Thermal resistance housing-ambient	32 K/W
Thermal resistance winding-housing	5.5 K/W
Thermal time constant motor	190 s
Thermal time constant winding	1.5 s
Operating temperature range	-40~+100 °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	1 N
Axial load static	25 N
Radial load at 3 mm from mounting face	6.3 N
No. of pole pairs	1
Bearings	2 ball bearings
Protection class	20 IP
Commutation	Sensorless

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- encoder
- driver

## Anwendungen

- precision drives in medical equipment
- industrial automation

# B1230N2B

12mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b1230n2b/>



## Produkte:

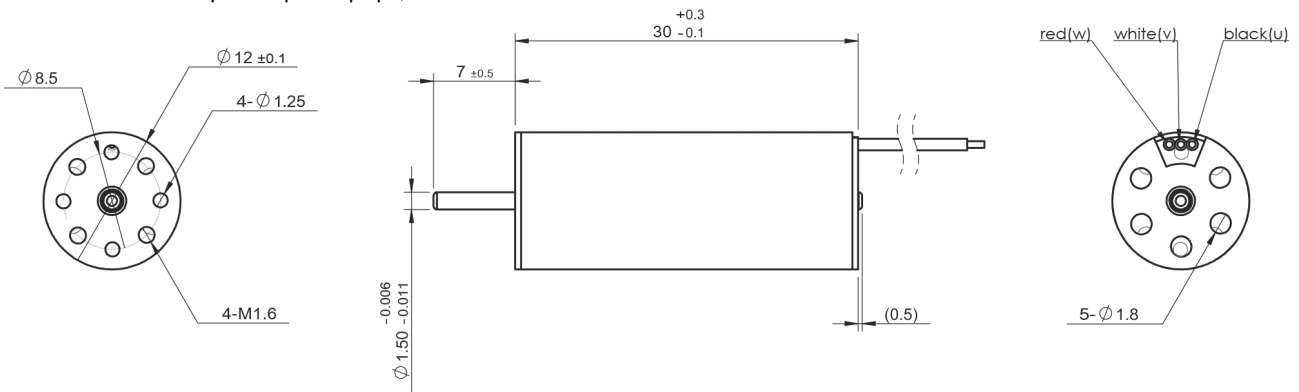
Seite

B1230N2B28-115-12.0	70
B1230N2B10-180-9.0	72
B1230N2B15-180-3.7	74

Characteristics	B1230N2B28-115-12.0	B1230N2B10-180-9.0	B1230N2B15-180-3.7
Voltage	12.0 V	9.0 V	3.7 V
Terminal resistance	9	2.4	0.6
No-load speed	11500 rpm	18000 rpm	18000 rpm
No-load current	0.05 A	0.15 A	0.23 A
Stall torque	12.3 mNm	16.5 mNm	11.2 mNm
Stall current	1.4 A	3.8 A	6.2 A
Nominal torque	3.8 mNm	2.7 mNm	2.7 mNm
Nominal speed	6800 rpm	14100 rpm	12200 rpm
Nominal current	0.45 A	0.74 A	1.7 A
Max. output power	3.7 W	7.8 W	5.9 W
Max. efficiency	65 %	64 %	67 %
Back-EMF constant	1.0 mV/rpm	0.5 mV/rpm	0.2 mV/rpm
Torque constant	9.6 mNm/A	4.6 mNm/A	1.9 mNm/A
KV Value	960 rpm/V	2000 rpm/V	4860 rpm/V
Speed/torque gradient	930 rpm/mNm	1090 rpm/mNm	1430 rpm/mNm
Rotor inertia	0.21 gcm <sup>2</sup>	0.21 gcm <sup>2</sup>	0.21 gcm <sup>2</sup>
Weight	15 g	15 g	15 g
Thermal resistance housing-ambient	24 K/W	24 K/W	24 K/W
Thermal resistance winding-housing	4.5 K/W	4.5 K/W	4.5 K/W

Characteristics	B1230N2B28-115-12.0	B1230N2B10-180-9.0	B1230N2B15-180-3.7
Thermal time constant motor	240 s	240 s	240 s
Thermal time constant winding	2 s	2 s	2 s
Operating temperature range	-40~+100	-40~+100	-40~+100
Thermal class of winding	155 °C	155 °C	155 °C
Axial play	0.012 mm	0.012 mm	0.012 mm
Radial play	0.008 mm	0.008 mm	0.008 mm
Axial load dynamic	1 N	1 N	1 N
Axial load static	25 N	25 N	25 N
Radial load at 3 mm from mounting face	6.3 N	6.3 N	6.3 N
No. of pole pairs	1	1	1
Bearings	2 ball bearings	2 ball bearings	2 ball bearings
Protection class	30 IP	30 IP	30 IP
Commutation	Sensorless	Sensorless	Sensorless

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# B1230N2B28-115-12.0

12mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b1230n2b28-115-12-0/>



Specification	
Voltage	12.0 V
Terminal resistance	9
No-load speed	11500 rpm
No-load current	0.05 A
Stall torque	12.3 mNm
Stall current	1.4 A
Nominal torque	3.8 mNm
Nominal speed	6800 rpm
Nominal current	0.45 A
Max. output power	3.7 W
Max. efficiency	65 %
Back-EMF constant	1.0 mV/rpm
Torque constant	9.6 mNm/A
KV Value	960 rpm/V
Speed/torque gradient	930 rpm/mNm
Rotor inertia	0.21 gcm <sup>2</sup>
Weight	15 g
Thermal resistance housing-ambient	24 K/W
Thermal resistance winding-housing	4.5 K/W
Thermal time constant motor	240 s
Thermal time constant winding	2 s
Operating temperature range	-40~+100 °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	1 N
Axial load static	25 N
Radial load at 3 mm from mounting face	6.3 N
No. of pole pairs	1
Bearings	2 ball bearings
Protection class	30 IP
Commutation	Sensorless

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- encoder
- driver

## Anwendungen

- precision drives in medical equipment
- industrial automation

# B1230N2B10-180-9.0

12mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b1230n2b10-180-9-0/>



Specification	
Voltage	9.0 V
Terminal resistance	2.4
No-load speed	18000 rpm
No-load current	0.15 A
Stall torque	16.5 mNm
Stall current	3.8 A
Nominal torque	2.7 mNm
Nominal speed	14100 rpm
Nominal current	0.74 A
Max. output power	7.8 W
Max. efficiency	64 %
Back-EMF constant	0.5 mV/rpm
Torque constant	4.6 mNm/A
KV Value	2000 rpm/V
Speed/torque gradient	1090 rpm/mNm
Rotor inertia	0.21 gcm <sup>2</sup>
Weight	15 g
Thermal resistance housing-ambient	24 K/W
Thermal resistance winding-housing	4.5 K/W
Thermal time constant motor	240 s
Thermal time constant winding	2 s
Operating temperature range	-40~+100 °C
Thermal class of winding	155 °C
Axial play	0.012 mm



Specification	
Radial play	0.008 mm
Axial load dynamic	1 N
Axial load static	25 N
Radial load at 3 mm from mounting face	6.3 N
No. of pole pairs	1
Bearings	2 ball bearings
Protection class	30 IP
Commutation	Sensorless

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- encoder
- driver

## Anwendungen

- precision drives in medical equipment
- industrial automation

# B1230N2B15-180-3.7

12mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b1230n2b15-180-3-7/>



Specification	
Voltage	3.7 V
Terminal resistance	0.6
No-load speed	18000 rpm
No-load current	0.23 A
Stall torque	11.2 mNm
Stall current	6.2 A
Nominal torque	2.7 mNm
Nominal speed	12200 rpm
Nominal current	1.7 A
Max. output power	5.9 W
Max. efficiency	67 %
Back-EMF constant	0.2 mV/rpm
Torque constant	1.9 mNm/A
KV Value	4860 rpm/V
Speed/torque gradient	1430 rpm/mNm
Rotor inertia	0.21 gcm <sup>2</sup>
Weight	15 g
Thermal resistance housing-ambient	24 K/W
Thermal resistance winding-housing	4.5 K/W
Thermal time constant motor	240 s
Thermal time constant winding	2 s
Operating temperature range	-40~+100 °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	1 N
Axial load static	25 N
Radial load at 3 mm from mounting face	6.3 N
No. of pole pairs	1
Bearings	2 ball bearings
Protection class	30 IP
Commutation	Sensorless

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- encoder
- driver

## Anwendungen

- precision drives in medical equipment
- industrial automation

# B1233NH2B

12mm BLDC, inner rotor, slotless, Hall sensor



<https://www.kocomotion.de/produkt/b1233nh2b/>



## Produkte:

Seite

B1233NH2B42-200-12.0

78

B1233NH2B54-117-24.0

80

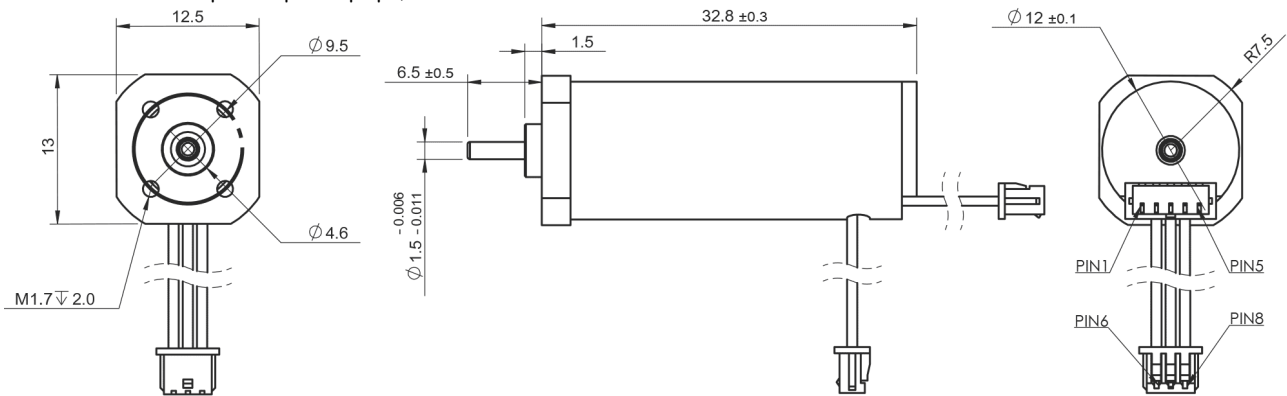
B1233NH2B55-105-9.0

82

Characteristics	B1233NH2B42-200-12.0	B1233NH2B54-117-24.0	B1233NH2B55-105-9.0
Voltage	12.0 V	24.0 V	9.0 V
Terminal resistance	3.3	39.3	6.7
No-load speed	20000 rpm	11700 rpm	10500 rpm
No-load current	0.15 A	0.04 A	0.07 A
Stall torque	19.2 mNm	10.6 mNm	9.8 mNm
Stall current	3.6 A	0.6 A	1.4 A
Nominal torque	1.1 mNm	3.0 mNm	3.0 mNm
Nominal speed	18900 rpm	8400 rpm	7300 rpm
Nominal current	0.35 A	0.2 A	0.5 A
Max. output power	10 W	3.3 W	2.7 W
Max. efficiency	63 %	57 %	59 %
Back-EMF constant	0.6 mV/rpm	1.9 mV/rpm	0.81 mV/rpm
Torque constant	5.5 mNm/A	18.5 mNm/A	7.75 mNm/A
KV Value	1660 rpm/V	487 rpm/V	1160 rpm/V
Speed/torque gradient	1040 rpm/mNm	297 rpm/mNm	1071 rpm/mNm
Rotor inertia	0.21 gcm <sup>2</sup>	0.21 gcm <sup>2</sup>	0.21 gcm <sup>2</sup>
Weight	16 g	16 g	16 g
Thermal resistance housing-ambient	24 K/W	24 K/W	24 K/W
Thermal resistance winding-housing	4.5 K/W	4.5 K/W	4.5 K/W

Characteristics	B1233NH2B42-200-12.0	B1233NH2B54-117-24.0	B1233NH2B55-105-9.0
Thermal time constant motor	240 s	240 s	240 s
Thermal time constant winding	2 s	2 s	2 s
Operating temperature range	-40~+100	-40~+100	-40~+100
Thermal class of winding	155 °C	155 °C	155 °C
Axial play	0.012 mm	0.012 mm	0.012 mm
Radial play	0.008 mm	0.008 mm	0.008 mm
Axial load dynamic	1 N	1 N	1 N
Axial load static	25 N	25 N	25 N
Radial load at 3 mm from mounting face	6.3 N	6.3 N	6.3 N
No. of pole pairs	1	1	1
Bearings	2 ball bearings	2 ball bearings	2 ball bearings
Protection class	20 IP	20 IP	20 IP
Commutation	Hall Sensor	Hall Sensor	Hall Sensor

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# B1233NH2B42-200-12.0

12mm BLDC, inner rotor, slotless, Hall sensor



<https://www.kocomotion.de/produkt/b1233nh2b42-200-12-0/>



Specification	
Voltage	12.0 V
Terminal resistance	3.3
No-load speed	20000 rpm
No-load current	0.15 A
Stall torque	19.2 mNm
Stall current	3.6 A
Nominal torque	1.1 mNm
Nominal speed	18900 rpm
Nominal current	0.35 A
Max. output power	10 W
Max. efficiency	63 %
Back-EMF constant	0.6 mV/rpm
Torque constant	5.5 mNm/A
KV Value	1660 rpm/V
Speed/torque gradient	1040 rpm/mNm
Rotor inertia	0.21 gcm <sup>2</sup>
Weight	16 g
Thermal resistance housing-ambient	24 K/W
Thermal resistance winding-housing	4.5 K/W
Thermal time constant motor	240 s
Thermal time constant winding	2 s
Operating temperature range	-40~+100 °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	1 N
Axial load static	25 N
Radial load at 3 mm from mounting face	6.3 N
No. of pole pairs	1
Bearings	2 ball bearings
Protection class	20 IP
Commutation	Hall Sensor

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- encoder
- driver

## Anwendungen

- industrial automation
- medical equipment

# B1233NH2B54-117-24.0

12mm BLDC, inner rotor, slotless, Hall sensor



<https://www.kocomotion.de/produkt/b1233nh2b54-117-24-0/>



Specification	
Voltage	24.0 V
Terminal resistance	39.3
No-load speed	11700 rpm
No-load current	0.04 A
Stall torque	10.6 mNm
Stall current	0.6 A
Nominal torque	3.0 mNm
Nominal speed	8400 rpm
Nominal current	0.2 A
Max. output power	3.3 W
Max. efficiency	57 %
Back-EMF constant	1.9 mV/rpm
Torque constant	18.5 mNm/A
KV Value	487 rpm/V
Speed/torque gradient	297 rpm/mNm
Rotor inertia	0.21 gcm <sup>2</sup>
Weight	16 g
Thermal resistance housing-ambient	24 K/W
Thermal resistance winding-housing	4.5 K/W
Thermal time constant motor	240 s
Thermal time constant winding	2 s
Operating temperature range	-40~+100 °C
Thermal class of winding	155 °C
Axial play	0.012 mm



Specification	
Radial play	0.008 mm
Axial load dynamic	1 N
Axial load static	25 N
Radial load at 3 mm from mounting face	6.3 N
No. of pole pairs	1
Bearings	2 ball bearings
Commutation	Hall Sensor
Protection class	20 IP

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- encoder
- driver

## Anwendungen

- industrial automation
- medical equipment

# B1233NH2B55-105-9.0

12mm BLDC, inner rotor, slotless, Hall sensor



<https://www.kocomotion.de/produkt/b1233nh2b55-105-9-0/>



Specification	
Voltage	9.0 V
Terminal resistance	6.7
No-load speed	10500 rpm
No-load current	0.07 A
Stall torque	9.8 mNm
Stall current	1.4 A
Nominal torque	3.0 mNm
Nominal speed	7300 rpm
Nominal current	0.5 A
Max. output power	2.7 W
Max. efficiency	59 %
Back-EMF constant	0.81 mV/rpm
Torque constant	7.75 mNm/A
KV Value	1160 rpm/V
Speed/torque gradient	1071 rpm/mNm
Rotor inertia	0.21 gcm <sup>2</sup>
Weight	16 g
Thermal resistance housing-ambient	24 K/W
Thermal resistance winding-housing	4.5 K/W
Thermal time constant motor	240 s
Thermal time constant winding	2 s
Operating temperature range	-40~+100 °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	1 N
Axial load static	25 N
Radial load at 3 mm from mounting face	6.3 N
No. of pole pairs	1
Bearings	2 ball bearings
Commutation	Hall Sensor
Protection class	20 IP

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- encoder
- driver

## Anwendungen

- industrial automation
- medical equipment

# B1329N2B

13mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b1329n2b/>



## Produkte:

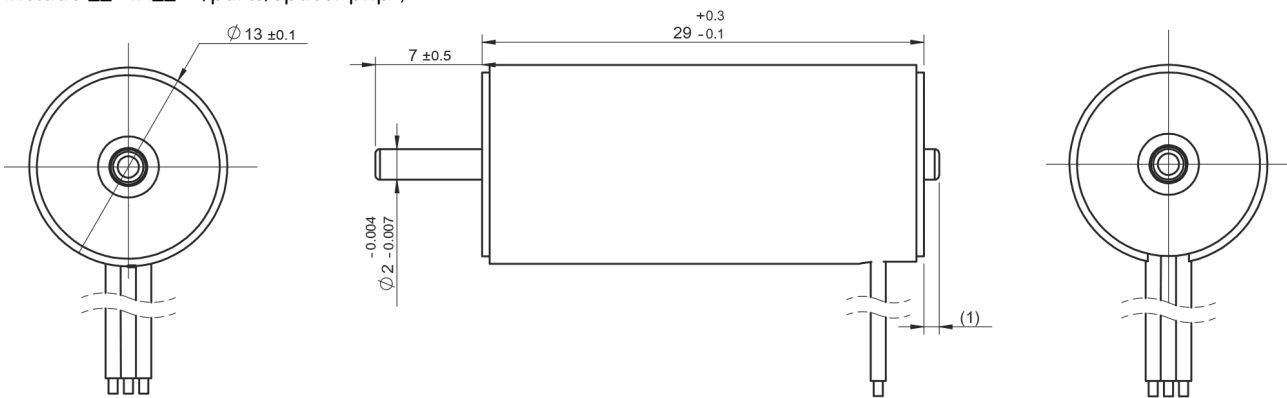
Seite

B1329N2B01-250-12.0	86
B1329N2B03-617-24.0	88
B1329N2B04-250-12.0	90

Characteristics	B1329N2B01-250-12.0	B1329N2B03-617-24.0	B1329N2B04-250-12.0
Voltage	12.0 V	24.0 V	12.0 V
Terminal resistance	7.5	4.0	6.9
No-load speed	25000 rpm	61700 rpm	25000 rpm
No-load current	0.1 A	0.2 A	0.07 A
Stall torque	6.4 mNm	20.8 mNm	7.2 mNm
Stall current	1.6 A	6.0 A	1.8 A
Nominal torque	1.7 mNm	4.2 mNm	2.2 mNm
Nominal speed	15300 rpm	49000 rpm	17500 rpm
Nominal current	0.51 A	1.35 A	0.6 A
Max. output power	4.2 W	33.0 W	4.70 W
Max. efficiency	56.0 %	65.0 %	61.0 %
Back-EMF constant	0.45 mV/rpm	0.37 mV/rpm	0.45 mV/rpm
Torque constant	4.3 mNm/A	3.6 mNm/A	4.30 mNm/A
KV Value	2100 rpm/V	2570 rpm/V	2080 rpm/V
Speed/torque gradient	3900 rpm/mNm	2966 rpm/mNm	3470 rpm/mNm
Rotor inertia	0.18 gcm <sup>2</sup>	0.18 gcm <sup>2</sup>	0.18 gcm <sup>2</sup>
Weight	15 g	15 g	15 g
Thermal resistance housing-ambient	24 K/W	24 K/W	24 K/W
Thermal resistance winding-housing	4.5 K/W	4.5 K/W	4.5 K/W

Characteristics	B1329N2B01-250-12.0	B1329N2B03-617-24.0	B1329N2B04-250-12.0
Thermal time constant motor	250 s	250 s	250 s
Thermal time constant winding	2 s	2 s	2 s
Operating temperature range	-40~+120	-40~+120	-40~+120
Thermal class of winding	155 °C	155 °C	155 °C
Axial play	0.012 mm	0.012 mm	0.012 mm
Radial play	0.008 mm	0.008 mm	0.008 mm
Axial load dynamic	1.5 N	1.5 N	1.5 N
Axial load static	37 N	37 N	37 N
Radial load at 3 mm from mounting face	12 N	12 N	12 N
No. of pole pairs	1	1	1
Bearings	2 ball bearings	2 ball bearings	2 ball bearings
Protection class	30 IP	30 IP	30 IP
Commutation	Sensorless	Sensorless	Sensorless

include \_\_DIR\_\_ . "/parts/spacer.php";



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# B1329N2B01-250-12.0

13mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b1329n2b01-250-12-0/>



Specification	
Voltage	12.0 V
Terminal resistance	7.5
No-load speed	25000 rpm
No-load current	0.1 A
Stall torque	6.4 mNm
Stall current	1.6 A
Nominal torque	1.7 mNm
Nominal speed	15300 rpm
Nominal current	0.51 A
Max. output power	4.2 W
Max. efficiency	56.0 %
Back-EMF constant	0.45 mV/rpm
Torque constant	4.3 mNm/A
KV Value	2100 rpm/V
Speed/torque gradient	3900 rpm/mNm
Rotor inertia	0.18 gcm <sup>2</sup>
Weight	15 g
Thermal resistance housing-ambient	24 K/W
Thermal resistance winding-housing	4.5 K/W
Thermal time constant motor	250 s
Thermal time constant winding	2 s
Operating temperature range	-40~+120 °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	1.5 N
Axial load static	37 N
Radial load at 3 mm from mounting face	12 N
No. of pole pairs	1
Bearings	2 ball bearings
Protection class	30 IP
Commutation	Sensorless

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- encoder
- driver

## Anwendungen

- industrial automation
- medical equipment

# B1329N2B03-617-24.0

13mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b1329n2b03-617-24-0/>



Specification	
Voltage	24.0 V
Terminal resistance	4.0
No-load speed	61700 rpm
No-load current	0.2 A
Stall torque	20.8 mNm
Stall current	6.0 A
Nominal torque	4.2 mNm
Nominal speed	49000 rpm
Nominal current	1.35 A
Max. output power	33.0 W
Max. efficiency	65.0 %
Back-EMF constant	0.37 mV/rpm
Torque constant	3.6 mNm/A
KV Value	2570 rpm/V
Speed/torque gradient	2966 rpm/mNm
Rotor inertia	0.18 gcm <sup>2</sup>
Weight	15 g
Thermal resistance housing-ambient	24 K/W
Thermal resistance winding-housing	4.5 K/W
Thermal time constant motor	250 s
Thermal time constant winding	2 s
Operating temperature range	-40~+120 °C
Thermal class of winding	155 °C
Axial play	0.012 mm



Specification	
Radial play	0.008 mm
Axial load dynamic	1.5 N
Axial load static	37 N
Radial load at 3 mm from mounting face	12 N
No. of pole pairs	1
Bearings	2 ball bearings
Commutation	Sensorless
Protection class	30 IP

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- encoder
- driver

## Anwendungen

- industrial automation
- medical equipment

# B1329N2B04-250-12.0

13mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b1329n2b04-250-12-0/>



Specification	
Voltage	12.0 V
Terminal resistance	6.9
No-load speed	25000 rpm
No-load current	0.07 A
Stall torque	7.2 mNm
Stall current	1.8 A
Nominal torque	2.2 mNm
Nominal speed	17500 rpm
Nominal current	0.6 A
Max. output power	4.70 W
Max. efficiency	61.0 %
Back-EMF constant	0.45 mV/rpm
Torque constant	4.30 mNm/A
KV Value	2080 rpm/V
Speed/torque gradient	3470 rpm/mNm
Rotor inertia	0.18 gcm <sup>2</sup>
Weight	15 g
Thermal resistance housing-ambient	24 K/W
Thermal resistance winding-housing	4.5 K/W
Thermal time constant motor	250 s
Thermal time constant winding	2 s
Operating temperature range	-40~+120 °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	1.5 N
Axial load static	37 N
Radial load at 3 mm from mounting face	12 N
No. of pole pairs	1
Bearings	2 ball bearings
Commutation	Sensorless
Protection class	30 IP

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- encoder
- driver

## Anwendungen

- industrial automation
- medical equipment

# B1635N2B

16mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b1635n2b/>



## Produkte:

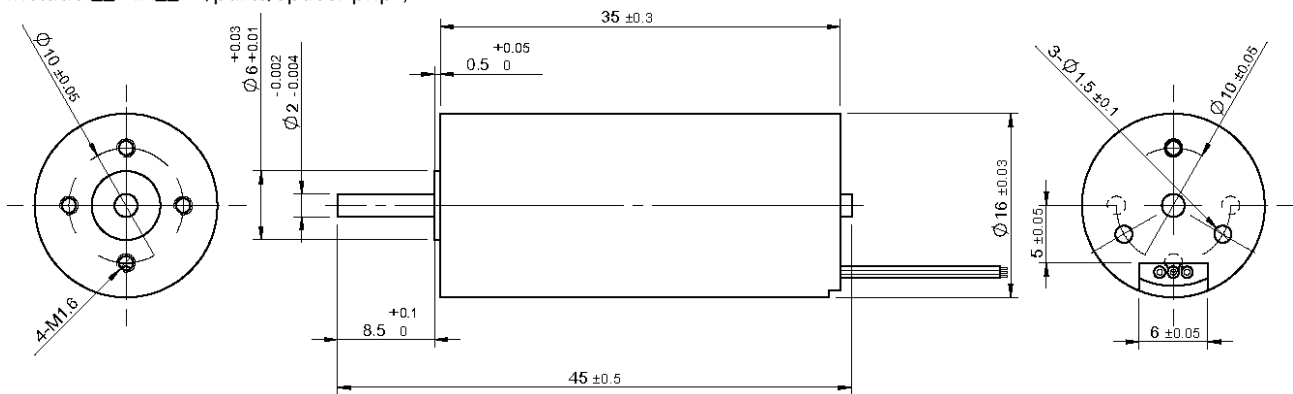
Seite

B1635N2B01-450-12.0	94
B1635N2B02-200-24.0	96
B1635N2B03-120-3.7	98

Characteristics	B1635N2B01-450-12.0	B1635N2B02-200-24.0	B1635N2B03-120-3.7
Voltage	12.0 V	24 V	3.7 V
Terminal resistance	0.35	11.6	0.7
No-load speed	45000 rpm	20000 rpm	12000 rpm
No-load current	0.35 A	0.2 A	0.2 A
Stall torque	85 mNm	19.3 mNm	14.4 mNm
Stall current	34 A	2 A	5.2 A
Nominal torque	1.5 mNm	1.5 mNm	1.5 mNm
Nominal speed	43800 rpm	18000 rpm	10000 rpm
Nominal current	0.96 A	0.35 A	0.75 A
Max. output power	100 W	10 W	4.5 W
Max. efficiency	81 %	47.0 %	64.8 %
Back-EMF constant	0.3 mV/rpm	1.00 mV/rpm	0.29 mV/rpm
Torque constant	2.5 mNm/A	10.3 mNm/A	2.8 mNm/A
KV Value	3750 rpm/V	833 rpm/V	3242 rpm/V
Speed/torque gradient	530 rpm/mNm	1033 rpm/mNm	832 rpm/mNm
Rotor inertia	1.5 gcm <sup>2</sup>	1.5 gcm <sup>2</sup>	1.5 gcm <sup>2</sup>
Weight	40 g	40 g	40 g
Thermal resistance housing-ambient	17 K/W	17 K/W	17 K/W
Thermal resistance winding-housing	4.8 K/W	4.8 K/W	4.8 K/W

Characteristics	B1635N2B01-450-12.0	B1635N2B02-200-24.0	B1635N2B03-120-3.7
Thermal time constant motor	250 s	250 s	250 s
Thermal time constant winding	6 s	6 s	6 s
Operating temperature range	-40~+120	-40~+120	-40~+120
Thermal class of winding	155 °C	155 °C	155 °C
Axial play	0.012 mm	0.012 mm	0.012 mm
Radial play	0.008 mm	0.008 mm	0.008 mm
Axial load dynamic	1.5 N	1.5 N	1.5 N
Axial load static	37 N	37 N	37 N
Radial load at 3 mm from mounting face	12 N	12 N	12 N
No. of pole pairs	1	1	1
Bearings	2 ball bearings	2 ball bearings	2 ball bearings
Protection class	20 IP	20 IP	20 IP
Commutation	Sensorless	Sensorless	Sensorless

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# B1635N2B01-450-12.0

16mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b1635n2b01-450-12-0/>



Specification	
Voltage	12.0 V
Terminal resistance	0.35
No-load speed	45000 rpm
No-load current	0.35 A
Stall torque	85 mNm
Stall current	34 A
Nominal torque	1.5 mNm
Nominal speed	43800 rpm
Nominal current	0.96 A
Max. output power	100 W
Max. efficiency	81 %
Back-EMF constant	0.3 mV/rpm
Torque constant	2.5 mNm/A
KV Value	3750 rpm/V
Speed/torque gradient	530 rpm/mNm
Rotor inertia	1.5 gcm <sup>2</sup>
Weight	40 g
Thermal resistance housing-ambient	17 K/W
Thermal resistance winding-housing	4.8 K/W
Thermal time constant motor	250 s
Thermal time constant winding	6 s
Operating temperature range	-40~+120 °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	1.5 N
Axial load static	37 N
Radial load at 3 mm from mounting face	12 N
No. of pole pairs	1
Bearings	2 ball bearings
Protection class	20 IP
Commutation	Sensorless

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- encoder
- driver

## Anwendungen

- industrial automation
- medical equipment

# B1635N2B02-200-24.0

16mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b1635n2b02-200-24-0/>



Specification	
Voltage	24 V
Terminal resistance	11.6
No-load speed	20000 rpm
No-load current	0.2 A
Stall torque	19.3 mNm
Stall current	2 A
Nominal torque	1.5 mNm
Nominal speed	18000 rpm
Nominal current	0.35 A
Max. output power	10 W
Max. efficiency	47.0 %
Back-EMF constant	1.00 mV/rpm
Torque constant	10.3 mNm/A
KV Value	833 rpm/V
Speed/torque gradient	1033 rpm/mNm
Rotor inertia	1.5 gcm <sup>2</sup>
Weight	40 g
Thermal resistance housing-ambient	17 K/W
Thermal resistance winding-housing	4.8 K/W
Thermal time constant motor	250 s
Thermal time constant winding	6 s
Operating temperature range	-40~+120 °C
Thermal class of winding	155 °C
Axial play	0.012 mm



Specification	
Radial play	0.008 mm
Axial load dynamic	1.5 N
Axial load static	37 N
Radial load at 3 mm from mounting face	12 N
No. of pole pairs	1
Bearings	2 ball bearings
Commutation	Sensorless
Protection class	20 IP

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- encoder
- driver

## Anwendungen

- industrial automation
- medical equipment

# B1635N2B03-120-3.7

16mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b1635n2b03-120-3-7/>



Specification	
Voltage	3.7 V
Terminal resistance	0.7
No-load speed	12000 rpm
No-load current	0.2 A
Stall torque	14.4 mNm
Stall current	5.2 A
Nominal torque	1.5 mNm
Nominal speed	10000 rpm
Nominal current	0.75 A
Max. output power	4.5 W
Max. efficiency	64.8 %
Back-EMF constant	0.29 mV/rpm
Torque constant	2.8 mNm/A
KV Value	3242 rpm/V
Speed/torque gradient	832 rpm/mNm
Rotor inertia	1.5 gcm <sup>2</sup>
Weight	40 g
Thermal resistance housing-ambient	17 K/W
Thermal resistance winding-housing	4.8 K/W
Thermal time constant motor	250 s
Thermal time constant winding	6 s
Operating temperature range	-40~+120 °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	1.5 N
Axial load static	37 N
Radial load at 3 mm from mounting face	12 N
No. of pole pairs	1
Bearings	2 ball bearings
Commutation	Sensorless
Protection class	20 IP

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- encoder
- driver

## Anwendungen

- industrial automation
- medical equipment

# B2040N2B

20mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b2040n2b/>



## Produkte:

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B2040N2B01-150-12.0

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B2040N2B02-80-12.0

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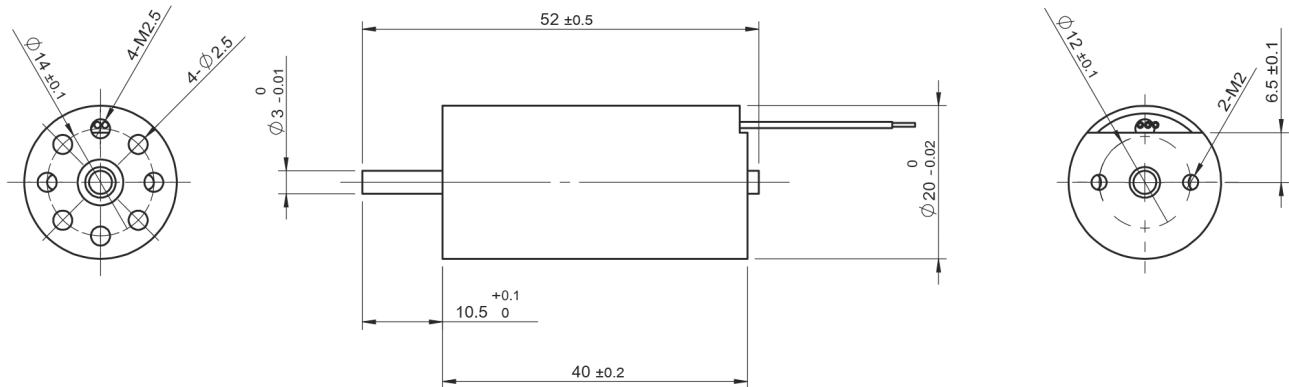
B2040N2B03-67-9.0

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Characteristics	B2040N2B01-150-12.0	B2040N2B02-80-12.0	B2040N2B03-67-9.0
Voltage	12.0 V	12.0 V	9.0 V
Terminal resistance	1.1	3.6	2.5
No-load speed	15000 rpm	8000 rpm	6700 rpm
No-load current	0.25 A	0.22 A	0.2 A
Stall torque	79.6 mNm	41.7 mNm	41.2 mNm
Stall current	10.9 A	3.3 A	3.6 A
Nominal torque	7.6 mNm	7.6 mNm	10.2 mNm
Nominal speed	13000 rpm	5900 rpm	4300 rpm
Nominal current	1.3 A	0.8 A	1.1 A
Max. output power	31 W	8.7 W	7.2 W
Max. efficiency	72 %	55 %	58 %
Back-EMF constant	0.8 mV/rpm	1.4 mV/rpm	1.3 mV/rpm
Torque constant	7.5 mNm/A	13.4 mNm/A	12.1 mNm/A
KV Value	1250 rpm/V	666.7 rpm/V	7444.4 rpm/V
Speed/torque gradient	188.5 rpm/mNm	192.1 rpm/mNm	162.7 rpm/mNm
Rotor inertia	2 gcm <sup>2</sup>	2 gcm <sup>2</sup>	2 gcm <sup>2</sup>
Weight	55 g	55 g	55 g
Thermal resistance housing-ambient	16 K/W	16 K/W	16 K/W
Thermal resistance winding-housing	3.5 K/W	3.5 K/W	3.5 K/W

Characteristics	B2040N2B01-150-12.0	B2040N2B02-80-12.0	B2040N2B03-67-9.0
Thermal time constant motor	620 s	620 s	620 s
Thermal time constant winding	4 s	4 s	4 s
Operating temperature range	-40~+100	-40~+100	-40~+100
Thermal class of winding	155 °C	155 °C	155 °C
Axial play	0.012 mm	0.012 mm	0.012 mm
Radial play	0.008 mm	0.008 mm	0.008 mm
Axial load dynamic	5 N	5 N	5 N
Axial load static	80 N	80 N	80 N
Radial load at 3 mm from mounting face	29 N	29 N	29 N
No. of pole pairs	1	1	1
Bearings	2 ball bearings	2 ball bearings	2 ball bearings
Protection class	20 IP	20 IP	20 IP
Commutation	Sensorless	Sensorless	Sensorless

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# B2040N2B01-150-12.0

20mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b2040n2b01-150-12-0/>



Specification	
Voltage	12.0 V
Terminal resistance	1.1
No-load speed	15000 rpm
No-load current	0.25 A
Stall torque	79.6 mNm
Stall current	10.9 A
Nominal torque	7.6 mNm
Nominal speed	13000 rpm
Nominal current	1.3 A
Max. output power	31 W
Max. efficiency	72 %
Back-EMF constant	0.8 mV/rpm
Torque constant	7.5 mNm/A
KV Value	1250 rpm/V
Speed/torque gradient	188.5 rpm/mNm
Rotor inertia	2 gcm <sup>2</sup>
Weight	55 g
Thermal resistance housing-ambient	16 K/W
Thermal resistance winding-housing	3.5 K/W
Thermal time constant motor	620 s
Thermal time constant winding	4 s
Operating temperature range	-40~+100 °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	5 N
Axial load static	80 N
Radial load at 3 mm from mounting face	29 N
No. of pole pairs	1
Bearings	2 ball bearings
Protection class	20 IP
Commutation	Sensorless

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- encoder
- driver

## Anwendungen

- industrial automation
- medical equipment

# B2040N2B02-80-12.0

20mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b2040n2b02-80-12-0/>



Specification	
Voltage	12.0 V
Terminal resistance	3.6
No-load speed	8000 rpm
No-load current	0.22 A
Stall torque	41.7 mNm
Stall current	3.3 A
Nominal torque	7.6 mNm
Nominal speed	5900 rpm
Nominal current	0.8 A
Max. output power	8.7 W
Max. efficiency	55 %
Back-EMF constant	1.4 mV/rpm
Torque constant	13.4 mNm/A
KV Value	666.7 rpm/V
Speed/torque gradient	192.1 rpm/mNm
Rotor inertia	2 gcm <sup>2</sup>
Weight	55 g
Thermal resistance housing-ambient	16 K/W
Thermal resistance winding-housing	3.5 K/W
Thermal time constant motor	620 s
Thermal time constant winding	4 s
Operating temperature range	-40~+100 °C
Thermal class of winding	155 °C
Axial play	0.012 mm



Specification	
Radial play	0.008 mm
Axial load dynamic	5 N
Axial load static	80 N
Radial load at 3 mm from mounting face	29 N
No. of pole pairs	1
Bearings	2 ball bearings
Protection class	20 IP
Commutation	Sensorless

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- encoder
- driver

## Anwendungen

- industrial automation
- medical equipment

# B2040N2B03-67-9.0

20mm BLDC, inner rotor, slotless, sensorless



<https://www.kocomotion.de/produkt/b2040n2b03-67-9-0/>



Specification	
Voltage	9.0 V
Terminal resistance	2.5
No-load speed	6700 rpm
No-load current	0.2 A
Stall torque	41.2 mNm
Stall current	3.6 A
Nominal torque	10.2 mNm
Nominal speed	4300 rpm
Nominal current	1.1 A
Max. output power	7.2 W
Max. efficiency	58 %
Back-EMF constant	1.3 mV/rpm
Torque constant	12.1 mNm/A
KV Value	7444.4 rpm/V
Speed/torque gradient	162.7 rpm/mNm
Rotor inertia	2 gcm <sup>2</sup>
Weight	55 g
Thermal resistance housing-ambient	16 K/W
Thermal resistance winding-housing	3.5 K/W
Thermal time constant motor	620 s
Thermal time constant winding	4 s
Operating temperature range	-40~+100 °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	5 N
Axial load static	80 N
Radial load at 3 mm from mounting face	29 N
No. of pole pairs	1
Bearings	2 ball bearings
Protection class	20 IP
Commutation	Sensorless

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- encoder
- driver

## Anwendungen

- industrial automation
- medical equipment

# B2440NH2B

24mm BLDC, inner rotor, slotless, Hall sensor



<https://www.kocomotion.de/produkt/b2440nh2b/>

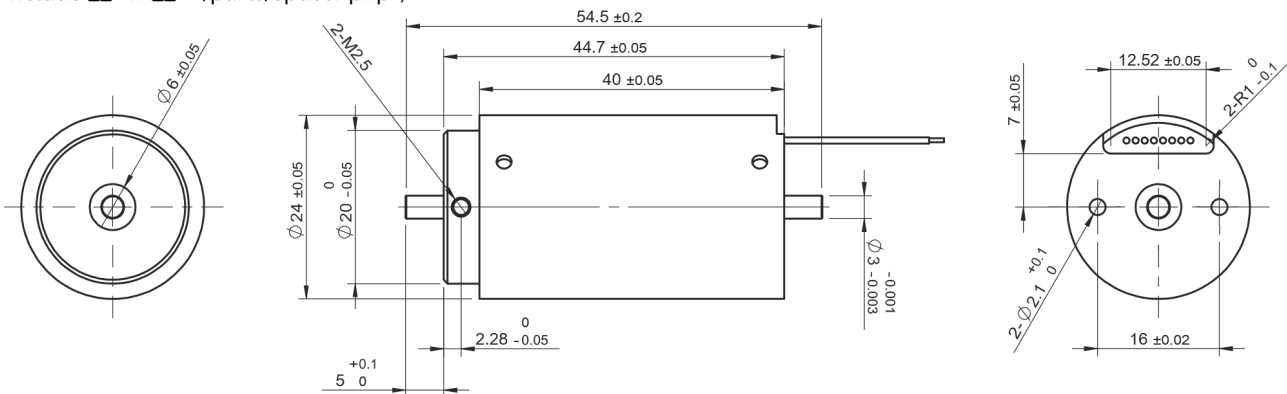


Produkte:	Seite
B2440NH2B01-170-24.0	110
B2440NH2B02-170-18.0	112
B2440NH2B03-120-24.0	114

Characteristics	B2440NH2B01-170-24.0	B2440NH2B02-170-18.0	B2440NH2B03-120-24.0
Voltage	24.0 V	18.0 V	24 V
Terminal resistance	2.5	1.875	3.54
No-load speed	17000 rpm	17000 rpm	12000 rpm
No-load current	0.15 A	0.15 A	0.14 A
Stall torque	125.4 mNm	94.1 mNm	124.2 mNm
Stall current	9.6 A	9.6 A	6.8 A
Nominal torque	18.2 mNm	13.7 mNm	18.2 mNm
Nominal speed	14500 rpm	14500 rpm	10200 rpm
Nominal current	1.52 A	1.14 A	1.07 A
Max. output power	56 W	41.9 W	39 W
Max. efficiency	76 %	43.5 %	49.7 %
Back-EMF constant	1.4 mV/rpm	1.0 mV/rpm	2.0 mV/rpm
Torque constant	13.3 mNm/A	10.0 mNm/A	18.7 mNm/A
KV Value	708.3 rpm/V	944.4 rpm/V	500.0 rpm/V
Speed/torque gradient	135.6 rpm/mNm	180.7 rpm/mNm	96.6 rpm/mNm
Rotor inertia	2 gcm <sup>2</sup>	2 gcm <sup>2</sup>	2 gcm <sup>2</sup>
Weight	80 g	80 g	80 g
Thermal resistance housing-ambient	9 K/W	9 K/W	9 K/W

Characteristics	B2440NH2B01-170-24.0	B2440NH2B02-170-18.0	B2440NH2B03-120-24.0
Thermal resistance winding-housing	3.5 K/W	3.5 K/W	3.5 K/W
Thermal time constant motor	620 s	620 s	620 s
Thermal time constant winding	4 s	4 s	4 s
Operating temperature range	-40~+120	-40~+120	-40~+120
Thermal class of winding	155 °C	155 °C	155 °C
Axial play	0.012 mm	0.012 mm	0.012 mm
Radial play	0.008 mm	0.008 mm	0.008 mm
Axial load dynamic	5 N	5 N	5 N
Axial load static	80 N	80 N	80 N
Radial load at 3 mm from mounting face	29 N	29 N	29 N
No. of pole pairs	1	1	1
Bearings	2 ball bearings	2 ball bearings	2 ball bearings
Protection class	30 IP	30 IP	30 IP
Commutation	Hall Sensor	Hall Sensor	Hall Sensor

include \_\_DIR\_\_ . "/parts/spacer.php";



© KOCO MOTION GmbH 2024-12-11 08:29:04 Technische und optische Änderungen vorbehalten.

