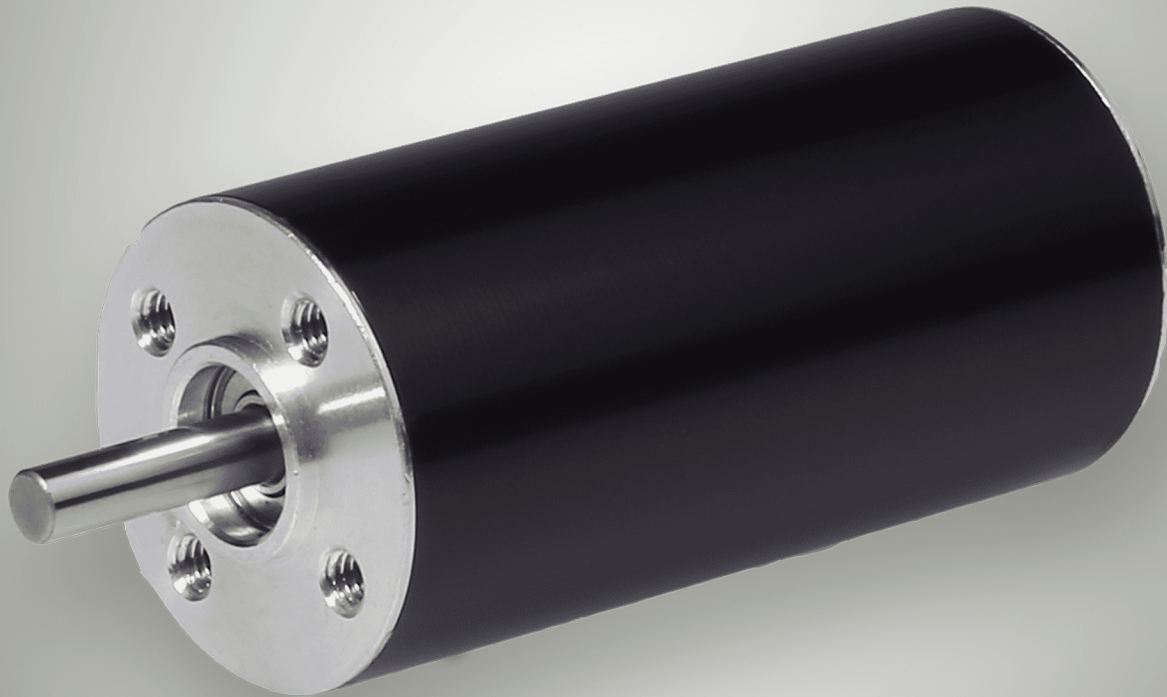




Intelligence in motion



Endurance. Efficiency. Optimization.

Brushless DC Motors



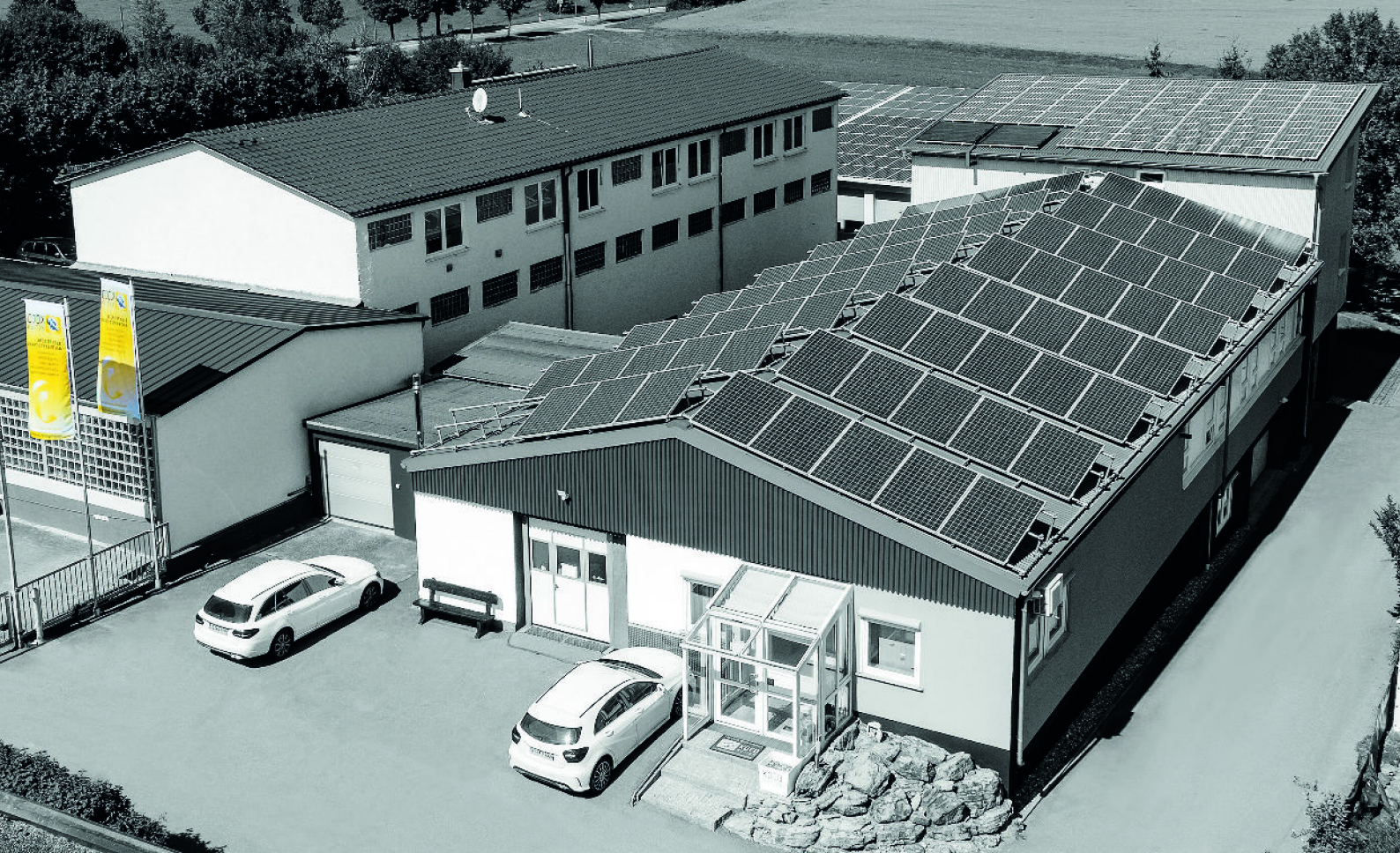
Brushless DC Motors

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HIGH CUSTOMER SATISFACTION IS OUR MOTIVATION

From tailor-made drive solutions in small series to complex projects with large quantities - our KOCO MOTION team is ready to provide our customers with advice and support.

We collaborate with our customers to coordinate requirements and specifications and ensure compliance with those through close inspections. On-time delivery and tested quality are always our claim and are also proven by certifications according to DIN EN ISO 9001 and DIN EN ISO 14001.

PERSONAL. ENVIRONMENTALLY FRIENDLY. AND WITH DRIVE.

Our employees are our greatest asset. Their motivation is not only based on good relationships with each other and with KOCO MOTION, but also lies in the opportunity to fully contribute their skills and achieve our company goals in an individual way.

We see ourselves as part of the environment and therefore treat the scarce natural resources we are given carefully. We actively look for ways to keep and improve our actions and behavior in an environmentally friendly manner.

We are KOCO MOTION

...Intelligence in motion

We are only satisfied when the optimal solution has been found for our customers.

As a system house, we always offer our customers the best drive solution and can rely on a global network of motor and control technologies. We implement our customers' projects in a highly professional and extremely flexible manner in partnership with our customers. Our aim is always to achieve the highest quality within the agreed budget.

We draw on years of experience in the development and production of electric motors and respond individually to the wishes and ideas of our customers in project consulting. For us, the focus is on the personal relationship with customers, employees and suppliers. We understand our customers' needs exactly, achieve a high level of customer satisfaction and are THE partner for our customers when it comes to drives.

8mm Slotless Sensorless BLDC Motors

B0815N2B

The **B0815N2B series** comprises advanced 8mm brushless DC (BLDC) motors featuring an inner rotor, slotless, and sensorless architecture. These motors are engineered for compact, high-precision applications requiring ultra-smooth rotation and high efficiency in restricted spaces.



- **Technical Features:**

- 8mm outer diameter for minimal footprint
- Slotless, sensorless inner rotor design for reduced cogging and exceptionally low noise/vibration
- High energy efficiency and extended operational lifespan

- **Options Available:**

- Customizable lead wire and shaft lengths
- Specialized coils and gear heads
- Selectable bearing types
- Optional Hall-effect sensors, encoders, and compatible drivers

- **Applications:**

- Precision drives in medical equipment (e.g., infusion pumps, robotic instruments)
- Industrial automation systems supporting miniature actuation or motion control

The B0815N2B series stands out for its adaptability in high-end precision environments, delivering reliable performance in critical operations where compactness and quiet operation are essential. With a wide range of customization options, this series integrates seamlessly into demanding OEM applications.