# B2440NH2B01-170-24.0

24mm BLDC, inner rotor, slotless, Hall sensor



<https://www.kocomotion.de/produkt/b2440nh2b01-170-24-0/>



Specification	
Voltage	24.0 V
Terminal resistance	2.5
No-load speed	17000 rpm
No-load current	0.15 A
Stall torque	125.4 mNm
Stall current	9.6 A
Nominal torque	18.2 mNm
Nominal speed	14500 rpm
Nominal current	1.52 A
Max. output power	56 W
Max. efficiency	76 %
Back-EMF constant	1.4 mV/rpm
Torque constant	13.3 mNm/A
KV Value	708.3 rpm/V
Speed/torque gradient	135.6 rpm/mNm
Rotor inertia	2 gcm <sup>2</sup>
Weight	80 g
Thermal resistance housing-ambient	9 K/W
Thermal resistance winding-housing	3.5 K/W
Thermal time constant motor	620 s
Thermal time constant winding	4 s
Operating temperature range	-40~+120 °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	5 N
Axial load static	80 N
Radial load at 3 mm from mounting face	29 N
No. of pole pairs	1
Bearings	2 ball bearings
Protection class	30 IP
Commutation	Hall Sensor

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- encoder
- driver

## Anwendungen

- industrial automation
- medical equipment
- electrical tools

# B2440NH2B02-170-18.0

24mm BLDC, inner rotor, slotless, Hall sensor



<https://www.kocomotion.de/produkt/b2440nh2b02-170-18-0/>



Specification	
Voltage	18.0 V
Terminal resistance	1.875
No-load speed	17000 rpm
No-load current	0.15 A
Stall torque	94.1 mNm
Stall current	9.6 A
Nominal torque	13.7 mNm
Nominal speed	14500 rpm
Nominal current	1.14 A
Max. output power	41.9 W
Max. efficiency	43.5 %
Back-EMF constant	1.0 mV/rpm
Torque constant	10.0 mNm/A
KV Value	944.4 rpm/V
Speed/torque gradient	180.7 rpm/mNm
Rotor inertia	2 gcm <sup>2</sup>
Weight	80 g
Thermal resistance housing-ambient	9 K/W
Thermal resistance winding-housing	3.5 K/W
Thermal time constant motor	620 s
Thermal time constant winding	4 s
Operating temperature range	-40~+120 °C
Thermal class of winding	155 °C
Axial play	0.012 mm



Specification	
Radial play	0.008 mm
Axial load dynamic	5 N
Axial load static	80 N
Radial load at 3 mm from mounting face	29 N
No. of pole pairs	1
Bearings	2 ball bearings
Protection class	30 IP
Commutation	Hall Sensor

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- encoder
- driver

## Anwendungen

- industrial automation
- medical equipment
- electrical tools

# B2440NH2B03-120-24.0

24mm BLDC, inner rotor, slotless, Hall sensor



<https://www.kocomotion.de/produkt/b2440nh2b03-120-24-0/>



Specification	
Voltage	24 V
Terminal resistance	3.54
No-load speed	12000 rpm
No-load current	0.14 A
Stall torque	124.2 mNm
Stall current	6.8 A
Nominal torque	18.2 mNm
Nominal speed	10200 rpm
Nominal current	1.07 A
Max. output power	39 W
Max. efficiency	49.7 %
Back-EMF constant	2.0 mV/rpm
Torque constant	18.7 mNm/A
KV Value	500.0 rpm/V
Speed/torque gradient	96.6 rpm/mNm
Rotor inertia	2 gcm <sup>2</sup>
Weight	80 g
Thermal resistance housing-ambient	9 K/W
Thermal resistance winding-housing	3.5 K/W
Thermal time constant motor	620 s
Thermal time constant winding	4 s
Operating temperature range	-40~+120 °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	5 N
Axial load static	80 N
Radial load at 3 mm from mounting face	29 N
No. of pole pairs	1
Bearings	2 ball bearings
Protection class	30 IP
Commutation	Hall Sensor

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- encoder
- driver

## Anwendungen

- industrial automation
- medical equipment
- electrical tools

# B2950NH2B

29mm BLDC, inner rotor, slotless, Hall sensor



<https://www.kocomotion.de/produkt/b2950nh2b/>



## Produkte:

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B2950NH2B01-130-24.0

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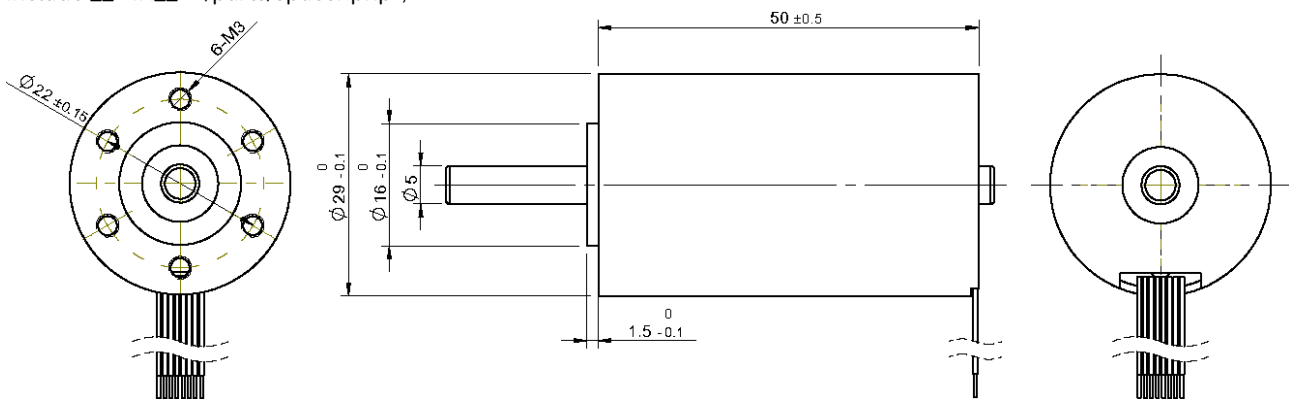
B2950NH2B02-130-18.0

120

Characteristics	B2950NH2B01-130-24.0	B2950NH2B02-130-18.0
Voltage	24.0 V	18.0 V
Terminal resistance	1.32	0.99
No-load speed	13000 rpm	13000 rpm
No-load current	0.3 A	0.3 A
Stall torque	310.0 mNm	232.5 mNm
Stall current	18.2 A	18.2 A
Nominal torque	28 mNm	21 mNm
Nominal speed	11800 rpm	11800 rpm
Nominal current	1.9 A	1.42 A
Max. output power	105 W	79 W
Max. efficiency	75 %	56.6 %
Back-EMF constant	1.8 mV/rpm	1.4 mV/rpm
Torque constant	17.3 mNm/A	13.0 mNm/A
KV Value	541.9 rpm/V	722.2 rpm/V
Speed/torque gradient	41.9 rpm/mNm	55.9 rpm/mNm
Rotor inertia	5 gcm <sup>2</sup>	5 gcm <sup>2</sup>
Weight	140 g	140 g
Thermal resistance housing-ambient	7.8 K/W	7.8 K/W
Thermal resistance winding-housing	5.9 K/W	5.9 K/W
Thermal time constant motor	1400 s	1400 s

Characteristics	B2950NH2B01-130-24.0	B2950NH2B02-130-18.0
Thermal time constant winding	20 s	20 s
Operating temperature range	-40~+100	-40~+100
Thermal class of winding	155 °C	155 °C
Axial play	0.012 mm	0.012 mm
Radial play	0.008 mm	0.008 mm
Axial load dynamic	5 N	5 N
Axial load static	80 N	80 N
Radial load at 3 mm from mounting face	29 N	29 N
No. of pole pairs	2	2
Bearings	2 ball bearings	2 ball bearings
Protection class	20 IP	Hall Sensor
Commutation	Hall Sensor	20 IP

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# B2950NH2B01-130-24.0

29mm BLDC, inner rotor, slotless, Hall sensor



<https://www.kocomotion.de/produkt/b2950nh2b01-130-24-0/>



Specification	
Voltage	24.0 V
Terminal resistance	1.32
No-load speed	13000 rpm
No-load current	0.3 A
Stall torque	310.0 mNm
Stall current	18.2 A
Nominal torque	28 mNm
Nominal speed	11800 rpm
Nominal current	1.9 A
Max. output power	105 W
Max. efficiency	75 %
Back-EMF constant	1.8 mV/rpm
Torque constant	17.3 mNm/A
KV Value	541.9 rpm/V
Speed/torque gradient	41.9 rpm/mNm
Rotor inertia	5 gcm <sup>2</sup>
Weight	140 g
Thermal resistance housing-ambient	7.8 K/W
Thermal resistance winding-housing	5.9 K/W
Thermal time constant motor	1400 s
Thermal time constant winding	20 s
Operating temperature range	-40~+100 °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	5 N
Axial load static	80 N
Radial load at 3 mm from mounting face	29 N
No. of pole pairs	2
Bearings	2 ball bearings
Protection class	20 IP
Commutation	Hall Sensor

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- encoder
- driver

## Anwendungen

- medical equipment
- electrical tools

# B2950NH2B02-130-18.0

29mm BLDC, inner rotor, slotless, Hall sensor



<https://www.kocomotion.de/produkt/b2950nh2b02-130-18-0/>



Specification	
Voltage	18.0 V
Terminal resistance	0.99
No-load speed	13000 rpm
No-load current	0.3 A
Stall torque	232.5 mNm
Stall current	18.2 A
Nominal torque	21 mNm
Nominal speed	11800 rpm
Nominal current	1.42 A
Max. output power	79 W
Max. efficiency	56.6 %
Back-EMF constant	1.4 mV/rpm
Torque constant	13.0 mNm/A
KV Value	722.2 rpm/V
Speed/torque gradient	55.9 rpm/mNm
Rotor inertia	5 gcm <sup>2</sup>
Weight	140 g
Thermal resistance housing-ambient	7.8 K/W
Thermal resistance winding-housing	5.9 K/W
Thermal time constant motor	1400 s
Thermal time constant winding	20 s
Operating temperature range	-40~+100 °C
Thermal class of winding	155 °C
Axial play	0.012 mm



Specification	
Radial play	0.008 mm
Axial load dynamic	5 N
Axial load static	80 N
Radial load at 3 mm from mounting face	29 N
No. of pole pairs	2
Bearings	2 ball bearings
Protection class	Hall Sensor
Commutation	20 IP

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- encoder
- driver

## Anwendungen

- medical equipment
- electrical tools

# B3265NH2B

32mm BLDC, inner rotor, slotless, Hall sensor



<https://www.kocomotion.de/produkt/b3265nh2b/>



## Produkte:

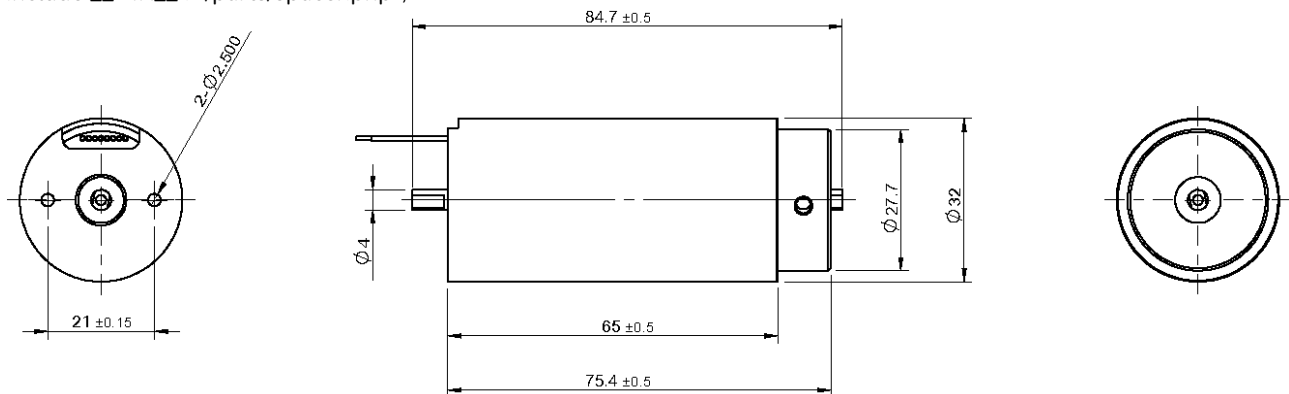
Seite

B3265NH2B01-150-24.0	124
B3265NH2B02-150-18.0	126
B3265NH2B03-120-24.0	128

Characteristics	B3265NH2B01-150-24.0	B3265NH2B02-150-18.0	B3265NH2B03-120-24.0
Voltage	24.0 V	18.0 V	24.0 V
Terminal resistance	0.65	0.49	0.81
No-load speed	15000 rpm	15000 rpm	12000 rpm
No-load current	0.55 A	0.55 A	0.53 A
Stall torque	547.5 mNm	408.4 mNm	545.8 mNm
Stall current	36.9 A	36.7 A	29.6 A
Nominal torque	22 mNm	17 mNm	22 mNm
Nominal speed	14400 rpm	10500 rpm	14400 rpm
Nominal current	1.95 A	1.46 A	1.56 A
Max. output power	215 W	161.6 W	171 W
Max. efficiency	78 %	68 %	72 %
Back-EMF constant	1.6 mV/rpm	1.2 mV/rpm	2.0 mV/rpm
Torque constant	15.1 mNm/A	11.3 mNm/A	18.8 mNm/A
KV Value	625.0 rpm/V	833.3 rpm/V	500.0 rpm/V
Speed/torque gradient	27.4 rpm/mNm	36.7 rpm/mNm	22.0 rpm/mNm
Rotor inertia	6 gcm <sup>2</sup>	6 gcm <sup>2</sup>	6 gcm <sup>2</sup>
Weight	180 g	180 g	180 g
Thermal resistance housing-ambient	6.8 K/W	6.8 K/W	6.8 K/W

Characteristics	B3265NH2B01-150-24.0	B3265NH2B02-150-18.0	B3265NH2B03-120-24.0
Thermal resistance winding-housing	4.3 K/W	4.3 K/W	4.3 K/W
Thermal time constant motor	1400 s	1400 s	1400 s
Thermal time constant winding	20 s	20 s	20 s
Operating temperature range	-40~+100	-40~+100	-40~+100
Thermal class of winding	155 °C	155 °C	155 °C
Axial play	0.012 mm	0.012 mm	0.012 mm
Radial play	0.008 mm	0.008 mm	0.008 mm
Axial load dynamic	5 N	5 N	5 N
Axial load static	80 N	80 N	80 N
Radial load at 3 mm from mounting face	29 N	29 N	29 N
No. of pole pairs	2	2	2
Bearings	2 ball bearings	2 ball bearings	2 ball bearings
Commutation	Hall Sensor	Hall Sensor	Hall Sensor
Protection class	20 IP	20 IP	20 IP

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# B3265NH2B01-150-24.0

32mm BLDC, inner rotor, slotless, Hall sensor



<https://www.kocomotion.de/produkt/b3265nh2b01-150-24-0/>



Specification	
Voltage	24.0 V
Terminal resistance	0.65
No-load speed	15000 rpm
No-load current	0.55 A
Stall torque	547.5 mNm
Stall current	36.9 A
Nominal torque	22 mNm
Nominal speed	14400 rpm
Nominal current	1.95 A
Max. output power	215 W
Max. efficiency	78 %
Back-EMF constant	1.6 mV/rpm
Torque constant	15.1 mNm/A
KV Value	625.0 rpm/V
Speed/torque gradient	27.4 rpm/mNm
Rotor inertia	6 gcm <sup>2</sup>
Weight	180 g
Thermal resistance housing-ambient	6.8 K/W
Thermal resistance winding-housing	4.3 K/W
Thermal time constant motor	1400 s
Thermal time constant winding	20 s
Operating temperature range	-40~+100 °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	5 N
Axial load static	80 N
Radial load at 3 mm from mounting face	29 N
No. of pole pairs	2
Bearings	2 ball bearings
Commutation	Hall Sensor
Protection class	20 IP

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- encoder
- driver

## Anwendungen

- medical equipment
- electrical tools

# B3265NH2B02-150-18.0

32mm BLDC, inner rotor, slotless, Hall sensor



<https://www.kocomotion.de/produkt/b3265nh2b02-150-18-0/>



Specification	
Voltage	18.0 V
Terminal resistance	0.49
No-load speed	15000 rpm
No-load current	0.55 A
Stall torque	408.4 mNm
Stall current	36.7 A
Nominal torque	17 mNm
Nominal speed	10500 rpm
Nominal current	1.46 A
Max. output power	161.6 W
Max. efficiency	68 %
Back-EMF constant	1.2 mV/rpm
Torque constant	11.3 mNm/A
KV Value	833.3 rpm/V
Speed/torque gradient	36.7 rpm/mNm
Rotor inertia	6 gcm <sup>2</sup>
Weight	180 g
Thermal resistance housing-ambient	6.8 K/W
Thermal resistance winding-housing	4.3 K/W
Thermal time constant motor	1400 s
Thermal time constant winding	20 s
Operating temperature range	-40~+100 °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	5 N
Axial load static	80 N
Radial load at 3 mm from mounting face	29 N
No. of pole pairs	2
Bearings	2 ball bearings
Commutation	Hall Sensor
Protection class	20 IP

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- encoder
- driver

## Anwendungen

- medical equipment
- electrical tools

# B3265NH2B03-120-24.0

32mm BLDC, inner rotor, slotless, Hall sensor



<https://www.kocomotion.de/produkt/b3265nh2b03-120-24-0/>



Specification	
Voltage	24.0 V
Terminal resistance	0.81
No-load speed	12000 rpm
No-load current	0.53 A
Stall torque	545.8 mNm
Stall current	29.6 A
Nominal torque	22 mNm
Nominal speed	14400 rpm
Nominal current	1.56 A
Max. output power	171 W
Max. efficiency	72 %
Back-EMF constant	2.0 mV/rpm
Torque constant	18.8 mNm/A
KV Value	500.0 rpm/V
Speed/torque gradient	22.0 rpm/mNm
Rotor inertia	6 gcm <sup>2</sup>
Weight	180 g
Thermal resistance housing-ambient	6.8 K/W
Thermal resistance winding-housing	4.3 K/W
Thermal time constant motor	1400 s
Thermal time constant winding	20 s
Operating temperature range	-40~+100 °C
Thermal class of winding	155 °C
Axial play	0.012 mm



Specification	
Radial play	0.008 mm
Axial load dynamic	5 N
Axial load static	80 N
Radial load at 3 mm from mounting face	29 N
No. of pole pairs	2
Bearings	2 ball bearings
Protection class	20 IP
Commutation	Hall Sensor

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- encoder
- driver

## Anwendungen

- medical equipment
- electrical tools

# B4040NH2B

40mm BLDC, inner rotor, slotless, Hall sensor



<https://www.kocomotion.de/produkt/b4040nh2b/>



## Produkte:

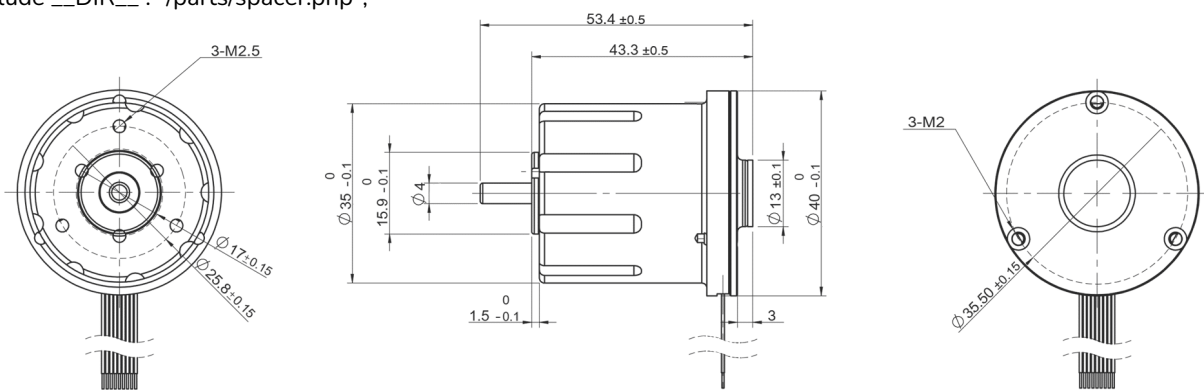
Seite

B4040NH2B02-420-18.0	132
B4040NH2B01-420-24.0	134
B4040NH2B03-300-24.0	136

Characteristics	B4040NH2B02-420-18.0	B4040NH2B01-420-24.0	B4040NH2B03-300-24.0
Voltage	18.0 V	24.0 V	24.0 V
Terminal resistance	1.5	2	2.8
No-load speed	42000 rpm	42000 rpm	30000 rpm
No-load current	0.168 A	0.2 A	0.2 A
Stall torque	47.7 mNm	63.3 mNm	62.5 mNm
Stall current	12 A	12 A	8.6 A
Nominal torque	5 mNm	5 mNm	5 mNm
Nominal speed	37000 rpm	38000 rpm	27000 rpm
Nominal current	1.4 A	1.2 A	0.9 A
Max. output power	52.6 W	69.7 W	49.1 W
Max. efficiency	77.7 %	75.8 %	71.7 %
Back-EMF constant	0.4 mV/rpm	0.56 mV/rpm	0.78 mV/rpm
Torque constant	4.0 mNm/A	5.4 mNm/A	7.5 mNm/A
KV Value	2333.3 rpm/V	1750 rpm/V	1250 rpm/V
Speed/torque gradient	879.7 rpm/mNm	663.3 rpm/mNm	480.3 rpm/mNm
Rotor inertia	20 gcm <sup>2</sup>	20 gcm <sup>2</sup>	20 gcm <sup>2</sup>
Weight	200 g	200 g	200 g
Thermal resistance housing-ambient	9 K/W	9 K/W	9 K/W

Characteristics	B4040NH2B02-420-18.0	B4040NH2B01-420-24.0	B4040NH2B03-300-24.0
Thermal resistance winding-housing	2.4 K/W	2.4 K/W	2.4 K/W
Thermal time constant motor	1400 s	1400 s	1400 s
Thermal time constant winding	20 s	20 s	20 s
Operating temperature range	-40~+120	-40~+120	-40~+120
Thermal class of winding	155 °C	155 °C	155 °C
Axial play	2.3 mm	2.3 mm	2.3 mm
Radial play	0.012 mm	0.012 mm	0.012 mm
Axial load dynamic	8 N	8 N	8 N
Axial load static	110 N	110 N	110 N
Radial load at 3 mm from mounting face	31 N	31 N	31 N
No. of pole pairs	2	2	2
Bearings	2 ball bearings	2 ball bearings	2 ball bearings
Protection class	20 IP	20 IP	20 IP
Commutation	Hall Sensor	Hall Sensor	Hall Sensor

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# B4040NH2B02-420-18.0

40mm BLDC, inner rotor, slotless, Hall sensor



<https://www.kocomotion.de/produkt/b4040nh2b02-420-18-0/>



Specification	
Voltage	18.0 V
Terminal resistance	1.5
No-load speed	42000 rpm
No-load current	0.168 A
Stall torque	47.7 mNm
Stall current	12 A
Nominal torque	5 mNm
Nominal speed	37000 rpm
Nominal current	1.4 A
Max. output power	52.6 W
Max. efficiency	77.7 %
Back-EMF constant	0.4 mV/rpm
Torque constant	4.0 mNm/A
KV Value	2333.3 rpm/V
Speed/torque gradient	879.7 rpm/mNm
Rotor inertia	20 gcm <sup>2</sup>
Weight	200 g
Thermal resistance housing-ambient	9 K/W
Thermal resistance winding-housing	2.4 K/W
Thermal time constant motor	1400 s
Thermal time constant winding	20 s
Operating temperature range	-40~+120 °C
Thermal class of winding	155 °C
Axial play	2.3 mm

Specification	
Radial play	0.012 mm
Axial load dynamic	8 N
Axial load static	110 N
Radial load at 3 mm from mounting face	31 N
No. of pole pairs	2
Bearings	2 ball bearings
Protection class	20 IP
Commutation	Hall Sensor

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- encoder
- driver

## Anwendungen

- medical equipment
- electrical tools

# B4040NH2B01-420-24.0

40mm BLDC, inner rotor, slotless, Hall sensor



<https://www.kocomotion.de/produkt/b4040nh2b01-420-24-0/>



Specification	
Voltage	24.0 V
Terminal resistance	2
No-load speed	42000 rpm
No-load current	0.2 A
Stall torque	63.3 mNm
Stall current	12 A
Nominal torque	5 mNm
Nominal speed	38000 rpm
Nominal current	1.2 A
Max. output power	69.7 W
Max. efficiency	75.8 %
Back-EMF constant	0.56 mV/rpm
Torque constant	5.4 mNm/A
KV Value	1750 rpm/V
Speed/torque gradient	663.3 rpm/mNm
Rotor inertia	20 gcm <sup>2</sup>
Weight	200 g
Thermal resistance housing-ambient	9 K/W
Thermal resistance winding-housing	2.4 K/W
Thermal time constant motor	1400 s
Thermal time constant winding	20 s
Operating temperature range	-40~+120 °C
Thermal class of winding	155 °C
Axial play	2.3 mm

Specification	
Radial play	0.012 mm
Axial load dynamic	8 N
Axial load static	110 N
Radial load at 3 mm from mounting face	31 N
No. of pole pairs	2
Bearings	2 ball bearings
Commutation	Hall Sensor
Protection class	20 IP

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- encoder
- driver

## Anwendungen

- medical equipment
- electrical tools

# B4040NH2B03-300-24.0

40mm BLDC, inner rotor, slotless, Hall sensor



<https://www.kocomotion.de/produkt/b4040nh2b03-300-24-0/>



Specification	
Voltage	24.0 V
Terminal resistance	2.8
No-load speed	30000 rpm
No-load current	0.2 A
Stall torque	62.5 mNm
Stall current	8.6 A
Nominal torque	5 mNm
Nominal speed	27000 rpm
Nominal current	0.9 A
Max. output power	49.1 W
Max. efficiency	71.7 %
Back-EMF constant	0.78 mV/rpm
Torque constant	7.5 mNm/A
KV Value	1250 rpm/V
Speed/torque gradient	480.3 rpm/mNm
Rotor inertia	20 gcm <sup>2</sup>
Weight	200 g
Thermal resistance housing-ambient	9 K/W
Thermal resistance winding-housing	2.4 K/W
Thermal time constant motor	1400 s
Thermal time constant winding	20 s
Operating temperature range	-40~+120 °C
Thermal class of winding	155 °C
Axial play	2.3 mm



Specification	
Radial play	0.012 mm
Axial load dynamic	8 N
Axial load static	110 N
Radial load at 3 mm from mounting face	31 N
No. of pole pairs	2
Bearings	2 ball bearings
Commutation	Hall Sensor
Protection class	20 IP

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- encoder
- driver

## Anwendungen

- medical equipment
- electrical tools

# B7584FBHIE2B

75mm BLDC, inner rotor, slotless, Hall sensor



<https://www.kocomotion.de/produkt/b7584fbhie2b/>



## Produkte:

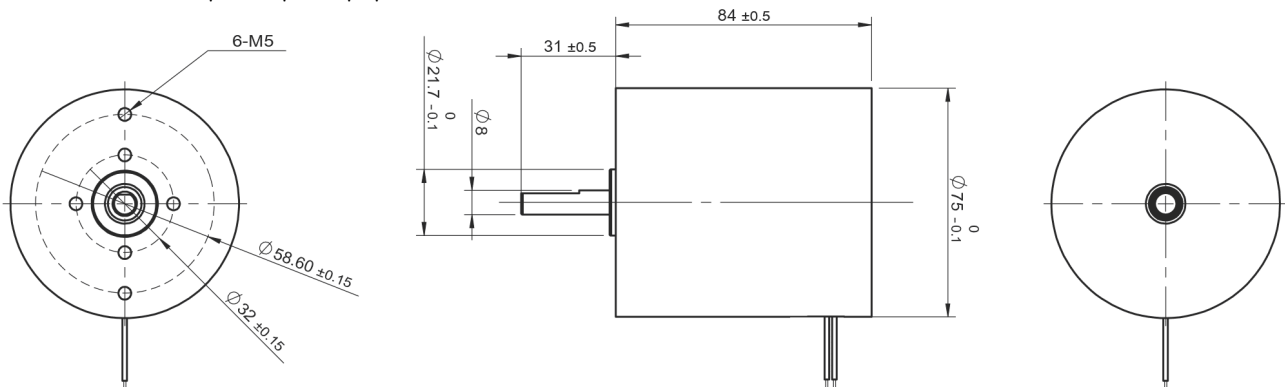
Seite

B7584FBHIE2B63-24.0-0001	140
B7584FBHIE2B 80-24.0-0002	142
B7584FBHIE2B 50-24.0-0002	144

Characteristics	B7584FBHIE2B63-24.0-0001	B7584FBHIE2B 80-24.0-0002	B7584FBHIE2B 50-24.0-0002
Voltage	24 V	24 V	24 V
Operating Voltage	12~26	12~26	12~26
Terminal resistance	2.8	2.2	3.5
No-load speed	6300 rpm	8000 rpm	5000 rpm
No-load current	0.3 A	0.3 A	0.3 A
Stall torque	290 mNm	295 mNm	287 mNm
Stall current	8.6 A	10.9 A	6.8 A
Nominal torque	106 mNm	106 mNm	106 mNm
Nominal speed	4000 rpm	5100 rpm	3100 rpm
Nominal current	3.2 A	4.1 A	2.7 A
Max. output power	49 W	62 W	37 W
Max. efficiency	66 %	69 %	62 %
Back-EMF constant	3.7 mV/rpm	2.9 mV/rpm	4.6 mV/rpm
Torque constant	35 mNm/A	27 mNm/A	43 mNm/A
Speed/torque gradient	263 rpm/V	333 rpm/V	208 rpm/V
Speed/torque gradient	263 rpm/V	333 rpm/V	208 rpm/V
Rotor inertia	28 gcm <sup>2</sup>	22 gcm <sup>2</sup>	35 gcm <sup>2</sup>
Weight	1160 g	1160 g	1160 g

Characteristics	B7584FBHIE2B63-24.0-0001	B7584FBHIE2B 80-24.0-0002	B7584FBHIE2B 50-24.0-0002
Thermal resistance housing-ambient	2 K/W	2 K/W	2 K/W
Thermal resistance winding-housing	3 K/W	3 K/W	3 K/W
Thermal time constant motor	112 s	112 s	112 s
Thermal time constant winding	8.9 s	8.9 s	8.9 s
Operating temperature range	-40~+100	-40~+100	-40~+100
Thermal class of winding	130 °C	130 °C	130 °C
Axial play	4 mm	4 mm	4 mm
Radial play	0.3 mm	0.3 mm	0.3 mm
Axial load dynamic	10 N	10 N	10 N
Axial load static	300 N	300 N	300 N
Radial load at 3 mm from mounting face	215 N	215 N	215 N
No. of pole pairs	2	2	2
Bearings	2 ball bearings	2 ball bearings	2 ball bearings
Protection class	30 IP	30 IP	30 IP
Commutation	Hall Sensor	Hall Sensor	Hall Sensor

include \_\_DIR\_\_ . "/parts/spacer.php";



# B7584FBHIE2B63-24.0-0001

75mm BLDC, inner rotor, slotless, Hall sensor



<https://www.kocomotion.de/produkt/b7584fbhie2b63-24-0-0001/>



Specification	
Voltage	24 V
Operating Voltage	12~26 V
Terminal resistance	2.8
No-load speed	6300 rpm
No-load current	0.3 A
Stall torque	290 mNm
Stall current	8.6 A
Nominal torque	106 mNm
Nominal speed	4000 rpm
Nominal current	3.2 A
Max. output power	49 W
Max. efficiency	66 %
Back-EMF constant	3.7 mV/rpm
Torque constant	35 mNm/A
Speed/torque gradient	263 rpm/V
Speed/torque gradient	22 rpm/mNm
Rotor inertia	28 gcm <sup>2</sup>
Weight	1160 g
Thermal resistance housing-ambient	2 K/W
Thermal resistance winding-housing	3 K/W
Thermal time constant motor	112 s
Thermal time constant winding	8.9 s
Operating temperature range	-40~+100 °C
Thermal class of winding	130 °C

Specification	
Axial play	4 mm
Radial play	0.3 mm
Axial load dynamic	10 N
Axial load static	300 N
Radial load at 3 mm from mounting face	215 N
No. of pole pairs	2
Bearings	2 ball bearings
Protection class	30 IP
Commutation	Hall Sensor

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- encoder
- driver

## Anwendungen

- medical equipment
- electrical tools

# B7584FBHIE2B 80-24.0-0002

75mm BLDC, inner rotor, slotless, Hall sensor



<https://www.kocomotion.de/produkt/b7584fbhie2b-80-24-0-0002/>



Specification	
Voltage	24 V
Operating Voltage	12~26 V
Terminal resistance	2.2
No-load speed	8000 rpm
No-load current	0.3 A
Stall torque	295 mNm
Stall current	10.9 A
Nominal torque	106 mNm
Nominal speed	5100 rpm
Nominal current	4.1 A
Max. output power	62 W
Max. efficiency	69 %
Back-EMF constant	2.9 mV/rpm
Torque constant	27 mNm/A
Speed/torque gradient	333 rpm/V
Speed/torque gradient	27 rpm/mNm
Rotor inertia	22 gcm <sup>2</sup>
Weight	1160 g
Thermal resistance housing-ambient	2 K/W
Thermal resistance winding-housing	3 K/W
Thermal time constant motor	112 s
Thermal time constant winding	8.9 s
Operating temperature range	-40~+100 °C
Thermal class of winding	130 °C

Specification	
Axial play	4 mm
Radial play	0.3 mm
Axial load dynamic	10 N
Axial load static	300 N
Radial load at 3 mm from mounting face	215 N
No. of pole pairs	2
Bearings	2 ball bearings
Commutation	Hall Sensor
Protection class	30 IP

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- encoder
- driver

## Anwendungen

- medical equipment
- electrical tools

# B7584FBHIE2B 50-24.0-0002

75mm BLDC, inner rotor, slotless, Hall sensor



<https://www.kocomotion.de/produkt/b7584fbhie2b-50-24-0-0002/>



Specification	
Voltage	24 V
Operating Voltage	12~26 V
Terminal resistance	3.5
No-load speed	5000 rpm
No-load current	0.3 A
Stall torque	287 mNm
Stall current	6.8 A
Nominal torque	106 mNm
Nominal speed	3100 rpm
Nominal current	2.7 A
Max. output power	37 W
Max. efficiency	62 %
Back-EMF constant	4.6 mV/rpm
Torque constant	43 mNm/A
Speed/torque gradient	208 rpm/V
Speed/torque gradient	17 rpm/mNm
Rotor inertia	35 gcm <sup>2</sup>
Weight	1160 g
Thermal resistance housing-ambient	2 K/W
Thermal resistance winding-housing	3 K/W
Thermal time constant motor	112 s
Thermal time constant winding	8.9 s
Operating temperature range	-40~+100 °C
Thermal class of winding	130 °C



Specification	
Axial play	4 mm
Radial play	0.3 mm
Axial load dynamic	10 N
Axial load static	300 N
Radial load at 3 mm from mounting face	215 N
No. of pole pairs	2
Bearings	2 ball bearings
Commutation	Hall Sensor
Protection class	30 IP

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- encoder
- driver

## Anwendungen

- medical equipment
- electrical tools

# BS2838NB2B

28mm BLDC, inner rotor, slotted, sensorless



<https://www.kocomotion.de/produkt/bs2838nb2b/>



## Produkte:

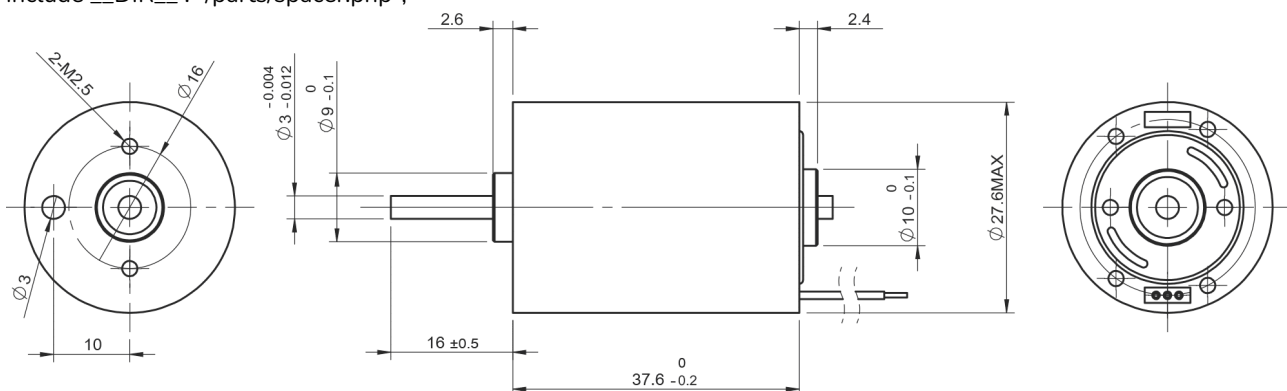
Seite

BS2838NB2B01-66-12	148
BS2838NB2B02-66-24.0	150
BS2838NB2B03-45-16.0	152

Characteristics	BS2838NB2B01-66-12	BS2838NB2B02-66-24.0	BS2838NB2B03-45-16.0
Voltage	12.0 V	24.0 V	16.0 V
Terminal resistance	2.3	12.7	14
No-load speed	6600 rpm	6600 rpm	4500 rpm
No-load current	0.25 A	0.1 A	0.1 A
Stall torque	83 mNm	58 mNm	32 mNm
Stall current	5 A	1.9 A	1.1 A
Nominal torque	10 mNm	10.0 mNm	10.0 mNm
Nominal speed	5500 rpm	5400 rpm	3000 rpm
Nominal current	0.66 A	0.4 A	0.5 A
Max. output power	14 W	10.0 W	3.8 W
Max. efficiency	63 %	59 %	50 %
Back-EMF constant	0.27 mV/rpm	3.4 mV/rpm	3 mV/rpm
Torque constant	20 mNm/A	32.8 mNm/A	30.9 mNm/A
KV Value	550 rpm/V	275 rpm/V	281 rpm/V
Speed/torque gradient	2000 rpm/mNm	112 rpm/mNm	139 rpm/mNm
Rotor inertia	13 g·cm <sup>2</sup>	13 g·cm <sup>2</sup>	13 g·cm <sup>2</sup>
Weight	80 g	80 g	80 g
Thermal resistance housing-ambient	17.3 K/W	17.3 K/W	17.3 K/W

Characteristics	B52838NB2B01-66-12	B52838NB2B02-66-24.0	B52838NB2B03-45-16.0
Thermal resistance winding-housing	4 K/W	4 K/W	4 K/W
Thermal time constant motor	600 s	600 s	600 s
Thermal time constant winding	3 s	3 s	3 s
Operating temperature range	-40~+100	-40~+100	-40~+100
Thermal class of winding	155 °C	155 °C	155 °C
Axial play	0.012 mm	0.012 mm	0.012 mm
Radial play	0.008 mm	0.008 mm	0.008 mm
Axial load dynamic	5 N	5 N	5 N
Axial load static	80 N	80 N	80 N
Radial load at 3 mm from mounting face	29 N	29 N	29 N
No. of pole pairs	2	2	2
Bearings	2 ball bearings	2 ball bearings	2 ball bearings
Commutation	Sensorless	Sensorless	Sensorless
Protection class	30 IP	30 IP	30 IP

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# BS2838NB2B01-66-12

28mm BLDC, inner rotor, slotted, sensorless



<https://www.kocomotion.de/produkt/bs2838nb2b01-66-12/>



Specification	
Voltage	12.0 V
Terminal resistance	2.3
No-load speed	6600 rpm
No-load current	0.25 A
Stall torque	83 mNm
Stall current	5 A
Nominal torque	10 mNm
Nominal speed	5500 rpm
Nominal current	0.66 A
Max. output power	14 W
Max. efficiency	63 %
Back-EMF constant	0.27 mV/rpm
Torque constant	20 mNm/A
KV Value	550 rpm/V
Speed/torque gradient	2000 rpm/mNm
Rotor inertia	13 g·cm <sup>2</sup>
Weight	80 g
Thermal resistance housing-ambient	17.3 K/W
Thermal resistance winding-housing	4 K/W
Thermal time constant motor	600 s
Thermal time constant winding	3 s
Operating temperature range	-40~+100 °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	5 N
Axial load static	80 N
Radial load at 3 mm from mounting face	29 N
No. of pole pairs	2
Bearings	2 ball bearings
Commutation	Sensorless
Protection class	30 IP

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- encoder
- driver

## Anwendungen

- medical equipment
- electrical tools

# BS2838NB2B02-66-24.0

28mm BLDC, inner rotor, slotted, sensorless



<https://www.kocomotion.de/produkt/bs2838nb2b02-66-24-0/>



Specification	
Voltage	24.0 V
Terminal resistance	12.7
No-load speed	6600 rpm
No-load current	0.1 A
Stall torque	58 mNm
Stall current	1.9 A
Nominal torque	10.0 mNm
Nominal speed	5400 rpm
Nominal current	0.4 A
Max. output power	10.0 W
Max. efficiency	59 %
Back-EMF constant	3.4 mV/rpm
Torque constant	32.8 mNm/A
KV Value	275 rpm/V
Speed/torque gradient	112 rpm/mNm
Rotor inertia	13 g·cm <sup>2</sup>
Weight	80 g
Thermal resistance housing-ambient	17.3 K/W
Thermal resistance winding-housing	4 K/W
Thermal time constant motor	600 s
Thermal time constant winding	3 s
Operating temperature range	-40~+100 °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	5 N
Axial load static	80 N
Radial load at 3 mm from mounting face	29 N
No. of pole pairs	2
Bearings	2 ball bearings
Commutation	Sensorless
Protection class	30 IP

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- encoder
- driver

## Anwendungen

- medical equipment
- electrical tools

# BS2838NB2B03-45-16.0

28mm BLDC, inner rotor, slotted, sensorless



<https://www.kocomotion.de/produkt/bs2838nb2b03-45-16-0/>



Specification	
Voltage	16.0 V
Terminal resistance	14
No-load speed	4500 rpm
No-load current	0.1 A
Stall torque	32 mNm
Stall current	1.1 A
Nominal torque	10.0 mNm
Nominal speed	3000 rpm
Nominal current	0.5 A
Max. output power	3.8 W
Max. efficiency	50 %
Back-EMF constant	3 mV/rpm
Torque constant	30.9 mNm/A
KV Value	281 rpm/V
Speed/torque gradient	139 rpm/mNm
Rotor inertia	13 g·cm <sup>2</sup>
Weight	80 g
Thermal resistance housing-ambient	17.3 K/W
Thermal resistance winding-housing	4 K/W
Thermal time constant motor	600 s
Thermal time constant winding	3 s
Operating temperature range	-40~+100 °C
Thermal class of winding	155 °C
Axial play	0.012 mm



Specification	
Radial play	0.008 mm
Axial load dynamic	5 N
Axial load static	80 N
Radial load at 3 mm from mounting face	29 N
No. of pole pairs	2
Bearings	2 ball bearings
Commutation	Sensorless
Protection class	30 IP

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- bearing type
- encoder
- driver

## Anwendungen

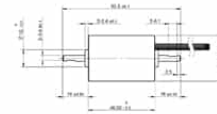
- medical equipment
- electrical tools

# BS3246NBH2B

32mm BLDC, inner rotor, slotted, Hall sensor



<https://www.kocomotion.de/produkt/bs3246nbh2b/>



## Produkte:

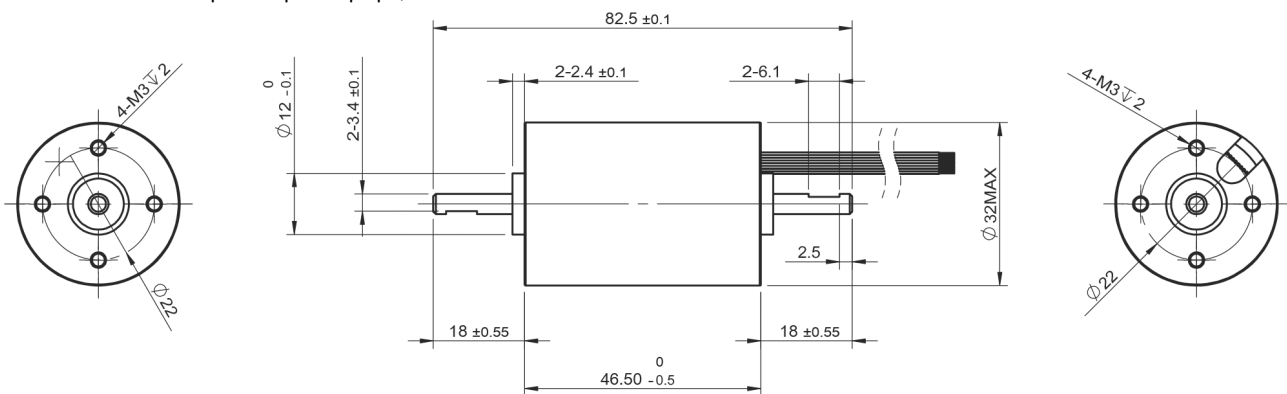
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BS3246NBH2B01-51-12.0	156
BS3246NBH2B02-80-12.0	158
BS3246NBH2B03-40-12.0	160

Characteristics	BS3246NBH2B01-51-12.0	BS3246NBH2B02-80-12.0	BS3246NBH2B03-40-12.0
Voltage	12.0 V	12.0 V	12.0 V
Terminal resistance	2.4	1.5	3
No-load speed	5100 rpm	8000 rpm	4000 rpm
No-load current	0.2 A	0.2 A	0.2 A
Stall torque	103 mNm	108 mNm	103 mNm
Stall current	5.0 A	8.0 A	4.0 A
Nominal torque	24.0 mNm	24.0 mNm	24.0 mNm
Nominal speed	4000 rpm	6000 rpm	2800 rpm
Nominal current	1.3 A	2 A	1 A
Max. output power	12 W	22.8 W	10.8 W
Max. efficiency	60 %	70.8 %	60 %
Back-EMF constant	2.2 mV/rpm	1.5 mV/rpm	2.8 mV/rpm
Torque constant	21.5 mNm/A	14 mNm/A	27.0 mNm/A
KV Value	420 rpm/V	666 rpm/V	333 rpm/V
Speed/torque gradient	48 rpm/mNm	73 rpm/mNm	38 rpm/mNm
Rotor inertia	26 gcm <sup>2</sup>	26 gcm <sup>2</sup>	26 gcm <sup>2</sup>
Weight	130 g	130 g	130 g
Thermal resistance housing-ambient	16 K/W	16 K/W	16 K/W

Characteristics	B53246NBH2B01-51-12.0	B53246NBH2B02-80-12.0	B53246NBH2B03-40-12.0
Thermal resistance winding-housing	3.5 K/W	3.5 K/W	3.5 K/W
Thermal time constant motor	620 s	620 s	620 s
Thermal time constant winding	4 s	4 s	4 s
Operating temperature range	-40~+120	-40~+120	-40~+120
Thermal class of winding	155 °C	155 °C	155 °C
Axial play	0.012 mm	0.012 mm	0.012 mm
Radial play	0.008 mm	0.008 mm	0.008 mm
Axial load dynamic	5 N	5 N	5 N
Axial load static	80 N	80 N	80 N
Radial load at 3 mm from mounting face	29 N	29 N	29 N
No. of pole pairs	2	2	2
Bearings	2 ball bearings	2 ball bearings	2 ball bearings
Protection class	30 IP	30 IP	30 IP
Commutation	Hall Sensor	Hall Sensor	Hall Sensor

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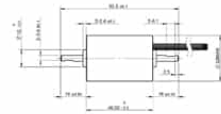
© KOCO MOTION GmbH 2024-12-11 08:29:04 Technische und optische Änderungen vorbehalten.

# BS3246NBH2B01-51-12.0

32mm BLDC, inner rotor, slotted, Hall sensor



<https://www.kocomotion.de/produkt/bs3246nbh2b01-51-12-0/>



Specification	
Voltage	12.0 V
Terminal resistance	2.4
No-load speed	5100 rpm
No-load current	0.2 A
Stall torque	103 mNm
Stall current	5.0 A
Nominal torque	24.0 mNm
Nominal speed	4000 rpm
Nominal current	1.3 A
Max. output power	12 W
Max. efficiency	60 %
Back-EMF constant	2.2 mV/rpm
Torque constant	21.5 mNm/A
KV Value	420 rpm/V
Speed/torque gradient	48 rpm/mNm
Rotor inertia	26 gcm <sup>2</sup>
Weight	130 g
Thermal resistance housing-ambient	16 K/W
Thermal resistance winding-housing	3.5 K/W
Thermal time constant motor	620 s
Thermal time constant winding	4 s
Operating temperature range	-40~+120 °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	5 N
Axial load static	80 N
Radial load at 3 mm from mounting face	29 N
No. of pole pairs	2
Bearings	2 ball bearings
Protection class	30 IP
Commutation	Hall Sensor

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- Hall-sensor
- encoder
- driver

## Anwendungen

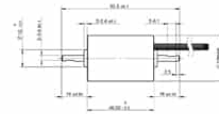
- medical equipment
- electrical tools

# BS3246NBH2B02-80-12.0

32mm BLDC, inner rotor, slotted, Hall sensor



<https://www.kocomotion.de/produkt/bs3246nbh2b02-80-12-0/>



Specification	
Voltage	12.0 V
Terminal resistance	1.5
No-load speed	8000 rpm
No-load current	0.2 A
Stall torque	108 mNm
Stall current	8.0 A
Nominal torque	24.0 mNm
Nominal speed	6000 rpm
Nominal current	2 A
Max. output power	22.8 W
Max. efficiency	70.8 %
Back-EMF constant	1.5 mV/rpm
Torque constant	14 mNm/A
KV Value	666 rpm/V
Speed/torque gradient	73 rpm/mNm
Rotor inertia	26 gcm <sup>2</sup>
Weight	130 g
Thermal resistance housing-ambient	16 K/W
Thermal resistance winding-housing	3.5 K/W
Thermal time constant motor	620 s
Thermal time constant winding	4 s
Operating temperature range	-40~+120 °C
Thermal class of winding	155 °C
Axial play	0.012 mm

Specification	
Radial play	0.008 mm
Axial load dynamic	5 N
Axial load static	80 N
Radial load at 3 mm from mounting face	29 N
No. of pole pairs	2
Bearings	2 ball bearings
Commutation	Hall Sensor
Protection class	30 IP

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- Hall-sensor
- encoder
- driver

## Anwendungen

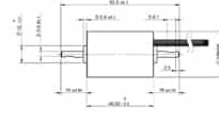
- medical equipment
- electrical tools

# BS3246NBH2B03-40-12.0

32mm BLDC, inner rotor, slotted, Hall sensor



<https://www.kocomotion.de/produkt/bs3246nbh2b03-40-12-0/>



Specification	
Voltage	12.0 V
Terminal resistance	3
No-load speed	4000 rpm
No-load current	0.2 A
Stall torque	103 mNm
Stall current	4.0 A
Nominal torque	24.0 mNm
Nominal speed	2800 rpm
Nominal current	1 A
Max. output power	10.8 W
Max. efficiency	60 %
Back-EMF constant	2.8 mV/rpm
Torque constant	27.0 mNm/A
KV Value	333 rpm/V
Speed/torque gradient	38 rpm/mNm
Rotor inertia	26 gcm <sup>2</sup>
Weight	130 g
Thermal resistance housing-ambient	16 K/W
Thermal resistance winding-housing	3.5 K/W
Thermal time constant motor	620 s
Thermal time constant winding	4 s
Operating temperature range	-40~+120 °C
Thermal class of winding	155 °C
Axial play	0.012 mm



Specification	
Radial play	0.008 mm
Axial load dynamic	5 N
Axial load static	80 N
Radial load at 3 mm from mounting face	29 N
No. of pole pairs	2
Bearings	2 ball bearings
Commutation	Hall Sensor
Protection class	30 IP

## Optionen

- lead wires length
- shaft length
- special coils
- gear heads
- Hall-sensor
- encoder
- driver

## Anwendungen

- medical equipment
- electrical tools

# BLDC - Size 16mm

16ZWC32L-1 is very compact size but it has optimized magnetic circuit. Brushless DC Motor with core winding has high torque density and multi-pole rotor can provide very strong and dynamic performance. 16ZWC32L-1 can reach Max. 16,300RPM



<https://www.kocomotion.de/produkt/bldc-size-16mm/>

## Produkte:

Seite

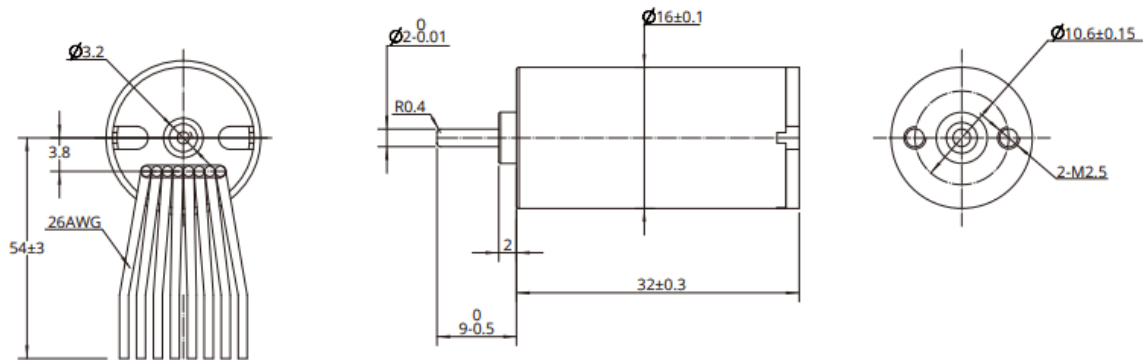
16ZWC32L-1

165

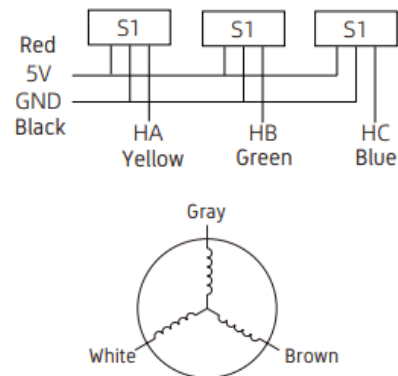
Motor Characteristics	16ZWC32L-1
Motor Length	32 mm
Mounting Hole	10.6(±0.15)
Shaft Length	9 ±0.5
Phase Resistance	6.5
Insulation Class	B
Duty Type	S2
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	25.5 g
Rated Voltage	24 V
Rated Power	9.2 W
Rated Torque	0.007 Nm
Rated Speed	12600 RPM
Rated Current	0.65 A
No Load Speed	16300 RPM
No Load Current	0.22 A
Motor Efficiency	71.6 %
Noise (Ambient noise 20db, test distance 1M)	50

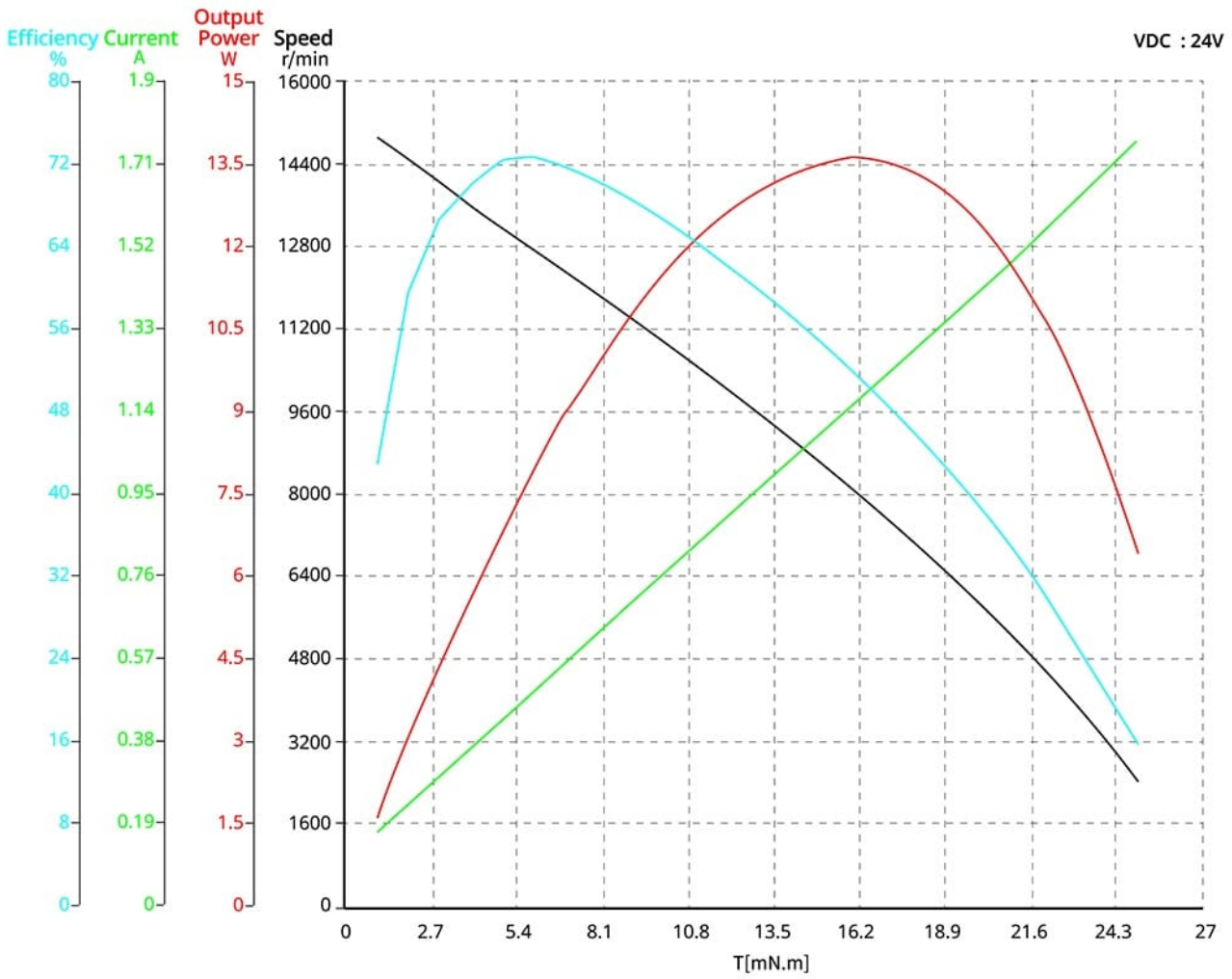
Motor Characteristics	16ZWC32L-1
Enclosure - Ambient Thermal Resistance	0.9 K/W
Motor Thermal Time Constant	1.26 min
Ambient Temperature	25 °C
Maximum Winding Temperature	68.5 °C
Torque Constant	0.011 N·m/A
Back-EMF Constant /Effective Value	1.05 V/Krpm
Peak Torque	0.021 Nm
Peak Current	1.95 A
Inertia Moment	0.45 kg·cm <sup>2</sup>
End Cover	Aluminium Die Casting
Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB
Shaft	Carbon Steel

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Lead-out type	Lead-out color	Function
UL3265 AWG26	Yellow	Hall U (Hu)
	Green	Hall V (Hv)
	Blue	Hall W (Hw)
	Red	Hall power supply positive (Vcc)
	Black	Hall power supply negative (GND)
UL3265 AWG26	gray	U phase
	White	V phase
	Brown	W phase





# 16ZWC32L-1

16ZWC32L-1 is very compact size but it has optimized magnetic circuit. Brushless DC Motor with core winding has high torque density and multi-pole rotor can provide very strong and dynamic performance. 16ZWC32L-1 can reach Max. 16,300RPM



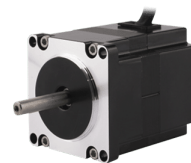
<https://www.kocomotion.de/produkt/16zwc32l-1/>

Specification	
Motor Length	32 mm
Mounting Hole	10.6(±0.15 mm)
Shaft Length	9 ±0.5 mm
Phase Resistance	6.5
Insulation Class	B
Duty Type	S2
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	25.5 g
Rated Voltage	24 V
Rated Power	9.2 W
Rated Torque	0.007 Nm
Rated Speed	12600 RPM
Rated Current	0.65 A
No Load Speed	16300 RPM
No Load Current	0.22 A
Motor Efficiency	71.6 %
Noise (Ambient noise 20db, test distance 1M)	50 dB
Enclosure - Ambient Thermal Resistance	0.9 K/W
Motor Thermal Time Constant	1.26 min
Ambient Temperature	25 °C

Specification	
Maximum Winding Temperature	68.5 °C
Torque Constant	0.011 N·m/A
Back-EMF Constant /Effective Value	1.05 V/Krpm
Peak Torque	0.021 Nm
Peak Current	1.95 A
Inertia Moment	0.45 kg·cm <sup>2</sup>
End Cover	Aluminium Die Casting
Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB
Shaft	Carbon Steel

# BLDC - Size 42mm

42mm Brushless DC Motor has Max. 0.185N·m rated torque and triple stack 42mm Motor can generate 58.1W capacity of rated power. Single and double stack motor has Star winding connection and for triple stack motor has delta winding connector, all 42mm Brushless DC Motors are 5 pole pairs motors. Hall sensors feed back method as standard and also additional incremental encoder is available.



<https://www.kocomotion.de/produkt/bldc-size-42mm/>

Produkte:	Seite
42ZWS50X-1	176
42ZWS63X-1	178
42ZWS75X-1	180
42ZWC75L-2	182
42ZWC75L-1	184

Motor Characteristics	42ZWS50X-1	42ZWS63X-1	42ZWS75X-1
Motor Length	50 mm	63 mm	75 mm
Mounting Hole	36(±0.2)	36(±0.2)	36(±0.2)
Shaft Length	25 ±0.5	25 ±0.5	25 ±0.5
Pole Pairs	5	5	5
Phase Resistance	2.482	1.261	0.987
Phase Inductance	1.062 mH	0.586 mH	0.434 mH
Winding Connection	Star	Star	Star
Insulation Class	B	B	B
Duty Type	S2	S2	S2
Feedback Method	Hall Sensors	Hall Sensors	Hall Sensors
Commutation Angle	120°	120°	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s	500VAC/1KHz/1mA/1s	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC	100 M /500VDC	100 M /500VDC

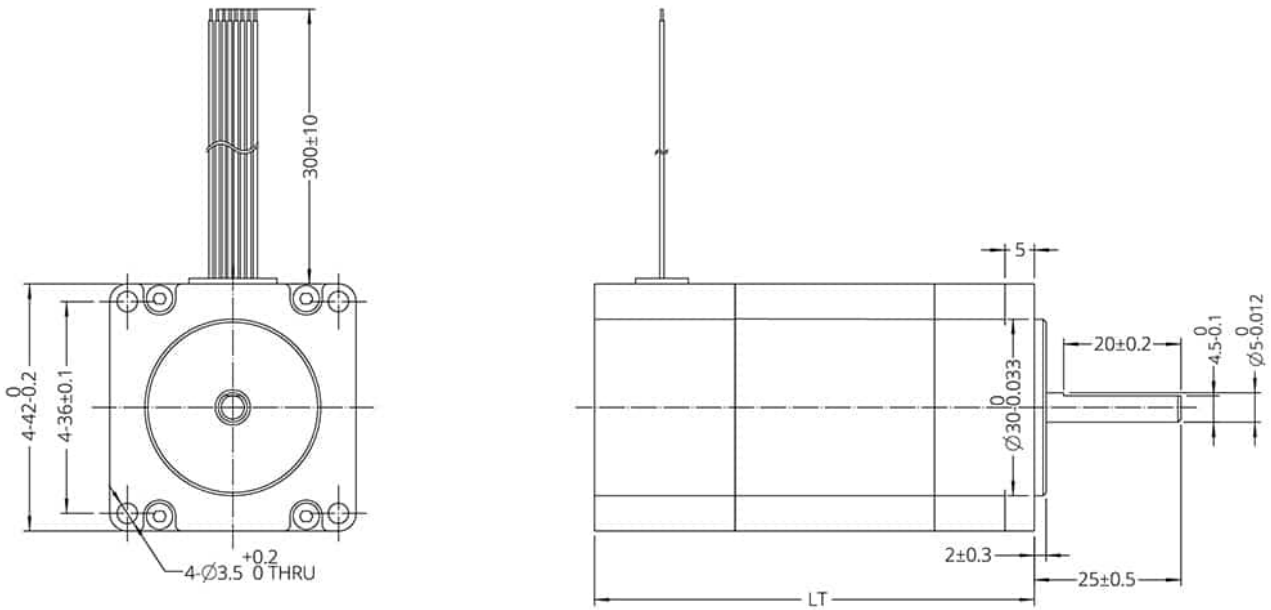
Motor Characteristics	42ZWS50X-1	42ZWS63X-1	42ZWS75X-1
Weight	260 g	380 g	500 g
Rated Voltage	24 V	24 V	24 V
Rated Power	19.6 W	39.3 W	58.1 W
Rated Torque	0.0625 Nm	0.125 Nm	0.185 Nm
Rated Speed	3000 RPM	3000 RPM	3000 RPM
Rated Current	1.2 A	2.4 A	3.6 A
No Load Speed	4000 RPM	4000 RPM	4000 RPM
No Load Current	0.15 A	0.3 A	0.45 A
Motor Efficiency	72 %	77.6 %	76 %
Noise (Ambient noise 20db, test distance 1M)	50	50	50
Enclosure - Ambient Thermal Resistance	0.75 K/W	0.38 K/W	0.25 K/W
Motor Thermal Time Constant	2.3 min	3.1 min	3.6 min
Ambient Temperature	31.3 °C	31.3 °C	31.3 °C
Maximum Winding Temperature	68.5 °C	68.5 °C	68.5 °C
Torque Constant	0.052 N·m/A	0.052 N·m/A	0.051 N·m/A
Back-EMF Constant /Effective Value	5.44 V/Krpm	5.44 V/Krpm	5.44 V/Krpm
Peak Torque	0.1875 Nm	0.375 Nm	0.555 Nm
Peak Current	3.6 A	7.2 A	10.8 A
Inertia Moment	0.05 kg·cm <sup>2</sup>	0.1 kg·cm <sup>2</sup>	0.15 kg·cm <sup>2</sup>

Motor Characteristics	42ZWC75L-2	42ZWC75L-1
Motor Length	--	--
Mounting Hole	--	--
Shaft Length	--	--
Pole Pairs	2	2
Phase Resistance	0.19	0.24
Phase Inductance	0.12 mH	0.15 mH
Winding Connection	Star shape	Star shape
Insulation Class	B	B

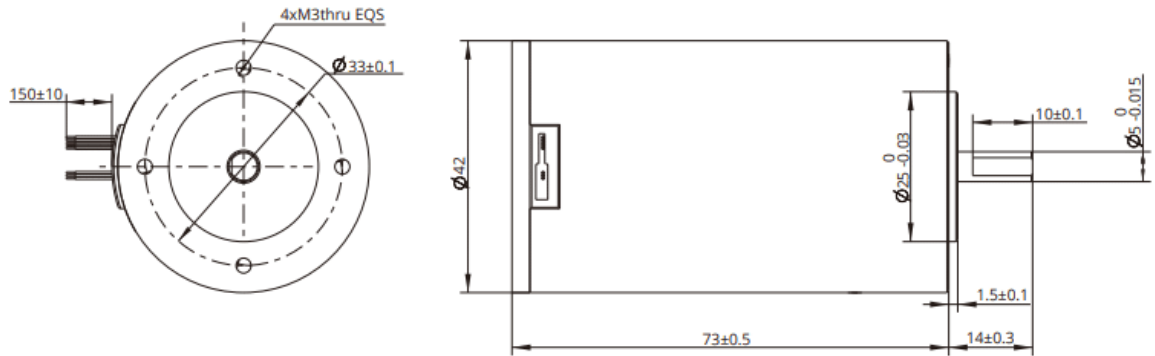


Motor Characteristics	42ZWC75L-2	42ZWC75L-1
Duty Type	S2	S2
Feedback Method	Hall Sensors	Hall Sensors
Commutation Angle	120°	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC	100 M /500VDC
Weight	800 g	800 g
Rated Voltage	24 V	48 V
Rated Power	83 W	209.4 W
Rated Torque	0.08 Nm	0.2 Nm
Rated Speed	10000 RPM	10000 RPM
Rated Current	4.3 A	5.5 A
No Load Speed	12000 RPM	12000 RPM
No Load Current	0.7 A	0.86 A
Motor Efficiency	80 %	80 %
Noise (Ambient noise 20db, test distance 1M)	50	50
Enclosure - Ambient Thermal Resistance	0.25 K/W	0.085 K/W
Motor Thermal Time Constant	--	--
Ambient Temperature	25 °C	25 °C
Maximum Winding Temperature	75 °C	75 °C
Torque Constant	0.019 N·m/A	0.036 N·m/A
Back-EMF Constant /Effective Value	1.99 V/Krpm	3.77 V/Krpm
Peak Torque	0.24 Nm	0.6 Nm
Peak Current	12.9 A	16.5 A
Inertia Moment	0.084 kg·cm <sup>2</sup>	0.084 kg·cm <sup>2</sup>

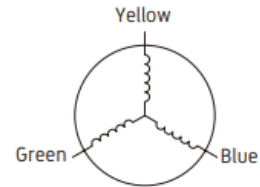
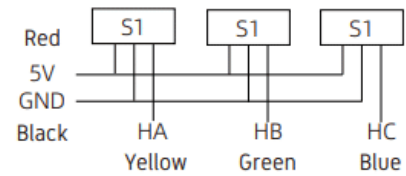
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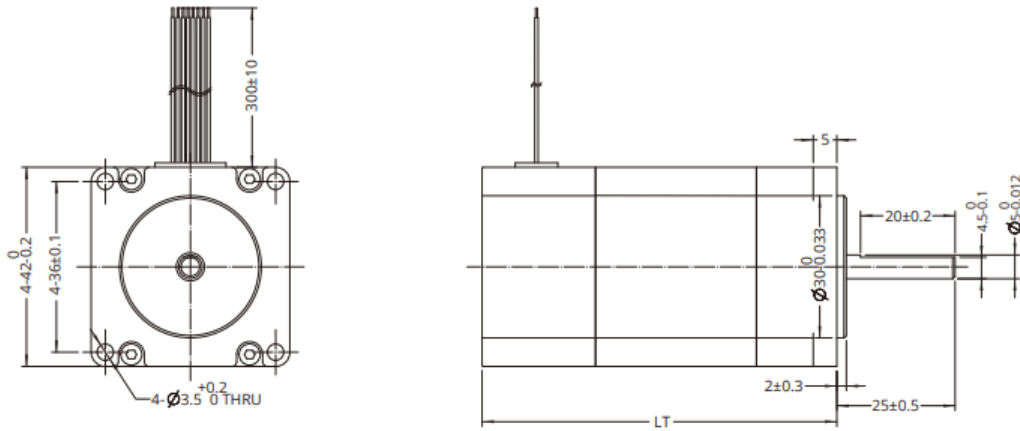
● 42ZWC75L



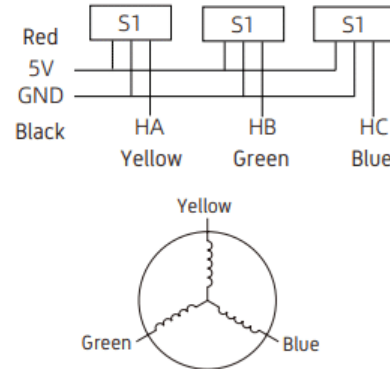
Lead-out type	Lead-out color	Function
UL3265 AWG26	Yellow	Hall U (Hu)
	Green	Hall V (Hv)
	Blue	Hall W (Hw)
	Red	Hall power supply positive (Vcc)
	Black	Hall power supply negative (GND)
UL3265 AWG22	Yellow	U phase
	Green	V phase
	Blue	W phase



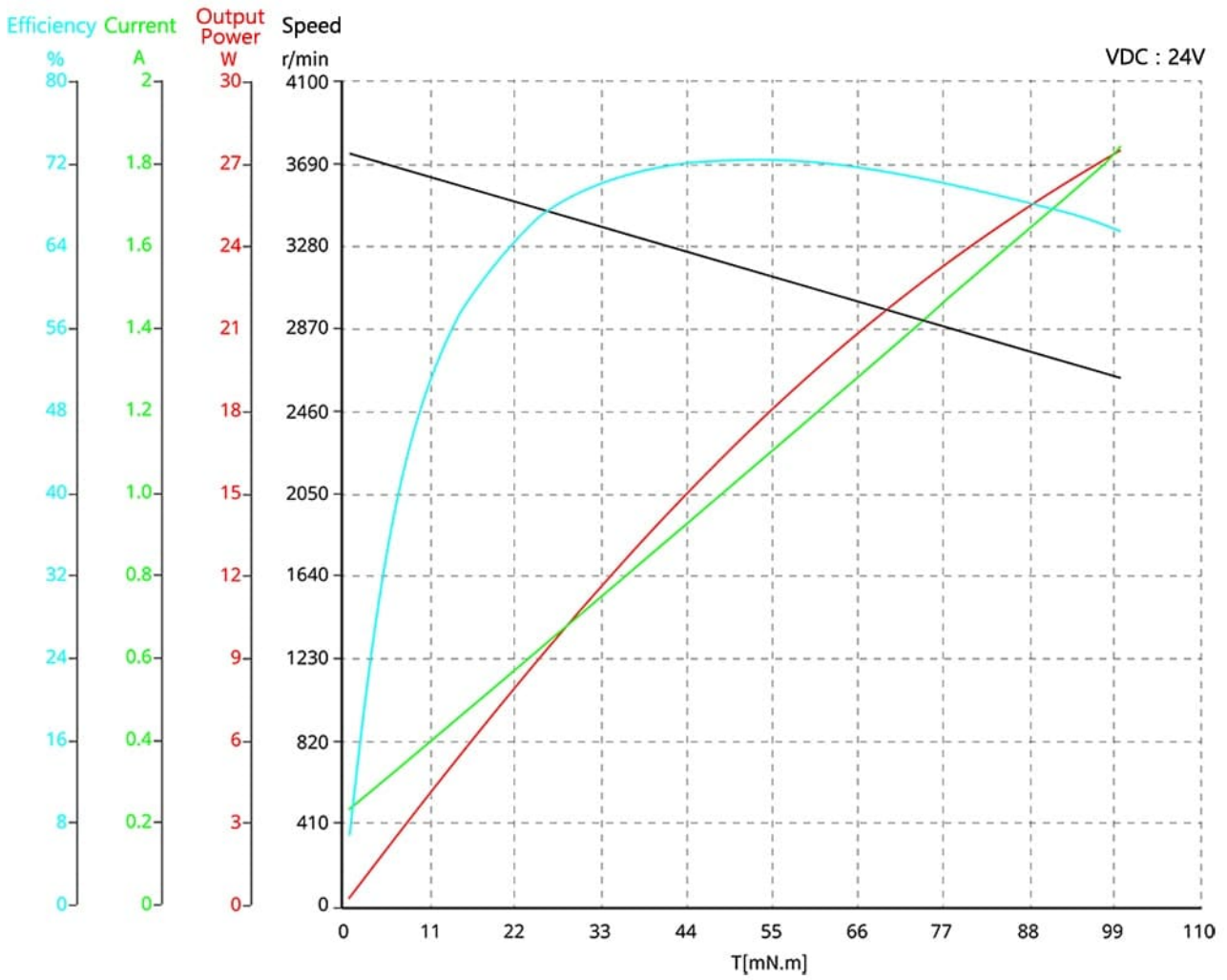
● 42ZWS\*\*X

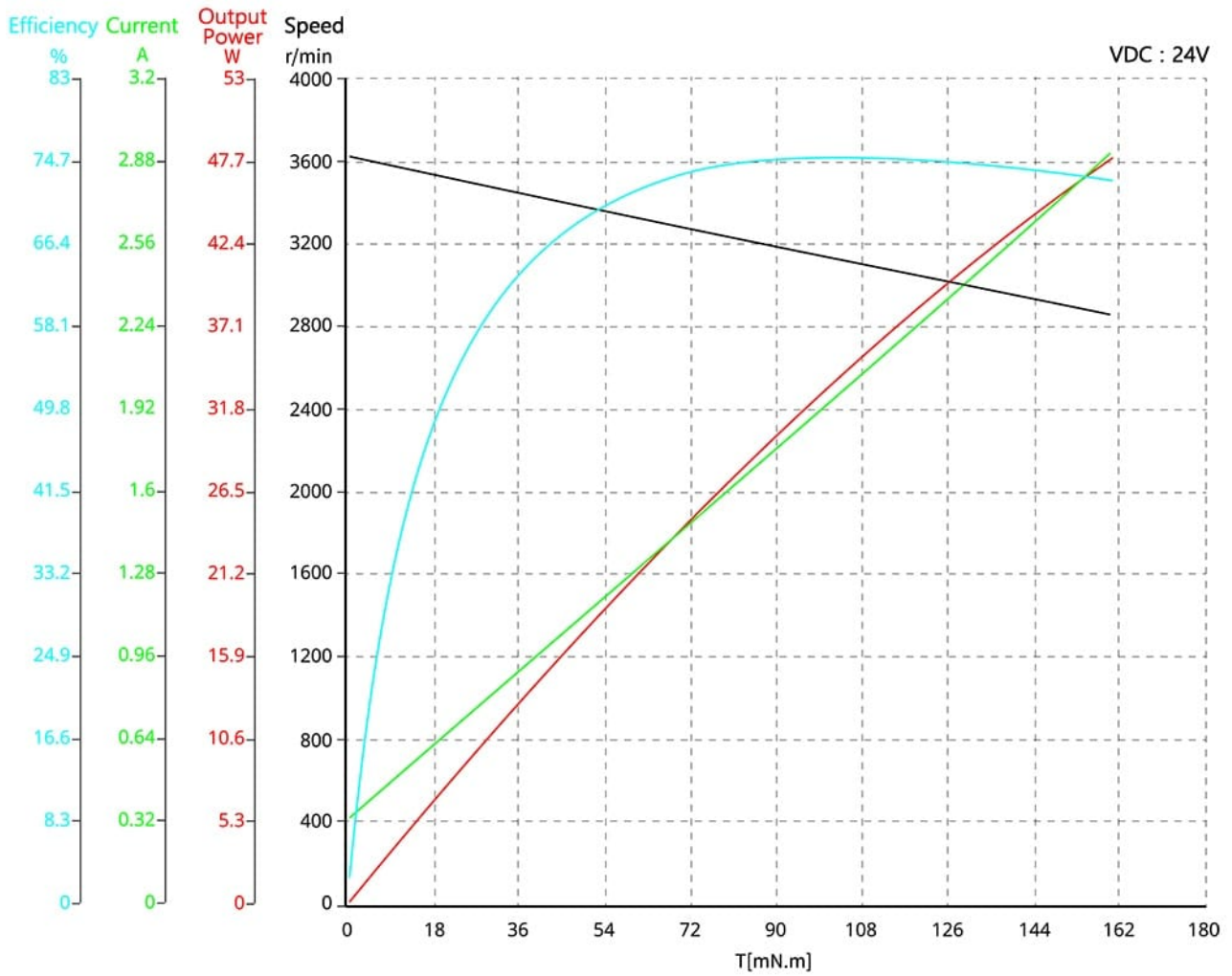


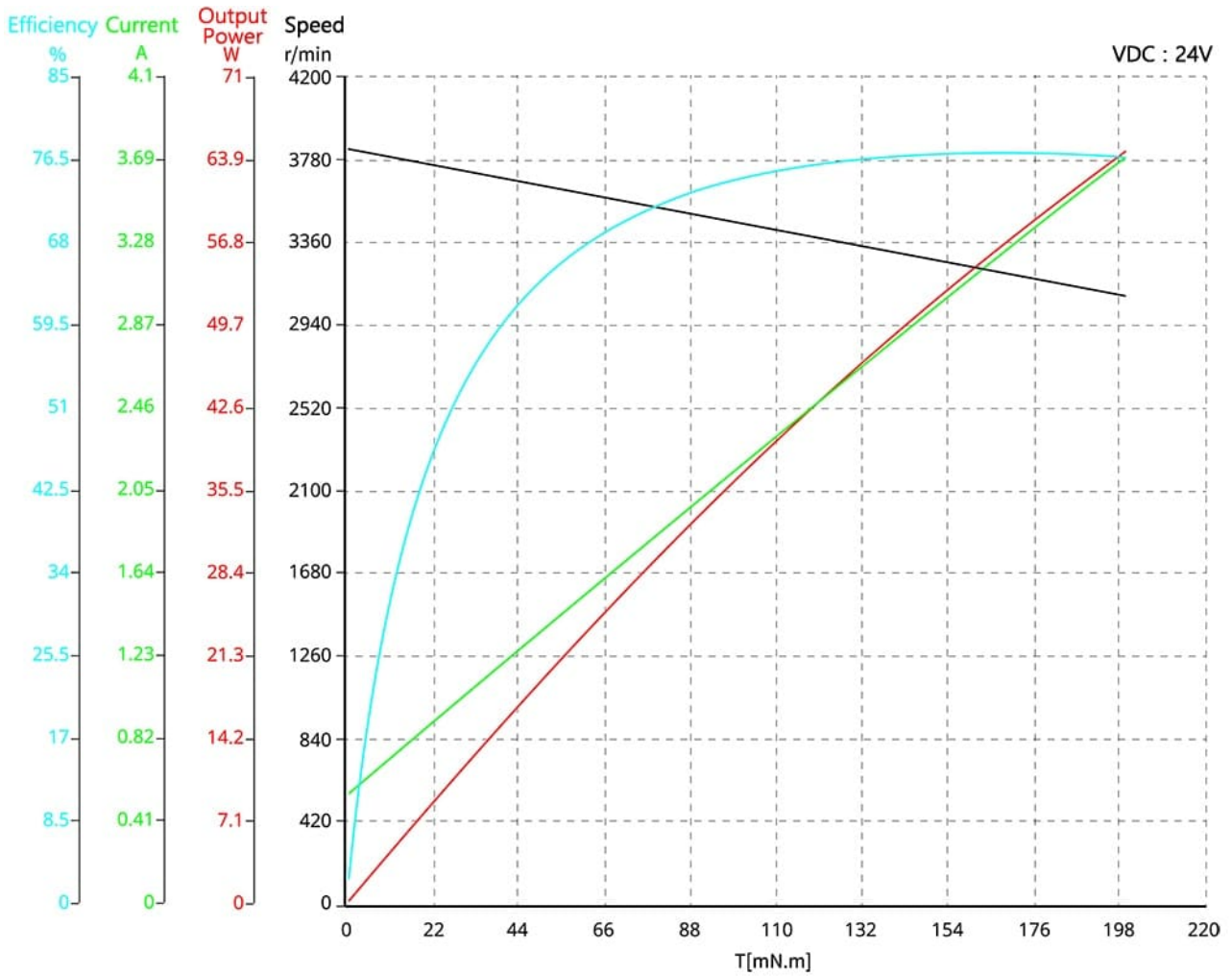
Lead-out type	Lead-out color	Function
UL3265 AWG26	Yellow	Hall U (Hu)
	Green	Hall V (Hv)
	Blue	Hall W (Hw)
	Red	Hall power supply positive (Vcc)
	Black	Hall power supply negative (GND)
UL3265 AWG22	Yellow	U phase
	Green	V phase
	Blue	W phase



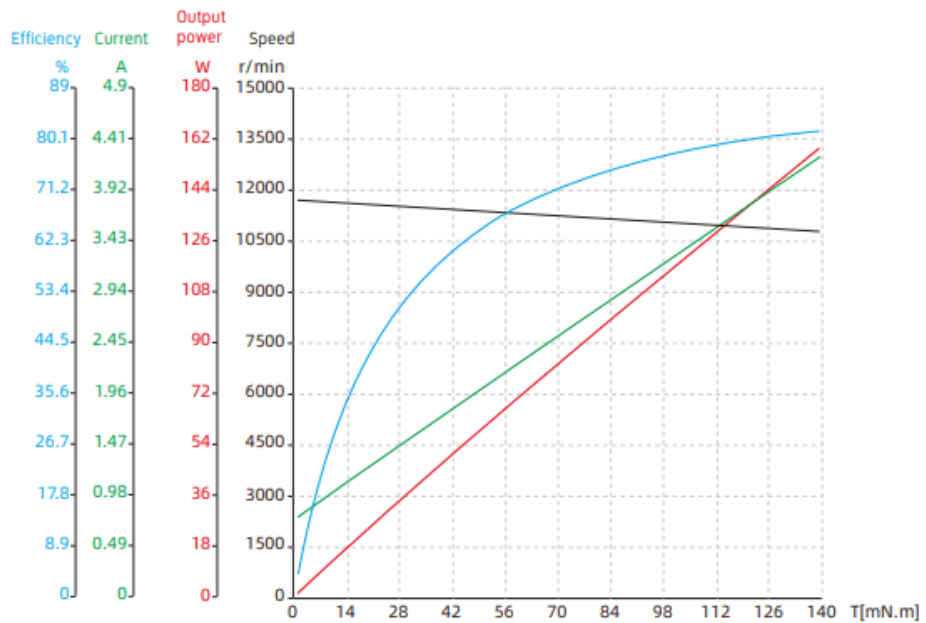
Note : All drawings are 1st Angle Projection - ISO Compliant (3D models available)





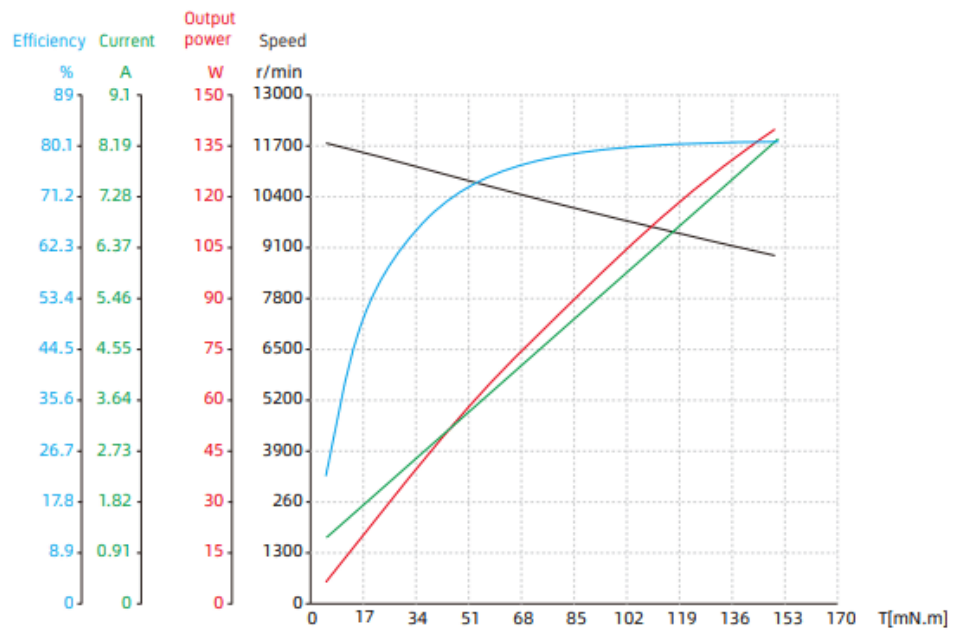


● 42ZWC75L-1



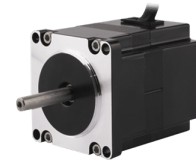
© KOCO MOTION GmbH 2024-12-11 08:29:04 Technische und optische Änderungen vorbehalten.