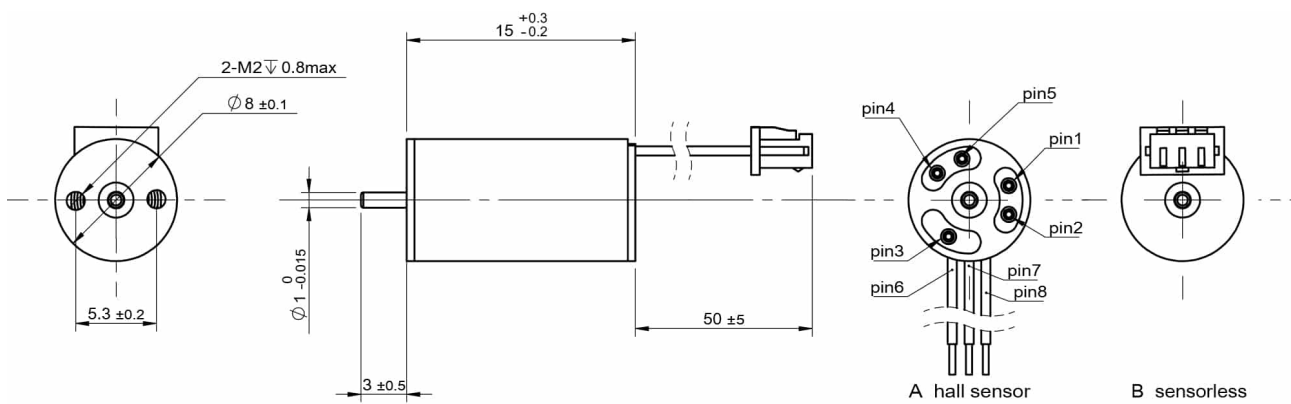


<https://www.kocomotion.de/produkt/b0815n2b/>

Characteristics	Unit	B0815N2B02-81-3.7	B0815N2B04-200-5.0	B0815N2B05-323-3.7
Rated voltage	V	3.7	5.0	3.7
Max. output power	W	0.07	0.38	0.92
Max. efficiency	%	38	38	50
Back-EMF constant	mV/rpm	0.39	0.21	0.10
Torque constant	mNm/A	3.70	2.04	1.00
KV Value	rpm/V	2180	4000	8730
Speed/torque gradient	rpm/mNm	25310	27397	29360
Rotor inertia	gcm ²	0.02	0.02	0.02
Weight	g	3	3	3
Thermal resistance housing-ambient	K/W	110	110	110
Thermal resistance winding-housing	K/W	26	26	26
Terminal resistance	Ω	36.5	12	3.1
Thermal time constant motor	s	63	63	63
Thermal time constant winding	s	57	57	57
Operating temperature	°C	-10~+60	-10~+60	-10~+60
Thermal class of winding	°C	130	130	130
Axial play	mm	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	1	1	1
Axial load static	N	25	25	25
Radial load at 3 mm from mounting face	N	6.3	6.3	6.3
No. of pole pairs		1	1	1
No-load speed	rpm	8100	20000	32300
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Sensorless	Sensorless	Sensorless
Protection class	IP	30	30	30
Outer diameter	mm	8 +/- 0.1	8 +/- 0.1	8 +/- 0.1
Motor length	mm	15 + 0.3 - 0.2	15 + 0.3 - 0.2	15 + 0.3 - 0.2
Outer diameter	mm	8 +/- 0.1	8 +/- 0.1	8 +/- 0.1
Motor length	mm	15 + 0.3 - 0.2	15 + 0.3 - 0.2	15 + 0.3 - 0.2
No-load current	A	0.02	0.06	0.1
Stall torque	mNm	0.32	0.73	1.1

Characteristics	Unit	B0815N2B02-81-3.7	B0815N2B04-200-5.0	B0815N2B05-323-3.7
Stall current	A	0.1	0.42	1.2
Nominal torque	mNm	0.1	0.2	0.2
Nominal speed	rpm	6800	14000	27800
Nominal current	A	0.03	0.17	0.26

Drawings



8mm Slotless BLDC Motor, Hall Sensor

B0832NH

B0832NH Series - 8mm Inner Rotor Slotless BLDC Motors with Hall Sensors

The B0832NH motor family is engineered for demanding precision-drive environments where compact dimensions and reliable control are critical. With an 8mm diameter and slotless architecture, these brushless DC motors deliver exceptionally smooth operation, excellent efficiency, and low cogging—making them ideal for sensitive motion applications.



- **Slotless inner rotor design** for minimal vibration and quiet performance.
- **Integrated Hall sensors** provide accurate commutation and robust position feedback suitable for closed-loop control.
- Multiple standard models available to match specific voltage and current requirements.
- **Flexible customization:** Shaft length, special coil configurations, gear heads, bearing types, encoders, and integrated driver options.

Applications:

- Precision drives in medical equipment (such as pumps or diagnostic devices)
- High-resolution actuation in industrial automation systems

Choose the B0832NH series when you require a miniature, yet powerful, BLDC motor platform with comprehensive customization options and proven reliability for mission-critical tasks.

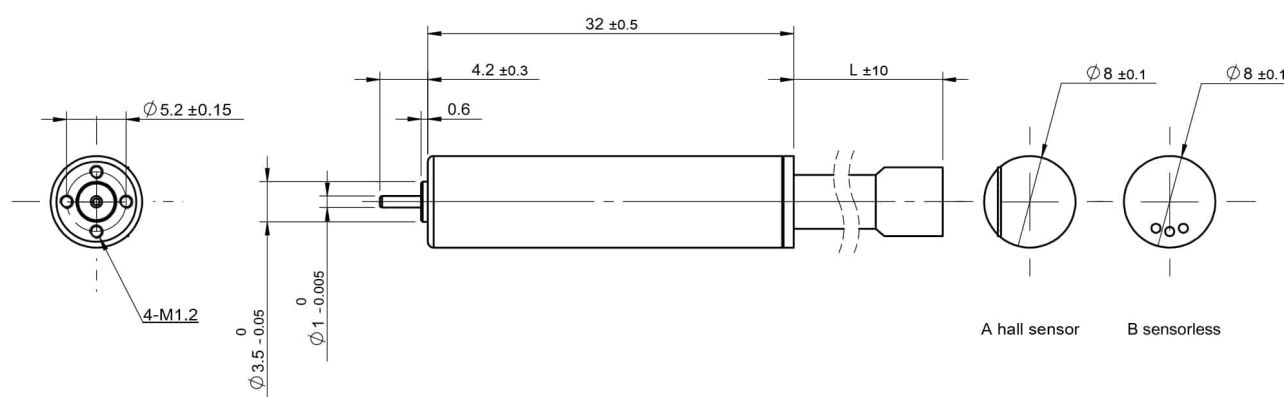


<https://www.kocomotion.de/produkt/b0832nh/>

Motor Specifications	Unit	B0832NH01-320-6.0	B0832NH02-320-8.5	B0832NH03-320-12.0
Rated voltage	V	6.0	8.5	12.0
Max. output power	W	6.3	6.5	21
Max. efficiency	%	57	57	58
Back-EMF constant	mV/rpm	0.177	0.476	0.356
Torque constant	mNm/A	1.7	2.2	3.4
KV Value	rpm/V	5333	3764	2670
Speed/torque gradient	rpm/mNm	4216	4102	1292
Rotor inertia	gcm ²	0.36	0.36	0.36
Weight	g	30	30	30
Thermal resistance housing-ambient	K/W	47.4	47.4	47.4
Thermal resistance winding-housing	K/W	14.8	14.8	14.8
Terminal resistance	Ω	1.26	2.4	1.56
Thermal time constant motor	s	120	120	120
Thermal time constant winding	s	0.7	0.7	0.7
Operating temperature	°C	-20~+85	-20~+85	-20~+85
Thermal class of winding	°C	155	155	155
Axial play	mm	0.3	0.3	0.3
Radial play	mm	0.01	0.01	0.01
Axial load dynamic	N	0.05	0.05	0.05
Axial load static	N	10	10	10
Radial load at 3 mm from mounting face	N	0.2	0.2	0.2
No. of pole pairs		1	1	1
No-load speed	rpm	32000	32000	32000
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Hall Sensor	Hall Sensor	Hall Sensor
Protection class	IP	30	30	30
Outer diameter	mm	8 +/- 0.1	8 +/- 0.1	8 +/- 0.1
Motor length	mm	32 +/- 0.5	32 +/- 0.5	32 +/- 0.5
No-load current	A	0.27	0.24	0.4
Stall torque	mNm	7.59	7.8	24.76
Stall current	A	4.76	3.54	7.69
Nominal torque	mNm	1.3	1.3	1.7

Motor Specifications	Unit	B0832NH01-320-6.0	B0832NH02-320-8.5	B0832NH03-320-12.0
Nominal speed	rpm	26720	26720	29760
Nominal current	A	1.1	0.78	0.91

Drawings



10mm Slotless Sensorless BLDC Motors

B1020N

B1020N Series 10mm Slotless Sensorless BLDC Motors

deliver precision motion control in a highly compact footprint. With an inner rotor and slotless architecture, these motors combine exceptionally smooth operation with robust efficiency. Sensorless control technology further enhances system reliability by minimizing maintenance and component wear.

- **Size:** 10mm diameter for integration into tightly constrained assemblies
- **Design:** Inner rotor, slotless construction ensures reduced cogging and superior speed stability
- **Sensorless:** Advanced sensorless feedback eliminates the need for Hall sensors, enhancing durability

Available options **tailor performance to precise customer needs:**

- Custom shaft and lead wire lengths
- Special coil configurations
- Multiple gear head and bearing types
- Optional encoder and driver integration

Applications: Ideally suited for tightly controlled, high-precision applications including:

- Medical equipment precision drives
- Industrial automation actuators and robotics

The B1020N family delivers consistent torque, high reliability, and seamless adaptability, making it the preferred solution for engineering teams seeking compact yet powerful motion control in demanding environments.