● 42ZWC75L-2



# 42ZWS50X-1

42mm Brushless DC Motor has Max. 0.185N·m rated torque and triple stack 42mm Motor can generate 58.1W capacity of rated power. Single and double stack motor has Star winding connection and for triple stack motor has delta winding connector, all 42mm Brushless DC Motors are 5 pole pairs motors. Hall sensors feed back method as standard and also additional incremental encoder is available.



<https://www.kocomotion.de/produkt/42zws50x-1/>

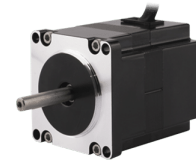
Specification	
Motor Length	50 mm
Mounting Hole	36(±0.2 mm
Shaft Length	25 ±0.5 mm
Pole Pairs	5
Phase Resistance	2.482
Phase Inductance	1.062 mH
Winding Connection	Star
Insulation Class	B
Duty Type	S2
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	260 g
Rated Voltage	24 V
Rated Power	19.6 W
Rated Torque	0.0625 Nm
Rated Speed	3000 RPM
Rated Current	1.2 A
No Load Speed	4000 RPM
No Load Current	0.15 A



Specification	
Motor Efficiency	72 %
Noise (Ambient noise 20db, test distance 1M)	50 dB
Enclosure - Ambient Thermal Resistance	0.75 K/W
Motor Thermal Time Constant	2.3 min
Ambient Temperature	31.3 °C
Maximum Winding Temperature	68.5 °C
Torque Constant	0.052 N·m/A
Back-EMF Constant /Effective Value	5.44 V/Krpm
Peak Torque	0.1875 Nm
Peak Current	3.6 A
Inertia Moment	0.05 kg·cm <sup>2</sup>

# 42ZWS63X-1

42mm Brushless DC Motor has Max. 0.185N·m rated torque and triple stack 42mm Motor can generate 58.1W capacity of rated power. Single and double stack motor has Star winding connection and for triple stack motor has delta winding connector, all 42mm Brushless DC Motors are 5 pole pairs motors. Hall sensors feed back method as standard and also additional incremental encoder is available.



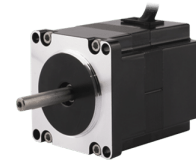
<https://www.kocomotion.de/produkt/42zws63x-1/>

Specification	
Motor Length	63 mm
Mounting Hole	36(±0.2 mm
Shaft Length	25 ±0.5 mm
Pole Pairs	5
Phase Resistance	1.261
Phase Inductance	0.586 mH
Winding Connection	Star
Insulation Class	B
Duty Type	S2
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	380 g
Rated Voltage	24 V
Rated Power	39.3 W
Rated Torque	0.125 Nm
Rated Speed	3000 RPM
Rated Current	2.4 A
No Load Speed	4000 RPM
No Load Current	0.3 A

Specification	
Motor Efficiency	77.6 %
Noise (Ambient noise 20db, test distance 1M)	50 dB
Enclosure - Ambient Thermal Resistance	0.38 K/W
Motor Thermal Time Constant	3.1 min
Ambient Temperature	31.3 °C
Maximum Winding Temperature	68.5 °C
Torque Constant	0.052 N·m/A
Back-EMF Constant /Effective Value	5.44 V/Krpm
Peak Torque	0.375 Nm
Peak Current	7.2 A
Inertia Moment	0.1 kg·cm <sup>2</sup>

# 42ZWS75X-1

42mm Brushless DC Motor has Max. 0.185N·m rated torque and triple stack 42mm Motor can generate 58.1W capacity of rated power. Single and double stack motor has Star winding connection and for triple stack motor has delta winding connector, all 42mm Brushless DC Motors are 5 pole pairs motors. Hall sensors feed back method as standard and also additional incremental encoder is available.



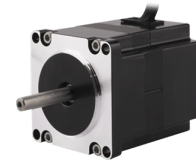
<https://www.kocomotion.de/produkt/42zws75x-1/>

Specification	
Motor Length	75 mm
Mounting Hole	36(±0.2 mm)
Shaft Length	25 ±0.5 mm
Pole Pairs	5
Phase Resistance	0.987
Phase Inductance	0.434 mH
Winding Connection	Star
Insulation Class	B
Duty Type	S2
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	500 g
Rated Voltage	24 V
Rated Power	58.1 W
Rated Torque	0.185 Nm
Rated Speed	3000 RPM
Rated Current	3.6 A
No Load Speed	4000 RPM
No Load Current	0.45 A

Specification	
Motor Efficiency	76 %
Noise (Ambient noise 20db, test distance 1M)	50 dB
Enclosure - Ambient Thermal Resistance	0.25 K/W
Motor Thermal Time Constant	3.6 min
Ambient Temperature	31.3 °C
Maximum Winding Temperature	68.5 °C
Torque Constant	0.051 N·m/A
Back-EMF Constant /Effective Value	5.44 V/Krpm
Peak Torque	0.555 Nm
Peak Current	10.8 A
Inertia Moment	0.15 kg·cm <sup>2</sup>

# 42ZWC75L-2

42mm Brushless DC Motor has Max. 0.185N·m rated torque and triple stack 42mm Motor can generate 58.1W capacity of rated power. Single and double stack motor has Star winding connection and for triple stack motor has delta winding connector, all 42mm Brushless DC Motors are 5 pole pairs motors. Hall sensors feed back method as standard and also additional incremental encoder is available.



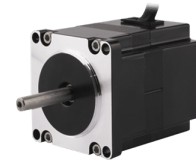
<https://www.kocomotion.de/produkt/42zwc75l-2/>

Specification	
Motor Length	-- mm
Mounting Hole	-- mm
Shaft Length	-- mm
Pole Pairs	2
Phase Resistance	0.19
Phase Inductance	0.12 mH
Winding Connection	Star shape
Insulation Class	B
Duty Type	S2
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	800 g
Rated Voltage	24 V
Rated Power	83 W
Rated Torque	0.08 Nm
Rated Speed	10000 RPM
Rated Current	4.3 A
No Load Speed	12000 RPM
No Load Current	0.7 A

Specification	
Motor Efficiency	80 %
Noise (Ambient noise 20db, test distance 1M)	50 dB
Enclosure - Ambient Thermal Resistance	0.25 K/W
Motor Thermal Time Constant	-- min
Ambient Temperature	25 °C
Maximum Winding Temperature	75 °C
Torque Constant	0.019 N·m/A
Back-EMF Constant /Effective Value	1.99 V/Krpm
Peak Torque	0.24 Nm
Peak Current	12.9 A
Inertia Moment	0.084 kg·cm <sup>2</sup>

# 42ZWC75L-1

42mm Brushless DC Motor has Max. 0.185N·m rated torque and triple stack 42mm Motor can generate 58.1W capacity of rated power. Single and double stack motor has Star winding connection and for triple stack motor has delta winding connector, all 42mm Brushless DC Motors are 5 pole pairs motors. Hall sensors feed back method as standard and also additional incremental encoder is available.



<https://www.kocomotion.de/produkt/42zwc75l-1/>

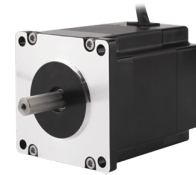
Specification	
Motor Length	-- mm
Mounting Hole	-- mm
Shaft Length	-- mm
Pole Pairs	2
Phase Resistance	0.24
Phase Inductance	0.15 mH
Winding Connection	Star shape
Insulation Class	B
Duty Type	S2
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	800 g
Rated Voltage	48 V
Rated Power	209.4 W
Rated Torque	0.2 Nm
Rated Speed	10000 RPM
Rated Current	5.5 A
No Load Speed	12000 RPM
No Load Current	0.86 A



Specification	
Motor Efficiency	80 %
Noise (Ambient noise 20db, test distance 1M)	50 dB
Enclosure - Ambient Thermal Resistance	0.085 K/W
Motor Thermal Time Constant	-- min
Ambient Temperature	25 °C
Maximum Winding Temperature	75 °C
Torque Constant	0.036 N·m/A
Back-EMF Constant /Effective Value	3.77 V/Krpm
Peak Torque	0.6 Nm
Peak Current	16.5 A
Inertia Moment	0.084 kg·cm <sup>2</sup>

# BLDC - Size 57mm

57mm Brushless DC Motor has Max. 0.33N·m rated torque and triple stack 57mm Motor can generate 103.7W capacity of rated power. 57mm motors have Star winding connection. And 57mm Brushless DC Motors are 5 pole pairs motors Hall sensors feed back method as standard and also additional incremental encoder is available.



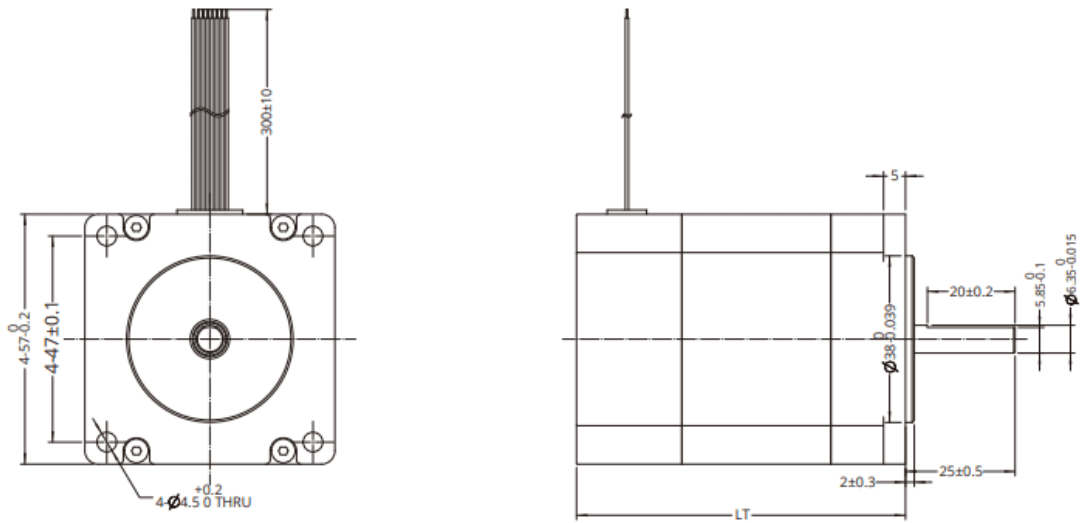
<https://www.kocomotion.de/produkt/bldc-size-57mm/>

Produkte:	Seite
57ZWS50X-1	192
57ZWS63X-1	194
57ZWS75X-1	196

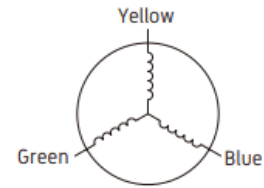
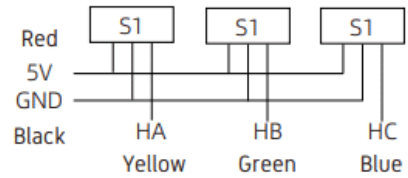
Motor Characteristics	57ZWS50X-1	57ZWS63X-1	57ZWS75X-1
Motor Length	50 mm	63 mm	75 mm
Mounting Hole	47.14(±0.2)	47.14(±0.2)	47.14(±0.2)
Shaft Length	25 ±0.5	25 ±0.5	25 ±0.5
Pole Pairs	5	5	5
Phase Resistance	0.958	0.473	0.301
Phase Inductance	0.742 mH	0.357 mH	0.205 mH
Winding Connection	Star	Star	Star
Insulation Class	B	B	B
Duty Type	S1	S1	S1
Feedback Method	Hall Sensors	Hall Sensors	Hall Sensors
Commutation Angle	120°	120°	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s	500VAC/1KHz/1mA/1s	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC	100 M /500VDC	100 M /500VDC
Weight	0.42 kg	0.65 kg	0.87 kg
Rated Voltage	24 V	24 V	24 V
Rated Power	37.4 W	69.1 W	103.7 W

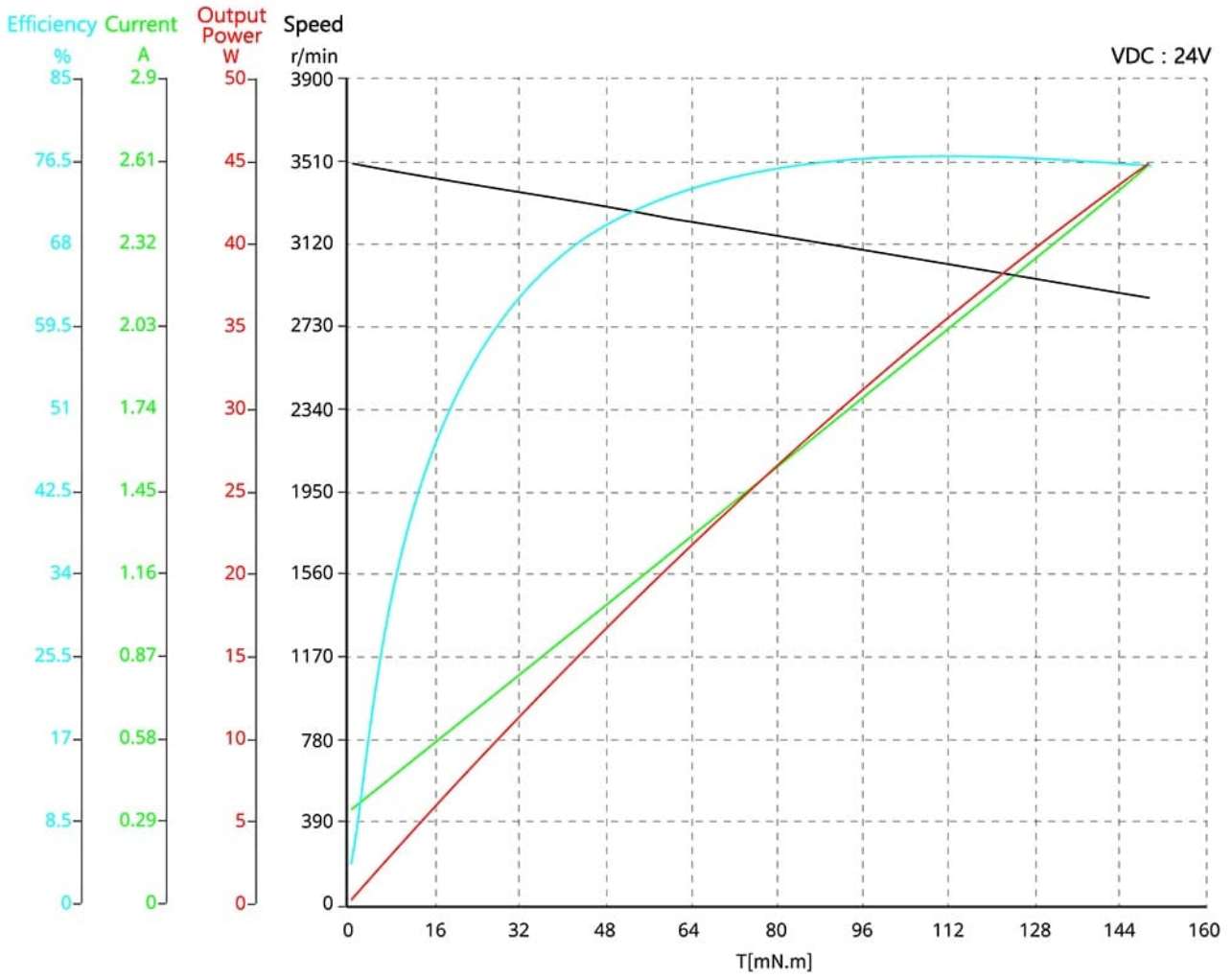
Motor Characteristics	57ZWS50X-1	57ZWS63X-1	57ZWS75X-1
Rated Torque	0.119 Nm	0.22 Nm	0.33 Nm
Rated Speed	3000 RPM	3000 RPM	3000 RPM
Rated Current	2.2 A	4.1 A	6 A
No Load Speed	4000 RPM	4000 RPM	4000 RPM
No Load Current	0.25 A	0.5 A	0.75 A
Motor Efficiency	75 %	75 %	75 %
Noise (Ambient noise 20db, test distance 1M)	50	50	50
Enclosure - Ambient Thermal Resistance	0.53 K/W	0.27 K/W	0.18 K/W
Motor Thermal Time Constant	4.6 min	5 min	5.7 min
Ambient Temperature	29 °C	29 °C	29 °C
Maximum Winding Temperature	77.4 °C	77.4 °C	77.4 °C
Torque Constant	0.054 mN·m/A	0.054 mN·m/A	0.055 mN·m/A
Back-EMF Constant /Effective Value	5.66 V/Krpm	5.66 V/Krpm	5.66 V/Krpm
Peak Torque	0.357 Nm	0.66 Nm	0.99 Nm
Peak Current	6.6 A	12.3 A	18 A
Inertia Moment	0.19 kg·cm <sup>2</sup>	0.38 kg·cm <sup>2</sup>	0.56 kg·cm <sup>2</sup>
End Cover	Aluminium Die Casting	Aluminium Die Casting	Aluminium Die Casting
Bearing	Deep Groove Ball Bearing	Deep Groove Ball Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB	Sinter NdFeB	Sinter NdFeB
Shaft	Carbon Steel	Carbon Steel	Carbon Steel

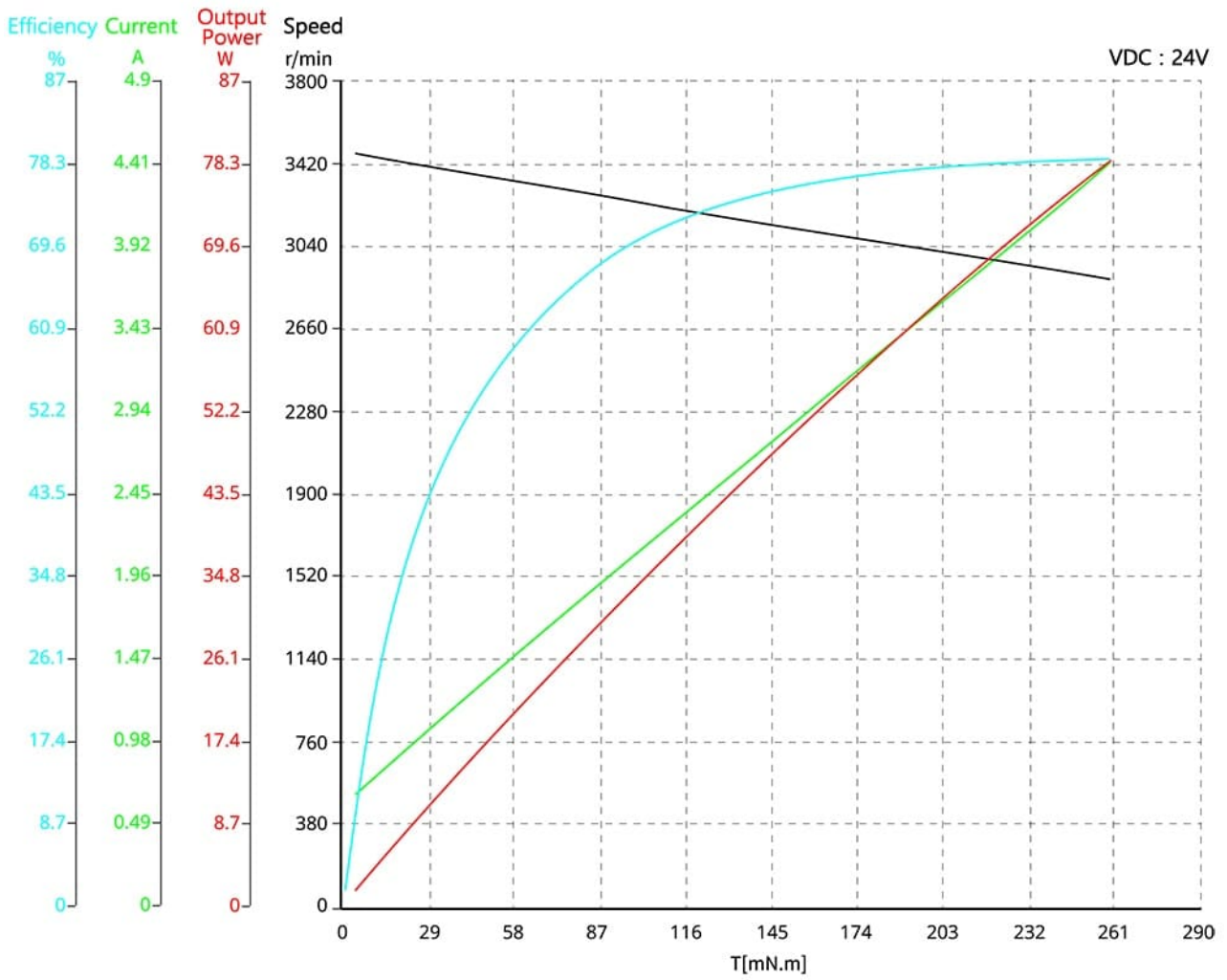
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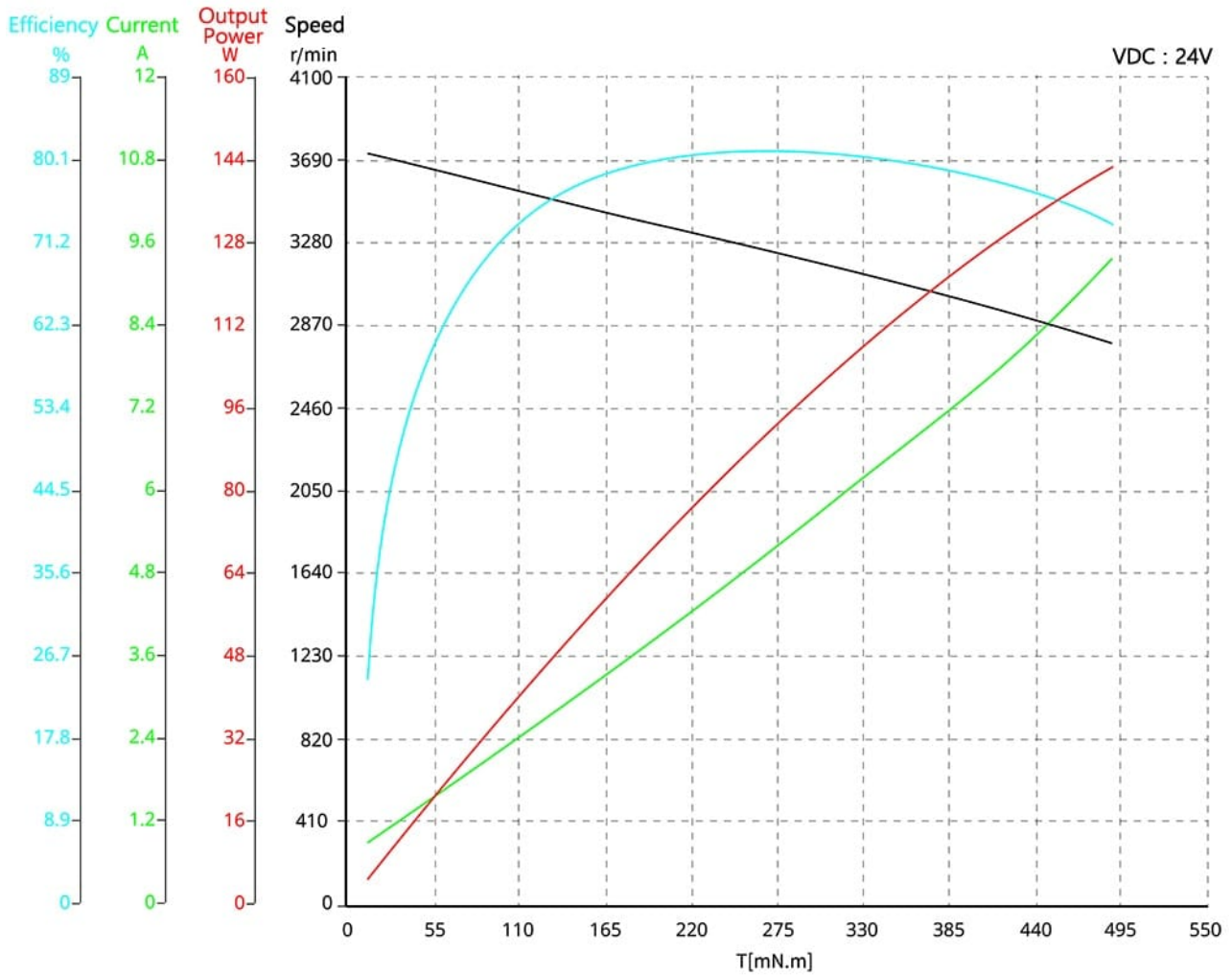


Lead-out type	Lead-out color	Function
UL3265 AWG26	Yellow	Hall U (Hu)
	Green	Hall V (Hv)
	Blue	Hall W (Hw)
	Red	Hall power supply positive (Vcc)
	Black	Hall power supply negative (GND)
UL3265 AWG18	Yellow	U phase
	Green	V phase
	Blue	W phase









# 57ZWS50X-1

57mm Brushless DC Motor has Max. 0.33N·m rated torque and triple stack 57mm Motor can generate 103.7W capacity of rated power. 57mm motors have Star winding connection. And 57mm Brushless DC Motors are 5 pole pairs motors Hall sensors feed back method as standard and also additional incremental encoder is available.



<https://www.kocomotion.de/produkt/57zws50x-1/>

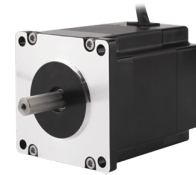
Specification	
Motor Length	50 mm
Mounting Hole	47.14(±0.2 mm
Shaft Length	25 ±0.5 mm
Pole Pairs	5
Phase Resistance	0.958
Phase Inductance	0.742 mH
Winding Connection	Star
Insulation Class	B
Duty Type	S1
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	0.42 kg
Rated Voltage	24 V
Rated Power	37.4 W
Rated Torque	0.119 Nm
Rated Speed	3000 RPM
Rated Current	2.2 A
No Load Speed	4000 RPM
No Load Current	0.25 A



Specification	
Motor Efficiency	75 %
Noise (Ambient noise 20db, test distance 1M)	50 dB
Enclosure - Ambient Thermal Resistance	0.53 K/W
Motor Thermal Time Constant	4.6 min
Ambient Temperature	29 °C
Maximum Winding Temperature	77.4 °C
Torque Constant	0.054 mN·m/A
Back-EMF Constant /Effective Value	5.66 V/Krpm
Peak Torque	0.357 Nm
Peak Current	6.6 A
Inertia Moment	0.19 kg·cm <sup>2</sup>
End Cover	Aluminium Die Casting
Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB
Shaft	Carbon Steel

# 57ZWS63X-1

57mm Brushless DC Motor has Max. 0.33N·m rated torque and triple stack 57mm Motor can generate 103.7W capacity of rated power. 57mm motors have Star winding connection. And 57mm Brushless DC Motors are 5 pole pairs motors Hall sensors feed back method as standard and also additional incremental encoder is available.



<https://www.kocomotion.de/produkt/57zws63x-1/>

Specification	
Motor Length	63 mm
Mounting Hole	47.14(±0.2 mm
Shaft Length	25 ±0.5 mm
Pole Pairs	5
Phase Resistance	0.473
Phase Inductance	0.357 mH
Winding Connection	Star
Insulation Class	B
Duty Type	S1
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	0.65 kg
Rated Voltage	24 V
Rated Power	69.1 W
Rated Torque	0.22 Nm
Rated Speed	3000 RPM
Rated Current	4.1 A
No Load Speed	4000 RPM
No Load Current	0.5 A

Specification	
Motor Efficiency	75 %
Noise (Ambient noise 20db, test distance 1M)	50 dB
Enclosure - Ambient Thermal Resistance	0.27 K/W
Motor Thermal Time Constant	5 min
Ambient Temperature	29 °C
Maximum Winding Temperature	77.4 °C
Torque Constant	0.054 mN·m/A
Back-EMF Constant /Effective Value	5.66 V/Krpm
Peak Torque	0.66 Nm
Peak Current	12.3 A
Inertia Moment	0.38 kg·cm <sup>2</sup>
End Cover	Aluminium Die Casting
Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB
Shaft	Carbon Steel

# 57ZWS75X-1

57mm Brushless DC Motor has Max. 0.33N·m rated torque and triple stack 57mm Motor can generate 103.7W capacity of rated power. 57mm motors have Star winding connection. And 57mm Brushless DC Motors are 5 pole pairs motors Hall sensors feed back method as standard and also additional incremental encoder is available.



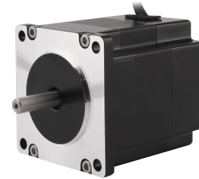
<https://www.kocomotion.de/produkt/57zws75x-1/>

Specification	
Motor Length	75 mm
Mounting Hole	47.14(±0.2 mm
Shaft Length	25 ±0.5 mm
Pole Pairs	5
Phase Resistance	0.301
Phase Inductance	0.205 mH
Winding Connection	Star
Insulation Class	B
Duty Type	S1
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	0.87 kg
Rated Voltage	24 V
Rated Power	103.7 W
Rated Torque	0.33 Nm
Rated Speed	3000 RPM
Rated Current	6 A
No Load Speed	4000 RPM
No Load Current	0.75 A

Specification	
Motor Efficiency	75 %
Noise (Ambient noise 20db, test distance 1M)	50 dB
Enclosure - Ambient Thermal Resistance	0.18 K/W
Motor Thermal Time Constant	5.7 min
Ambient Temperature	29 °C
Maximum Winding Temperature	77.4 °C
Torque Constant	0.055 mN·m/A
Back-EMF Constant /Effective Value	5.66 V/Krpm
Peak Torque	0.99 Nm
Peak Current	18 A
Inertia Moment	0.56 kg·cm <sup>2</sup>
End Cover	Aluminium Die Casting
Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB
Shaft	Carbon Steel

# BLDC - Size 60mm

60mm Brushless DC Motor has Max. 0.46N·m rated torque and triple stack 60mm Motor can generate 144.5W capacity of rated power. All 60mm motors have Star winding connection. And 60mm Brushless DC Motors are 5 pole pairs motors Hall sensors feedback method as standard and also additional incremental encoder is available.



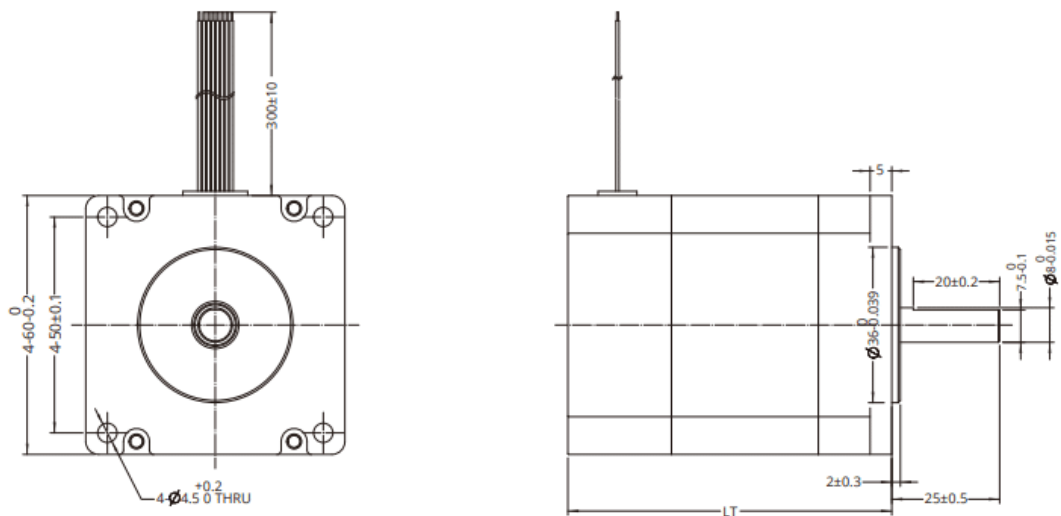
<https://www.kocomotion.de/produkt/bldc-size-60mm/>

Produkte:	Seite
60ZWS50X-1	204
60ZWS63X-1	206
60ZWS75X-1	208

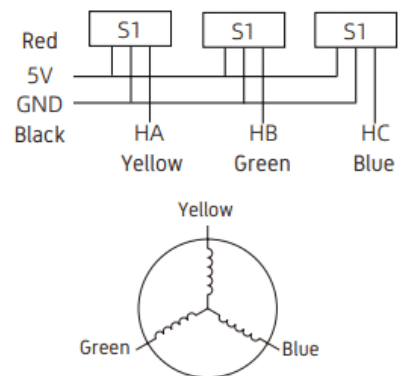
Motor Characteristics	60ZWS50X-1	60ZWS63X-1	60ZWS75X-1
Motor Length	50 mm	63 mm	75 mm
Mounting Hole	50(±0.2)	50(±0.2)	50(±0.2)
Shaft Length	25 ±0.5	25 ±0.5	25 ±0.5
Pole Pairs	5	5	5
Phase Resistance	0.886	0.334	0.233
Phase Inductance	0.682 mH	0.305 mH	0.183 mH
Winding Connection	Star shape	Star shape	Star shape
Insulation Class	B	B	B
Duty Type	S1	S1	S1
Feedback Method	Hall Sensors	Hall Sensors	Hall Sensors
Commutation Angle	120°	120°	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s	500VAC/1KHz/1mA/1s	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC	100 M /500VDC	100 M /500VDC
Weight	0.51 kg	0.77 kg	1 kg
Rated Voltage	24 V	24 V	24 V
Rated Power	47.1 W	97.4 W	144.5 W

Motor Characteristics	60ZWS50X-1	60ZWS63X-1	60ZWS75X-1
Rated Torque	0.15 Nm	0.31 Nm	0.46 Nm
Rated Speed	3000 RPM	3000 RPM	3000 RPM
Rated Current	2.7 A	5.5 A	8.2 A
No Load Speed	3500 RPM	3500 RPM	3500 RPM
No Load Current	0.29 A	0.58 A	0.87 A
Motor Efficiency	81.1 %	82.6 %	83 %
Noise (Ambient noise 20db, test distance 1M)	50	50	50
Enclosure - Ambient Thermal Resistance	0.57 K/W	0.28 K/W	0.19 K/W
Motor Thermal Time Constant	-	-	-
Ambient Temperature	30 °C	30 °C	30 °C
Maximum Winding Temperature	87 °C	87 °C	87 °C
Torque Constant	0.056 mN·m/A	0.056 mN·m/A	0.056 mN·m/A
Back-EMF Constant /Effective Value	5.87 V/Krpm	5.87 V/Krpm	5.87 V/Krpm
Peak Torque	0.45 Nm	0.93 Nm	1.38 Nm
Peak Current	8.1 A	16.5 A	24.6 A
Inertia Moment	0.22 kg·cm <sup>2</sup>	0.44 kg·cm <sup>2</sup>	0.66 kg·cm <sup>2</sup>
End Cover	Aluminium Die Casting	Aluminium Die Casting	Aluminium Die Casting
Bearing	Deep Groove Ball Bearing	Deep Groove Ball Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB	Sinter NdFeB	Sinter NdFeB
Shaft	Carbon Steel	Carbon Steel	Carbon Steel

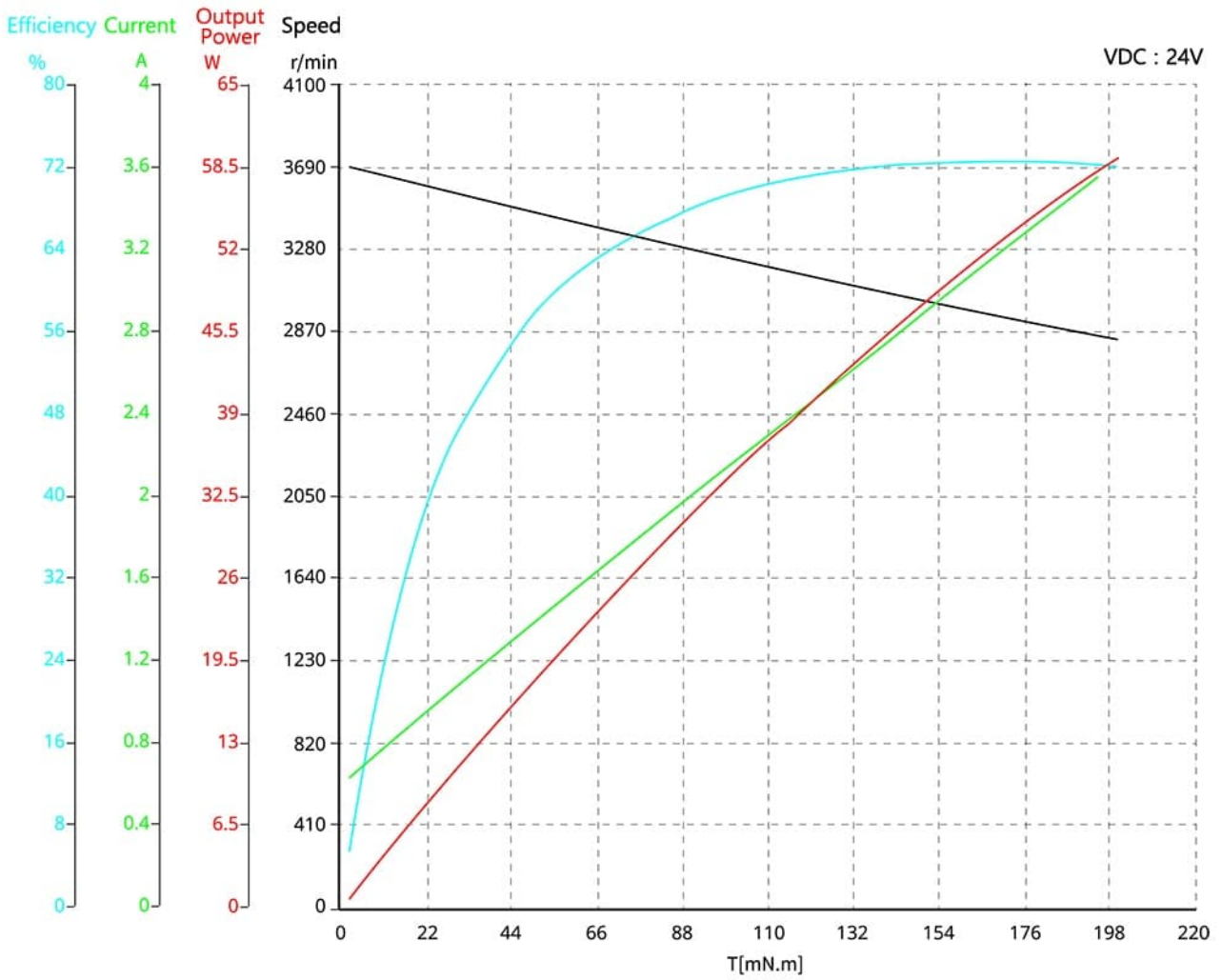
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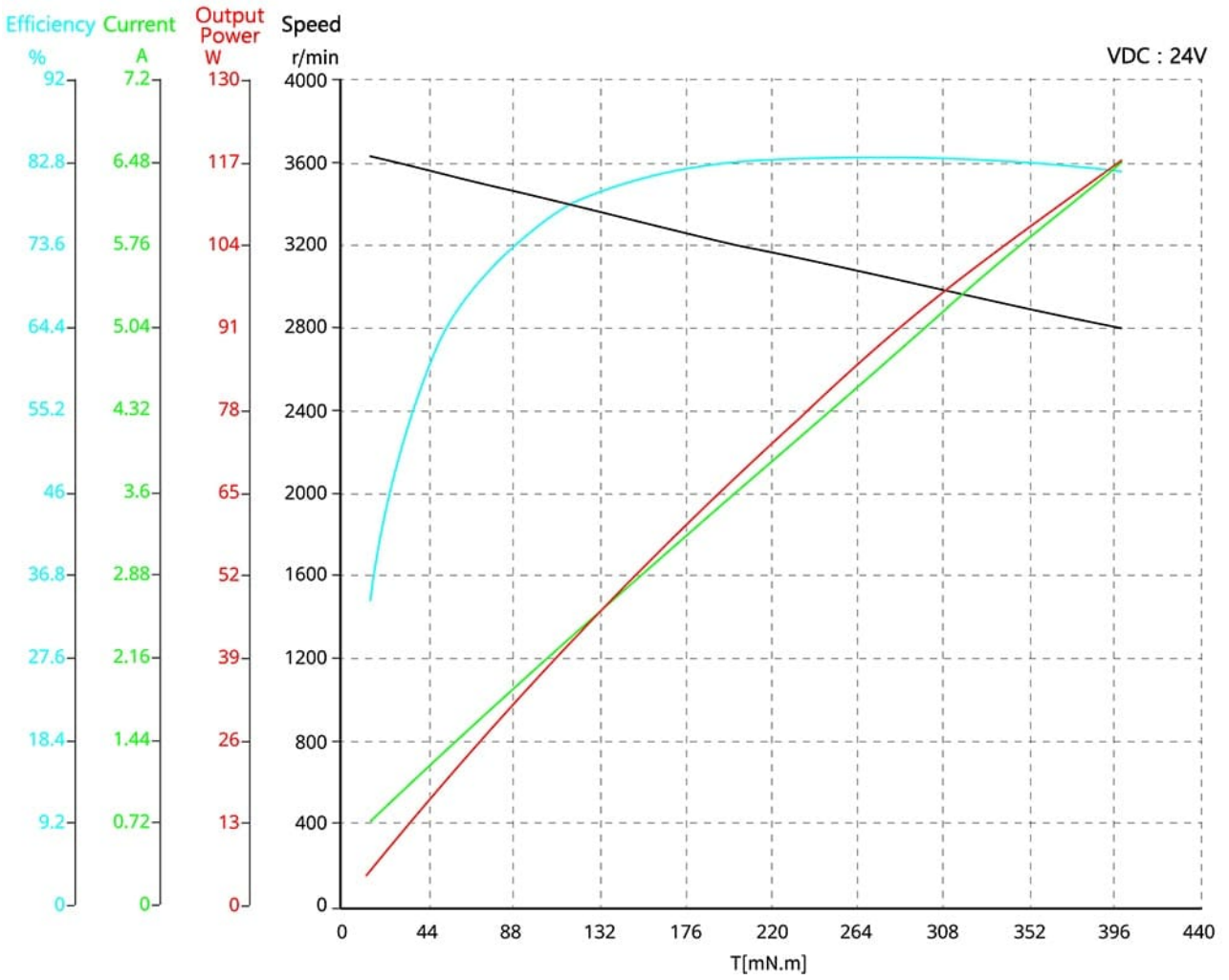


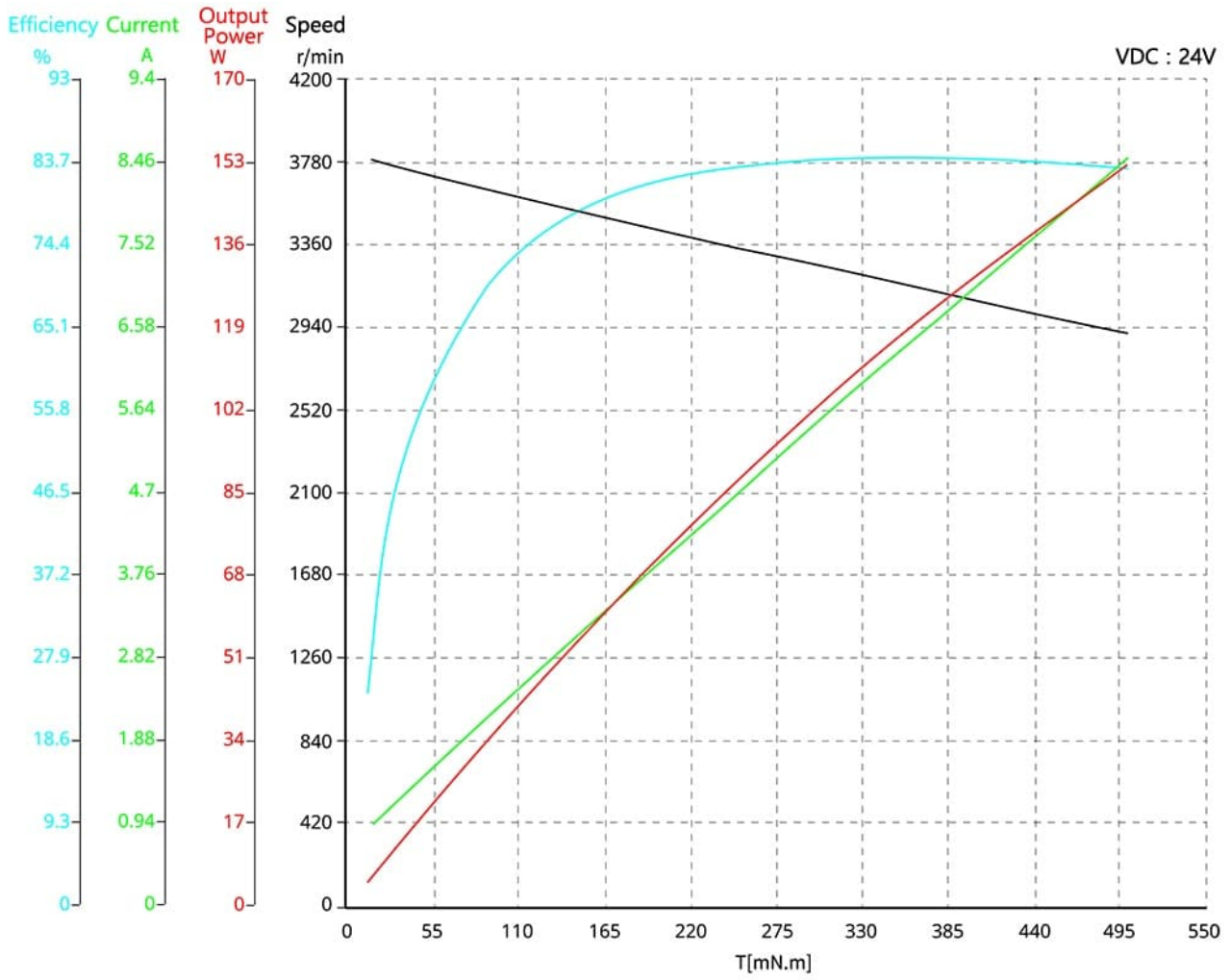
Lead-out type	Lead-out color	Function
UL3265 AWG26	Yellow	Hall U (Hu)
	Green	Hall V (Hv)
	Blue	Hall W (Hw)
	Red	Hall power supply positive (Vcc)
	Black	Hall power supply negative (GND)
UL3265 AWG18	Yellow	U phase
	Green	V phase
	Blue	W phase





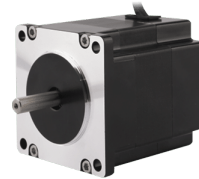






# 60ZWS50X-1

60mm Brushless DC Motor has Max. 0.46N·m rated torque and triple stack 60mm Motor can generate 144.5W capacity of rated power. All 60mm motors have Star winding connection. And 60mm Brushless DC Motors are 5 pole pairs motors Hall sensors feedback method as standard and also additional incremental encoder is available.



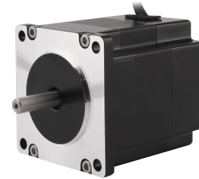
<https://www.kocomotion.de/produkt/60zws50x-1/>

Specification	
Motor Length	50 mm
Mounting Hole	50(±0.2 mm
Shaft Length	25 ±0.5 mm
Pole Pairs	5
Phase Resistance	0.886
Phase Inductance	0.682 mH
Winding Connection	Star shape
Insulation Class	B
Duty Type	S1
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	0.51 kg
Rated Voltage	24 V
Rated Power	47.1 W
Rated Torque	0.15 Nm
Rated Speed	3000 RPM
Rated Current	2.7 A
No Load Speed	3500 RPM
No Load Current	0.29 A

Specification	
Motor Efficiency	81.1 %
Noise (Ambient noise 20db, test distance 1M)	50 dB
Enclosure - Ambient Thermal Resistance	0.57 K/W
Motor Thermal Time Constant	-
Ambient Temperature	30 °C
Maximum Winding Temperature	87 °C
Torque Constant	0.056 mN·m/A
Back-EMF Constant /Effective Value	5.87 V/Krpm
Peak Torque	0.45 Nm
Peak Current	8.1 A
Inertia Moment	0.22 kg·cm <sup>2</sup>
End Cover	Aluminium Die Casting
Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB
Shaft	Carbon Steel

# 60ZWS63X-1

60mm Brushless DC Motor has Max. 0.46N·m rated torque and triple stack 60mm Motor can generate 144.5W capacity of rated power. All 60mm motors have Star winding connection. And 60mm Brushless DC Motors are 5 pole pairs motors Hall sensors feedback method as standard and also additional incremental encoder is available.



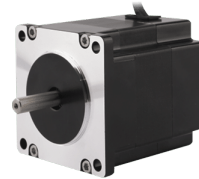
<https://www.kocomotion.de/produkt/60zws63x-1/>

Specification	
Motor Length	63 mm
Mounting Hole	50(±0.2 mm
Shaft Length	25 ±0.5 mm
Pole Pairs	5
Phase Resistance	0.334
Phase Inductance	0.305 mH
Winding Connection	Star shape
Insulation Class	B
Duty Type	S1
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	0.77 kg
Rated Voltage	24 V
Rated Power	97.4 W
Rated Torque	0.31 Nm
Rated Speed	3000 RPM
Rated Current	5.5 A
No Load Speed	3500 RPM
No Load Current	0.58 A

Specification	
Motor Efficiency	82.6 %
Noise (Ambient noise 20db, test distance 1M)	50 dB
Enclosure - Ambient Thermal Resistance	0.28 K/W
Motor Thermal Time Constant	-
Ambient Temperature	30 °C
Maximum Winding Temperature	87 °C
Torque Constant	0.056 mN·m/A
Back-EMF Constant /Effective Value	5.87 V/Krpm
Peak Torque	0.93 Nm
Peak Current	16.5 A
Inertia Moment	0.44 kg·cm <sup>2</sup>
End Cover	Aluminium Die Casting
Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB
Shaft	Carbon Steel

# 60ZWS75X-1

60mm Brushless DC Motor has Max. 0.46N·m rated torque and triple stack 60mm Motor can generate 144.5W capacity of rated power. All 60mm motors have Star winding connection. And 60mm Brushless DC Motors are 5 pole pairs motors Hall sensors feedback method as standard and also additional incremental encoder is available.



<https://www.kocomotion.de/produkt/60zws75x-1/>

Specification	
Motor Length	75 mm
Mounting Hole	50(±0.2 mm
Shaft Length	25 ±0.5 mm
Pole Pairs	5
Phase Resistance	0.233
Phase Inductance	0.183 mH
Winding Connection	Star shape
Insulation Class	B
Duty Type	S1
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	1 kg
Rated Voltage	24 V
Rated Power	144.5 W
Rated Torque	0.46 Nm
Rated Speed	3000 RPM
Rated Current	8.2 A
No Load Speed	3500 RPM
No Load Current	0.87 A



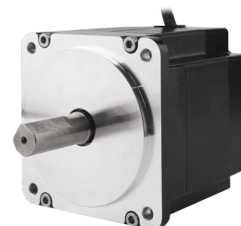
Specification	
Motor Efficiency	83 %
Noise (Ambient noise 20db, test distance 1M)	50 dB
Enclosure - Ambient Thermal Resistance	0.19 K/W
Motor Thermal Time Constant	-
Ambient Temperature	30 °C
Maximum Winding Temperature	87 °C
Torque Constant	0.056 mN·m/A
Back-EMF Constant /Effective Value	5.87 V/Krpm
Peak Torque	1.38 Nm
Peak Current	24.6 A
Inertia Moment	0.66 kg·cm <sup>2</sup>
End Cover	Aluminium Die Casting
Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB
Shaft	Carbon Steel

## BLDC - Size 86mm

86mm Brushless DC Motor has Max. 1.5N·m rated torque and triple stack 86mm Motor can generate 471.2W capacity of rated power. Single and double stack of 86mm motors have Star winding connection and triple stack motor has Delta winding connection and 86mm Brushless DC Motors are 5 pole pairs motors Hall sensors feed back method as standard and also additional incremental encoder is available.



<https://www.kocomotion.de/produkt/bldc-size-86mm/>

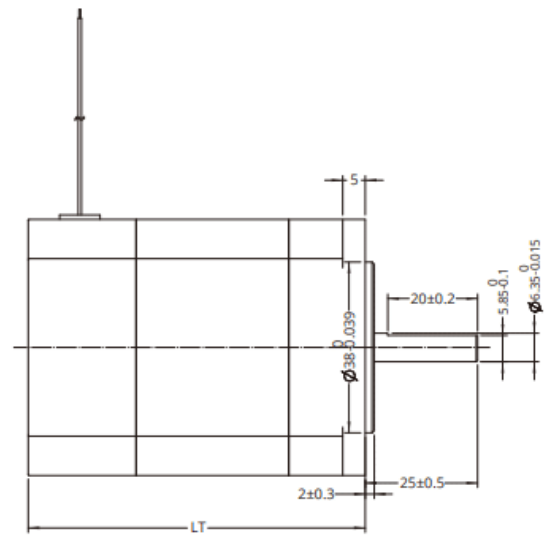
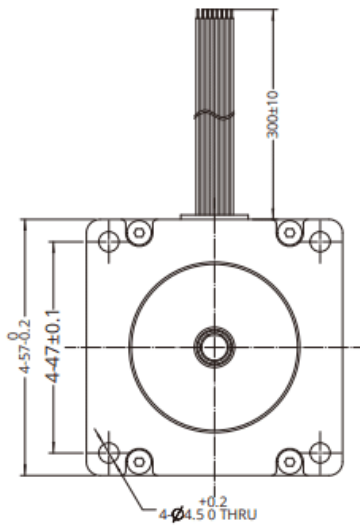


Produkte:	Seite
86ZWS61X-1	216
86ZWS81X-1	218
86ZWS101X-1	220

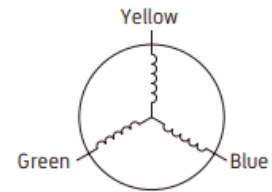
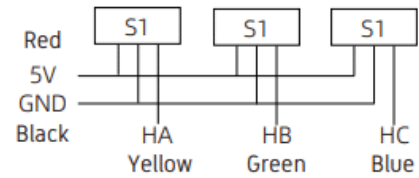
Motor Characteristics	86ZWS61X-1	86ZWS81X-1	86ZWS101X-1
Motor Length	61 mm	81 mm	101 mm
Mounting Hole	69.58(±0.2)	69.58(±0.2)	69.58(±0.2)
Shaft Length	25 ±0.5	25 ±0.5	25 ±0.5
Pole Pairs	5	5	5
Phase Resistance	0.492	0.21	0.13
Phase Inductance	1.139 mH	0.44 mH	0.25 mH
Winding Connection	Star shape	Star shape	Star shape
Insulation Class	B	B	B
Duty Type	S1	S1	S1
Feedback Method	Hall Sensors	Hall Sensors	Hall Sensors
Commutation Angle	120°	120°	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s	500VAC/1KHz/1mA/1s	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC	100 M /500VDC	100 M /500VDC
Weight	1.38 kg	2.18 kg	3 kg
Rated Voltage	48 V	48 V	48 V

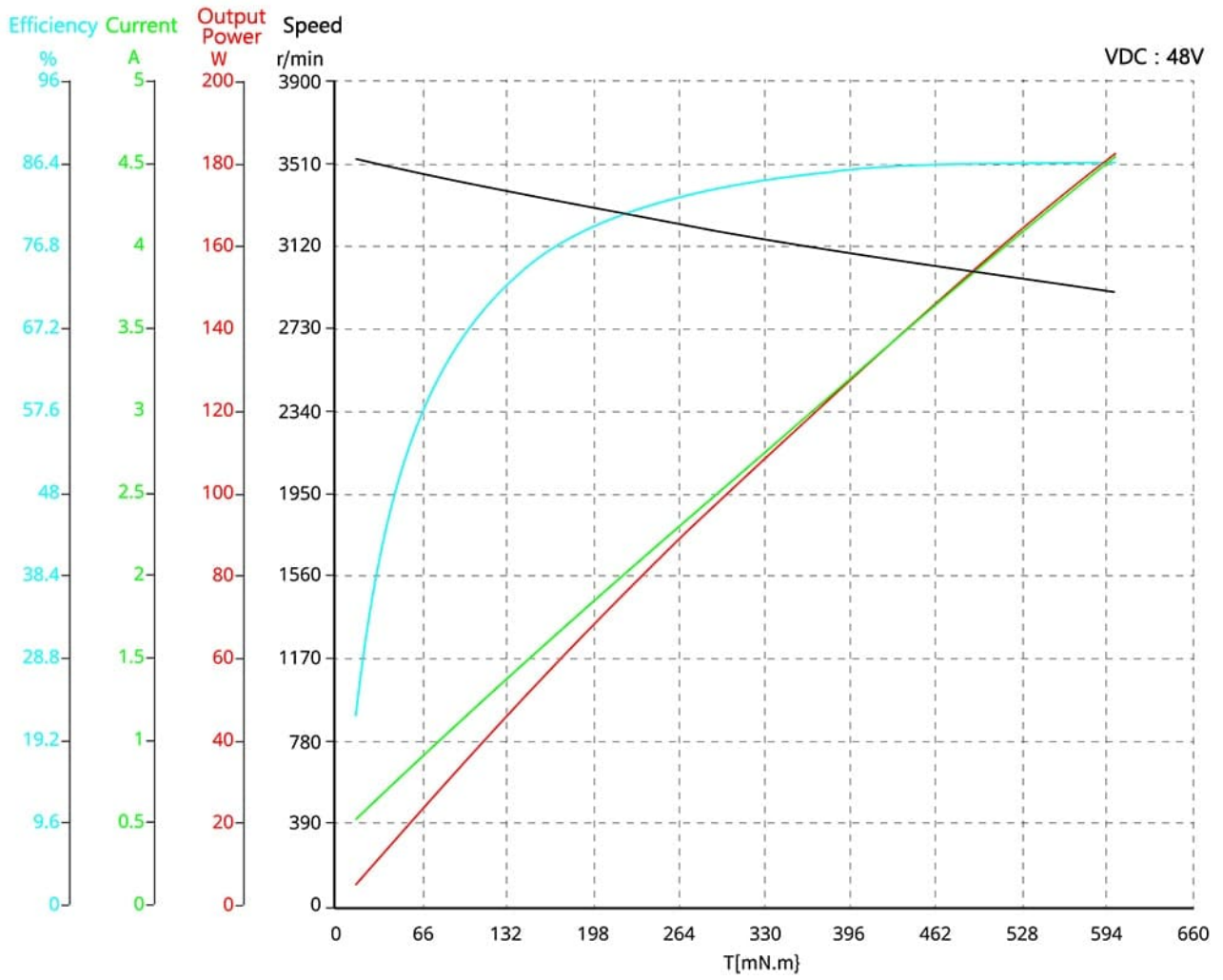
Motor Characteristics	86ZWS61X-1	86ZWS81X-1	86ZWS101X-1
Rated Power	157.1 W	314.1 W	471.2 W
Rated Torque	0.5 Nm	1 Nm	1.5 Nm
Rated Speed	3000 RPM	3000 RPM	3000 RPM
Rated Current	4.7 A	9.4 A	14.1 A
No Load Speed	3600 RPM	3600 RPM	3600 RPM
No Load Current	0.35 A	0.7 A	1.05 A
Motor Efficiency	86.5 %	85.5 %	83.7 %
Noise (Ambient noise 20db, test distance 1M)	50	50	50
Enclosure - Ambient Thermal Resistance	0.61 K/W	0.31 K/W	0.2 K/W
Motor Thermal Time Constant	-	-	-
Ambient Temperature	30 °C	30 °C	30 °C
Maximum Winding Temperature	90 °C	90 °C	90 °C
Torque Constant	0.106 N·m/A	0.106 N·m/A	0.106 N·m/A
Back-EMF Constant /Effective Value	11.1 V/Krpm	11.1 V/Krpm	11.1 V/Krpm
Peak Torque	1.5 Nm	3 Nm	4.5 Nm
Peak Current	14.1 A	28.2 A	42.3 A
Inertia Moment	1.4 kg·cm <sup>2</sup>	2.8 kg·cm <sup>2</sup>	4.2 kg·cm <sup>2</sup>
End Cover	Aluminium Die Casting	Aluminium Die Casting	Aluminium Die Casting
Bearing	Deep Groove Ball Bearing	Deep Groove Ball Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFedB	Sinter NdFedB	Sinter NdFedB
Shaft	Carbon Steel	Carbon Steel	Carbon Steel

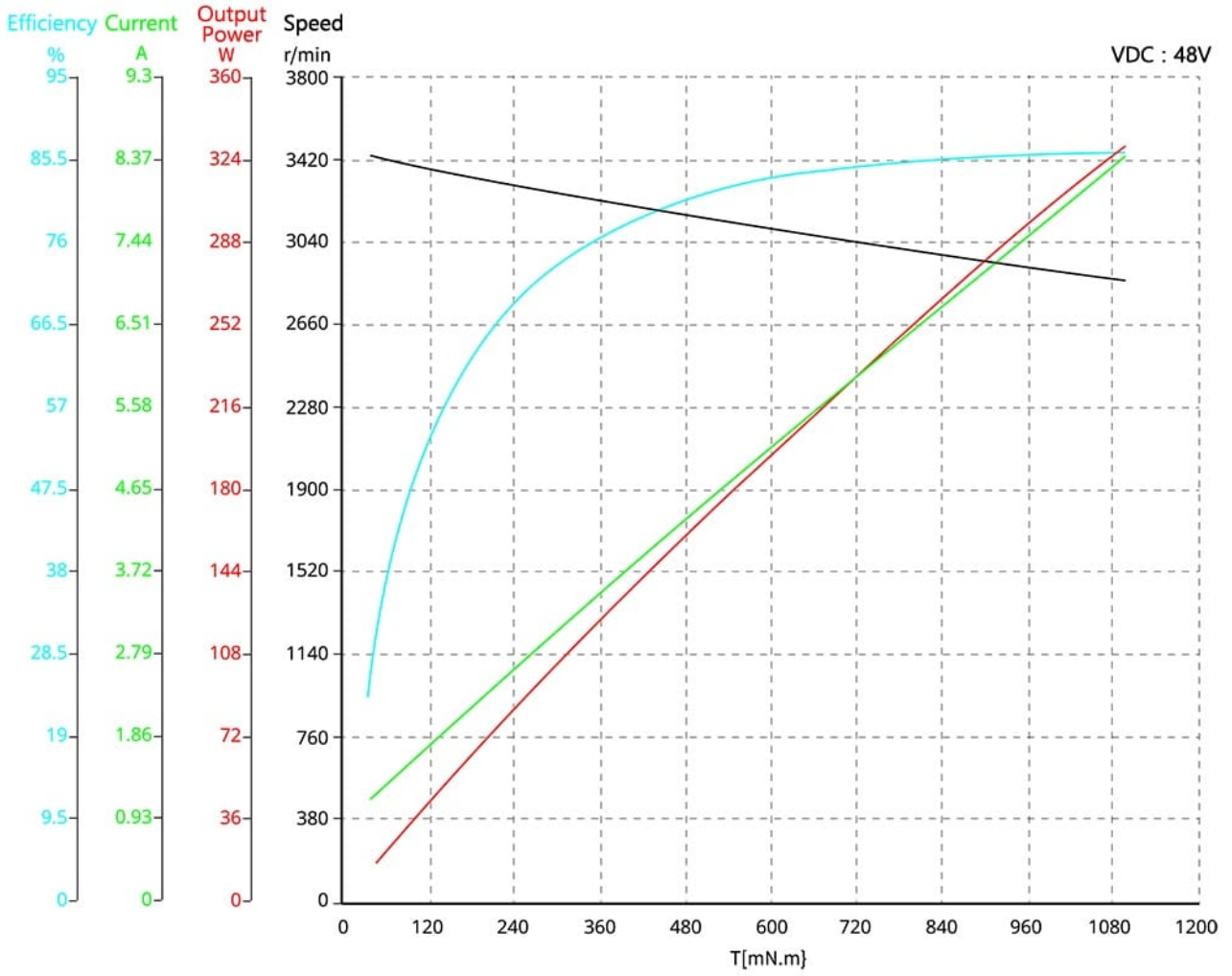
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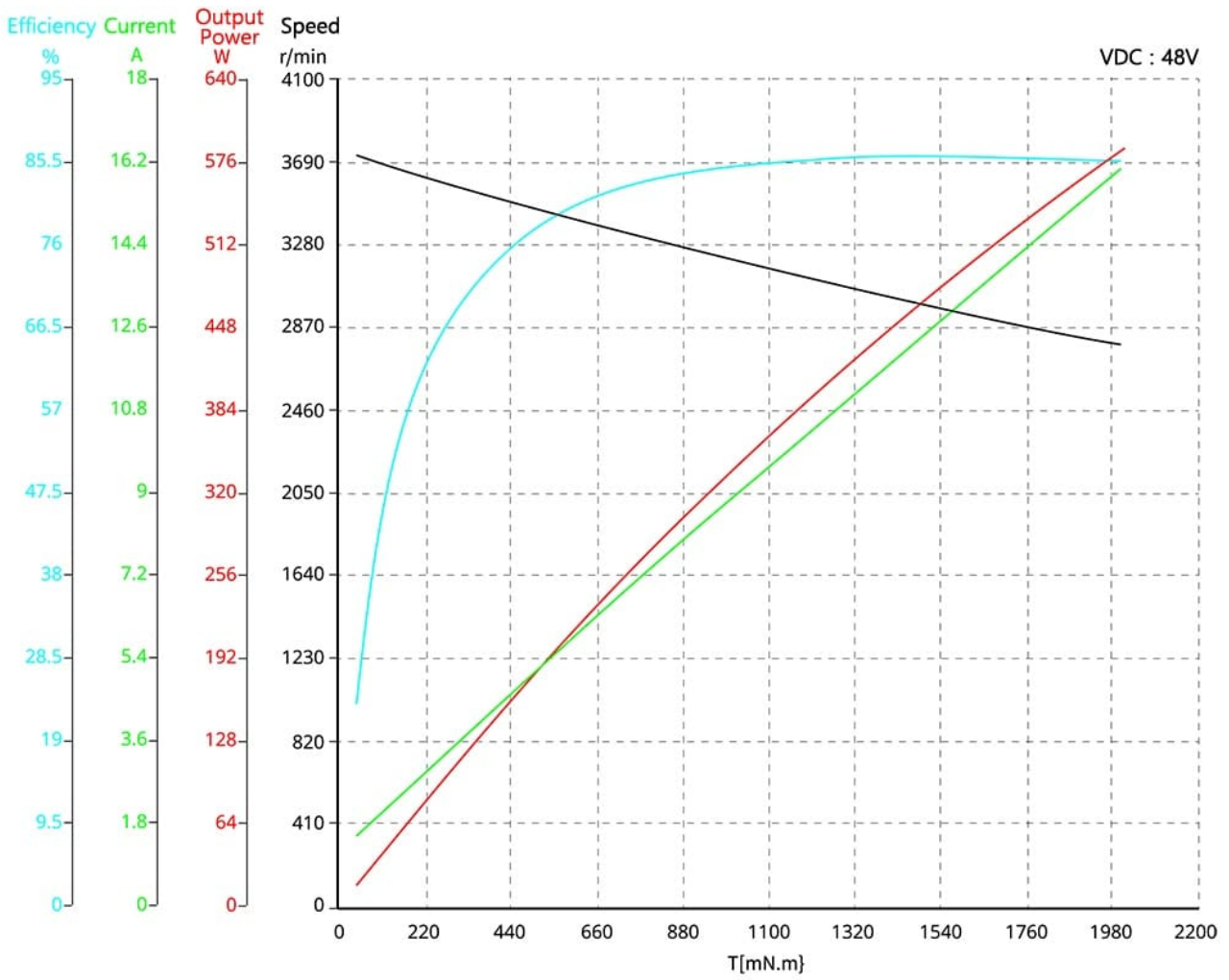


Lead-out type	Lead-out color	Function
UL3265 AWG26	Yellow	Hall U (Hu)
	Green	Hall V (Hv)
	Blue	Hall W (Hw)
	Red	Hall power supply positive (Vcc)
	Black	Hall power supply negative (GND)
UL3265 AWG18	Yellow	U phase
	Green	V phase
	Blue	W phase



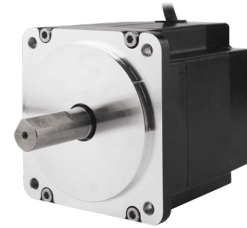






# 86ZWS61X-1

86mm Brushless DC Motor has Max. 1.5N·m rated torque and triple stack 86mm Motor can generate 471.2W capacity of rated power. Single and double stack of 86mm motors have Star winding connection and triple stack motor has Delta winding connection and 86mm Brushless DC Motors are 5 pole pairs motors Hall sensors feed back method as standard and also additional incremental encoder is available.



<https://www.kocomotion.de/produkt/86zws61x-1/>

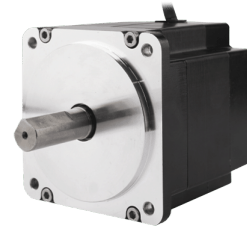
Specification	
Motor Length	61 mm
Mounting Hole	69.58(±0.2 mm
Shaft Length	25 ±0.5 mm
Pole Pairs	5
Phase Resistance	0.492
Phase Inductance	1.139 mH
Winding Connection	Star shape
Insulation Class	B
Duty Type	S1
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	1.38 kg
Rated Voltage	48 V
Rated Power	157.1 W
Rated Torque	0.5 Nm
Rated Speed	3000 RPM
Rated Current	4.7 A
No Load Speed	3600 RPM
No Load Current	0.35 A



Specification	
Motor Efficiency	86.5 %
Noise (Ambient noise 20db, test distance 1M)	50 dB
Enclosure - Ambient Thermal Resistance	0.61 K/W
Motor Thermal Time Constant	-
Ambient Temperature	30 °C
Maximum Winding Temperature	90 °C
Torque Constant	0.106 N·m/A
Back-EMF Constant /Effective Value	11.1 V/Krpm
Peak Torque	1.5 Nm
Peak Current	14.1 A
Inertia Moment	1.4 kg·cm <sup>2</sup>
End Cover	Aluminium Die Casting
Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB
Shaft	Carbon Steel

# 86ZWS81X-1

86mm Brushless DC Motor has Max. 1.5N·m rated torque and triple stack 86mm Motor can generate 471.2W capacity of rated power. Single and double stack of 86mm motors have Star winding connection and triple stack motor has Delta winding connection and 86mm Brushless DC Motors are 5 pole pairs motors Hall sensors feed back method as standard and also additional incremental encoder is available.



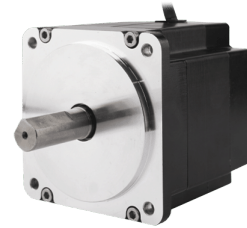
<https://www.kocomotion.de/produkt/86zws81x-1/>

Specification	
Motor Length	81 mm
Mounting Hole	69.58(±0.2 mm
Shaft Length	25 ±0.5 mm
Pole Pairs	5
Phase Resistance	0.21
Phase Inductance	0.44 mH
Winding Connection	Star shape
Insulation Class	B
Duty Type	S1
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	2.18 kg
Rated Voltage	48 V
Rated Power	314.1 W
Rated Torque	1 Nm
Rated Speed	3000 RPM
Rated Current	9.4 A
No Load Speed	3600 RPM
No Load Current	0.7 A

Specification	
Motor Efficiency	85.5 %
Noise (Ambient noise 20db, test distance 1M)	50 dB
Enclosure - Ambient Thermal Resistance	0.31 K/W
Motor Thermal Time Constant	-
Ambient Temperature	30 °C
Maximum Winding Temperature	90 °C
Torque Constant	0.106 N·m/A
Back-EMF Constant /Effective Value	11.1 V/Krpm
Peak Torque	3 Nm
Peak Current	28.2 A
Inertia Moment	2.8 kg·cm <sup>2</sup>
End Cover	Aluminium Die Casting
Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB
Shaft	Carbon Steel

# 86ZWS101X-1

86mm Brushless DC Motor has Max. 1.5N·m rated torque and triple stack 86mm Motor can generate 471.2W capacity of rated power. Single and double stack of 86mm motors have Star winding connection and triple stack motor has Delta winding connection and 86mm Brushless DC Motors are 5 pole pairs motors Hall sensors feed back method as standard and also additional incremental encoder is available.



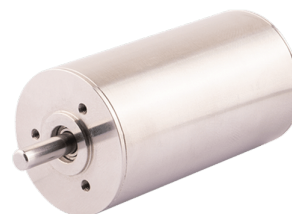
<https://www.kocomotion.de/produkt/86zws101x-1/>

Specification	
Motor Length	101 mm
Mounting Hole	69.58(±0.2 mm
Shaft Length	25 ±0.5 mm
Pole Pairs	5
Phase Resistance	0.13
Phase Inductance	0.25 mH
Winding Connection	Star shape
Insulation Class	B
Duty Type	S1
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	3 kg
Rated Voltage	48 V
Rated Power	471.2 W
Rated Torque	1.5 Nm
Rated Speed	3000 RPM
Rated Current	14.1 A
No Load Speed	3600 RPM
No Load Current	1.05 A

Specification	
Motor Efficiency	83.7 %
Noise (Ambient noise 20db, test distance 1M)	50 dB
Enclosure - Ambient Thermal Resistance	0.2 K/W
Motor Thermal Time Constant	-
Ambient Temperature	30 °C
Maximum Winding Temperature	90 °C
Torque Constant	0.106 N·m/A
Back-EMF Constant /Effective Value	11.1 V/Krpm
Peak Torque	4.5 Nm
Peak Current	42.3 A
Inertia Moment	4.2 kg·cm <sup>2</sup>
End Cover	Aluminium Die Casting
Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB
Shaft	Carbon Steel

## SLBLDC - Size 28mm

Slotless Brushless DC Motor, 28ZWWC52 can avoid the pulsation of air gap magnetic induction caused by uneven magnetic resistance in the teeth. It can eliminate the pulse loss in the armature core and the surface loss on the main pole surface. 28ZWWC52 Slotless Brushless DC Motor has high durability, low electrical noise and high efficiency. Maximum efficiency of motor reaches 85% and this motor is suitable for the servo system which needs quick movement and high power. 28ZWWC52 Rated Power is 35W and Peak Torque is 288.25mN.m.



<https://www.kocomotion.de/produkt/slbldc-size-28mm/>

Produkte:	Seite
28ZWWC52-12	227
28ZWWC52-24	229
28ZWWC52-36	231
28ZWWC52-48	233
28ZWWC52-24-2	235

Motor Characteristics	28ZWWC52-12	28ZWWC52-24	28ZWWC52-36
Pole Pairs	1	1	1
Phase Resistance	0.52	1.7	4.3
Phase Inductance	0.0495 mH	0.178 mH	0.42 mH
Winding Connection	Star shape	Star shape	Star shape
Insulation Class	B	B	B
Duty Type	S2	S2	S2
Feedback Method	Hall Sensors	Hall Sensors	Hall Sensors
Commutation Angle	120°	120°	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s	500VAC/1KHz/1mA/1s	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC	100 M /500VDC	100 M /500VDC
Weight	170 gr	170 gr	170 gr

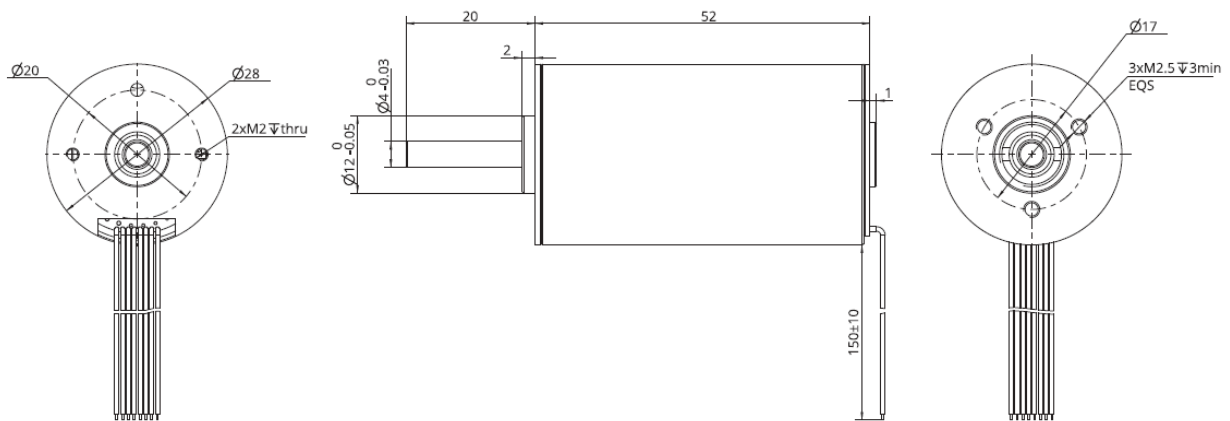
Motor Characteristics	28ZWWC52-12	28ZWWC52-24	28ZWWC52-36
Rated Voltage	12 V	24 V	36 V
Rated Power	30 W	34 W	35 W
Rated Torque	32 mNm	32 mNm	32 mNm
Rated Speed	6970 RPM	8430 RPM	8370 RPM
Rated Current	3.13 A	1.69 A	1.17 A
No Load Speed	9270 RPM	9680 RPM	9500 RPM
No Load Current	0.2 A	0.11 A	0.084 A
Motor Efficiency	80 %	84 %	83 %
Noise (Ambient noise 20db, test distance 1M)	50	50	50
Case - Environmental thermal resistance (no load)	0.67 K/W	0.69 K/W	0.73 K/W
Motor Thermal Time Constant(No Load)	1200 S	1200 S	1080 S
Ambient Temperature	23 °C	24 °C	27 °C
Maximum Winding Temperature(No Load)	43.2 °C	47.3 °C	52.5 °C
Torque Constant	10.24 mN·m/A	18.97 mN·m/A	27.32 mN·m/A
Back-EMF Constant /Peak Value	1.52 V/Krpm	2.81 V/Krpm	4.04 V/Krpm
Back-EMF Constant /Effective Value	1.07 V/Krpm	1.99 V/Krpm	2.86 V/Krpm
Peak Torque	236.31 mNm	267.87 mNm	228.72 mNm
Peak Current	23 A	14 A	8 A
Inertia Moment	10.2 g·cm <sup>2</sup>	10.2 g·cm <sup>2</sup>	10.2 g·cm <sup>2</sup>
Mechanical Time Constant	5.06 ms	4.82 ms	5.88 ms
End Cover	Stainless Steel	Stainless Steel	Stainless Steel
Bearing	Deep Groove Ball Bearing	Deep Groove Ball Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB	Sinter NdFeB	Sinter NdFeB
Shaft	Carbon Steel	Carbon Steel	Carbon Steel
Motor Characteristics	28ZWWC52-48	28ZWWC52-24-2	
Pole Pairs	1	2	

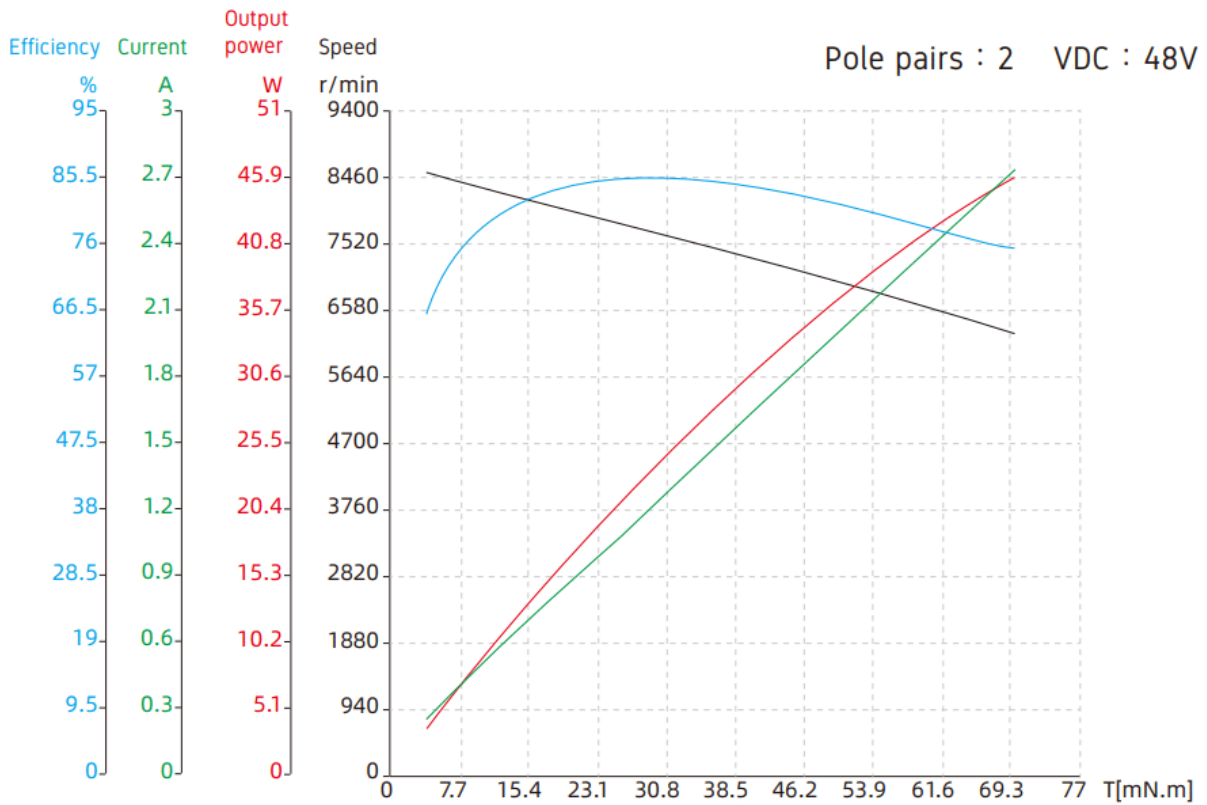
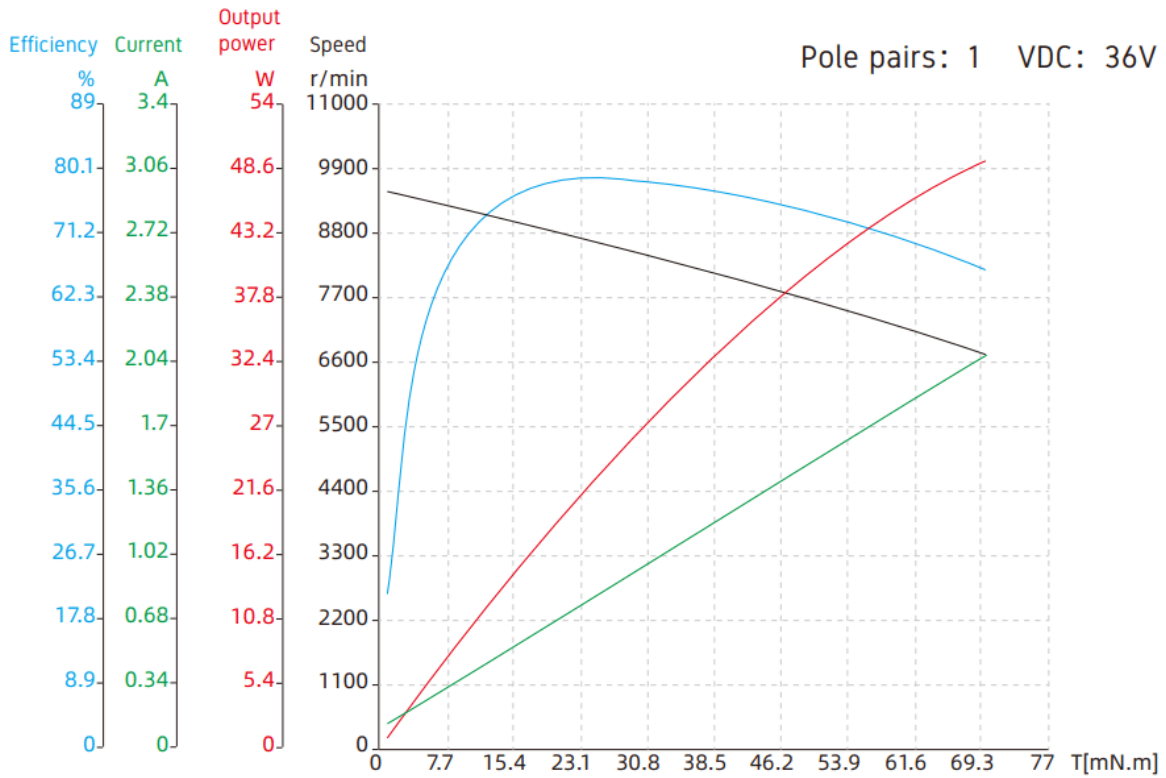
Motor Characteristics	28ZWWC52-48	28ZWWC52-24-2
Phase Resistance	6.6	1.6
Phase Inductance	0.77 mH	0.13 mH
Winding Connection	Star shape	Star shape
Insulation Class	B	B
Duty Type	S2	S1
Feedback Method	Hall Sensors	Hall Sensors
Commutation Angle	120°	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC	100 M /500VDC
Weight	170 gr	170 gr
Rated Voltage	48 V	24 V
Rated Power	35 W	37 W
Rated Torque	34 mNm	50 mNm
Rated Speed	8340 RPM	7000 RPM
Rated Current	0.86 A	2.00 A
No Load Speed	9400 RPM	8500 RPM
No Load Current	0.061 A	0.12 A
Motor Efficiency	85 %	81.5 %
Noise (Ambient noise 20db, test distance 1M)	50	50
Case - Environmental thermal resistance (no load)	0.64 K/W	0.70 K/W
Motor Thermal Time Constant(No Load)	1100 S	880 S
Ambient Temperature	25 °C	21.2 °C
Maximum Winding Temperature(No Load)	47.4 °C	46.7 °C
Torque Constant	39.63 mN·m/A	25 mN·m/A
Back-EMF Constant /Peak Value	5.87 V/Krpm	3.70 V/Krpm
Back-EMF Constant /Effective Value	4.15 V/Krpm	2.62 V/Krpm
Peak Torque	288.25 mNm	375 mNm
Peak Current	7 A	15 A
Inertia Moment	10.2 g·cm <sup>2</sup>	10.2 g·cm <sup>2</sup>
Mechanical Time Constant	4.29 ms	2.61 ms
End Cover	Stainless Steel	Stainless Steel



Motor Characteristics	28ZWWC52-48	28ZWWC52-24-2
Bearing	Deep Groove Ball Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB	Sinter NdFeB
Shaft	Carbon Steel	Carbon Steel

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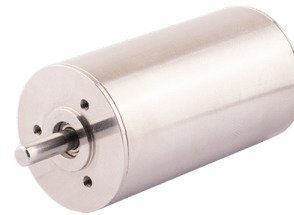




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# 28ZWWC52-12

Slotless Brushless DC Motor, 28ZWWC52 can avoid the pulsation of air gap magnetic induction caused by uneven magnetic resistance in the teeth. It can eliminate the pulse loss in the armature core and the surface loss on the main pole surface. 28ZWWC52 Slotless Brushless DC Motor has high durability, low electrical noise and high efficiency. Maximum efficiency of motor reaches 85% and this motor is suitable for the servo system which needs quick movement and high power. 28ZWWC52 Rated Power is 35W and Peak Torque is 288.25mN.m.