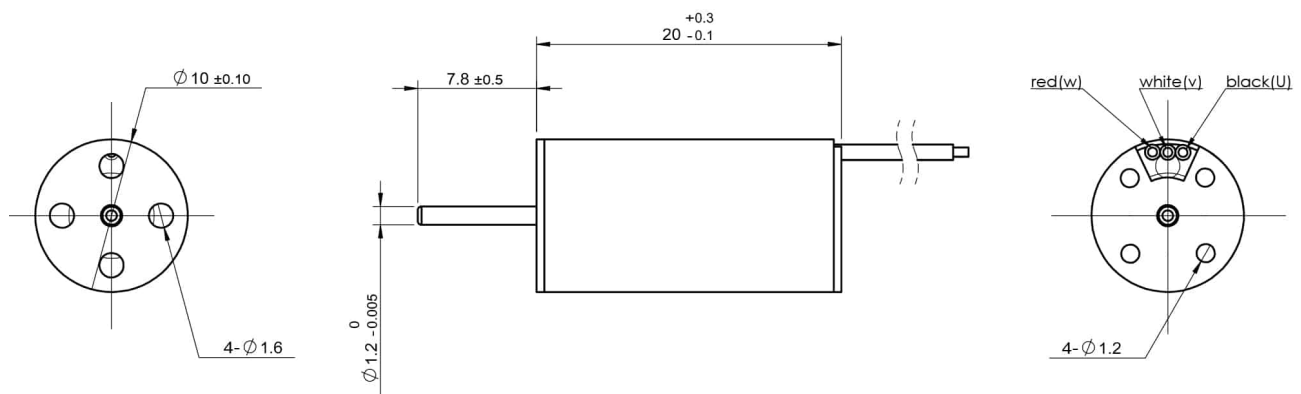
<https://www.kocomotion.de/produkt/b1020n/>



Characteristics	Unit	B1020N01-393-7.4	B1020N03-85-3.7	B1020N05-382-7.4
Rated voltage	V	7.4	3.7	7.4
Max. output power	W	11.5	0.4	9.0
Max. efficiency	%	61	43	61
Back-EMF constant	mV/rpm	0.18	0.38	0.18
Torque constant	mNm/A	1.70	3.67	1.76
KV Value	rpm/V	5300	2290	5160
Speed/torque gradient	rpm/mNm	3500	4358	4290
Rotor inertia	gcm ²	0.06	0.06	0.06
Weight	g	6.8	6.8	6.8
Thermal resistance housing-ambient	K/W	44	44	44
Thermal resistance winding-housing	K/W	10	10	10
Terminal resistance	Ω	1.08	6.2	1.4
Thermal time constant motor	s	124	124	124
Thermal time constant winding	s	119	119	119
Operating temperature	°C	-20~+100	-20~+100	-20~+100
Thermal class of winding	°C	155	155	155
Axial play	mm	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	1	1	1
Axial load static	N	25	25	25
Radial load at 3 mm from mounting face	N	6.3	6.3	6.3
No. of pole pairs		1	1	1
No-load speed	rpm	39300	8500	38200
Bearings		2 sleeve bearings	2 sleeve bearings	2 sleeve bearings
Commutation		Sensorless	Sensorless	Sensorless
Protection class	IP	20	20	20
Outer diameter	mm	10 +/- 0.1	10 +/- 0.1	10 +/- 0.1
Motor length	mm	20 + 0.3 - 0.1	20 + 0.3 - 0.1	20 + 0.3 - 0.1
No-load current	A	0.32	0.07	0.24
Stall torque	mNm	11.2	1.9	8.9
Stall current	A	6.85	0.6	5.3
Nominal torque	mNm	2.6	1.0	2.6

Characteristics	Unit	B1020N01-393-7.4	B1020N03-85-3.7	B1020N05-382-7.4
Nominal speed	rpm	30000	4300	27000
Nominal current	A	1.85	0.35	1.7

Drawings



10mm BLDC Motor, Slotless, Hall Sensor

B1023NH2B

The **B1023NH2B** series delivers advanced motion control in a compact 10 mm slotless Brushless DC (BLDC) motor with an inner rotor and integrated Hall sensors for superior commutation and positioning. This family is specifically engineered for applications where precise speed and position feedback, minimal cogging, and low noise are critical.



• Key Features:

- 10 mm diameter compact BLDC motor
- Slotless stator design for ultra-smooth, cog-free rotation
- Integrated Hall sensors for accurate feedback and efficient control
- Customizable options: lead wire and shaft length, special coils, gearheads, bearing types, encoders, Hall sensors, and driver integration

• Typical Applications:

- Precision drives in medical devices (e.g., pumps, robotic actuators)
- Industrial automation systems requiring compact and reliable actuation

• Benefits:

- Exceptional reliability and minimal maintenance due to brushless design
- Low electromagnetic interference (EMI) and heat generation
- Flexible configuration for seamless system integration

The B1023NH2B series is the ideal choice for engineers requiring high-performance miniature motors, offering tailored options to match demanding operational requirements in high-value environments.

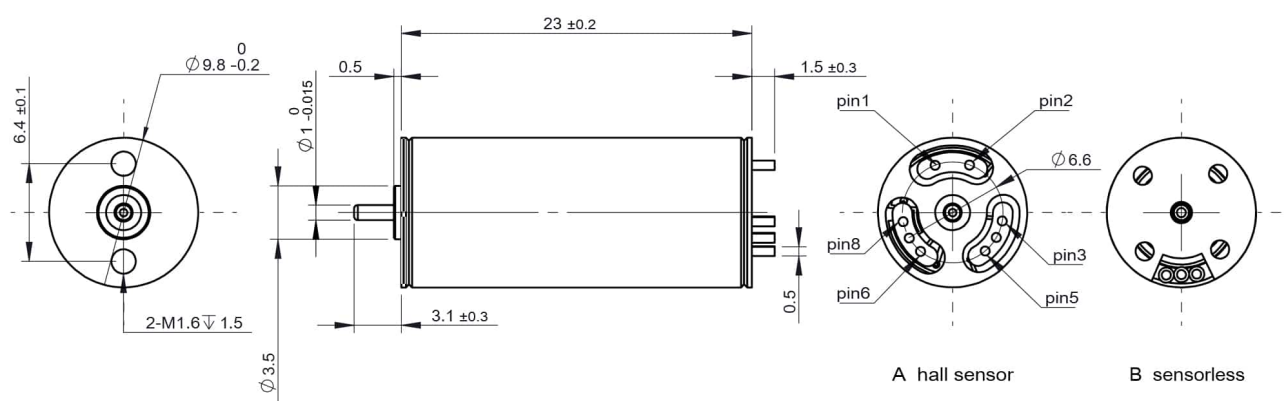


<https://www.kocomotion.de/produkt/b1023nh2b/>

Characteristics	Unit	B1023NH2B05-382- 7.4	B1023NH2B08-146- 6.0	B1023NH2B09-315- 15.0
Rated voltage	V	7.4	6.0	15.0
Max. output power	W	8.7	1.2	5.6
Max. efficiency	%	61	60	60
Back-EMF constant	mV/rpm	0.18	0.39	0.45
Torque constant	mNm/A	1.76	3.8	4.3
KV Value	rpm/V	5160	2430	2100
Speed/torque gradient	rpm/mNm	4340	4420	4630
Rotor inertia	gcm ²	0.06	0.06	0.06
Weight	g	8.3	8.3	8.3
Thermal resistance housing-ambient	K/W	44	44	44
Thermal resistance winding-housing	K/W	10	10	10
Terminal resistance	Ω	1.4	6.5	9
Thermal time constant motor	s	124	124	124
Thermal time constant winding	s	119	119	119
Operating temperature	°C	-40~+60	-40~+60	-40~+60
Thermal class of winding	°C	155	155	155
Axial play	mm	0.05	0.05	0.05
Radial play	mm	0.0125	0.0125	0.0125
Axial load dynamic	N	1	1	1
Axial load static	N	25	25	25
Radial load at 3 mm from mounting face	N	6.3	6.3	6.3
No. of pole pairs		1	1	1
No-load speed	rpm	38200	14600	31500
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Hall Sensor	Hall Sensor	Hall Sensor
Protection class	IP	30	30	30
Outer diameter	mm	9.8 - 0.2	9.8 - 0.2	9.8 - 0.2
Motor length	mm	23 +/- 0.2	23 +/- 0.2	23 +/- 0.2
No-load current	A	0.24	0.04	0.08
Stall torque	mNm	8.8	3.30	6.8
Stall current	A	5.3	0.95	1.7

Characteristics	Unit	B1023NH2B05-382- 7.4	B1023NH2B08-146- 6.0	B1023NH2B09-315- 15.0
Nominal torque	mNm	1.7	0.7	1.0
Nominal speed	rpm	30750	11500	27000
Nominal current	A	1.27	0.22	0.31

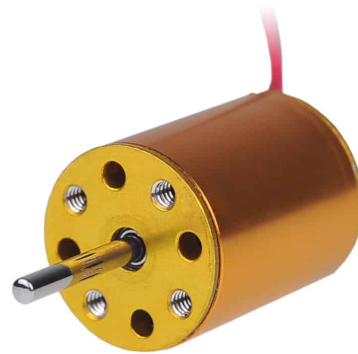
Drawings



12mm Sensorless Slotless BLDC Motor

B1215N2B

B1215N2B 12mm Sensorless Slotless BLDC Motor offers optimal performance and compact form factor for high-precision applications. With its inner rotor and slotless architecture, this brushless DC motor ensures exceptionally smooth operation, reduced cogging torque, and enhanced energy efficiency. Sensorless control contributes to lower system complexity and increased reliability, making it well-suited for space-constrained environments.



- **Key Features:**

- 12mm outer diameter for compact implementations
- Slotless stator design for minimized torque ripple and quiet operation
- Sensorless operation for simplified wiring and increased reliability
- Customizable options: lead wire length, shaft and bearing types, special coils, gear heads, encoders, and compatible drivers

- **Typical Applications:**

- Precision positioning and actuation in medical devices
- Industrial automation solutions requiring high accuracy and smooth running

- **Customer Benefits:**

- High dynamic response for fast, precise control
- Long operational life with minimal maintenance
- Extensive customization for unique system requirements

The B1215N2B stands out for demanding environments where durability, reliability, and precise motor control are critical to system performance.

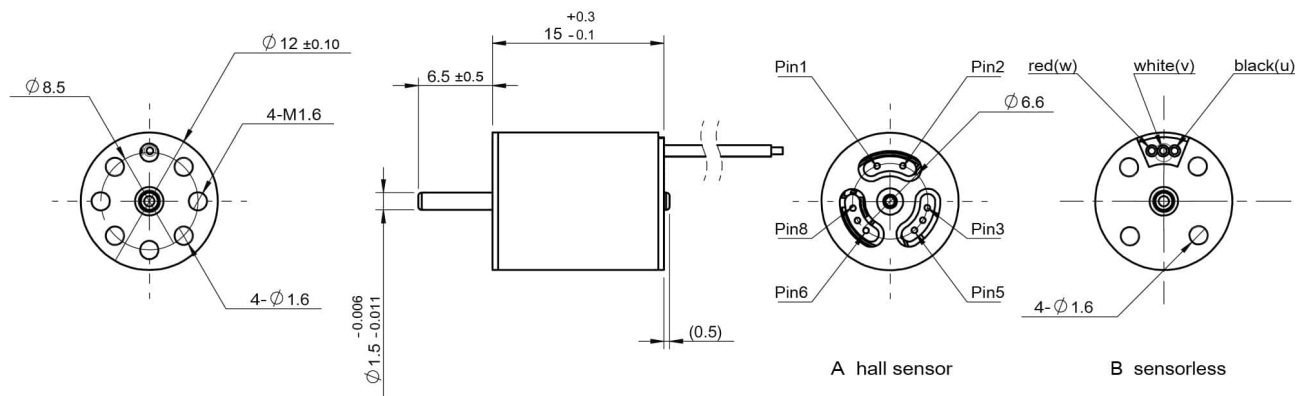


<https://www.kocomotion.de/produkt/b1215n2b/>

Characteristics	Unit	B1215N2B09-350-3.6	B1215N2B06-145-4.5	B1215N2B12-425-7.4
Rated voltage	V	3.6	4.5	7.4
Max. output power	W	4.3	0.8	4.6
Max. efficiency	%	58	44	54
Back-EMF constant	mV/rpm	0.10	0.27	0.16
Torque constant	mNm/A	0.93	2.62	1.55
KV Value	rpm/V	9720	3220	5740
Speed/torque gradient	rpm/mNm	7440	7230	10400
Rotor inertia	gcm ²	0.14	0.14	0.14
Weight	g	7	7	7
Thermal resistance housing-ambient	K/W	37.8	37.8	37.8
Thermal resistance winding-housing	K/W	6.2	6.2	6.2
Terminal resistance	Ω	0.67	5.2	2.6
Thermal time constant motor	s	170	170	170
Thermal time constant winding	s	2	2	2
Operating temperature	°C	-40~+60	-40~+60	-40~+60
Thermal class of winding	°C	130	130	130
Axial play	mm	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	1	1	1
Axial load static	N	25	25	25
Radial load at 3 mm from mounting face	N	6.3	6.3	6.3
No. of pole pairs		1	1	1
No-load speed	rpm	35000	14500	42500
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Sensorless	Sensorless	Sensorless
Protection class	IP	30	30	30
Outer diameter	mm	12 +/- 0.10	12 +/- 0.10	12 +/- 0.10
Motor length	mm	15 + 0.3 - 0.1	15 + 0.3 - 0.1	15 + 0.3 - 0.1
No-load current	A	0.3	0.1	0.2
Stall torque	mNm	4.7	2.0	4.0
Stall current	A	5.4	0.9	2.9
Nominal torque	mNm	0.7	1.0	0.3

Characteristics	Unit	B1215N2B09-350-3.6	B1215N2B06-145-4.5	B1215N2B12-425-7.4
Nominal speed	rpm	28200	4400	38000
Nominal current	A	1.1	0.5	0.4

Drawings



12mm Sensorless Slotless BLDC Motor

B1220N2B

B1220N2B Series - 12mm Sensorless Slotless BLDC Motors

- **Design:** Compact 12mm diameter with inner rotor architecture and a slotless stator, enabling low cogging torque and exceptionally smooth rotation, critical for precision applications.
- **Sensorless Operation:** Advanced electronic commutation eliminates the need for physical Hall sensors, enhancing reliability and simplifying integration in compact assemblies.
- **Key Features:**
 - High efficiency brushless construction for prolonged life cycle and minimal maintenance
 - Flexible customization options: lead wires, shaft lengths, special coils, gear heads, bearing types, encoders, and driver compatibility
 - Available in multiple models to suit diverse voltage and power requirements
- **Applications:** Optimized for precision drives within medical equipment, such as infusion pumps and imaging systems, and versatile for use in industrial automation where space, accuracy, and reliability are paramount.
- **Competitive Advantages:** The slotless, sensorless design ensures quiet, vibration-free operation and high dynamic response, making it ideal for demanding motion control solutions.



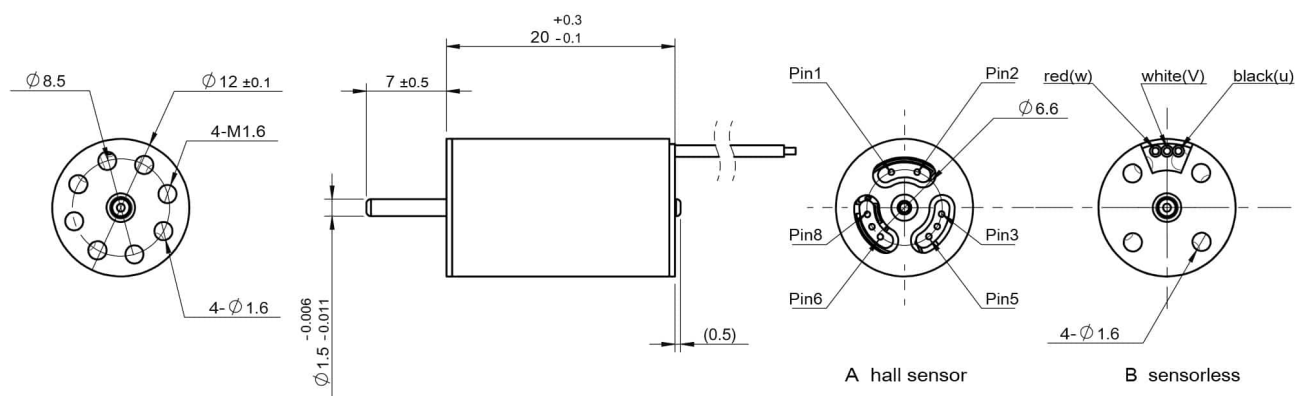
Choose the B1220N2B series to achieve precise, dependable motor performance in mission-critical applications.


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

Characteristics	Unit	B1220N2B03-230-7.4	B1220N2B02-172-6.0	B1220N2B01-175-5.0
Rated voltage	V	7.4	6.0	5.0
Max. output power	W	3.3	2.2	2.5
Max. efficiency	%	62	50	51
Back-EMF constant	mV/rpm	0.3	0.3	0.3
Torque constant	mNm/A	2.9	3.0	2.5
KV Value	rpm/V	3100	2900	3500
Speed/torque gradient	rpm/mNm	3800	3700	3030
Rotor inertia	gcm ²	0.17	0.17	0.17
Weight	g	9.5	9.5	9.5
Thermal resistance housing-ambient	K/W	32	32	32
Thermal resistance winding-housing	K/W	5.5	5.5	5.5
Terminal resistance	Ω	3.8	3.4	2
Thermal time constant motor	s	190	190	190
Thermal time constant winding	s	1.5	1.5	1.5
Operating temperature	°C	-40~+60	-40~+60	-40~+60
Thermal class of winding	°C	155	155	155
Axial play	mm	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	1	1	1
Axial load static	N	25	25	25
Radial load at 3 mm from mounting face	N	6.3	6.3	6.3
No. of pole pairs		1	1	1
No-load speed	rpm	23000	17200	17500
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Sensorless	Sensorless	Sensorless
Protection class	IP	30	30	30
Outer diameter	mm	12 +/- 0.1	12 +/- 0.1	12 +/- 0.1
Motor length	mm	20 + 0.3 - 0.1	20 + 0.3 - 0.1	20 + 0.3 - 0.1
No-load current	A	0.1	0.15	0.18
Stall torque	mNm	5.3	4.9	5.8
Stall current	A	1.95	1.8	2.5
Nominal torque	mNm	1.3	1.3	1.4

Characteristics	Unit	B1220N2B03-230-7.4	B1220N2B02-172-6.0	B1220N2B01-175-5.0
Nominal speed	rpm	15300	10800	11600
Nominal current	A	0.57	0.6	0.78

Drawings



12mm Slotless BLDC Motor, Sensorless

B1230N2B

B1230N2B Series - 12mm Sensorless Slotless BLDC Motors

- **Design:** 12mm diameter, inner rotor, slotless architecture for ultra-low cogging and smooth operation
- **Sensorless Operation:** Provides reliable, maintenance-free performance and simplifies system integration
- **Precision Performance:** Engineered for applications demanding accurate speed and position control, such as **medical equipment** and **industrial automation**
- **Customization:** Available with a wide range of configurations, including shaft and lead wire length, bearing type, special coils, gear heads, encoders, and dedicated drivers



Applications:

- Precision drives in medical devices (e.g., infusion pumps, surgical tools)
- Industrial automation (robotic actuators, miniature conveyor systems)

Benefits:

- Minimized vibration and noise due to slotless construction
- High efficiency and dynamic response
- Flexible integrations and tailored solutions for specialized requirements

The B1230N2B series is the ideal choice for OEMs seeking miniature, high-performance BLDC motors in demanding applications.