<https://www.kocomotion.de/produkt/28zwwc52-12/>

Specification	
Pole Pairs	1
Phase Resistance	0.52
Phase Inductance	0.0495 mH
Winding Connection	Star shape
Insulation Class	B
Duty Type	S2
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	170 gr
Rated Voltage	12 V
Rated Power	30 W
Rated Torque	32 mNm
Rated Speed	6970 RPM
Rated Current	3.13 A
No Load Speed	9270 RPM
No Load Current	0.2 A
Motor Efficiency	80 %

Specification	
Noise (Ambient noise 20db, test distance 1M)	50 dB
Case - Environmental thermal resistance (no load)	0.67 K/W
Motor Thermal Time Constant(No Load)	1200 S
Ambient Temperature	23 °C
Maximum Winding Temperature(No Load)	43.2 °C
Torque Constant	10.24 mN·m/A
Back-EMF Constant /Peak Value	1.52 V/Krpm
Back-EMF Constant /Effective Value	1.07 V/Krpm
Peak Torque	236.31 mNm
Peak Current	23 A
Inertia Moment	10.2 g·cm <sup>2</sup>
Mechanical Time Constant	5.06 ms
End Cover	Stainless Steel
Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB
Shaft	Carbon Steel

# 28ZWWC52-24

Slotless Brushless DC Motor, 28ZWWC52 can avoid the pulsation of air gap magnetic induction caused by uneven magnetic resistance in the teeth. It can eliminate the pulse loss in the armature core and the surface loss on the main pole surface. 28ZWWC52 Slotless Brushless DC Motor has high durability, low electrical noise and high efficiency. Maximum efficiency of motor reaches 85% and this motor is suitable for the servo system which needs quick movement and high power. 28ZWWC52 Rated Power is 35W and Peak Torque is 288.25mN.m.



<https://www.kocomotion.de/produkt/28zwwc52-24/>

Specification	
Pole Pairs	1
Phase Resistance	1.7
Phase Inductance	0.178 mH
Winding Connection	Star shape
Insulation Class	B
Duty Type	S2
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	170 gr
Rated Voltage	24 V
Rated Power	34 W
Rated Torque	32 mNm
Rated Speed	8430 RPM
Rated Current	1.69 A
No Load Speed	9680 RPM
No Load Current	0.11 A
Motor Efficiency	84 %

Specification	
Noise (Ambient noise 20db, test distance 1M)	50 dB
Case - Environmental thermal resistance (no load)	0.69 K/W
Motor Thermal Time Constant(No Load)	1200 S
Ambient Temperature	24 °C
Maximum Winding Temperature(No Load)	47.3 °C
Torque Constant	18.97 mN·m/A
Back-EMF Constant /Peak Value	2.81 V/Krpm
Back-EMF Constant /Effective Value	1.99 V/Krpm
Peak Torque	267.87 mNm
Peak Current	14 A
Inertia Moment	10.2 g·cm <sup>2</sup>
Mechanical Time Constant	4.82 ms
End Cover	Stainless Steel
Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB
Shaft	Carbon Steel

# 28ZWWC52-36

Slotless Brushless DC Motor, 28ZWWC52 can avoid the pulsation of air gap magnetic induction caused by uneven magnetic resistance in the teeth. It can eliminate the pulse loss in the armature core and the surface loss on the main pole surface. 28ZWWC52 Slotless Brushless DC Motor has high durability, low electrical noise and high efficiency. Maximum efficiency of motor reaches 85% and this motor is suitable for the servo system which needs quick movement and high power. 28ZWWC52 Rated Power is 35W and Peak Torque is 288.25mN.m.



<https://www.kocomotion.de/produkt/28zwwc52-36/>

Specification	
Pole Pairs	1
Phase Resistance	4.3
Phase Inductance	0.42 mH
Winding Connection	Star shape
Insulation Class	B
Duty Type	S2
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	170 gr
Rated Voltage	36 V
Rated Power	35 W
Rated Torque	32 mNm
Rated Speed	8370 RPM
Rated Current	1.17 A
No Load Speed	9500 RPM
No Load Current	0.084 A
Motor Efficiency	83 %

Specification	
Noise (Ambient noise 20db, test distance 1M)	50 dB
Case - Environmental thermal resistance (no load)	0.73 K/W
Motor Thermal Time Constant(No Load)	1080 S
Ambient Temperature	27 °C
Maximum Winding Temperature(No Load)	52.5 °C
Torque Constant	27.32 mN·m/A
Back-EMF Constant /Peak Value	4.04 V/Krpm
Back-EMF Constant /Effective Value	2.86 V/Krpm
Peak Torque	228.72 mNm
Peak Current	8 A
Inertia Moment	10.2 g·cm <sup>2</sup>
Mechanical Time Constant	5.88 ms
End Cover	Stainless Steel
Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB
Shaft	Carbon Steel



# 28ZWWC52-48

Slotless Brushless DC Motor, 28ZWWC52 can avoid the pulsation of air gap magnetic induction caused by uneven magnetic resistance in the teeth. It can eliminate the pulse loss in the armature core and the surface loss on the main pole surface. 28ZWWC52 Slotless Brushless DC Motor has high durability, low electrical noise and high efficiency. Maximum efficiency of motor reaches 85% and this motor is suitable for the servo system which needs quick movement and high power. 28ZWWC52 Rated Power is 35W and Peak Torque is 288.25mN.m.



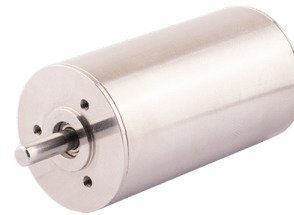
<https://www.kocomotion.de/produkt/28zwwc52-48/>

Specification	
Pole Pairs	1
Phase Resistance	6.6
Phase Inductance	0.77 mH
Winding Connection	Star shape
Insulation Class	B
Duty Type	S2
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	170 gr
Rated Voltage	48 V
Rated Power	35 W
Rated Torque	34 mNm
Rated Speed	8340 RPM
Rated Current	0.86 A
No Load Speed	9400 RPM
No Load Current	0.061 A
Motor Efficiency	85 %

Specification	
Noise (Ambient noise 20db, test distance 1M)	50 dB
Case - Environmental thermal resistance (no load)	0.64 K/W
Motor Thermal Time Constant(No Load)	1100 S
Ambient Temperature	25 °C
Maximum Winding Temperature(No Load)	47.4 °C
Torque Constant	39.63 mN·m/A
Back-EMF Constant /Peak Value	5.87 V/Krpm
Back-EMF Constant /Effective Value	4.15 V/Krpm
Peak Torque	288.25 mNm
Peak Current	7 A
Inertia Moment	10.2 g·cm <sup>2</sup>
Mechanical Time Constant	4.29 ms
End Cover	Stainless Steel
Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB
Shaft	Carbon Steel

# 28ZWWC52-24-2

Slotless Brushless DC Motor, 28ZWWC52 can avoid the pulsation of air gap magnetic induction caused by uneven magnetic resistance in the teeth. It can eliminate the pulse loss in the armature core and the surface loss on the main pole surface. 28ZWWC52 Slotless Brushless DC Motor has high durability, low electrical noise and high efficiency. Maximum efficiency of motor reaches 85% and this motor is suitable for the servo system which needs quick movement and high power. 28ZWWC52 Rated Power is 35W and Peak Torque is 288.25mN.m.



<https://www.kocomotion.de/produkt/28zwwc52-24-2/>

Specification	
Pole Pairs	2
Phase Resistance	1.6
Phase Inductance	0.13 mH
Winding Connection	Star shape
Insulation Class	B
Duty Type	S1
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	170 gr
Rated Voltage	24 V
Rated Power	37 W
Rated Torque	50 mNm
Rated Speed	7000 RPM
Rated Current	2.00 A
No Load Speed	8500 RPM
No Load Current	0.12 A
Motor Efficiency	81.5 %

Specification	
Noise (Ambient noise 20db, test distance 1M)	50 dB
Case - Environmental thermal resistance (no load)	0.70 K/W
Motor Thermal Time Constant(No Load)	880 S
Ambient Temperature	21.2 °C
Maximum Winding Temperature(No Load)	46.7 °C
Torque Constant	25 mN·m/A
Back-EMF Constant /Peak Value	3.70 V/Krpm
Back-EMF Constant /Effective Value	2.62 V/Krpm
Peak Torque	375 mNm
Peak Current	15 A
Inertia Moment	10.2 g·cm <sup>2</sup>
Mechanical Time Constant	2.61 ms
End Cover	Stainless Steel
Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB
Shaft	Carbon Steel

# SLBLDC - Size 36mm

Slotless Brushless DC Motor, 36ZWWC60 can avoid the pulsation of air gap magnetic induction caused by uneven magnetic resistance in the teeth. It can eliminate the pulse loss in the armature core and the surface loss on the main pole surface. 36ZWWC60 Slotless Brushless DC Motor has high durability, low electrical noise and high efficiency. Maximum efficiency of motor reaches 80% and this motor is suitable for the servo system which needs quick movement and high power. 36ZWWC60 Rated Power is 85W and Peak Torque is 722.82mN.m.



<https://www.kocomotion.de/produkt/slbldc-size-36mm/>

Produkte:	Seite
36ZWWC60-18	242
36ZWWC60-24	244
36ZWWC60-36	246
36ZWWC60-48	248
36ZWWC60-24-2	250

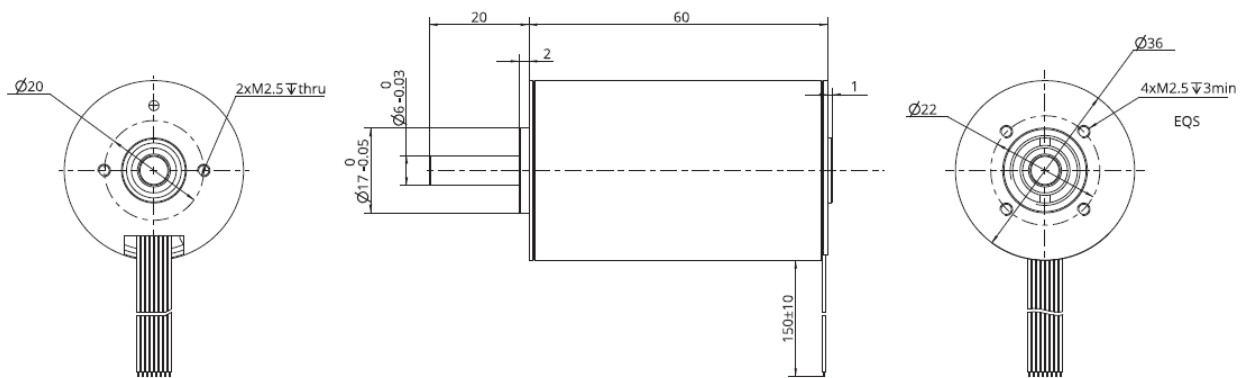
Motor Characteristics	36ZWWC60-18	36ZWWC60-24	36ZWWC60-36
Pole Pairs	1	1	1
Phase Resistance	0.6	0.68	1.45
Phase Inductance	0.08 mH	0.1 mH	0.19 mH
Winding Connection	Star	Star	Star
Insulation Class	B	B	B
Duty Type	S2	S2	S2
Feedback Method	Hall Sensors	Hall Sensors	Hall Sensors
Commutation Angle	120°	120°	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s	500VAC/1KHz/1mA/1s	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC	100 M /500VDC	100 M /500VDC
Weight	270 gr	270 gr	270 gr

Motor Characteristics	36ZWWC60-18	36ZWWC60-24	36ZWWC60-36
Rated Voltage	18 V	24 V	36 V
Rated Power	68 W	69 W	74 W
Rated Torque	70 mNm	70 mNm	70 mNm
Rated Speed	7340 RPM	9345 RPM	10000 RPM
Rated Current	4.97 A	3.78 A	2.59 A
No Load Speed	10000 RPM	11000 RPM	11500 RPM
No Load Current	0.37 A	0.37 A	0.22 A
Motor Efficiency	76 %	76 %	79.5 %
Noise (Ambient noise 20db, test distance 1M)	50	50	50
Case - Environmental thermal resistance (no load)	0.42 K/W	0.43 K/W	0.44 K/W
Motor Thermal Time Constant(No Load)	1350 S	1350 S	2700 S
Ambient Temperature	21.1 °C	23.1 °C	20.1 °C
Maximum Winding Temperature(No Load)	49.4 °C	52.9 °C	52.8 °C
Torque Constant	14.08 mN·m/A	18.50 mN·m/A	27.07 mN·m/A
Back-EMF Constant /Peak Value	2.09 V/Krpm	2.74 V/Krpm	4.01 V/Krpm
Back-EMF Constant /Effective Value	1.47 V/Krpm	1.94 V/Krpm	2.83 V/Krpm
Peak Torque	422.47 mNm	653.09 mNm	672.16 mNm
Peak Current	30 A	35 A	25 A
Inertia Moment	39 g·cm <sup>2</sup>	39 g·cm <sup>2</sup>	39 g·cm <sup>2</sup>
Mechanical Time Constant	11.80 ms	7.75 ms	7.72 ms
End Cover	Stainless Steel	Stainless Steel	Stainless Steel
Bearing	Deep Groove Ball Bearing	Deep Groove Ball Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB	Sinter NdFeB	Sinter NdFeB
Shaft	Carbon Steel	Carbon Steel	Carbon Steel
Motor Characteristics	36ZWWC60-48	36ZWWC60-24-2	
Pole Pairs	1	2	

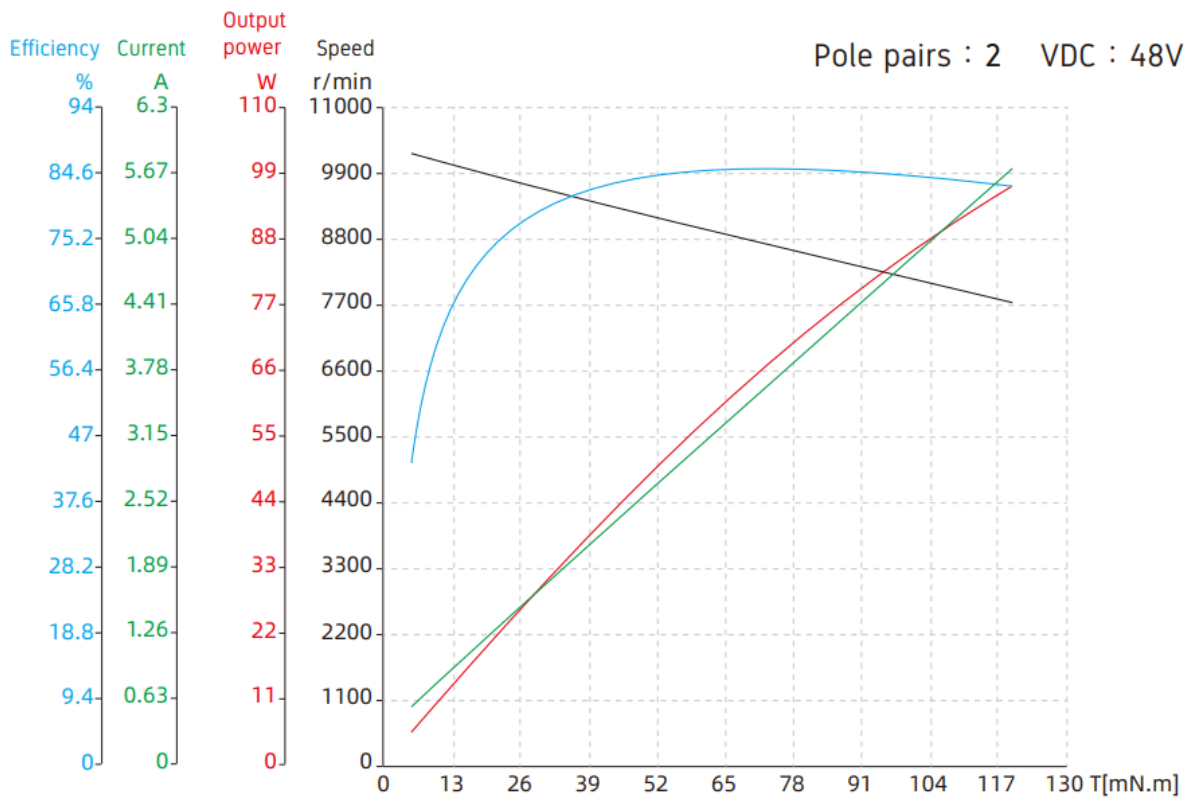
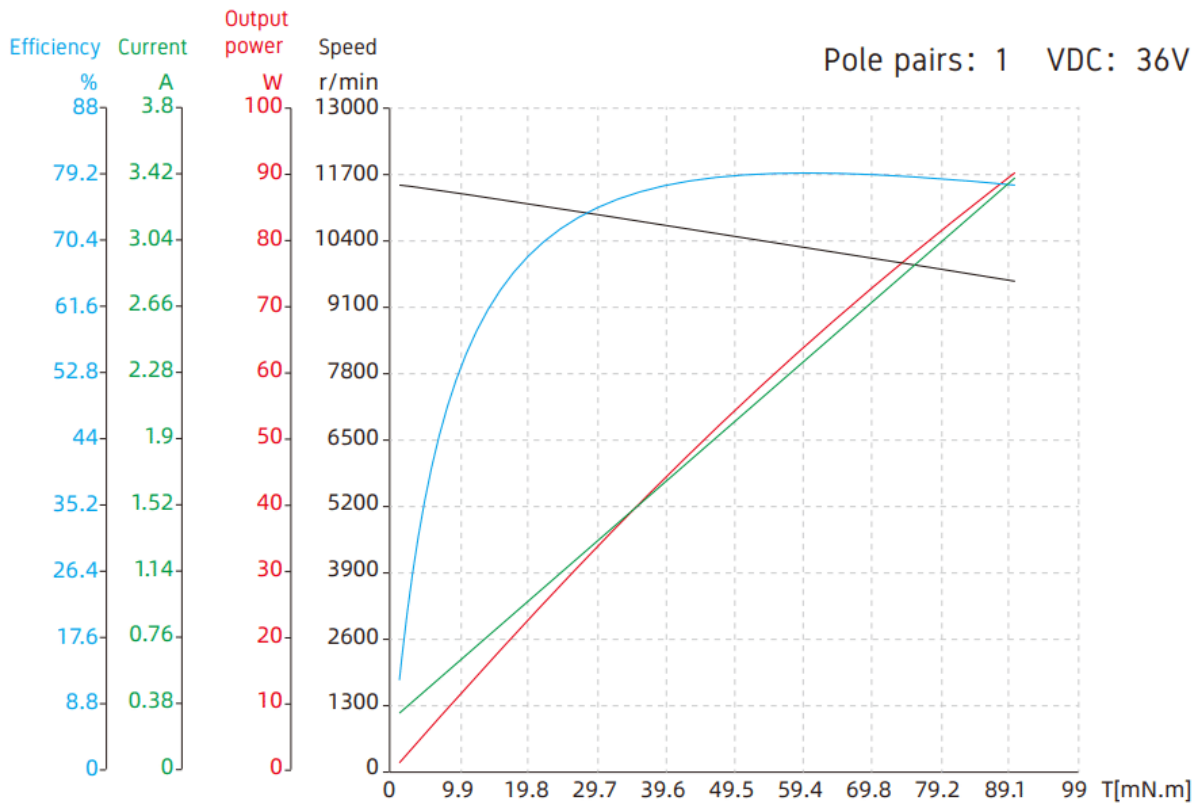
Motor Characteristics	36ZWWC60-48	36ZWWC60-24-2
Phase Resistance	2.1	0.41
Phase Inductance	0.27 mH	0.042 mH
Winding Connection	Star	Star shape
Insulation Class	B	B
Duty Type	S2	S1
Feedback Method	Hall Sensors	Hall Sensors
Commutation Angle	120°	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC	100 M /500VDC
Weight	270 gr	270 gr
Rated Voltage	48 V	24 V
Rated Power	85 W	85 W
Rated Torque	70 mNm	100 mNm
Rated Speed	11700 RPM	8100 RPM
Rated Current	2.21 A	4.80 A
No Load Speed	13000 RPM	10300 RPM
No Load Current	0.2 A	0.36 A
Motor Efficiency	80 %	84.4 %
Noise (Ambient noise 20db, test distance 1M)	50	50
Case - Environmental thermal resistance (no load)	0.36 K/W	0.58 K/W
Motor Thermal Time Constant(No Load)	1080 S	1330 S
Ambient Temperature	20.4 °C	19.5 °C
Maximum Winding Temperature(No Load)	50.8 °C	69.3 °C
Torque Constant	31.62 mN·m/A	20.83 mN·m/A
Back-EMF Constant /Peak Value	4.68 V/Krpm	3.08 V/Krpm
Back-EMF Constant /Effective Value	3.31 V/Krpm	2.18 V/Krpm
Peak Torque	722.82 mNm	1219.51 mNm
Peak Current	23 A	59 A
Inertia Moment	39 g·cm <sup>2</sup>	39 g·cm <sup>2</sup>
Mechanical Time Constant	8.19 ms	3.68 ms
End Cover	Stainless Steel	Stainless Steel

Motor Characteristics	36ZWWC60-48	36ZWWC60-24-2
Bearing	Deep Groove Ball Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB	Sinter NdFeB
Shaft	Carbon Steel	Carbon Steel

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# 36ZWWC60-18

Slotless Brushless DC Motor, 36ZWWC60 can avoid the pulsation of air gap magnetic induction caused by uneven magnetic resistance in the teeth. It can eliminate the pulse loss in the armature core and the surface loss on the main pole surface. 36ZWWC60 Slotless Brushless DC Motor has high durability, low electrical noise and high efficiency. Maximum efficiency of motor reaches 80% and this motor is suitable for the servo system which needs quick movement and high power. 36ZWWC60 Rated Power is 85W and Peak Torque is 722.82mN.m.



<https://www.kocomotion.de/produkt/36zwwc60-18/>

Specification	
Pole Pairs	1
Phase Resistance	0.6
Phase Inductance	0.08 mH
Winding Connection	Star
Insulation Class	B
Duty Type	S2
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	270 gr
Rated Voltage	18 V
Rated Power	68 W
Rated Torque	70 mNm
Rated Speed	7340 RPM
Rated Current	4.97 A
No Load Speed	10000 RPM
No Load Current	0.37 A
Motor Efficiency	76 %

Specification	
Noise (Ambient noise 20db, test distance 1M)	50 dB
Case - Environmental thermal resistance (no load)	0.42 K/W
Motor Thermal Time Constant(No Load)	1350 S
Ambient Temperature	21.1 °C
Maximum Winding Temperature(No Load)	49.4 °C
Torque Constant	14.08 mN·m/A
Back-EMF Constant /Peak Value	2.09 V/Krpm
Back-EMF Constant /Effective Value	1.47 V/Krpm
Peak Torque	422.47 mNm
Peak Current	30 A
Inertia Moment	39 g·cm <sup>2</sup>
Mechanical Time Constant	11.80 ms
End Cover	Stainless Steel
Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB
Shaft	Carbon Steel

# 36ZWWC60-24

Slotless Brushless DC Motor, 36ZWWC60 can avoid the pulsation of air gap magnetic induction caused by uneven magnetic resistance in the teeth. It can eliminate the pulse loss in the armature core and the surface loss on the main pole surface. 36ZWWC60 Slotless Brushless DC Motor has high durability, low electrical noise and high efficiency. Maximum efficiency of motor reaches 80% and this motor is suitable for the servo system which needs quick movement and high power. 36ZWWC60 Rated Power is 85W and Peak Torque is 722.82mN.m.



<https://www.kocomotion.de/produkt/36zwwc60-24/>

Specification	
Pole Pairs	1
Phase Resistance	0.68
Phase Inductance	0.1 mH
Winding Connection	Star
Insulation Class	B
Duty Type	S2
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	270 gr
Rated Voltage	24 V
Rated Power	69 W
Rated Torque	70 mNm
Rated Speed	9345 RPM
Rated Current	3.78 A
No Load Speed	11000 RPM
No Load Current	0.37 A
Motor Efficiency	76 %

Specification	
Noise (Ambient noise 20db, test distance 1M)	50 dB
Case - Environmental thermal resistance (no load)	0.43 K/W
Motor Thermal Time Constant(No Load)	1350 S
Ambient Temperature	23.1 °C
Maximum Winding Temperature(No Load)	52.9 °C
Torque Constant	18.50 mN·m/A
Back-EMF Constant /Peak Value	2.74 V/Krpm
Back-EMF Constant /Effective Value	1.94 V/Krpm
Peak Torque	653.09 mNm
Peak Current	35 A
Inertia Moment	39 g·cm <sup>2</sup>
Mechanical Time Constant	7.75 ms
End Cover	Stainless Steel
Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB
Shaft	Carbon Steel

# 36ZWWC60-36

Slotless Brushless DC Motor, 36ZWWC60 can avoid the pulsation of air gap magnetic induction caused by uneven magnetic resistance in the teeth. It can eliminate the pulse loss in the armature core and the surface loss on the main pole surface. 36ZWWC60 Slotless Brushless DC Motor has high durability, low electrical noise and high efficiency. Maximum efficiency of motor reaches 80% and this motor is suitable for the servo system which needs quick movement and high power. 36ZWWC60 Rated Power is 85W and Peak Torque is 722.82mN.m.



<https://www.kocomotion.de/produkt/36zwwc60-36/>

Specification	
Pole Pairs	1
Phase Resistance	1.45
Phase Inductance	0.19 mH
Winding Connection	Star
Insulation Class	B
Duty Type	S2
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	270 gr
Rated Voltage	36 V
Rated Power	74 W
Rated Torque	70 mNm
Rated Speed	10000 RPM
Rated Current	2.59 A
No Load Speed	11500 RPM
No Load Current	0.22 A
Motor Efficiency	79.5 %

Specification	
Noise (Ambient noise 20db, test distance 1M)	50 dB
Case - Environmental thermal resistance (no load)	0.44 K/W
Motor Thermal Time Constant(No Load)	2700 S
Ambient Temperature	20.1 °C
Maximum Winding Temperature(No Load)	52.8 °C
Torque Constant	27.07 mN·m/A
Back-EMF Constant /Peak Value	4.01 V/Krpm
Back-EMF Constant /Effective Value	2.83 V/Krpm
Peak Torque	672.16 mNm
Peak Current	25 A
Inertia Moment	39 g·cm <sup>2</sup>
Mechanical Time Constant	7.72 ms
End Cover	Stainless Steel
Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB
Shaft	Carbon Steel

# 36ZWWC60-48

Slotless Brushless DC Motor, 36ZWWC60 can avoid the pulsation of air gap magnetic induction caused by uneven magnetic resistance in the teeth. It can eliminate the pulse loss in the armature core and the surface loss on the main pole surface. 36ZWWC60 Slotless Brushless DC Motor has high durability, low electrical noise and high efficiency. Maximum efficiency of motor reaches 80% and this motor is suitable for the servo system which needs quick movement and high power. 36ZWWC60 Rated Power is 85W and Peak Torque is 722.82mN.m.



<https://www.kocomotion.de/produkt/36zwwc60-48/>

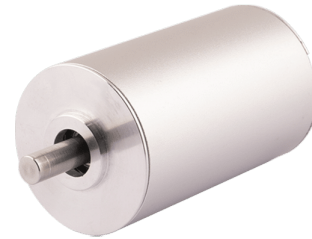
Specification	
Pole Pairs	1
Phase Resistance	2.1
Phase Inductance	0.27 mH
Winding Connection	Star
Insulation Class	B
Duty Type	S2
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	270 gr
Rated Voltage	48 V
Rated Power	85 W
Rated Torque	70 mNm
Rated Speed	11700 RPM
Rated Current	2.21 A
No Load Speed	13000 RPM
No Load Current	0.2 A
Motor Efficiency	80 %



Specification	
Noise (Ambient noise 20db, test distance 1M)	50 dB
Case - Environmental thermal resistance (no load)	0.36 K/W
Motor Thermal Time Constant(No Load)	1080 S
Ambient Temperature	20.4 °C
Maximum Winding Temperature(No Load)	50.8 °C
Torque Constant	31.62 mN·m/A
Back-EMF Constant /Peak Value	4.68 V/Krpm
Back-EMF Constant /Effective Value	3.31 V/Krpm
Peak Torque	722.82 mNm
Peak Current	23 A
Inertia Moment	39 g·cm <sup>2</sup>
Mechanical Time Constant	8.19 ms
End Cover	Stainless Steel
Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB
Shaft	Carbon Steel

# 36ZWWC60-24-2

Slotless Brushless DC Motor, 36ZWWC60 can avoid the pulsation of air gap magnetic induction caused by uneven magnetic resistance in the teeth. It can eliminate the pulse loss in the armature core and the surface loss on the main pole surface. 36ZWWC60 Slotless Brushless DC Motor has high durability, low electrical noise and high efficiency. Maximum efficiency of motor reaches 80% and this motor is suitable for the servo system which needs quick movement and high power. 36ZWWC60 Rated Power is 85W and Peak Torque is 722.82mN.m.



<https://www.kocomotion.de/produkt/36zwwc60-24-2/>

Specification	
Pole Pairs	2
Phase Resistance	0.41
Phase Inductance	0.042 mH
Winding Connection	Star shape
Insulation Class	B
Duty Type	S1
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	270 gr
Rated Voltage	24 V
Rated Power	85 W
Rated Torque	100 mNm
Rated Speed	8100 RPM
Rated Current	4.80 A
No Load Speed	10300 RPM
No Load Current	0.36 A
Motor Efficiency	84.4 %

Specification	
Noise (Ambient noise 20db, test distance 1M)	50 dB
Case - Environmental thermal resistance (no load)	0.58 K/W
Motor Thermal Time Constant(No Load)	1330 S
Ambient Temperature	19.5 °C
Maximum Winding Temperature(No Load)	69.3 °C
Torque Constant	20.83 mN·m/A
Back-EMF Constant /Peak Value	3.08 V/Krpm
Back-EMF Constant /Effective Value	2.18 V/Krpm
Peak Torque	1219.51 mNm
Peak Current	59 A
Inertia Moment	39 g·cm <sup>2</sup>
Mechanical Time Constant	3.68 ms
End Cover	Stainless Steel
Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB
Shaft	Carbon Steel

## SLBLDC - Size 42mm

Slotless Brushless DC Motor, 42ZWWC80 can avoid the pulsation of air gap magnetic induction caused by uneven magnetic resistance in the teeth. It can eliminate the pulse loss in the armature core and the surface loss on the main pole surface. 42ZWWC80 Slotless Brushless DC Motor has high durability, low electrical noise and high efficiency. Maximum efficiency of motor reaches 80% and this motor is suitable for the servo system which needs quick movement and high power. 42ZWWC80 Rated Power is 160W and Peak Torque is 1455.16mN.m.



<https://www.kocomotion.de/produkt/slbldc-size-42mm/>



Produkte:	Seite
42ZWWC80-18	257
42ZWWC80-24	259
42ZWWC80-36	261
42ZWWC80-48	263
42ZWWC80-24-2	265

Motor Characteristics	42ZWWC80-18	42ZWWC80-24	42ZWWC80-36
Pole Pairs	1	1	1
Phase Resistance	0.4	0.45	0.6
Phase Inductance	0.085 mH	0.14 mH	0.14 mH
Winding Connection	Star shape	Star shape	Star shape
Insulation Class	B	B	B
Duty Type	S2	S2	S2
Feedback Method	Hall Sensors	Hall Sensors	Hall Sensors
Commutation Angle	120°	120°	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s	500VAC/1KHz/1mA/1s	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC	100 M /500VDC	100 M /500VDC
Weight	500 gr	500 gr	500 gr

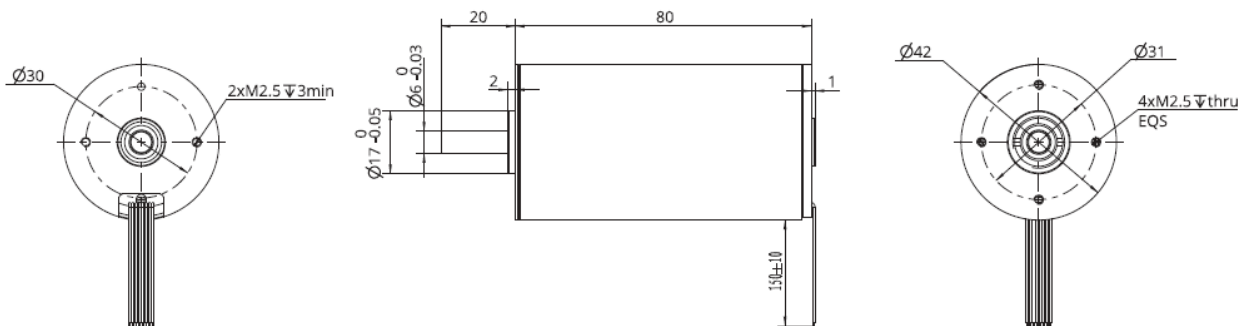
Motor Characteristics	42ZWWC80-18	42ZWWC80-24	42ZWWC80-36
Rated Voltage	18 V	24 V	36 V
Rated Power	66 W	80 W	100 W
Rated Torque	90 mNm	90 mNm	90 mNm
Rated Speed	6678 RPM	8346 RPM	11619 RPM
Rated Current	4.89 A	4.17 A	3.47 A
No Load Speed	9000 RPM	11000 RPM	13000 RPM
No Load Current	0.6 A	0.69 A	0.6 A
Motor Efficiency	75 %	80 %	80 %
Noise (Ambient noise 20db, test distance 1M)	50	50	50
Case - Environmental thermal resistance (no load)	0.43 K/W	0.50 K/W	0.67 K/W
Motor Thermal Time Constant(No Load)	900 S	1620 S	2040 S
Ambient Temperature	23.1 °C	23.5 °C	23 °C
Maximum Winding Temperature(No Load)	51.5 °C	63.7 °C	90 °C
Torque Constant	18.41 mN·m/A	21.60 mN·m/A	25.92 mN·m/A
Back-EMF Constant /Peak Value	2.73 V/Krpm	3.20 V/Krpm	3.84 V/Krpm
Back-EMF Constant /Effective Value	1.93 V/Krpm	2.26 V/Krpm	2.71 V/Krpm
Peak Torque	828.41 mNm	1152.00 mNm	1555.20 mNm
Peak Current	45 A	53 A	60 A
Inertia Moment	96.3 g·cm <sup>2</sup>	96.3 g·cm <sup>2</sup>	96.3 g·cm <sup>2</sup>
Mechanical Time Constant	11.37 ms	9.29 ms	8.60 ms
End Cover	Stainless Steel	Stainless Steel	Stainless Steel
Bearing	Deep Groove Ball Bearing	Deep Groove Ball Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB	Sinter NdFeB	Sinter NdFeB
Shaft	Carbon Steel	Carbon Steel	Carbon Steel

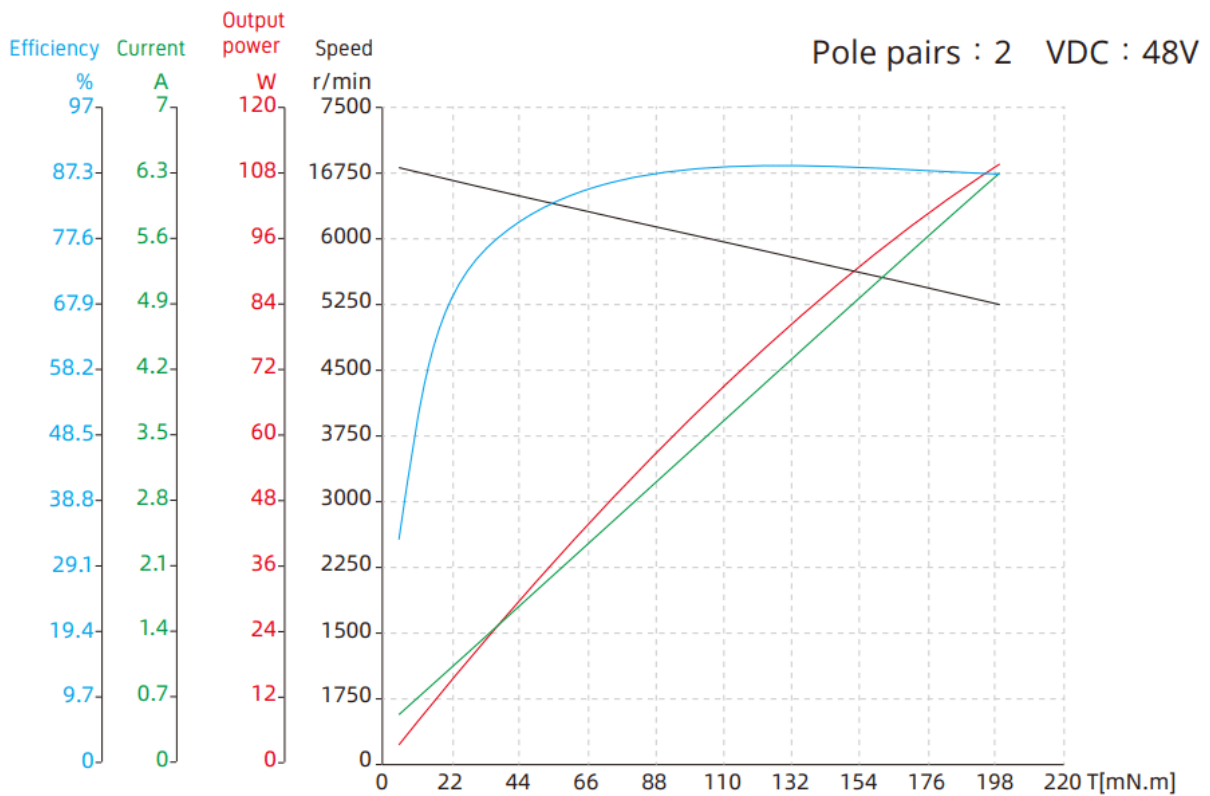
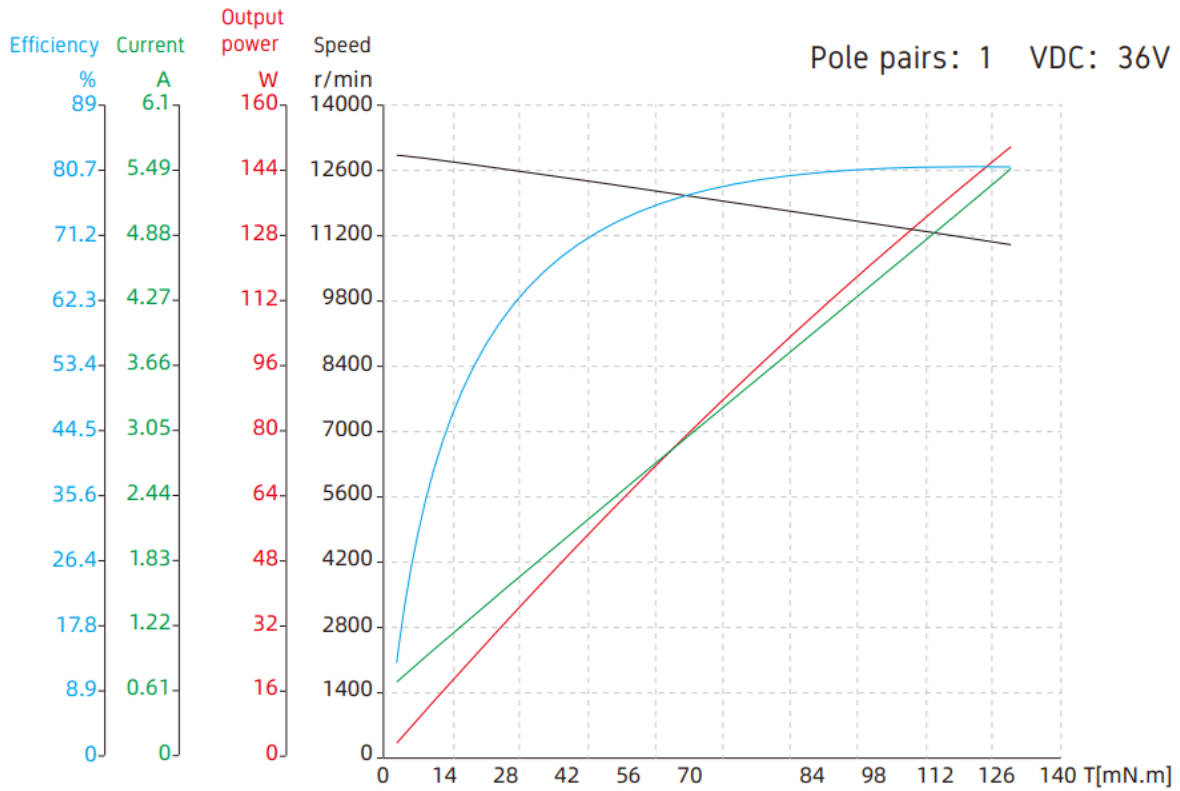
Motor Characteristics	42ZWWC80-48	42ZWWC80-24-2
Pole Pairs	1	2

Motor Characteristics	42ZWWC80-48	42ZWWC80-24-2
Phase Resistance	0.95	0.22
Phase Inductance	0.23 mH	0.035 mH
Winding Connection	Star shape	Star shape
Insulation Class	B	B
Duty Type	S2	S1
Feedback Method	Hall Sensors	Hall Sensors
Commutation Angle	120°	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC	100 M /500VDC
Weight	500 gr	500 gr
Rated Voltage	48 V	24 V
Rated Power	160 W	102 W
Rated Torque	120 mNm	180 mNm
Rated Speed	12200 RPM	5400 RPM
Rated Current	4.17 A	5.70 A
No Load Speed	13800 RPM	6800 RPM
No Load Current	0.58 A	0.42 A
Motor Efficiency	80 %	87.9 %
Noise (Ambient noise 20db, test distance 1M)	50	50
Case - Environmental thermal resistance (no load)	0.26 K/W	0.41 K/W
Motor Thermal Time Constant(No Load)	2040 S	1340 S
Ambient Temperature	23 °C	22.6 °C
Maximum Winding Temperature(No Load)	90 °C	72.1 °C
Torque Constant	28.80 mN·m/A	31.58 mN·m/A
Back-EMF Constant /Peak Value	4.26 V/Krpm	4.68 V/Krpm
Back-EMF Constant /Effective Value	3.02 V/Krpm	3.31 V/Krpm
Peak Torque	1455.16 mNm	3444.98 mNm
Peak Current	51 A	109 A
Inertia Moment	96.3 g·cm <sup>2</sup>	96.3 g·cm <sup>2</sup>
Mechanical Time Constant	11.03 ms	2.12 ms
End Cover	Stainless Steel	Stainless Steel

Motor Characteristics	42ZWWC80-48	42ZWWC80-24-2
Bearing	Deep Groove Ball Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB	Sinter NdFeB
Shaft	Carbon Steel	Carbon Steel

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# 42ZWWC80-18

Slotless Brushless DC Motor, 42ZWWC80 can avoid the pulsation of air gap magnetic induction caused by uneven magnetic resistance in the teeth. It can eliminate the pulse loss in the armature core and the surface loss on the main pole surface. 42ZWWC80 Slotless Brushless DC Motor has high durability, low electrical noise and high efficiency. Maximum efficiency of motor reaches 80% and this motor is suitable for the servo system which needs quick movement and high power. 42ZWWC80 Rated Power is 160W and Peak Torque is 1455.16mN.m.



<https://www.kocomotion.de/produkt/42zwwc80-18/>

Specification	
Pole Pairs	1
Phase Resistance	0.4
Phase Inductance	0.085 mH
Winding Connection	Star shape
Insulation Class	B
Duty Type	S2
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	500 gr
Rated Voltage	18 V
Rated Power	66 W
Rated Torque	90 mNm
Rated Speed	6678 RPM
Rated Current	4.89 A
No Load Speed	9000 RPM
No Load Current	0.6 A
Motor Efficiency	75 %

Specification	
Noise (Ambient noise 20db, test distance 1M)	50 dB
Case - Environmental thermal resistance (no load)	0.43 K/W
Motor Thermal Time Constant(No Load)	900 S
Ambient Temperature	23.1 °C
Maximum Winding Temperature(No Load)	51.5 °C
Torque Constant	18.41 mN·m/A
Back-EMF Constant /Peak Value	2.73 V/Krpm
Back-EMF Constant /Effective Value	1.93 V/Krpm
Peak Torque	828.41 mNm
Peak Current	45 A
Inertia Moment	96.3 g·cm <sup>2</sup>
Mechanical Time Constant	11.37 ms
End Cover	Stainless Steel
Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB
Shaft	Carbon Steel

# 42ZWWC80-24

Slotless Brushless DC Motor, 42ZWWC80 can avoid the pulsation of air gap magnetic induction caused by uneven magnetic resistance in the teeth. It can eliminate the pulse loss in the armature core and the surface loss on the main pole surface. 42ZWWC80 Slotless Brushless DC Motor has high durability, low electrical noise and high efficiency. Maximum efficiency of motor reaches 80% and this motor is suitable for the servo system which needs quick movement and high power. 42ZWWC80 Rated Power is 160W and Peak Torque is 1455.16mN.m.



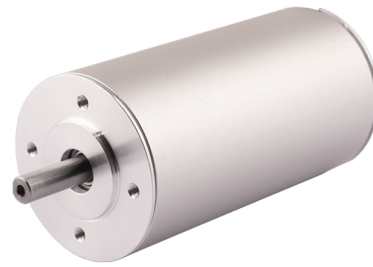
<https://www.kocomotion.de/produkt/42zwwc80-24/>

Specification	
Pole Pairs	1
Phase Resistance	0.45
Phase Inductance	0.14 mH
Winding Connection	Star shape
Insulation Class	B
Duty Type	S2
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	500 gr
Rated Voltage	24 V
Rated Power	80 W
Rated Torque	90 mNm
Rated Speed	8346 RPM
Rated Current	4.17 A
No Load Speed	11000 RPM
No Load Current	0.69 A
Motor Efficiency	80 %

Specification	
Noise (Ambient noise 20db, test distance 1M)	50 dB
Case - Environmental thermal resistance (no load)	0.50 K/W
Motor Thermal Time Constant(No Load)	1620 S
Ambient Temperature	23.5 °C
Maximum Winding Temperature(No Load)	63.7 °C
Torque Constant	21.60 mN·m/A
Back-EMF Constant /Peak Value	3.20 V/Krpm
Back-EMF Constant /Effective Value	2.26 V/Krpm
Peak Torque	1152.00 mNm
Peak Current	53 A
Inertia Moment	96.3 g·cm <sup>2</sup>
Mechanical Time Constant	9.29 ms
End Cover	Stainless Steel
Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB
Shaft	Carbon Steel

# 42ZWWC80-36

Slotless Brushless DC Motor, 42ZWWC80 can avoid the pulsation of air gap magnetic induction caused by uneven magnetic resistance in the teeth. It can eliminate the pulse loss in the armature core and the surface loss on the main pole surface. 42ZWWC80 Slotless Brushless DC Motor has high durability, low electrical noise and high efficiency. Maximum efficiency of motor reaches 80% and this motor is suitable for the servo system which needs quick movement and high power. 42ZWWC80 Rated Power is 160W and Peak Torque is 1455.16mN.m.



<https://www.kocomotion.de/produkt/42zwwc80-36/>

Specification	
Pole Pairs	1
Phase Resistance	0.6
Phase Inductance	0.14 mH
Winding Connection	Star shape
Insulation Class	B
Duty Type	S2
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	500 gr
Rated Voltage	36 V
Rated Power	100 W
Rated Torque	90 mNm
Rated Speed	11619 RPM
Rated Current	3.47 A
No Load Speed	13000 RPM
No Load Current	0.6 A
Motor Efficiency	80 %

Specification	
Noise (Ambient noise 20db, test distance 1M)	50 dB
Case - Environmental thermal resistance (no load)	0.67 K/W
Motor Thermal Time Constant(No Load)	2040 S
Ambient Temperature	23 °C
Maximum Winding Temperature(No Load)	90 °C
Torque Constant	25.92 mN·m/A
Back-EMF Constant /Peak Value	3.84 V/Krpm
Back-EMF Constant /Effective Value	2.71 V/Krpm
Peak Torque	1555.20 mNm
Peak Current	60 A
Inertia Moment	96.3 g·cm <sup>2</sup>
Mechanical Time Constant	8.60 ms
End Cover	Stainless Steel
Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB
Shaft	Carbon Steel

# 42ZWWC80-48

Slotless Brushless DC Motor, 42ZWWC80 can avoid the pulsation of air gap magnetic induction caused by uneven magnetic resistance in the teeth. It can eliminate the pulse loss in the armature core and the surface loss on the main pole surface. 42ZWWC80 Slotless Brushless DC Motor has high durability, low electrical noise and high efficiency. Maximum efficiency of motor reaches 80% and this motor is suitable for the servo system which needs quick movement and high power. 42ZWWC80 Rated Power is 160W and Peak Torque is 1455.16mN.m.



<https://www.kocomotion.de/produkt/42zwwc80-48/>

Specification	
Pole Pairs	1
Phase Resistance	0.95
Phase Inductance	0.23 mH
Winding Connection	Star shape
Insulation Class	B
Duty Type	S2
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	500 gr
Rated Voltage	48 V
Rated Power	160 W
Rated Torque	120 mNm
Rated Speed	12200 RPM
Rated Current	4.17 A
No Load Speed	13800 RPM
No Load Current	0.58 A
Motor Efficiency	80 %

Specification	
Noise (Ambient noise 20db, test distance 1M)	50 dB
Case - Environmental thermal resistance (no load)	0.26 K/W
Motor Thermal Time Constant(No Load)	2040 S
Ambient Temperature	23 °C
Maximum Winding Temperature(No Load)	90 °C
Torque Constant	28.80 mN·m/A
Back-EMF Constant /Peak Value	4.26 V/Krpm
Back-EMF Constant /Effective Value	3.02 V/Krpm
Peak Torque	1455.16 mNm
Peak Current	51 A
Inertia Moment	96.3 g·cm <sup>2</sup>
Mechanical Time Constant	11.03 ms
End Cover	Stainless Steel
Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB
Shaft	Carbon Steel



# 42ZWWC80-24-2

Slotless Brushless DC Motor, 42ZWWC80 can avoid the pulsation of air gap magnetic induction caused by uneven magnetic resistance in the teeth. It can eliminate the pulse loss in the armature core and the surface loss on the main pole surface. 42ZWWC80 Slotless Brushless DC Motor has high durability, low electrical noise and high efficiency. Maximum efficiency of motor reaches 80% and this motor is suitable for the servo system which needs quick movement and high power. 42ZWWC80 Rated Power is 160W and Peak Torque is 1455.16mN.m.



<https://www.kocomotion.de/produkt/42zwwc80-24-2/>

Specification	
Pole Pairs	2
Phase Resistance	0.22
Phase Inductance	0.035 mH
Winding Connection	Star shape
Insulation Class	B
Duty Type	S1
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	500 gr
Rated Voltage	24 V
Rated Power	102 W
Rated Torque	180 mNm
Rated Speed	5400 RPM
Rated Current	5.70 A
No Load Speed	6800 RPM
No Load Current	0.42 A
Motor Efficiency	87.9 %

Specification	
Noise (Ambient noise 20db, test distance 1M)	50 dB
Case - Environmental thermal resistance (no load)	0.41 K/W
Motor Thermal Time Constant(No Load)	1340 S
Ambient Temperature	22.6 °C
Maximum Winding Temperature(No Load)	72.1 °C
Torque Constant	31.58 mN·m/A
Back-EMF Constant /Peak Value	4.68 V/Krpm
Back-EMF Constant /Effective Value	3.31 V/Krpm
Peak Torque	3444.98 mNm
Peak Current	109 A
Inertia Moment	96.3 g·cm <sup>2</sup>
Mechanical Time Constant	2.12 ms
End Cover	Stainless Steel
Bearing	Deep Groove Ball Bearing
Magnet	Sinter NdFeB
Shaft	Carbon Steel

## SLBLDC - Size 16mm

Slotless Brushless DC Motor, 16ZWWC40 can avoid the pulsation of air gap magnetic induction caused by uneven magnetic resistance in the teeth. It can eliminate the pulse loss in the armature core and the surface loss on the main pole surface. 16ZWWC40 Slotless Brushless DC Motor has high durability, low electrical noise and high efficiency. Maximum efficiency of motor reaches 85% and this motor is suitable for the servo system which needs quick movement and high power. 16ZWWC40 Rated Power is 39W and Peak Torque is 118.13mN.m.



<https://www.kocomotion.de/produkt/slbldc-size-16mm/>



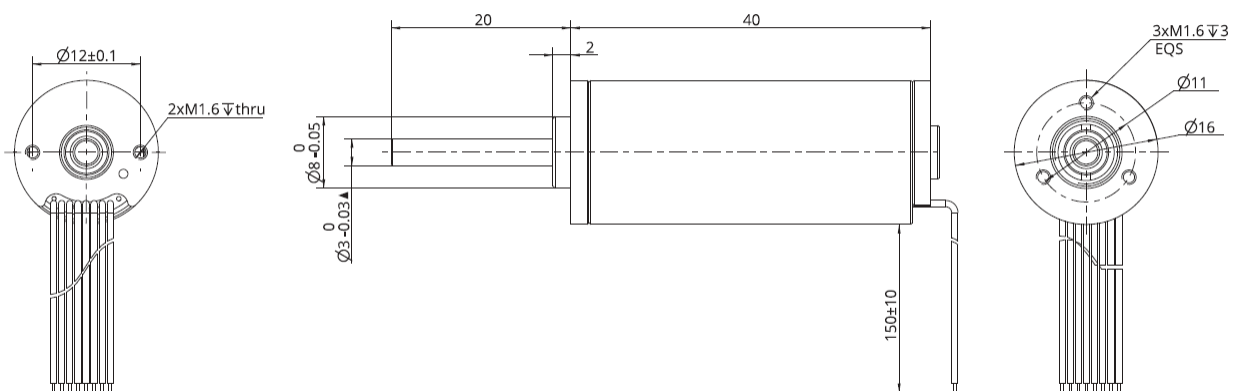
Produkte:	Seite
16ZWWC40-18	271
16ZWWC40-24	273
16ZWWC40-36	275
16ZWWC40-48	277

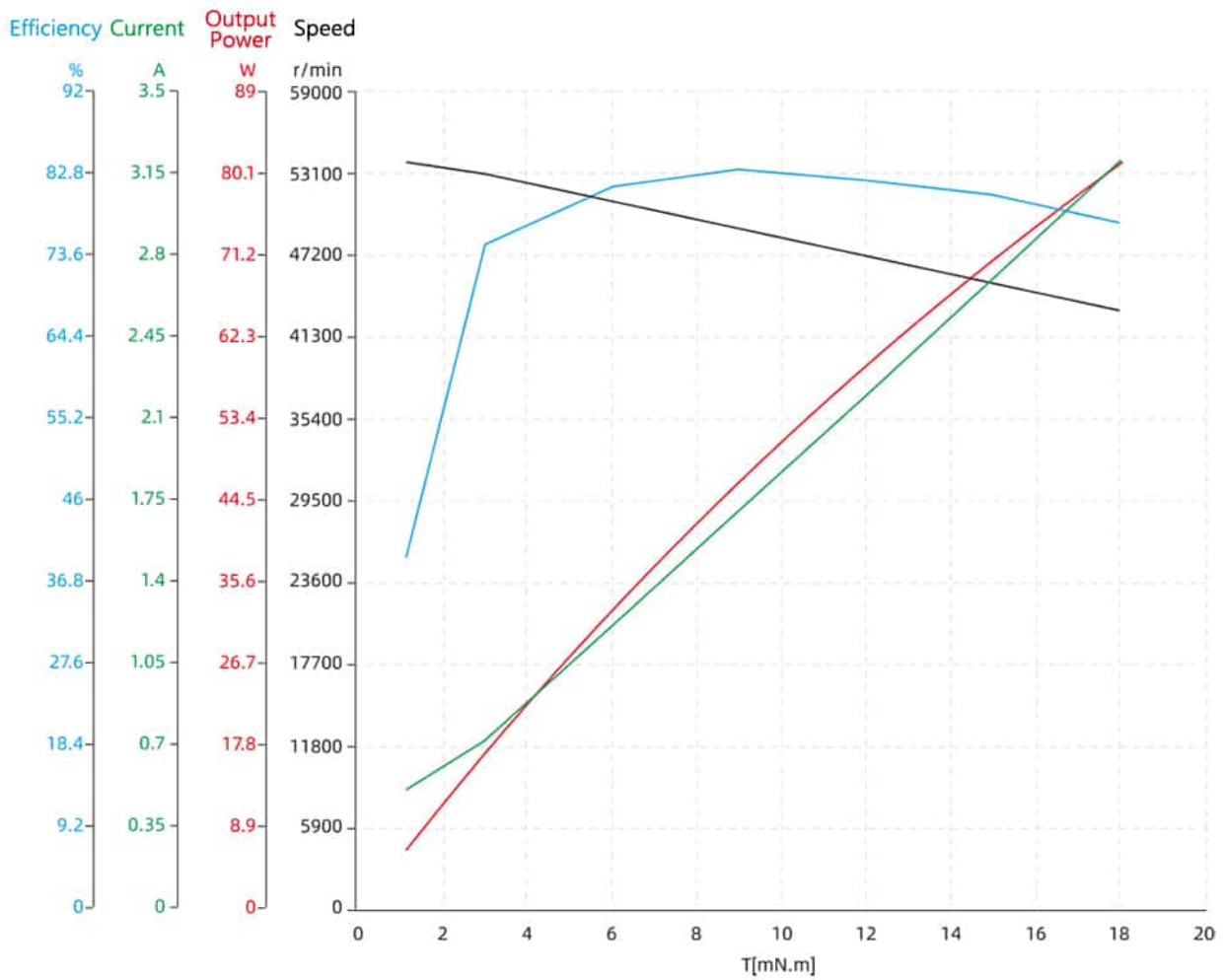
Motor Characteristics	16ZWWC40-18	16ZWWC40-24	16ZWWC40-36	16ZWWC40-48
Pole Pairs	1	1	1	1
Phase Resistance	0.63	1.31	1.85	3.15
Phase Inductance	0.033 mH	0.045 mH	0.096 mH	0.2 mH
Winding Connection	Star	Star	Star	Star
Insulation Class	B	B	B	B
Duty Type	S2	S2	S2	S2
Feedback Method	Hall Sensors	Hall Sensors	Hall Sensors	Hall Sensors
Commutation Angle	120°	120°	120°	120°

Motor Characteristics	16ZWWC40-18	16ZWWC40-24	16ZWWC40-36	16ZWWC40-48
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s	500VAC/1KHz/1mA/1s	500VAC/1KHz/1mA/1s	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC	100 M /500VDC	100 M /500VDC	100 M /500VDC
Weight	47 gr	47 gr	47 gr	47 gr
Rated Voltage	18 V	24 V	36 V	48 V
Rated Power	33 W	39 W	39 W	39 W
Rated Torque	7.4 mNm	7.4 mNm	7.5 mNm	7.4 mNm
Rated Speed	44000 RPM	51300 RPM	50000 RPM	50000 RPM
Rated Current	2.19 A	1.96 A	1.32 A	0.95 A
No Load Speed	50000 RPM	58000 RPM	56000 RPM	56000 RPM
No Load Current	0.31 A	0.22 A	0.15 A	0.12 A
Motor Efficiency	85 %	84 %	82.4 %	84.92 %
Noise (Ambient noise 20db, test distance 1M)	50	50	50	50
Enclosure - Ambient Thermal Resistance(No Load)	1.22 K/W	1.33 K/W	1.47 K/W	1.07 K/W
Motor Thermal Time Constant(No Load)	420 S	450 S	480 S	390 S
Ambient Temperature	22.3 °C	22.3 °C	22.3 °C	22.3 °C
Maximum Winding Temperature(No Load)	63 °C	75 °C	80 °C	63.8 °C
Torque Constant	3.38 mN·m/A	3.78 mN·m/A	5.66 mN·m/A	7.75 mN·m/A

Motor Characteristics	16ZWWC40-18	16ZWWC40-24	16ZWWC40-36	16ZWWC40-48
Back-EMF Constant /Peak Value	0.50 V/Krpm	0.56 V/Krpm	0.84 V/Krpm	1.15 V/Krpm
Back-EMF Constant /Effective Value	0.35 V/Krpm	0.40 V/Krpm	0.59 V/Krpm	0.81 V/Krpm
Peak Torque	96.65 mNm	69.21 mNm	110.19 mNm	118.13 mNm
Peak Current	29 A	18 A	19 A	15 A
Inertia Moment	0.583 g·cm <sup>2</sup>	0.583 g·cm <sup>2</sup>	0.583 g·cm <sup>2</sup>	0.583 g·cm <sup>2</sup>
Mechanical Time Constant	3.21 ms	5.35 ms	3.36 ms	3.06 ms
End Cover	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
Bearing	Deep Groove Ball Bearing	Deep Groove Ball Bearing	Deep Groove Ball Bearing	Deep Groove Ball Bearing
Magnet	Sintered NdFeB	Sintered NdFeB	Sintered NdFeB	Sintered NdFeB
Shaft	Carbon Steel	Carbon Steel	Carbon Steel	Carbon Steel

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# 16ZWWC40-18

Slotless Brushless DC Motor, 16ZWWC40 can avoid the pulsation of air gap magnetic induction caused by uneven magnetic resistance in the teeth. It can eliminate the pulse loss in the armature core and the surface loss on the main pole surface. 16ZWWC40 Slotless Brushless DC Motor has high durability, low electrical noise and high efficiency. Maximum efficiency of motor reaches 85% and this motor is suitable for the servo system which needs quick movement and high power. 16ZWWC40 Rated Power is 39W and Peak Torque is 118.13mN.m.



<https://www.kocomotion.de/produkt/16zwwc40-18/>

Specification	
Pole Pairs	1
Phase Resistance	0.63
Phase Inductance	0.033 mH
Winding Connection	Star
Insulation Class	B
Duty Type	S2
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	47 gr
Rated Voltage	18 V
Rated Power	33 W
Rated Torque	7.4 mNm
Rated Speed	44000 RPM
Rated Current	2.19 A
No Load Speed	50000 RPM
No Load Current	0.31 A
Motor Efficiency	85 %

Specification	
Noise (Ambient noise 20db, test distance 1M)	50 dB
Enclosure - Ambient Thermal Resistance(No Load)	1.22 K/W
Motor Thermal Time Constant(No Load)	420 S
Ambient Temperature	22.3 °C
Maximum Winding Temperature(No Load)	63 °C
Torque Constant	3.38 mN·m/A
Back-EMF Constant /Peak Value	0.50 V/Krpm
Back-EMF Constant /Effective Value	0.35 V/Krpm
Peak Torque	96.65 mNm
Peak Current	29 A
Inertia Moment	0.583 g·cm <sup>2</sup>
Mechanical Time Constant	3.21 ms
End Cover	Stainless Steel
Bearing	Deep Groove Ball Bearing
Magnet	Sintered NdFeB
Shaft	Carbon Steel



# 16ZWWC40-24

Slotless Brushless DC Motor, 16ZWWC40 can avoid the pulsation of air gap magnetic induction caused by uneven magnetic resistance in the teeth. It can eliminate the pulse loss in the armature core and the surface loss on the main pole surface. 16ZWWC40 Slotless Brushless DC Motor has high durability, low electrical noise and high efficiency. Maximum efficiency of motor reaches 85% and this motor is suitable for the servo system which needs quick movement and high power. 16ZWWC40 Rated Power is 39W and Peak Torque is 118.13mN.m.



<https://www.kocomotion.de/produkt/16zwwc40-24/>

Specification	
Pole Pairs	1
Phase Resistance	1.31
Phase Inductance	0.045 mH
Winding Connection	Star
Insulation Class	B
Duty Type	S2
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	47 gr
Rated Voltage	24 V
Rated Power	39 W
Rated Torque	7.4 mNm
Rated Speed	51300 RPM
Rated Current	1.96 A
No Load Speed	58000 RPM
No Load Current	0.22 A
Motor Efficiency	84 %

Specification	
Noise (Ambient noise 20db, test distance 1M)	50 dB
Enclosure - Ambient Thermal Resistance(No Load)	1.33 K/W
Motor Thermal Time Constant(No Load)	450 S
Ambient Temperature	22.3 °C
Maximum Winding Temperature(No Load)	75 °C
Torque Constant	3.78 mN·m/A
Back-EMF Constant /Peak Value	0.56 V/Krpm
Back-EMF Constant /Effective Value	0.40 V/Krpm
Peak Torque	69.21 mNm
Peak Current	18 A
Inertia Moment	0.583 g·cm <sup>2</sup>
Mechanical Time Constant	5.35 ms
End Cover	Stainless Steel
Bearing	Deep Groove Ball Bearing
Magnet	Sintered NdFeB
Shaft	Carbon Steel

# 16ZWWC40-36

Slotless Brushless DC Motor, 16ZWWC40 can avoid the pulsation of air gap magnetic induction caused by uneven magnetic resistance in the teeth. It can eliminate the pulse loss in the armature core and the surface loss on the main pole surface. 16ZWWC40 Slotless Brushless DC Motor has high durability, low electrical noise and high efficiency. Maximum efficiency of motor reaches 85% and this motor is suitable for the servo system which needs quick movement and high power. 16ZWWC40 Rated Power is 39W and Peak Torque is 118.13mN.m.



<https://www.kocomotion.de/produkt/16zwwc40-36/>

Specification	
Pole Pairs	1
Phase Resistance	1.85
Phase Inductance	0.096 mH
Winding Connection	Star
Insulation Class	B
Duty Type	S2
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	47 gr
Rated Voltage	36 V
Rated Power	39 W
Rated Torque	7.5 mNm
Rated Speed	50000 RPM
Rated Current	1.32 A
No Load Speed	56000 RPM
No Load Current	0.15 A
Motor Efficiency	82.4 %

Specification	
Noise (Ambient noise 20db, test distance 1M)	50 dB
Enclosure - Ambient Thermal Resistance(No Load)	1.47 K/W
Motor Thermal Time Constant(No Load)	480 S
Ambient Temperature	22.3 °C
Maximum Winding Temperature(No Load)	80 °C
Torque Constant	5.66 mN·m/A
Back-EMF Constant /Peak Value	0.84 V/Krpm
Back-EMF Constant /Effective Value	0.59 V/Krpm
Peak Torque	110.19 mNm
Peak Current	19 A
Inertia Moment	0.583 g·cm <sup>2</sup>
Mechanical Time Constant	3.36 ms
End Cover	Stainless Steel
Bearing	Deep Groove Ball Bearing
Magnet	Sintered NdFeB
Shaft	Carbon Steel

# 16ZWWC40-48

Slotless Brushless DC Motor, 16ZWWC40 can avoid the pulsation of air gap magnetic induction caused by uneven magnetic resistance in the teeth. It can eliminate the pulse loss in the armature core and the surface loss on the main pole surface. 16ZWWC40 Slotless Brushless DC Motor has high durability, low electrical noise and high efficiency. Maximum efficiency of motor reaches 85% and this motor is suitable for the servo system which needs quick movement and high power. 16ZWWC40 Rated Power is 39W and Peak Torque is 118.13mN.m.



<https://www.kocomotion.de/produkt/16zwwc40-48/>

Specification	
Pole Pairs	1
Phase Resistance	3.15
Phase Inductance	0.2 mH
Winding Connection	Star
Insulation Class	B
Duty Type	S2
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	47 gr
Rated Voltage	48 V
Rated Power	39 W
Rated Torque	7.4 mNm
Rated Speed	50000 RPM
Rated Current	0.95 A
No Load Speed	56000 RPM
No Load Current	0.12 A
Motor Efficiency	84.92 %

Specification	
Noise (Ambient noise 20db, test distance 1M)	50 dB
Enclosure - Ambient Thermal Resistance(No Load)	1.07 K/W
Motor Thermal Time Constant(No Load)	390 S
Ambient Temperature	22.3 °C
Maximum Winding Temperature(No Load)	63.8 °C
Torque Constant	7.75 mN·m/A
Back-EMF Constant /Peak Value	1.15 V/Krpm
Back-EMF Constant /Effective Value	0.81 V/Krpm
Peak Torque	118.13 mNm
Peak Current	15 A
Inertia Moment	0.583 g·cm <sup>2</sup>
Mechanical Time Constant	3.06 ms
End Cover	Stainless Steel
Bearing	Deep Groove Ball Bearing
Magnet	Sintered NdFeB
Shaft	Carbon Steel

# BLDC - Size 22mm

22ZWC48L-1 is very compact size but it has optimized magnetic circuit. Brushless DC Motor with core winding has high torque density and multi-pole rotor can provide very strong and dynamic performance. 22ZWC48L-1 can reach Max. 12,000RPM



<https://www.kocomotion.de/produkt/bldc-size-22mm/>

## Produkte:

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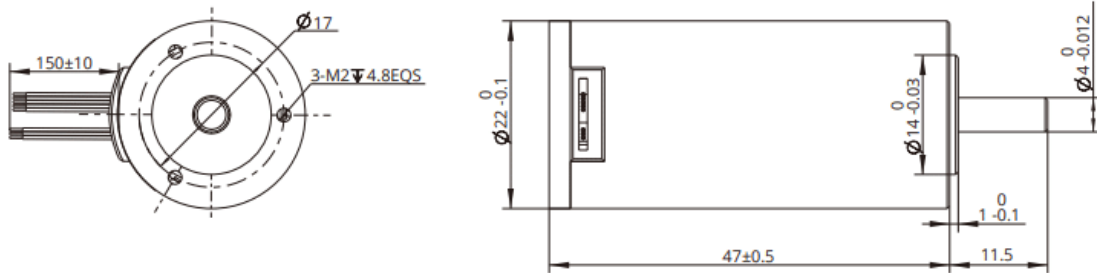
22ZWC48L-1

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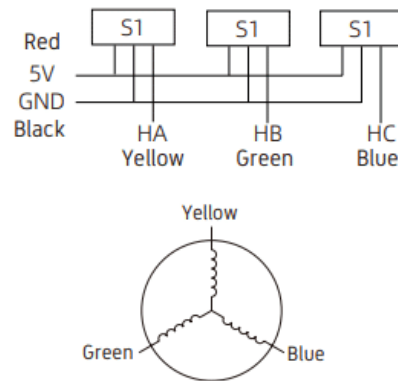
Motor Characteristics	22ZWC48L-1
Pole pair	2 mm
Winding connection method	Star shape
Phase inductance	0.54 mH
Phase Resistance	3.053
Insulation Class	B
Duty Type	S2
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	200 g
Rated Voltage	24 V
Rated Power	19.9 W
Rated Torque	0.019 Nm
Rated Speed	10000 RPM
Rated Current	1.2 A
No Load Speed	12000 RPM
No Load Current	0.24 A
Motor Efficiency	70 %
Static torque	3.42 mNm

Motor Characteristics	22ZWC48L-1
Noise (Ambient noise 20db, test distance 1M)	50
Enclosure - Ambient Thermal Resistance	0.85 K/W
Motor Thermal Time Constant	1.26 min
Ambient Temperature	25 °C
Maximum Winding Temperature	75 °C
Torque Constant	0.016 N·m/A
Back-EMF Constant /Effective Value	1.67 V/Krpm
Peak Torque	0.057 Nm
Peak Current	3.6 A
Inertia Moment	1.1 g·cm <sup>2</sup>

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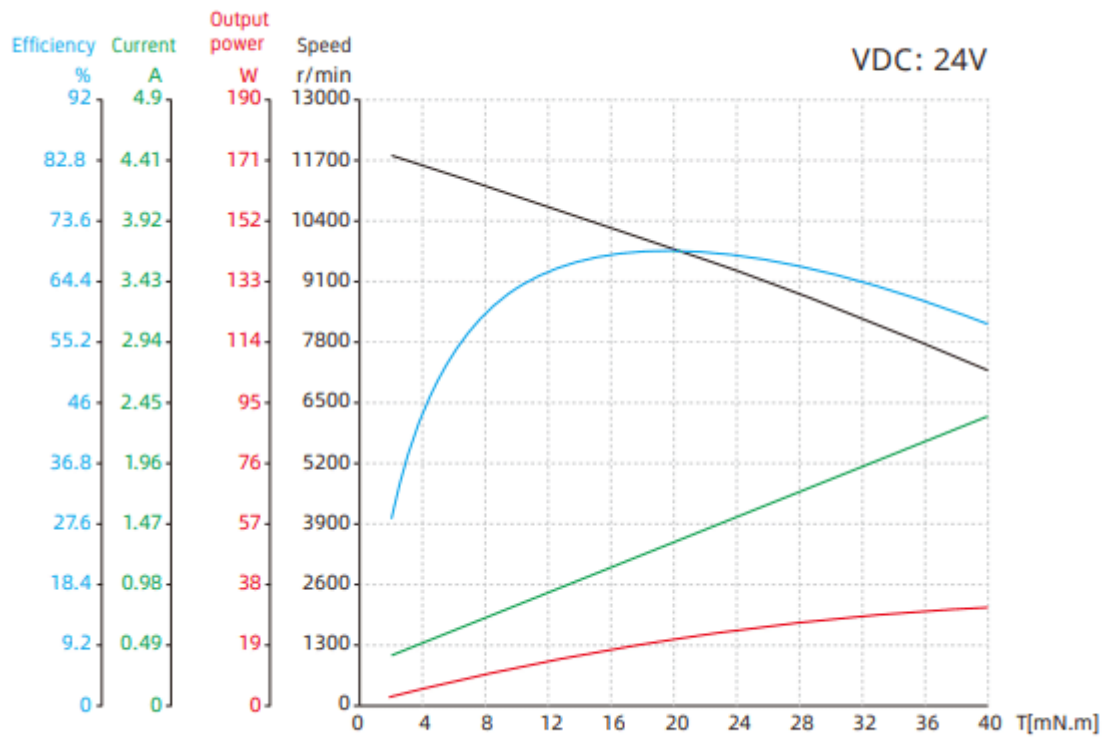


Lead-out type	Lead-out color	Function
UL3265 AWG26	Yellow	Hall U (Hu)
	Green	Hall V (Hv)
	Blue	Hall W (Hw)
	Red	Hall power supply positive (Vcc)
	Black	Hall power supply negative (GND)
UL3265 AWG22	Yellow	U phase
	Green	V phase
	Blue	W phase



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# 22ZWC48L-1

22ZWC48L-1 is very compact size but it has optimized magnetic circuit. Brushless DC Motor with core winding has high torque density and multi-pole rotor can provide very strong and dynamic performance. 22ZWC48L-1 can reach Max. 12,000RPM



<https://www.kocomotion.de/produkt/22zwc48l-1/>

Specification	
Pole pair	2 mm
Winding connection method	Star shape mm
Phase inductance	0.54 mH
Phase Resistance	3.053
Insulation Class	B
Duty Type	S2
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	200 g
Rated Voltage	24 V
Rated Power	19.9 W
Rated Torque	0.019 Nm
Rated Speed	10000 RPM
Rated Current	1.2 A
No Load Speed	12000 RPM
No Load Current	0.24 A
Motor Efficiency	70 %
Static torque	3.42 mNm
Noise (Ambient noise 20db, test distance 1M)	50 dB
Enclosure - Ambient Thermal Resistance	0.85 K/W
Motor Thermal Time Constant	1.26 min

Specification	
Ambient Temperature	25 °C
Maximum Winding Temperature	75 °C
Torque Constant	0.016 N·m/A
Back-EMF Constant /Effective Value	1.67 V/Krpm
Peak Torque	0.057 Nm
Peak Current	3.6 A
Inertia Moment	1.1 g·cm <sup>2</sup>

# BLDC - Size 28mm



<https://www.kocomotion.de/produkt/bldc-size-28mm/>



## Produkte:

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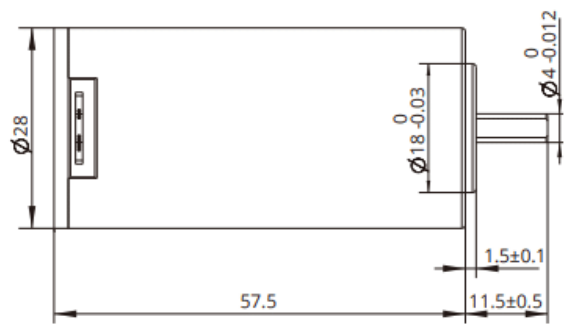
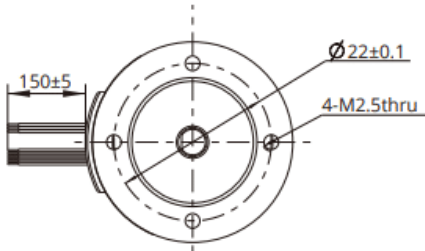
28ZWC58L-1

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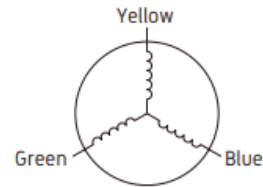
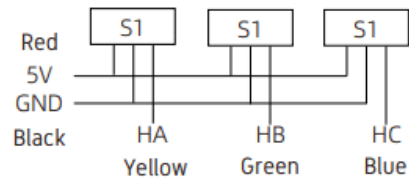
Motor Characteristics	28ZWC58L-1
Pole pair	2
Winding connection method	Star shape
Phase resistance	0.676
Phase inductance	0.2 mH
Insulation class	B
Duty type	S2
Feedback method	Hall Sensors
Commutation angle	120°
Insulation strength (Withstand voltage)	500VAC/1KHz/1mA/1s
Insulation resistance	100 M /500VDC
Weight	300 g
Rated voltage	24 V
Rated power	52.4 W
Rated torque	0.05 Nm
Rated speed	10000 RPM
Rated current	3 A
No load speed	12000 RPM
No load current	0.5 A
Motor efficiency	77 %
Static torque	12.8 mNm
Noise (Ambient noise 20db, test distance 1M)	50

Motor Characteristics	28ZWC58L-1
Enclosure - Ambient Thermal Resistance	0.38 K/W
Ambient temperature	25 °C
Maximum winding temperature	75 °C
Torque constant	0.017 N·m/A
Back-EMF Constant /Effective Value	1.78 V/Krpm
Peak torque	0.15 Nm
Peak current	9 A
Inertia Moment	0.011 kg·cm <sup>2</sup>

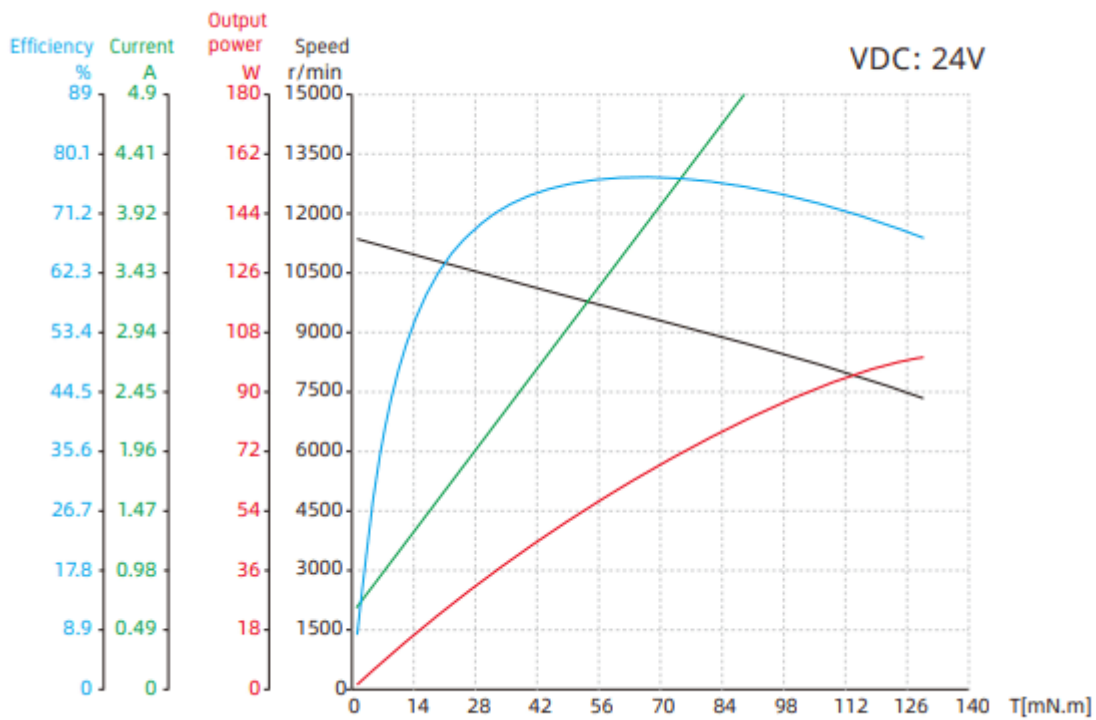
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Lead-out type	Lead-out color	Function
UL3265 AWG26	Yellow	Hall U (Hu)
	Green	Hall V (Hv)
	Blue	Hall W (Hw)
	Red	Hall power supply positive (Vcc)
	Black	Hall power supply negative (GND)
UL3265 AWG22	Yellow	U phase
	Green	V phase
	Blue	W phase



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# 28ZWC58L-1



<https://www.kocomotion.de/produkt/28zwc58l-1/>



Specification	
Pole pair	2
Winding connection method	Star shape
Phase resistance	0.676
Phase inductance	0.2 mH
Insulation class	B
Duty type	S2
Feedback method	Hall Sensors
Commutation angle	120°
Insulation strength (Withstand voltage)	500VAC/1KHz/1mA/1s
Insulation resistance	100 M /500VDC
Weight	300 g
Rated voltage	24 V
Rated power	52.4 W
Rated torque	0.05 Nm
Rated speed	10000 RPM
Rated current	3 A
No load speed	12000 RPM
No load current	0.5 A
Motor efficiency	77 %
Static torque	12.8 mNm
Noise (Ambient noise 20db, test distance 1M)	50 dB
Enclosure - Ambient Thermal Resistance	0.38 K/W
Ambient temperature	25 °C
Maximum winding temperature	75 °C

Specification	
Torque constant	0.017 N·m/A
Back-EMF Constant /Effective Value	1.78 V/Krpm
Peak torque	0.15 Nm
Peak current	9 A
Inertia Moment	0.011 kg·cm <sup>2</sup>



# BLDC - Size 36mm



<https://www.kocomotion.de/produkt/bldc-size-36mm/>



## Produkte:

Seite

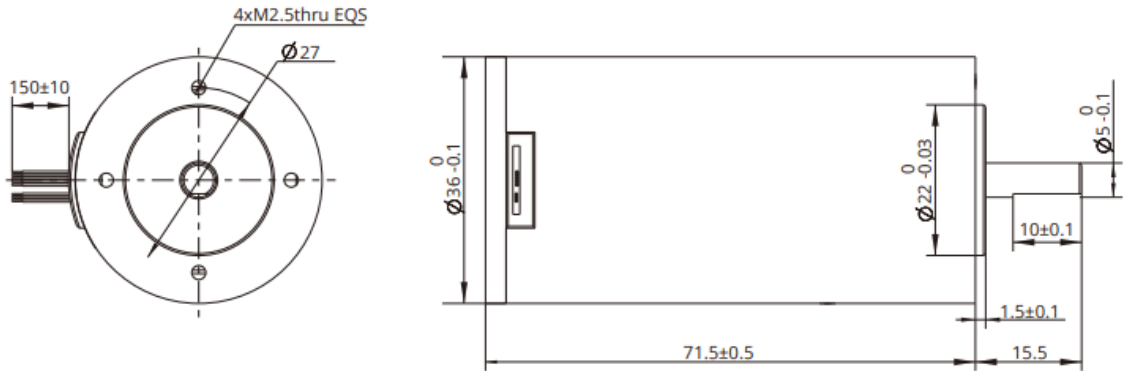
36ZWC72L-1

292

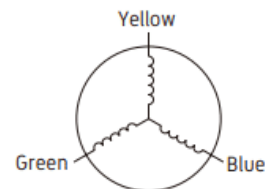
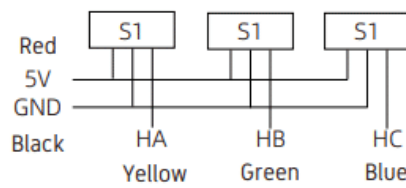
Motor Characteristics	36ZWC72L-1
Pole pair	2
Winding connection method	Star shape
Phase resistance	0.67
Phase inductance	0.37 mH
Insulation class	B
Duty type	S2
Feedback method	Hall Sensors
Commutation angle	120°
Insulation strength (Withstand voltage)	500VAC/1KHz/1mA/1s
Insulation resistance	100 M /500VDC
Weight	600 g
Rated voltage	48 V
Rated power	130.9 W
Rated torque	0.125 Nm
Rated speed	10000 RPM
Rated current	3.6 A
No load speed	12000 RPM
No load current	0.5 A
Motor efficiency	80 %
Static torque	35.5 mNm
Noise (Ambient noise 20db, test distance 1M)	50

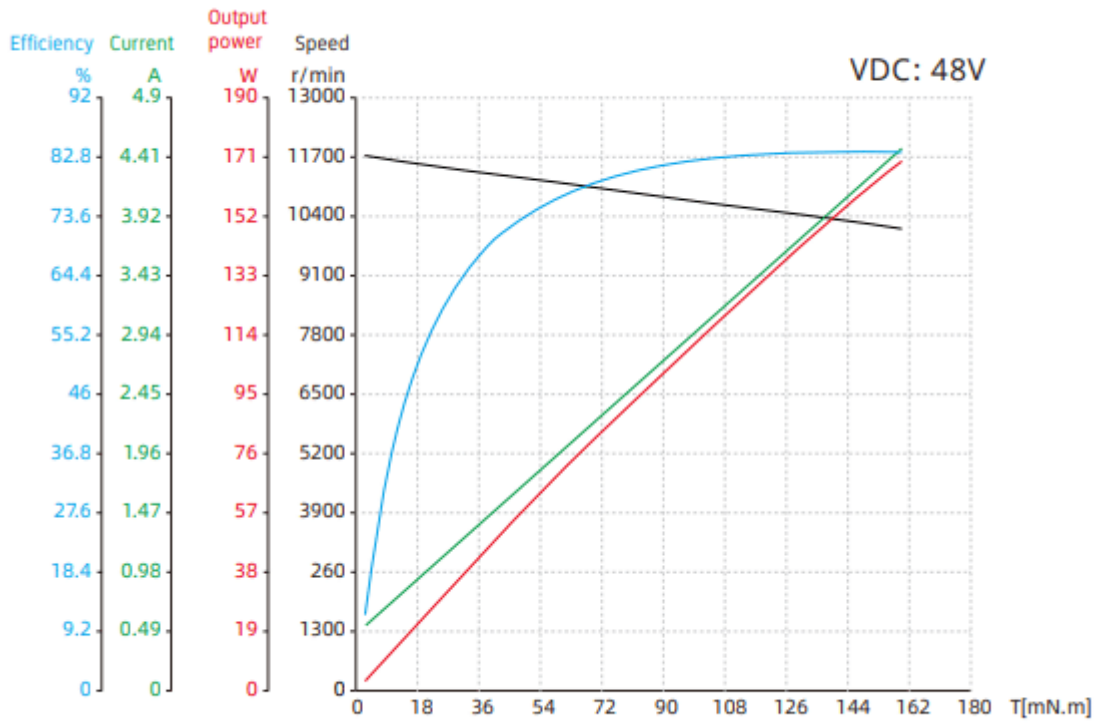
Motor Characteristics	36ZWC72L-1
Enclosure - Ambient Thermal Resistance	0.24 K/W
Ambient temperature	25 °C
Maximum winding temperature	75 °C
Torque constant	0.035 N·m/A
Back-EMF Constant /Effective Value	3.67 V/Krpm
Peak torque	..375 Nm
Peak current	10.8 A
Inertia Moment	0.037 kg·cm <sup>2</sup>

include \_\_DIR\_\_ . "/parts/spacer.php";