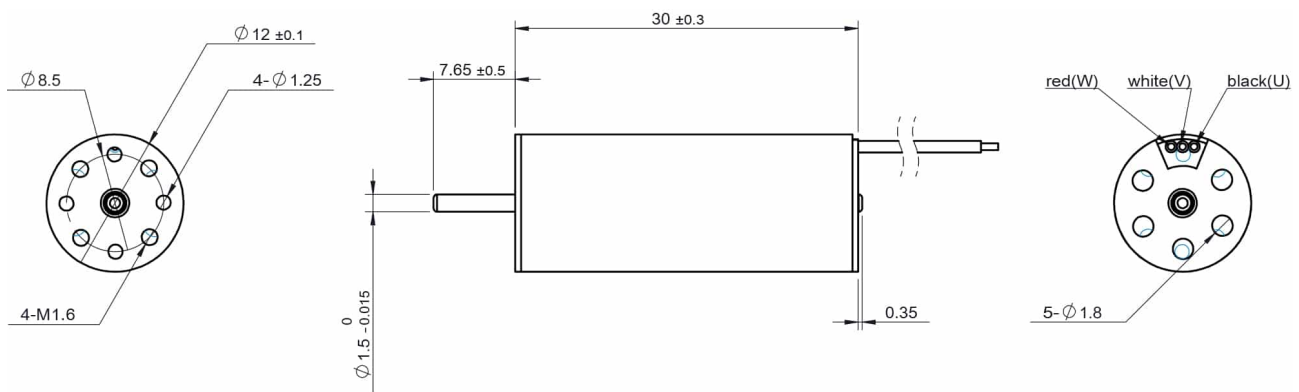


<https://www.kocomotion.de/produkt/b1230n2b/>

Characteristics	Unit	B1230N2B28-115-12.0	B1230N2B10-180-9.0	B1230N2B15-180-3.7	B1230N2B31-66-12.0
Rated voltage	V	12.0	9	3.7	12.0
Terminal resistance	Ω	9	2.4	0.6	34
No-load speed	rpm	11500	18000	18000	6600
No-load current	A	0.05	0.15	0.23	0.04
Stall torque	mNm	12.3	16.5	11.2	4.82
Stall current	A	1.4	3.8	6.2	0.35
Nominal torque	mNm	3.8	2.7	3	0.3
Nominal speed	rpm	6800	14100	12200	5280
Nominal current	A	0.45	0.74	1.7	0.6
Max. output power	W	3.7	7.8	5.9	0.83
Max. efficiency	%	65	64	64	44
Back-EMF constant	mV/rpm	1	0.5	0.2	0.448
Torque constant	mNm/A	9.6	4.6	1.9	1.6
KV Value	rpm/V	960	2000	4860	550
Speed/torque gradient	rpm/mNm	930	1090	1430	1370
Rotor inertia	gcm ²	0.21	0.21	0.21	0.21
Weight	g	15	15	15	15
Thermal resistance housing-ambient	K/W	24	24	24	24
Thermal resistance winding-housing	K/W	4.5	4.5	4.5	4.5
Thermal time constant motor	s	240	240	240	240
Thermal time constant winding	s	2	2	2	2
Operating temperature	°C	-40~+100	-40~+100	-40~+100	-40~+100
Thermal class of winding	°C	155	155	155	155
Axial play	mm	0.012	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008	0.008
Axial load dynamic	N	1	1	1	1
Axial load static	N	25	25	25	25
Radial load at 3 mm from mounting face	N	6.3	6.3	6.3	6.3
No. of pole pairs		1	1	1	1

Characteristics	Unit	B1230N2B28-115- 12.0	B1230N2B10-180- 9.0	B1230N2B15-180- 3.7	B1230N2B31-66- 12.0
Bearings		2 ball bearings	2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Sensorless	Sensorless	Sensorless	Sensorless
Protection class	IP	30	30	30	30
Outer diameter	mm	12 +/- 0.1	12 +/- 0.1	12 +/- 0.1	12 +/- 0.1
Motor length	mm	30 +/- 0.3	30 +/- 0.3	30 +/- 0.3	30 +/- 0.3

Drawings



12mm Slotless BLDC Motor, Hall Sensor

B1231NH2B

B1231NH2B 12mm BLDC Inner Rotor Motor, Slotless, With Hall Sensor

- **Compact Precision:** 12mm diameter brushless DC motor with slotless construction, ensuring low cogging torque and ultra-smooth motion profiles ideal for sensitive applications.
- **Integrated Hall Sensors:** Built-in Hall sensors provide accurate rotor position detection for reliable commutation and optimized speed control.
- **Inner Rotor Design:** Offers excellent balance of torque and efficiency for continuous and dynamic operation.



Application Areas:

- Precision drives in medical equipment—ideal for infusion pumps, miniature pumps, and diagnostic instruments.
- Industrial automation—suited for actuators, robotics, pick & place units, and compact drive systems where precise speed control is critical.

Customizable Options:

- Shaft length and bearing type selection
- Special coils for tailored electrical performance
- Gear head, encoder, and driver integration for advanced motion requirements
- Hall sensor and encoder availability for closed-loop control systems

With robust construction and a flexible range of configuration options, the B1231NH2B BLDC motor series enables engineers to meet the most demanding motion control challenges in constrained spaces, delivering reliable, long-life performance for your application platform.

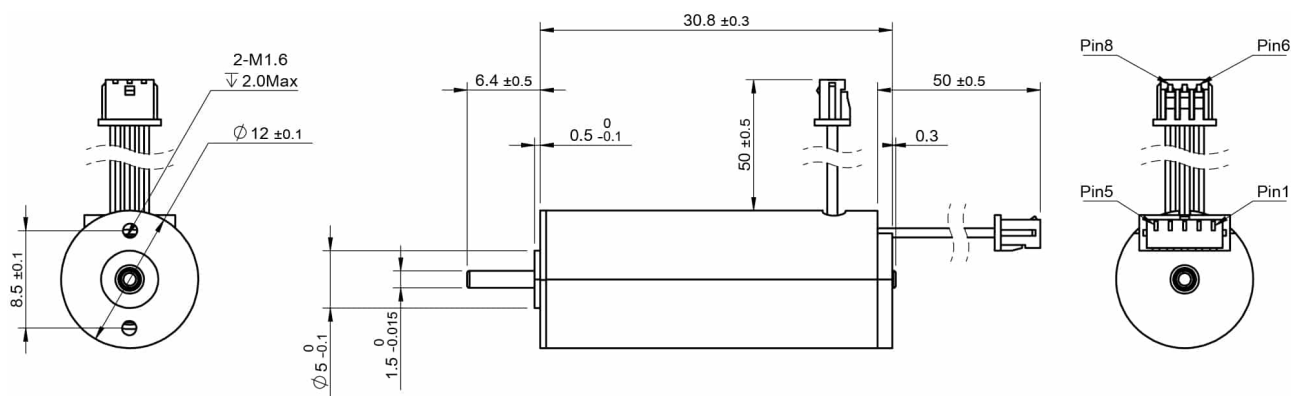


<https://www.kocomotion.de/produkt/b1231nh2b/>

Motor Specifications	Unit	B1231NH2B42-200-12.0
Rated voltage	V	12.0
Max. output power	W	10
Max. efficiency	%	63
Back-EMF constant	mV/rpm	0.6
Torque constant	mNm/A	5.5
KV Value	rpm/V	1660
Speed/torque gradient	rpm/mNm	1040
Rotor inertia	gcm ²	0.21
Weight	g	16
Thermal resistance housing-ambient	K/W	24
Thermal resistance winding-housing	K/W	4.5
Terminal resistance	Ω	3.3
Thermal time constant motor	s	240
Thermal time constant winding	s	2
Operating temperature	°C	-40-100
Thermal class of winding	°C	155
Axial play	mm	0.012
Radial play	mm	0.008
Axial load dynamic	N	1
Axial load static	N	25
Radial load at 3 mm from mounting face	N	6.3
No. of pole pairs		1
No-load speed	rpm	20000
Bearings		2 ball bearings
Commutation		Hall Sensor
Protection class	IP	30
Outer diameter	mm	12 +/- 0.1
Motor length	mm	30.8 +/- 0.3
No-load current	A	0.15
Stall torque	mNm	19.2
Stall current	A	3.6
Nominal torque	mNm	1.1

Motor Specifications	Unit	B1231NH2B42-200-12.0
Nominal speed	rpm	18900
Nominal current	A	0.35

Drawings



16mm Slotless Sensorless BLDC Motor

B1635N2B

B1635N2B - 16mm Slotless Sensorless BLDC Motor

The B1635N2B is engineered for demanding precision drive applications, offering outstanding performance in a compact form factor. With its 16mm diameter and slotless, inner rotor architecture, this brushless DC motor minimizes cogging, achieving exceptionally smooth and efficient motion. Sensorless commutation ensures reliable, maintenance-free operation with reduced wiring complexity.



• Key Features:

- 16mm diameter, compact slotless design for minimal cogging and smooth rotation
- Sensorless inner rotor construction for reduced complexity and enhanced reliability
- Optimized for high-efficiency, low-noise operation
- Available with multiple customization options: shaft length, special coils, bearing types, encoders, gear heads, and drivers

• Applications:

- Precision drives in medical equipment, ensuring accurate, repeatable motion
- Industrial automation environments, supporting compact, high-performance machinery

• Benefits:

- Superior motion quality for sensitive or precision-driven tasks
- Flexible configuration to meet exact engineering requirements
- Reduced system maintenance and enhanced durability with sensorless operation

This motor family is ideal for OEMs and system integrators seeking high reliability and advanced customization for critical automation and medical applications.

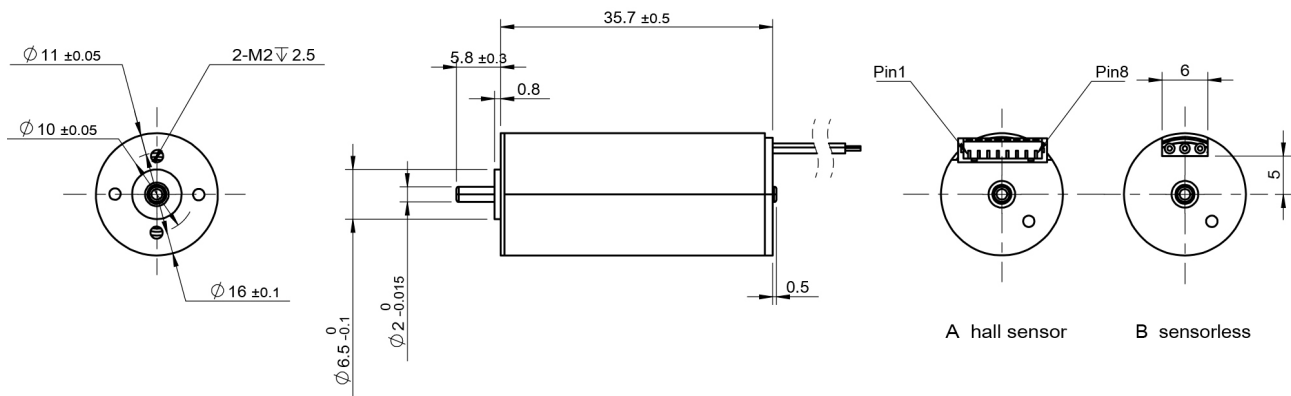


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Motor Specifications	Unit	B1635NH2B01-450-12.0	B1635NH2B16-79-12.0
Rated voltage	V	12.0	12.0
Max. output power	W	100	3.16
Max. efficiency	%	81	57.3
Back-EMF constant	mV/rpm	0.3	1.43
Torque constant	mNm/A	2.5	13.6
KV Value	rpm/V	3750	658
Speed/torque gradient	rpm/mNm	530	517
Rotor inertia	gcm ²	1.5	1.5
Weight	g	40	40
Thermal resistance housing-ambient	K/W	17	17
Thermal resistance winding-housing	K/W	4.8	4.8
Terminal resistance	Ω	0.35	10.1
Thermal time constant motor	s	250	250
Thermal time constant winding	s	6	6
Operating temperature	°C	-40~+100	-40~+100
Thermal class of winding	°C	155	155
Axial play	mm	0.012	0.012
Radial play	mm	0.008	0.008
Axial load dynamic	N	1.5	1.5
Axial load static	N	37	37
Radial load at 3 mm from mounting face	N	12	12
No. of pole pairs		1	1
No-load speed	rpm	45000	7900
Bearings		2 ball bearings	2 ball bearings
Commutation		Sensorless	Hall-sensor
Protection class	IP	30	30
Outer diameter	mm	16 +/- 0.1	16 +/- 0.1
Motor length	mm	35.7 +/- 0.5	35.7 +/- 0.5
No-load current	A	0.35	0.07
Stall torque	mNm	85	15.2
Stall current	A	34	1.2
Nominal torque	mNm	1.5	3.0

Motor Specifications	Unit	B1635NH2B01-450-12.0	B1635NH2B16-79-12.0
Nominal speed	rpm	43800	6360
Nominal current	A	0.96	0.29

Drawings



20mm Slotless Sensorless BLDC Motors

B2040N2B

B2040N2B Series – 20mm BLDC Inner Rotor, Slotless, Sensorless Motors

The B2040N2B family is designed for high-precision, low-vibration applications requiring compact yet powerful motion control solutions. Featuring an inner rotor, slotless, and sensorless architecture, these 20mm brushless DC motors offer outstanding efficiency and exceptionally smooth operation without torque ripple, making them well-suited to sensitive and high-performance environments.



• **Key Technical Features:**

- 20mm diameter, compact and lightweight design
- Slotless construction for cog-free motion and reduced electromagnetic interference
- Sensorless operation for simplified integration and reliability
- Multiple variants available to meet specific performance demands

• **Practical Applications:**

- Precision drives in medical equipment such as surgical tools and diagnostic devices
- Automation systems requiring reliable, high-efficiency motors in limited installation spaces

• **Customization Options:**

- Custom shaft lengths
- Special coil windings
- Gear heads
- Encoder integration
- Configurable bearing types
- Matching drivers

• **Competitive Advantages:**

- Zero-cogging, ultra-smooth rotation
- Flexible adaptation to customer requirements
- Long service life and maintenance-free operation

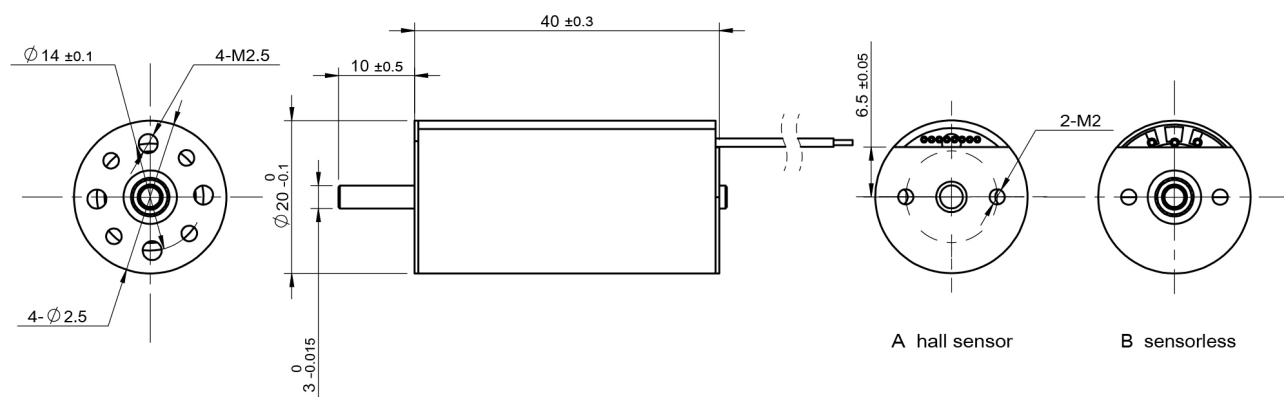
With proven performance in demanding industries, the B2040N2B series ensures reliable motion control for both OEM and industrial automation solutions.


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

Motor Specifications	Unit	B2040N2B03-150-12.0	B2040N2B09-80-12.0	B2040N2B05-67-9.0	B2040NH2B21-158-24.0
Rated voltage	V	12.0	12.0	9.0	24.0
Max. output power	W	31	8.7	7.2	8.67
Max. efficiency	%	72	55	58	60
Back-EMF constant	mV/rpm	0.8	1.4	1.3	1.44
Torque constant	mNm/A	7.5	13.4	12.1	13.7
KV Value	rpm/V	1250	666.7	744.4	658.3
Speed/torque gradient	rpm/mNm	188.5	192.1	162.7	754.3
Rotor inertia	gcm ²	2	2	2	2
Weight	g	55	55	55	55
Thermal resistance housing-ambient	K/W	16	16	16	16
Thermal resistance winding-housing	K/W	3.5	3.5	3.5	3.5
Terminal resistance	Ω	1.1	3.6	2.5	15
Thermal time constant motor	s	620	620	620	620
Thermal time constant winding	s	4	4	4	4
Operating temperature	°C	-40~+100	-40~+100	-40~+100	-40~+100
Thermal class of winding	°C	155	155	155	155
Axial play	mm	0.012	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008	0.008
Axial load dynamic	N	5	5	5	5
Axial load static	N	80	80	80	80
Radial load at 3 mm from mounting face	N	29	29	29	29
No. of pole pairs		1	1	1	1
No-load speed	rpm	15000	8000	6700	15800
Bearings		2 ball bearings	2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Sensorless	Sensorless	Sensorless	Hall-sensor
Protection class	IP	30	30	30	30
Outer diameter	mm	20 - 0.1	20 - 0.1	20 - 0.1	20 - 0.1
Motor length	mm	40 +/- 0.3	40 +/- 0.3	40 +/- 0.3	40 +/- 0.3

Motor Specifications	Unit	B2040N2B03-150-12.0	B2040N2B09-80-12.0	B2040N2B05-67-9.0	B2040NH2B21-158-24.0
No-load current	A	0.25	0.22	0.2	0.08
Stall torque	mNm	79.6	41.7	41.2	21
Stall current	A	10.9	3.3	3.6	1.6
Nominal torque	mNm	7.6	7.6	10.2	4
Nominal speed	rpm	13000	5900	4300	12800
Nominal current	A	1.3	0.8	1.1	0.37

Drawings



20mm Slotless BLDC Motor, Hall Sensor

B2050NH2B

B2050NH2B Slotless BLDC Motor Series delivers precise and efficient performance in a compact 20mm form factor, engineered for demanding industrial and medical environments. These brushless DC motors feature an inner rotor, slotless lamination, and integrated Hall sensors, ensuring smooth and reliable operation with reduced cogging and accurate positional feedback.



- **Type:** 20mm brushless DC motor, inner rotor, slotless design
- **Feedback:** Built-in Hall sensors for position detection and closed-loop control
- **Custom Options:** Available with multiple shaft lengths, special coils for unique application requirements, gear heads for torque adaptation, bearing types, encoder feedback, and compatible driver solutions

Applications:

- Precision drives in medical equipment, including laboratory and diagnostic instrumentation
- Industrial automation, such as robotics, pick-and-place systems, and compact actuators

Benefits:

- Slotless design reduces cogging for ultra-smooth motion and low noise
- Hall sensors enable precise speed and direction control
- Flexible configuration with a wide range of mechanical and electrical customization options
- Proven reliability in continuous operation and high-performance environments

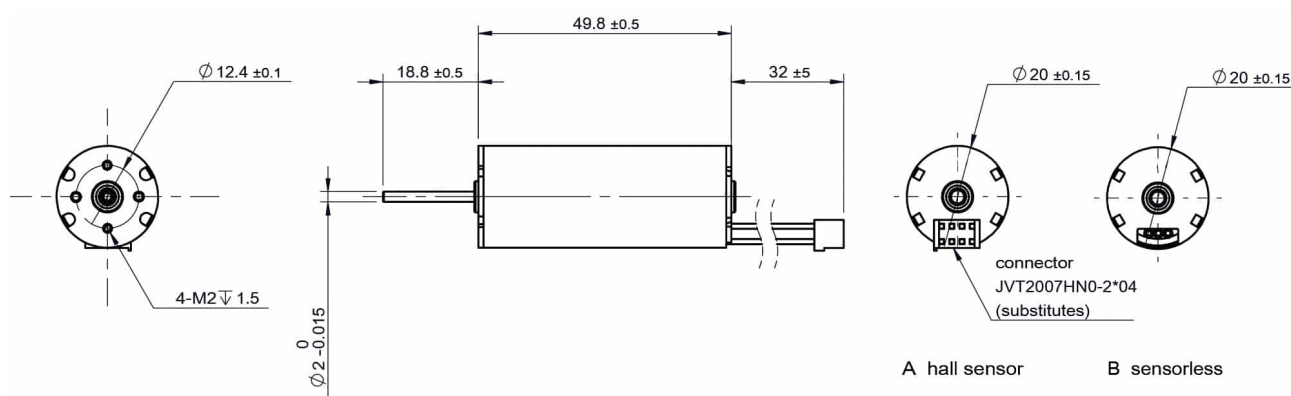


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Motor Specifications	Unit	B2050NH2B08-83-24.0	B2050NH2B09-130-24.0
Rated voltage	V	24.0	24.0
Max. output power	W	8	19
Max. efficiency	%	61	62
Back-EMF constant	mV/rpm	2.75	1.77
Torque constant	mNm/A	26.3	16.9
KV Value	rpm/V	345	540
Speed/torque gradient	rpm/mNm	224	232
Rotor inertia	gcm ²	0.79	0.79
Weight	g	77.5	77.5
Thermal resistance housing-ambient	K/W	14.6	14.6
Thermal resistance winding-housing	K/W	4.7	4.7
Terminal resistance	Ω	16	6.9
Thermal time constant motor	s	385	385
Thermal time constant winding	s	370	370
Operating temperature	°C	-40~+70	-40~+70
Thermal class of winding	°C	155	155
Axial play	mm	0.012	0.012
Radial play	mm	0.008	0.008
Axial load dynamic	N	5	5
Axial load static	N	80	80
Radial load at 3 mm from mounting face	N	29	29
No. of pole pairs		1	1
No-load speed	rpm	8300	13000
Bearings		2 ball bearings	2 ball bearings
Commutation		Hall Sensor	Hall Sensor
Protection class	IP	30	30
Outer diameter	mm	20 +/- 0.15	20 +/- 0.15
Motor length	mm	49.8 +/- 0.5	49.8 +/- 0.5
No-load current	A	0.08	0.15
Stall torque	mNm	37	56
Stall current	A	1.5	3.5
Nominal torque	mNm	7	8