Lead-out type	Lead-out color	Function
UL3265 AWG26	Yellow	Hall U (Hu)
	Green	Hall V (Hv)
	Blue	Hall W (Hw)
	Red	Hall power supply positive (Vcc)
	Black	Hall power supply negative (GND)
UL3265 AWG22	Yellow	U phase
	Green	V phase
	Blue	W phase





# 36ZWC72L-1



<https://www.kocomotion.de/produkt/36zwc72l-1/>



Specification	
Pole pair	2
Winding connection method	Star shape
Phase resistance	0.67
Phase inductance	0.37 mH
Insulation class	B
Duty type	S2
Feedback method	Hall Sensors
Commutation angle	120°
Insulation strength (Withstand voltage)	500VAC/1KHz/1mA/1s
Insulation resistance	100 M /500VDC
Weight	600 g
Rated voltage	48 V
Rated power	130.9 W
Rated torque	0.125 Nm
Rated speed	10000 RPM
Rated current	3.6 A
No load speed	12000 RPM
No load current	0.5 A
Motor efficiency	80 %
Static torque	35.5 mNm
Noise (Ambient noise 20db, test distance 1M)	50 dB
Enclosure - Ambient Thermal Resistance	0.24 K/W
Ambient temperature	25 °C
Maximum winding temperature	75 °C



Specification	
Torque constant	0.035 N·m/A
Back-EMF Constant /Effective Value	3.67 V/Krpm
Peak torque	..375 Nm
Peak current	10.8 A
Inertia Moment	0.037 kg·cm <sup>2</sup>

# SLBLDC - Size 30mm



<https://www.kocomotion.de/produkt/slbldc-size-30mm/>



## Produkte:

Seite

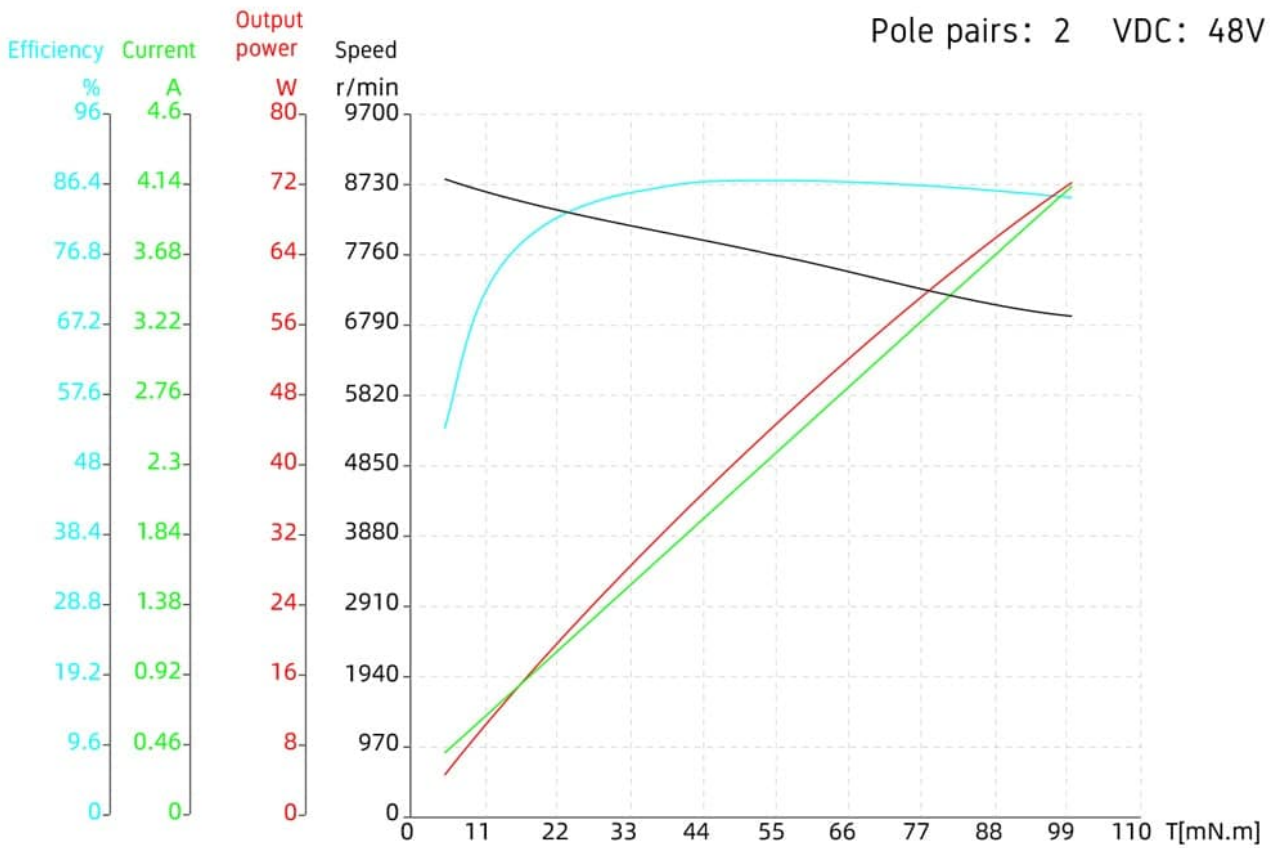
30ZWWC65

297

Motor Characteristics	30ZWWC65
Pole Pairs	2
Phase Resistance	0.5
Phase Inductance	0.05 mH
Winding Connection	Star shape
Insulation Class	B
Duty Type	S1
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	230 gr
Rated Voltage	24 V
Rated Power	65 W
Rated Torque	90 mNm
Rated Speed	6900 RPM
Rated Current	3.85 A
No Load Speed	9200 RPM
No Load Current	0.3 A
Motor Efficiency	86 %
Noise (Ambient noise 20db, test distance 1M)	50
Enclosure - Ambient Thermal Resistance(No Load)	0.31 K/W



Pole pairs: 2 VDC: 48V





# 30ZWWC65



<https://www.kocomotion.de/produkt/30zwwc65/>



Specification	
Pole Pairs	2
Phase Resistance	0.5
Phase Inductance	0.05 mH
Winding Connection	Star shape
Insulation Class	B
Duty Type	S1
Feedback Method	Hall Sensors
Commutation Angle	120°
Insulation Strength (Withstand Voltage)	500VAC/1KHz/1mA/1s
Insulation Resistance	100 M /500VDC
Weight	230 gr
Rated Voltage	24 V
Rated Power	65 W
Rated Torque	90 mNm
Rated Speed	6900 RPM
Rated Current	3.85 A
No Load Speed	9200 RPM
No Load Current	0.3 A
Motor Efficiency	86 %
Noise (Ambient noise 20db, test distance 1M)	50 dB
Enclosure - Ambient Thermal Resistance(No Load)	0.31 K/W
Motor Thermal Time Constant(No Load)	1200 S
Ambient Temperature	23 °C
Maximum Winding Temperature(No Load)	43.2 °C

Specification	
Torque Constant	23.38 mN·m/A
Back-EMF Constant /Peak Value	3.46 V/Krpm
Back-EMF Constant /Effective Value	2.45 V/Krpm
Peak Torque	1122.08 mNm
Peak Current	48 A
Inertia Moment	28 g·cm <sup>2</sup>
Mechanical Time Constant	2.56 ms
End Cover	Stainless Steel
Bearing	Deep Groove Ball Bearing
Magnet	Sintered NdFeB
Shaft	Carbon Steel

# BLDC - Size 12mm

12ZWC30L-1 is very compact size but it has optimized magnetic circuit. Brushless DC Motor with core winding has high torque density and multipole rotor can provide very strong and dynamic performance. 12ZWC30L-1 can reach Max. 10,000RPM.



<https://www.kocomotion.de/produkt/bldc-size-12mm/>

## Produkte:

Seite

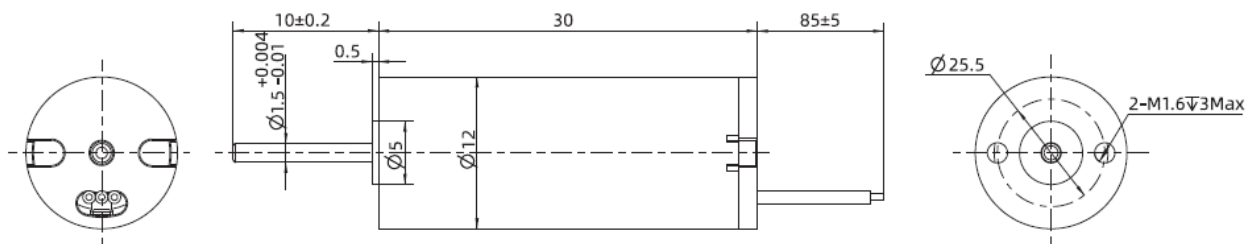
12ZWC30L-1

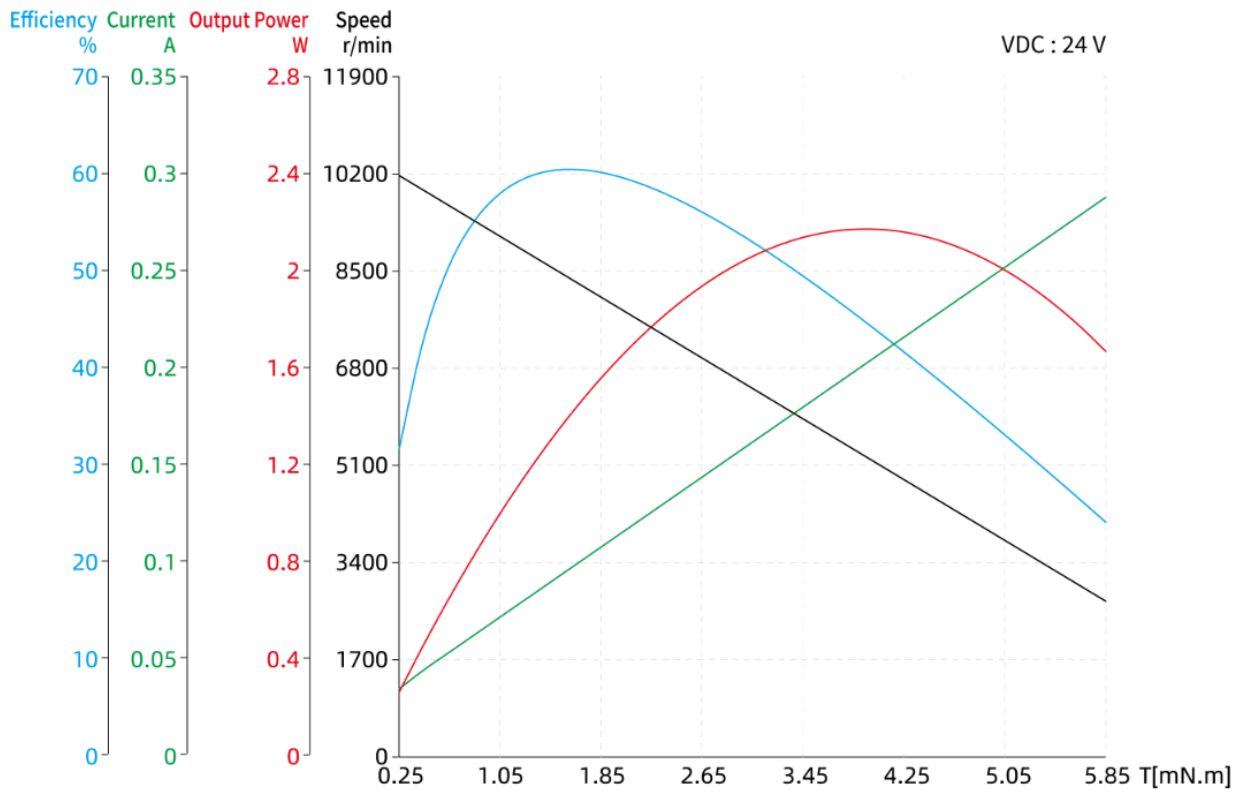
302

Motor Characteristics	12ZWC30L-1
Pole pair	2 mm
Phase resistance	52.5
Phase inductance	3.92 mH
Winding connection method	Star shape
Insulation class	B
Duty type	S2
Commutation angle	120°
Insulation strength (Withstand voltage)	500VAC/1KHz/1mA/1s
Insulation resistance - 100 MOhm 20C	100 MOhm 20C
Weight	18 g
Rated voltage	24 V
Rated power	1.6 W
Rated torque	1 mN·m
Rated speed	7700 RPM
Rated current	0.11 A
No load speed	11000 RPM
No load current	0.035 A
Motor efficiency	60 %
Noise(Ambient noise 20db, test distance 1m)	50
Enclosure - Ambient thermal resistance K/W 0.9	0.9 K/W

Motor Characteristics	12ZWC30L-1
Ambient temperature	20 °C
Maximum winding temperature	68.5 °C
Torque constant	9.091 N·m/A
Back-EMF constant / Effective value	1.68 V/Krpm
Peak torque	3 mN·m
Peak current	0.33 A
Inertia moment	0.18 g·cm <sup>2</sup>

include \_\_DIR\_\_ . "/parts/spacer.php";





# 12ZWC30L-1

12ZWC30L-1 is very compact size but it has optimized magnetic circuit. Brushless DC Motor with core winding has high torque density and multipole rotor can provide very strong and dynamic performance. 12ZWC30L-1 can reach Max. 10,000RPM.



<https://www.kocomotion.de/produkt/12zwc30l-1/>

Specification	
Pole pair	2 mm
Phase resistance	52.5
Phase inductance	3.92 mH
Winding connection method	Star shape -
Insulation class	B -
Duty type	S2 -
Commutation angle	120° -
Insulation strength (Withstand voltage)	500VAC/1KHz/1mA/1s -
Insulation resistance - 100 MOhm 20C	100 MOhm 20C -
Weight	18 g
Rated voltage	24 V
Rated power	1.6 W
Rated torque	1 mN·m
Rated speed	7700 RPM
Rated current	0.11 A
No load speed	11000 RPM
No load current	0.035 A
Motor efficiency	60 %
Noise(Ambient noise 20db, test distance 1m)	50 dB
Enclosure - Ambient thermal resistance K/W 0.9	0.9 K/W
Ambient temperature	20 °C
Maximum winding temperature	68.5 °C
Torque constant	9.091 N·m/A



Specification	
Back-EMF constant / Effective value	1.68 V/Krpm
Peak torque	3 mN·m
Peak current	0.33 A
Inertia moment	0.18 g·cm <sup>2</sup>

# BLDC - Size 90mm

90mm Brushless DC Motor has Max. 0.87N·m rated torque and it can generate 173W capacity of rated power. 90mm motor has Star winding connection and 5 pole pairs motors with Hall sensors feed back method as standard. In addition, gearbox and incremental encoder is available.



<https://www.kocomotion.de/produkt/bldc-size-90mm/>

## Produkte:

Seite

90ZWS62X-4

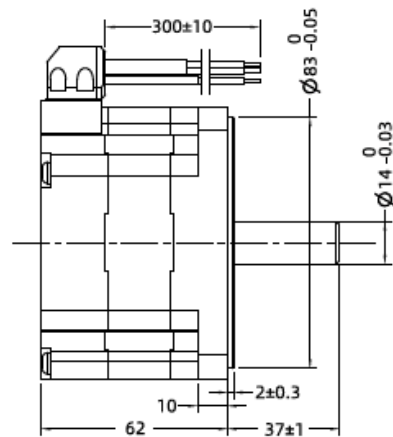
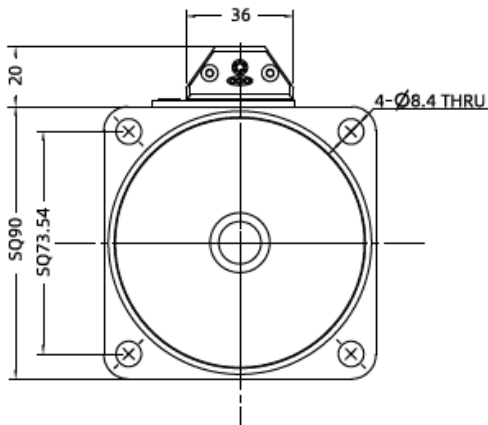
307

Motor Characteristics	90ZWS62X-4
Pole pair	5 mm
Phase resistance	0.54
Phase inductance	1.5 mH
Winding connection method	Star shape
Insulation class	B
Duty type	S2
Commutation angle	120°
Insulation strength (Withstand voltage)	500VAC/1KHz/1mA/1s
Insulation resistance - 100 MOhm 20C	100 MOhm 20C
Weight	1.5 g
Rated voltage	48 V
Rated power	173 W
Rated torque	0.87 mN·m
Rated speed	1900 RPM
Rated current	5.5 A
No load speed	2400 RPM
No load current	0.6 A
Motor efficiency	80 %
Noise(Ambient noise 20db, test distance 1m)	50
Enclosure - Ambient thermal resistance K/W 0.9	2 K/W

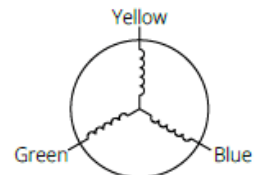
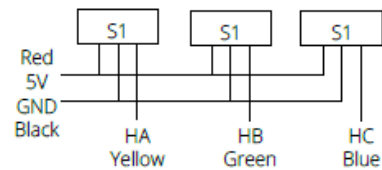


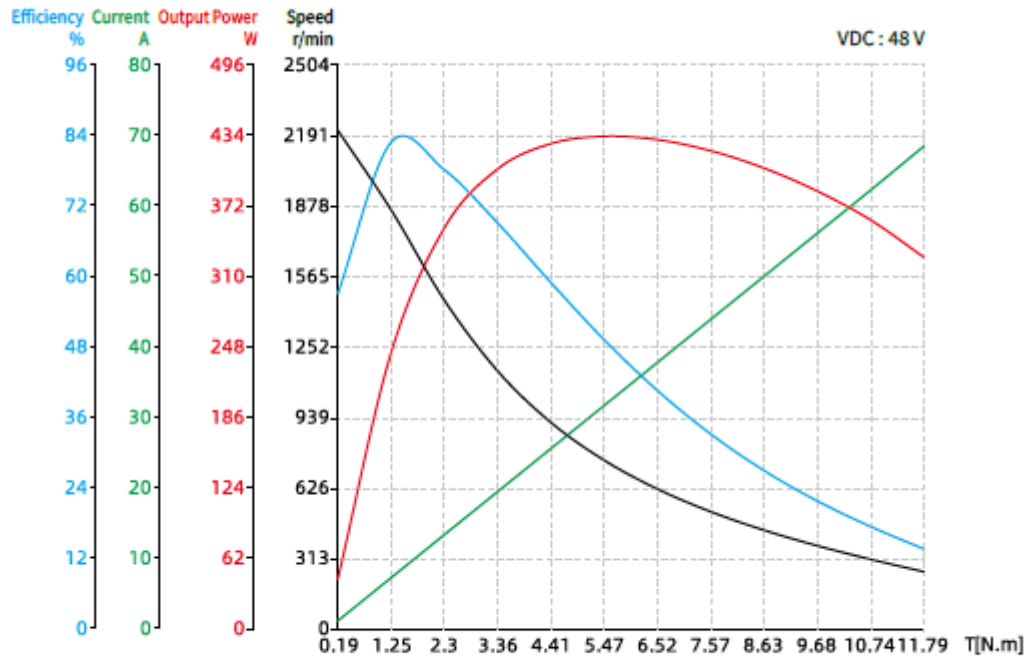
Motor Characteristics	90ZWS62X-4
Ambient temperature	30 °C
Maximum winding temperature	90 °C
Torque constant	0.158 N·m/A
Back-EMF constant / Effective value	15 V/Krpm
Peak torque	1.7 mN·m
Peak current	10.5 A
Inertia moment	0.51 g·cm <sup>2</sup>

include \_\_DIR\_\_ . "/parts/spacer.php";



Lead-out type	Lead-out color	Function
UL3265 AWG26	Yellow	Hall U (Hu)
	Green	Hall V (Hv)
	Blue	Hall W (Hw)
	Red	Hall power supply positive (Vcc)
	Black	Hall power supply negative (GND)
UL3265 AWG18	Yellow	U phase
	Green	V phase
	Blue	W phase





# 90ZWS62X-4

90mm Brushless DC Motor has Max. 0.87N·m rated torque and it can generate 173W capacity of rated power. 90mm motor has Star winding connection and 5 pole pairs motors with Hall sensors feed back method as standard. In addition, gearbox and incremental encoder is available.



<https://www.kocomotion.de/produkt/90zws62x-4/>

Specification	
Pole pair	5 mm
Phase resistance	0.54
Phase inductance	1.5 mH
Winding connection method	Star shape -
Insulation class	B -
Duty type	S2 -
Commutation angle	120° -
Insulation strength (Withstand voltage)	500VAC/1KHz/1mA/1s -
Insulation resistance - 100 MOhm 20C	100 MOhm 20C -
Weight	1.5 g
Rated voltage	48 V
Rated power	173 W
Rated torque	0.87 mN·m
Rated speed	1900 RPM
Rated current	5.5 A
No load speed	2400 RPM
No load current	0.6 A
Motor efficiency	80 %
Noise(Ambient noise 20db, test distance 1m)	50 dB
Enclosure - Ambient thermal resistance K/W 0.9	2 K/W
Ambient temperature	30 °C
Maximum winding temperature	90 °C
Torque constant	0.158 N·m/A

Specification	
Back-EMF constant / Effective value	15 V/Krpm
Peak torque	1.7 mN·m
Peak current	10.5 A
Inertia moment	0.51 g·cm <sup>2</sup>

# BLDC - Size 110mm

110mm Brushless DC Motor has Max. 4.6N·m rated torque and it can generate 710W capacity of rated power. 110mm motor has Star winding connection and 5 pole pairs motors with Hallsensors feed back method as standard. In addition, gearbox and incremental encoder is available.



<https://www.kocomotion.de/produkt/bldc-size-110mm/>

## Produkte:

Seite

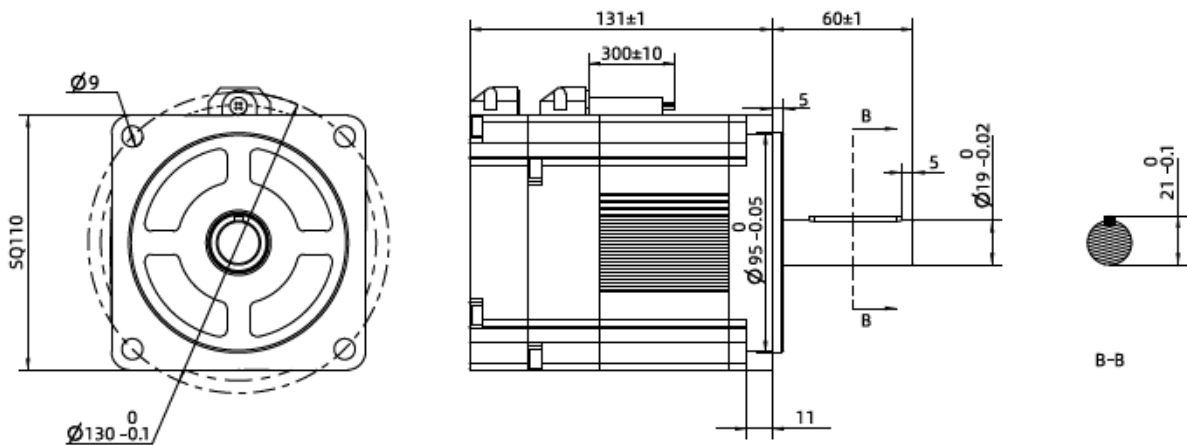
110ZWS132XE-1

312

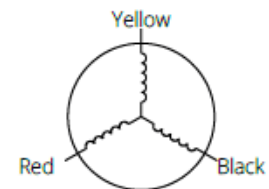
Motor Characteristics	110ZWS132XE-1
Pole pair	5 mm
Phase resistance	1.04
Phase inductance	3.658 mH
Winding connection method	Star shape
Insulation class	B
Duty type	S1
Commutation angle	120°
Insulation strength (Withstand voltage)	1000VAC/1KHz/1mA/1s
Insulation resistance - 100 MOhm 20C	100 MOhm 20C
Weight	3 g
Rated voltage	120 V
Rated power	710.0 W
Rated torque	4.6 mN·m
Rated speed	1500 RPM
Rated current	9.6 A
No load speed	1850 RPM
No load current	0.65 A
Motor efficiency	90 %
Noise(Ambient noise 20db, test distance 1m)	50
Enclosure - Ambient thermal resistance K/W 0.9	0.36 K/W

Motor Characteristics	110ZWS132XE-1
Ambient temperature	20 °C
Maximum winding temperature	88 °C
Torque constant	0.479 N·m/A
Back-EMF constant / Effective value	112.2 V/Krpm
Peak torque	13.8 mN·m
Peak current	28.8 A
Inertia moment	10.2 kg·cm <sup>2</sup>

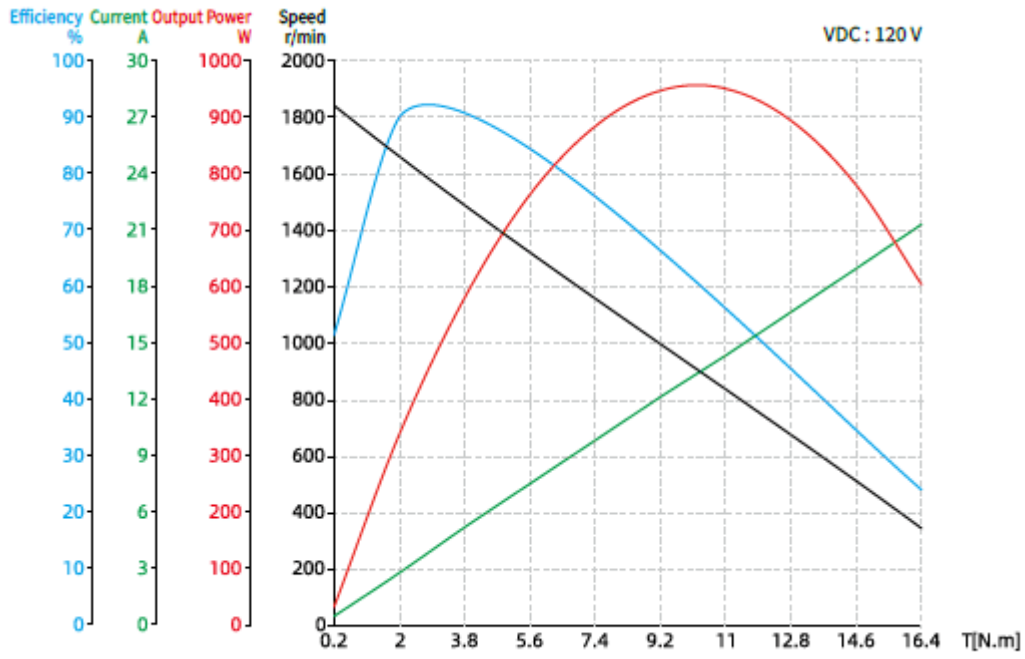
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Lead-out type	Lead-out color	Function
UL3265 AWG16	Yellow	U phase
	Red	V phase
	Black	W phase



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# 110ZWS132XE-1

110mm Brushless DC Motor has Max. 4.6N·m rated torque and it can generate 710W capacity of rated power. 110mm motor has Star winding connection and 5 pole pairs motors with Hallsensors feed back method as standard. In addition, gearbox and incremental encoder is available.



<https://www.kocomotion.de/produkt/110zws132xe-1/>

Specification	
Pole pair	5 mm
Phase resistance	1.04
Phase inductance	3.658 mH
Winding connection method	Star shape -
Insulation class	B -
Duty type	S1 -
Commutation angle	120° -
Insulation strength (Withstand voltage)	1000VAC/1KHz/1mA/1s -
Insulation resistance - 100 MOhm 20C	100 MOhm 20C -
Weight	3 g
Rated voltage	120 V
Rated power	710.0 W
Rated torque	4.6 mN·m
Rated speed	1500 RPM
Rated current	9.6 A
No load speed	1850 RPM
No load current	0.65 A
Motor efficiency	90 %
Noise(Ambient noise 20db, test distance 1m)	50 dB
Enclosure - Ambient thermal resistance K/W 0.9	0.36 K/W
Ambient temperature	20 °C
Maximum winding temperature	88 °C
Torque constant	0.479 N·m/A





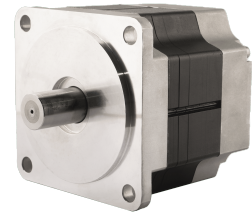
Specification	
Back-EMF constant / Effective value	112.2 V/Krpm
Peak torque	13.8 mN·m
Peak current	28.8 A
Inertia moment	10.2 kg·cm <sup>2</sup>

# BLDC - Size 130mm

130mm Brushless DC Motor has Max. 8N·m rated torque and it can generate 837W capacity of rated power.



<https://www.kocomotion.de/produkt/bldc-size-130mm/>



## Produkte:

Seite

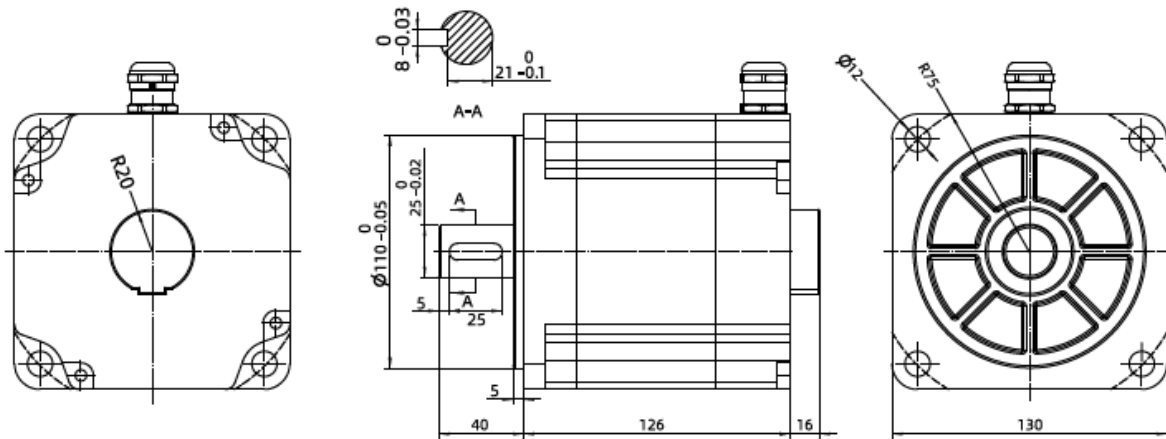
130ZWS126LE-1

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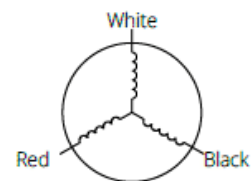
Motor Characteristics	130ZWS126LE-1
Pole pair	5 mm
Phase resistance	1.68
Phase inductance	1.036 mH
Winding connection method	Star shape
Insulation class	B
Duty type	S1
Commutation angle	120°
Insulation strength (Withstand voltage)	1000VAC/1KHz/1mA/1s
Insulation resistance - 100 MOhm 20C	100 MOhm 20C
Weight	3.5 g
Rated voltage	120 V
Rated power	837.0 W
Rated torque	8 mN·m
Rated speed	1000 RPM
Rated current	20 A
No load speed	1300 RPM
No load current	0.9 A
Motor efficiency	94 %
Noise(Ambient noise 20db, test distance 1m)	50
Enclosure - Ambient thermal resistance K/W 0.9	0.22 K/W
Ambient temperature	20 °C

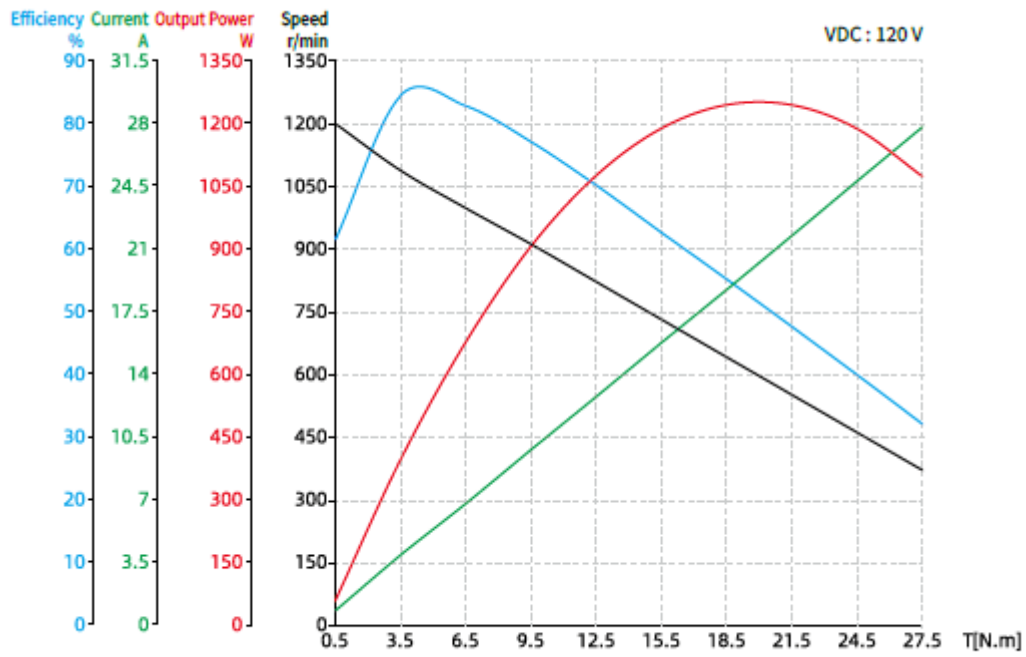
Motor Characteristics	130ZWS126LE-1
Maximum winding temperature	94 °C
Torque constant	0.4 N-m/A
Back-EMF constant / Effective value	94.2 V/Krpm
Peak torque	24 mN-m
Peak current	60 A
Inertia moment	13.2 kg-cm <sup>2</sup>

include \_\_DIR\_\_ . "/parts/spacer.php";



Lead-out type	Lead-out color	Function
UL3265 AWG18	White	U phase
	Red	V phase
	Black	W phase



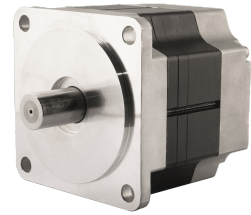


# 130ZWS126LE-1

130mm Brushless DC Motor has Max. 8N·m rated torque and it can generate 837W capacity of rated power.



<https://www.kocomotion.de/produkt/130zws126le-1/>



Specification	
Pole pair	5 mm
Phase resistance	1.68
Phase inductance	1.036 mH
Winding connection method	Star shape -
Insulation class	B -
Duty type	S1 -
Commutation angle	120° -
Insulation strength (Withstand voltage)	1000VAC/1KHz/1mA/1s -
Insulation resistance - 100 MOhm 20C	100 MOhm 20C -
Weight	3.5 g
Rated voltage	120 V
Rated power	837.0 W
Rated torque	8 mN·m
Rated speed	1000 RPM
Rated current	20 A
No load speed	1300 RPM
No load current	0.9 A
Motor efficiency	94 %
Noise(Ambient noise 20db, test distance 1m)	50 dB
Enclosure - Ambient thermal resistance K/W 0.9	0.22 K/W
Ambient temperature	20 °C
Maximum winding temperature	94 °C
Torque constant	0.4 N·m/A
Back-EMF constant / Effective value	94.2 V/Krpm



Specification	
Peak torque	24 mN·m
Peak current	60 A
Inertia moment	13.2 kg·cm <sup>2</sup>

# SLBLDC - Size 10mm

Slotless Brushless DC Motor, 10ZWWC25 can avoid the pulsation of air gap magnetic induction caused by uneven magnetic resistance in the teeth. It can eliminate the pulse loss in the armature core and the surface loss on the main pole surface. 10ZWWC25 Slotless Brushless DC Motor has high durability, low electrical noise and high efficiency. Maximum efficiency of motor reaches 86% and this motor is suitable for the servo system which needs quick movement and high power. 10ZWWC25 Rated Power is 65W and Peak Torque is 90mN.m



<https://www.kocomotion.de/produkt/slbldc-size-10mm/>

## Produkte:

Seite

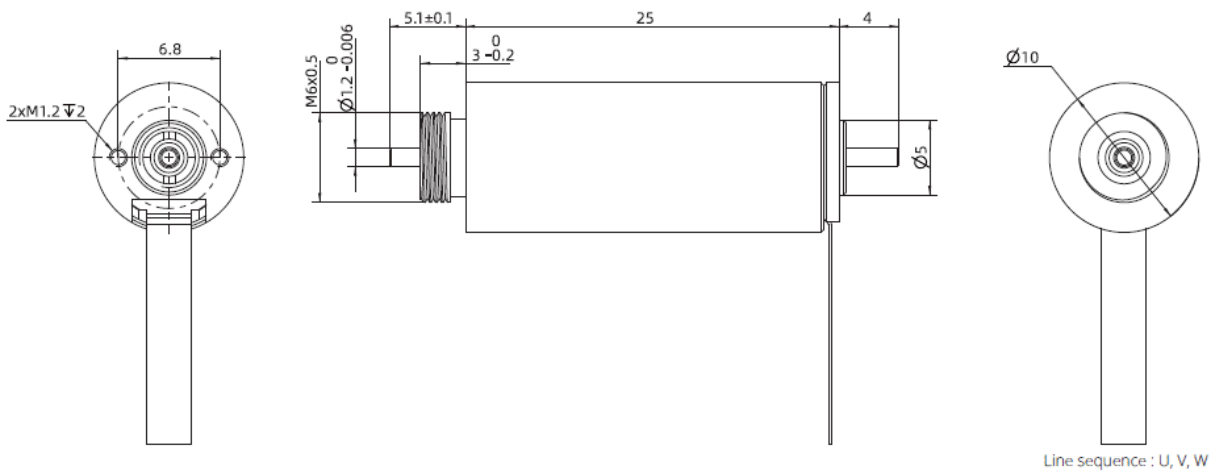
10ZWWC25

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Motor Characteristics	10ZWWC25
Pole pair	2 mm
Phase resistance	0.5
Winding connection method	Star shape
Insulation class	B
Duty type	S1
Commutation angle	120°
Insulation strength (Withstand voltage)	500VAC/1KHz/1mA/1s
Insulation resistance - 100 MOhm 20C	100 MOhm 20C
Weight	230 g
Rated voltage	24 V
Rated power	65 W
Rated torque	90 mN·m
Rated speed	6900 RPM
Rated current	3.85 A
No load speed	9200 RPM
No load current	0.3 A
Motor efficiency	86 %
Noise(Ambient noise 20db, test distance 1m)	50
Torque constant	23.28 mN·m/A

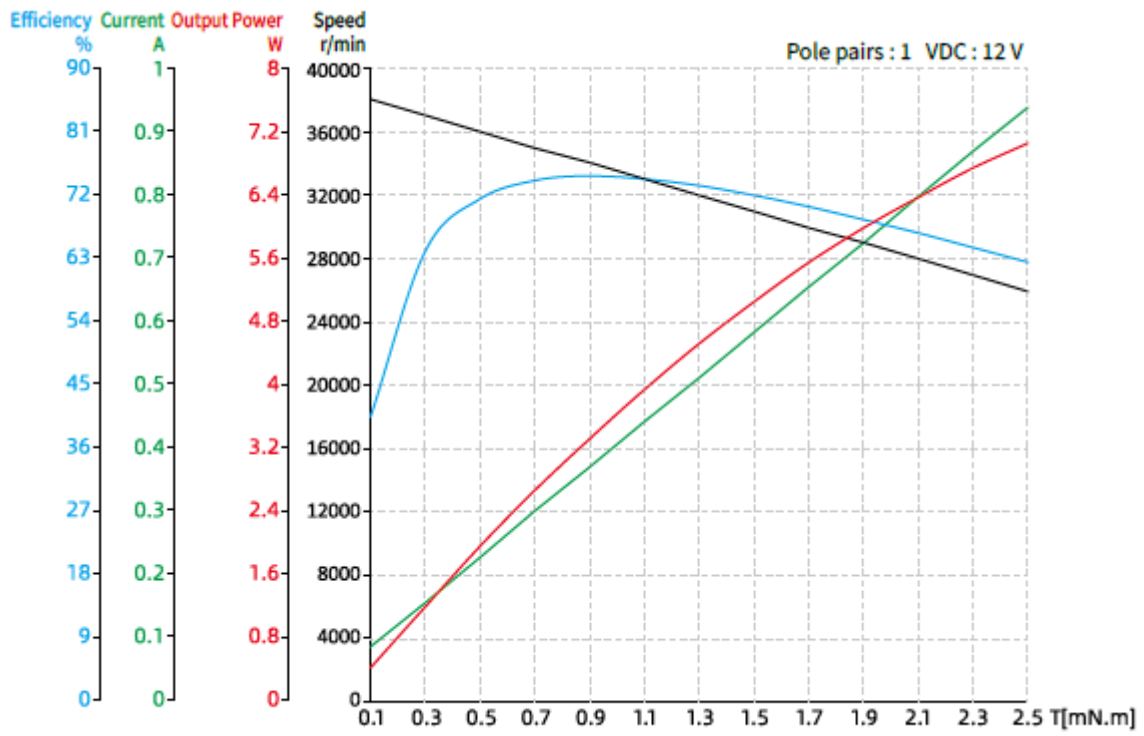
Motor Characteristics	10ZWWC25
Back-EMF constant - peak value	3.46 V/Krpm
Back-EMF constant / Effective value	2.45 V/Krpm
Peak torque	1122.08 mN·m
Peak current	48 A
Inertia moment	28 g·cm <sup>2</sup>
Mechanical time constant	2.56 ms
End bell	Stainless steel
Bearing	Deep Groove Ball bearing
Magnet	Sinter NdFeB
Rotation shaft	Carbon steel

include \_\_DIR\_\_ . "/parts/spacer.php";



Line Sequence : U, V, W





# 10ZWWC25

Slotless Brushless DC Motor, 10ZWWC25 can avoid the pulsation of air gap magnetic induction caused by uneven magnetic resistance in the teeth. It can eliminate the pulse loss in the armature core and the surface loss on the main pole surface. 10ZWWC25 Slotless Brushless DC Motor has high durability, low electrical noise and high efficiency. Maximum efficiency of motor reaches 86% and this motor is suitable for the servo system which needs quick movement and high power. 10ZWWC25 Rated Power is 65W and Peak Torque is 90mN.m



<https://www.kocomotion.de/produkt/10zwwc25/>

Specification	
Pole pair	2 mm
Phase resistance	0.5
Winding connection method	Star shape -
Insulation class	B -
Duty type	S1 -
Commutation angle	120° -
Insulation strength (Withstand voltage)	500VAC/1KHz/1mA/1s -
Insulation resistance - 100 MOhm 20C	100 MOhm 20C -
Weight	230 g
Rated voltage	24 V
Rated power	65 W
Rated torque	90 mN·m
Rated speed	6900 RPM
Rated current	3.85 A
No load speed	9200 RPM
No load current	0.3 A
Motor efficiency	86 %
Noise(Ambient noise 20db, test distance 1m)	50 dB
Torque constant	23.28 mN·m/A
Back-EMF constant - peak value	3.46 V/Krpm
Back-EMF constant / Effective value	2.45 V/Krpm

Specification	
Peak torque	1122.08 mN·m
Peak current	48 A
Inertia moment	28 g·cm <sup>2</sup>
Mechanical time constant	2.56 ms
End bell	Stainless steel -
Bearing	Deep Groove Ball bearing -
Magnet	Sinter NdFeB -
Rotation shaft	Carbon steel -



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