Motor Specifications	Unit	B2050NH2B08-83-24.0	B2050NH2B09-130-24.0
Nominal speed	rpm	6600	11000
Nominal current	A	0.4	0.65

Drawings



13mm Slotless BLDC Motor, High Efficiency

BH1350NH2B

BH1350NH2B Series: High-Efficiency 13mm Slotless BLDC Motors

- **Design:** Compact 13mm brushless DC motor with inner rotor and slotless construction ensures reliable, low-cogging operation.
- **Sensor Integration:** Equipped with Hall sensors, providing accurate commutation and speed control even at low speeds.
- **Efficiency:** Optimized slotless design supports high power density and efficient thermal characteristics for continuous duty applications.



Practical Applications

- Ideal for **industrial automation** requiring compact, responsive actuation
- Perfect solution for high-reliability **medical equipment**
- Fits advanced **robotics** platforms needing smooth, precision motion
- Suitable for miniature **electrical tools** demanding precision torque delivery

Customization & Options

- Configurable shaft length, special coils, and multiple bearing types
- Available with gear heads, encoders, and compatible drivers for complete motion systems
- Optional Hall sensor or integrated encoder for enhanced feedback

The BH1350NH2B offers technical flexibility and proven reliability, making it an excellent choice for OEMs and system integrators seeking compact, high-performance motion solutions in dynamic environments.

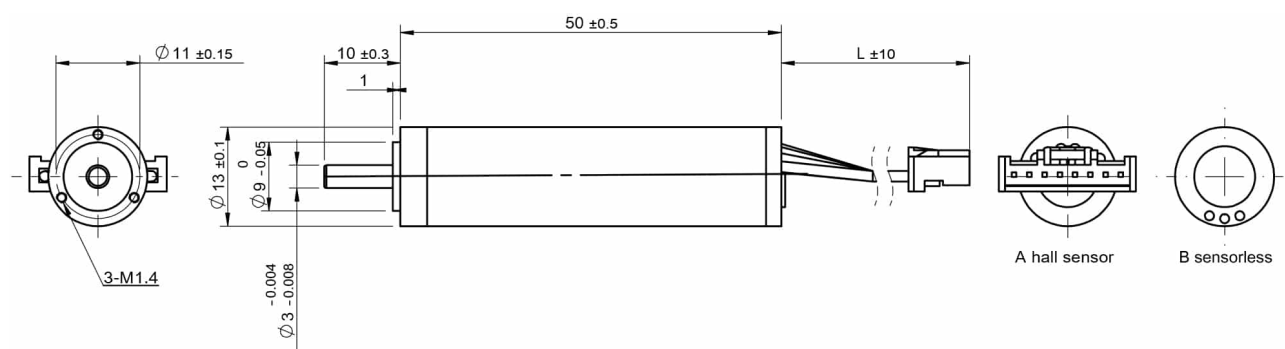


<https://www.kocomotion.de/produkt/bh1350nh2b/>

Motor Specifications	Unit	BH1350NH2B01-450-15.0	BH1350NH2B02-500-24.0	BH1350NH2B03-540-36.0
Rated voltage	V	15.0	24.0	36.0
Max. output power	W	69	128	138
Max. efficiency	%	82	82	81
Back-EMF constant	mV/rpm	0.33	0.476	0.66
Torque constant	mNm/A	3.15	4.542	6.3
KV Value	rpm/V	3000	2080	1500
Speed/torque gradient	rpm/mNm	768	509	552
Rotor inertia	gcm ²	1.2	1.2	1.2
Weight	g	28	28	28
Thermal resistance housing-ambient	K/W	17.68	17.68	17.68
Thermal resistance winding-housing	K/W	5.11	5.11	5.11
Terminal resistance	Ω	0.8	1.1	2.3
Thermal time constant motor	s	778	778	778
Thermal time constant winding	s	726	726	726
Operating temperature	°C	-40~+120	-40~+120	-40~+120
Thermal class of winding	°C	155	155	155
Axial play	mm	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	1.5	1.5	1.5
Axial load static	N	60	60	60
Radial load at 3 mm from mounting face	N	10	10	10
No. of pole pairs		1	1	1
No-load speed	rpm	45000	50000	54000
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Hall Sensor	Hall Sensor	Hall Sensor
Protection class	IP	40	40	40
Outer diameter	mm	13 +/- 0.1	13 +/- 0.1	13 +/- 0.1
Motor length	mm	50 +/- 0.5	50 +/- 0.5	50 +/- 0.5
No-load current	A	0.17	0.2	0.15

Motor Specifications	Unit	BH1350NH2B01-450-15.0	BH1350NH2B02-500-24.0	BH1350NH2B03-540-36.0
Stall torque	mNm	58.6	98.2	97.7
Stall current	A	18.8	21.8	15.7
Nominal torque	mNm	4	3	3
Nominal speed	rpm	41850	48250	52380
Nominal current	A	1.47	0.95	0.62

Drawings



16mm Slotless BLDC Motor, Sensored

BH1659NH2B

BH1659NH2B 16mm BLDC Motor Family

- **Type:** 16mm brushless DC (BLDC), inner rotor, slotless design with integrated sensors
- **Key Features:**
 - High efficiency, low cogging design for smooth, quiet operation
 - Compact form factor ideal for space-constrained environments
 - Sensored feedback for precise speed and position control
 - Multiple customizable options: shaft length, special coils, gearheads, bearing type, hall-sensors, encoder, and driver compatibility
- **Typical Applications:**
 - Industrial automation—precision actuation and motion control
 - Medical equipment—reliable, low-noise performance for sensitive devices
 - Robotics—compact drive for manipulators, grippers, and joints
 - Electrical tools—high torque and speed stability in portable instruments



With its slotless, inner rotor architecture, the BH1659NH2B achieves excellent energy efficiency and thermal management, extending operational life even in continuous-duty cycles. Sensor integration ensures accurate, repeatable positioning, making it a preferred choice for automation engineers and system integrators requiring reliable performance in critical motion applications. Comprehensive customization, including advanced feedback and drive solutions, maximizes system flexibility and simplifies integration.

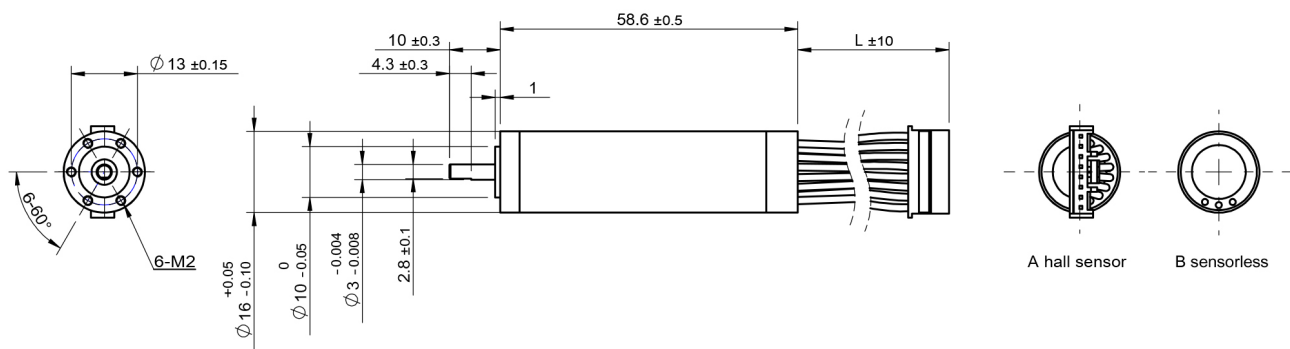


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Motor Specifications	Unit	BH1659NH2B01-510-24.0	BH1659NH2B02-425-32.0	BH1659NH2B03-560-48.0
Rated voltage	V	24.0	32.0	48.0
Max. output power	W	285	178	375
Max. efficiency	%	87	86	86
Back-EMF constant	mV/rpm	0.469	0.749	0.853
Torque constant	mNm/A	4.5	7.1	8.1
KV Value	rpm/V	2125	1888	1166
Speed/torque gradient	rpm/mNm	238	266	219
Rotor inertia	gcm ²	1.59	1.59	1.59
Weight	g	85	85	85
Thermal resistance housing-ambient	K/W	15.3	15.3	15.3
Thermal resistance winding-housing	K/W	3.4	3.4	3.4
Terminal resistance	Ω	0.5	1.42	1.52
Thermal time constant motor	s	362	362	362
Thermal time constant winding	s	233	233	233
Operating temperature	°C	-40~+120	-40~+120	-40~+120
Thermal class of winding	°C	155	155	155
Axial play	mm	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	1.5	1.5	1.5
Axial load static	N	60	60	60
Radial load at 3 mm from mounting face	N	10	10	10
No. of pole pairs		1	1	1
No-load speed	rpm	51000	42500	56000
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Hall Sensor	Hall Sensor	Hall Sensor
Protection class	IP	40	40	40
Outer diameter	mm	16 + 0.05 - 0.10	16 + 0.05 - 0.10	16 + 0.05 - 0.10
Motor length	mm	58.6 + 0.5	58.6 + 0.5	58.6 + 0.5
No-load current	A	0.2	0.12	0.15

Motor Specifications	Unit	BH1659NH2B01-510- 24.0	BH1659NH2B02-425- 32.0	BH1659NH2B03-560- 48.0
Stall torque	mNm	213.9	160	256
Stall current	A	48	22.5	31.6
Nominal torque	mNm	14	17	13
Nominal speed	rpm	47700	38000	53200
Nominal current	A	3.3	2.5	1.7

Drawings



19mm Slotless BLDC Motor, Sensored

BH1960NH2B

BH1960NH2B is a robust 19mm brushless DC (BLDC) motor family featuring an inner rotor, slotless design for exceptional efficiency and minimal cogging torque. Integrated Hall sensors enable precise commutation, making these motors suitable for advanced feedback and control solutions.



- **Construction:** 19mm diameter, BLDC, inner rotor, slotless architecture
- **Sensored Operation:** Built-in Hall sensors for accurate position detection
- **High Efficiency:** Optimized for continuous, reliable operation with low power consumption
- **Custom Configurations:** Options include various shaft lengths, special coil windings, multiple bearing types, gear head attachments, Hall sensor/encoder integration, and compatible driver modules

Engineered to excel in a diverse range of demanding environments, the BH1960NH2B family is well-suited for **industrial automation**, **medical equipment** requiring quiet and smooth motion, **robotics** with precise movement needs, and advanced **electrical tools**. Slotless technology ensures minimal vibration and noise, while the compact footprint allows for easy integration into space-constrained assemblies.

Choose BH1960NH2B motors for superior motion control performance, configurability, and application reliability where smoothness, efficiency, and accuracy are critical.

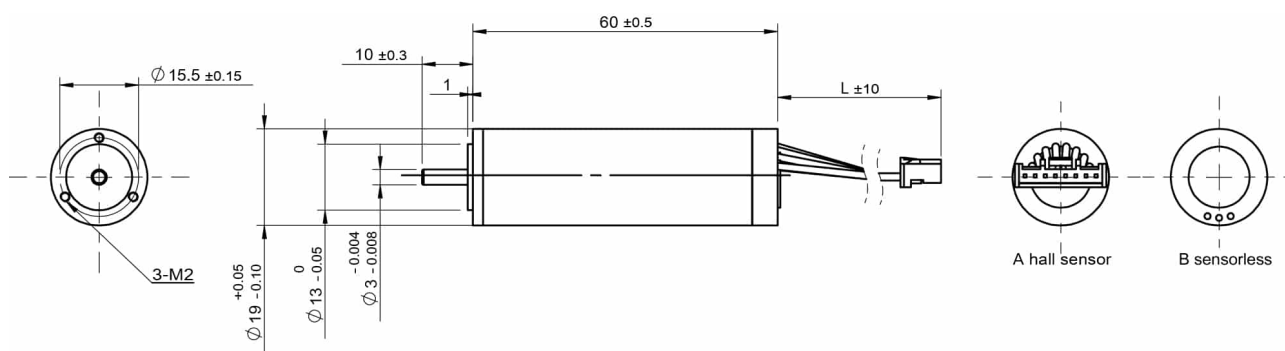


<https://www.kocomotion.de/produkt/bh1960nh2b/>

Motor Specifications	Unit	BH1960NH2B01-482- 24.0	BH1960NH2B02-482- 36.0	BH1960NH2B03-482- 48.0
Rated voltage	V	24.0	36.0	48.0
Max. output power	W	397	452	404
Max. efficiency	%	88	88	87
Back-EMF constant	mV/rpm	0.496	0.744	0.992
Torque constant	mNm/A	4.738	7.104	9.471
KV Value	rpm/V	2008	1338	1004
Speed/torque gradient	rpm/mNm	153	134	150
Rotor inertia	gcm ²	1.66	1.66	1.66
Weight	g	93	93	93
Thermal resistance housing-ambient	K/W	9.2	9.2	9.2
Thermal resistance winding-housing	K/W	1	1	1
Terminal resistance	Ω	0.36	0.71	1.41
Thermal time constant motor	s	500	500	500
Thermal time constant winding	s	460	460	460
Operating temperature	°C	-40~+100	-40~+100	-40~+100
Thermal class of winding	°C	155	155	155
Axial play	mm	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	1.5	1.5	1.5
Axial load static	N	60	60	60
Radial load at 3 mm from mounting face	N	10	10	10
No. of pole pairs		1	1	1
No-load speed	rpm	48200	48200	48200
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Hall Sensor	Hall Sensor	Hall Sensor
Protection class	IP	40	40	40
Outer diameter	mm	19 + 0.05 - 0.10	19 + 0.05 - 0.10	19 + 0.05 - 0.10
Motor length	mm	60 +/- 0.5	60 +/- 0.5	60 +/- 0.5
No-load current	A	0.24	0.2	0.14

Motor Specifications	Unit	BH1960NH2B01-482-24.0	BH1960NH2B02-482-36.0	BH1960NH2B03-482-48.0
Stall torque	mNm	314.7	358.8	321
Stall current	A	66.67	50.7	34.04
Nominal torque	mNm	21	18	18
Nominal speed	rpm	45070	45800	45550
Nominal current	A	4.56	2.73	2.0

Drawings



22mm Slotless BLDC Motor, Sensored

BH2245NH2B

BH2245NH2B Series – 22mm Slotless BLDC Motor with Sensors

- **Motor Type:** 22mm brushless DC (BLDC), inner rotor, slotless construction
- **High Efficiency:** Optimized for lower losses and superior thermal management, ensuring extended lifespan and minimal maintenance
- **Sensored Feedback:** Integrated hall sensors available for precise position and speed control
- **Customizability:** Broad range of options, including shaft length, special coil windings, gear heads, bearing types, hall sensors, encoders, and compatible drivers

Applications:

- Industrial automation: ideal for precision actuation, conveyor systems, and high-duty cycles
- Medical equipment: suitable for devices requiring consistent, vibration-free motion
- Robotics: supports compact, agile robotic joints and mobile platforms
- Electrical tools: ensures efficient operation in battery-powered or corded instruments

With its slotless, high-efficiency design and robust construction, the BH2245NH2B series delivers smoother rotation, minimized cogging torque, and reliable feedback control. This makes it a preferred solution for applications demanding accuracy, quiet operation, and adaptability to custom requirements.



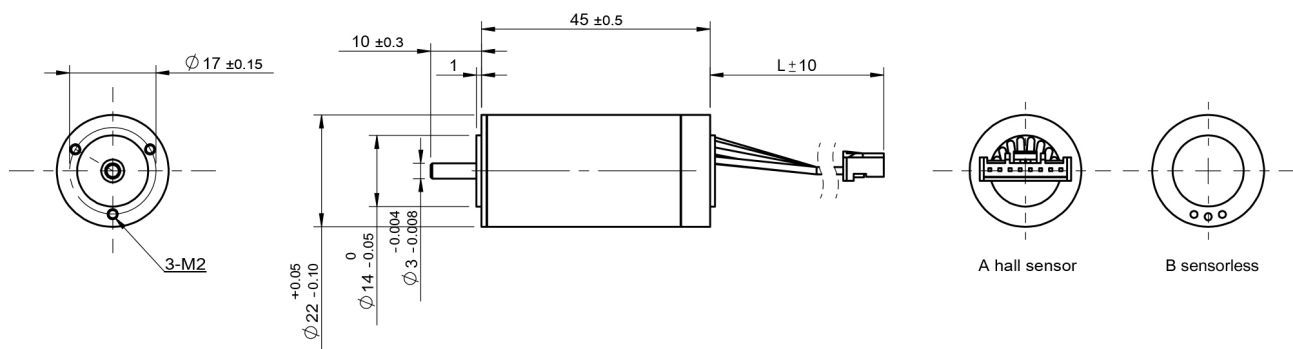
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Motor Specifications	Unit	BH2245NH2B01-492-24.0	BH2245NH2B02-505-36.0	BH2245NH2B03-492-48.0
Rated voltage	V	24.0	36.0	48.0
Max. output power	W	510	584	505
Max. efficiency	%	88	88	88
Back-EMF constant	mV/rpm	0.486	0.71	0.972
Torque constant	mNm/A	4.64	6.78	9.281
KV Value	rpm/V	2050	1400	1025
Speed/torque gradient	rpm/mNm	124	114	125
Rotor inertia	gcm ²	1.49	1.49	1.49
Weight	g	92	92	92
Thermal resistance housing-ambient	K/W	1.61	1.61	1.61
Thermal resistance winding-housing	K/W	0.37	0.37	0.37
Terminal resistance	Ω	0.28	0.55	1.13
Thermal time constant motor	s	885	885	885
Thermal time constant winding	s	830	830	830
Operating temperature	°C	-40~+120	-40~+120	-40~+120
Thermal class of winding	°C	155	155	155
Axial play	mm	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	1.5	1.5	1.5
Axial load static	N	60	60	60
Radial load at 3 mm from mounting face	N	10	10	10
No. of pole pairs		1	1	1
No-load speed	rpm	49200	50500	49200
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Hall Sensor	Hall Sensor	Hall Sensor
Protection class	IP	40	40	40
Motor diameter	mm	22 + 0.05 - 0.10	22 + 0.05 - 0.10	22 + 0.05 - 0.10
Motor length	mm	45 +/- 0.5	45 +/- 0.5	45 +/- 0.5
No-load current	A	0.33	0.26	0.16

Motor Specifications	Unit	BH2245NH2B01-492- 24.0	BH2245NH2B02-505- 36.0	BH2245NH2B03-492- 48.0
Stall torque	mNm	396	442	392
Stall current	A	85.71	65.46	42.48
Nominal torque	mNm	16	16	16
Nominal speed	rpm	47232	48732	47232
Nominal current	A	3.75	2.54	1.85

Drawings



22mm Slotless BLDC Motor, Sensored

BH2260NH2B

BH2260NH2B is a precision 22mm slotless brushless DC (BLDC) motor series engineered for high efficiency, smooth operation, and accurate feedback. Its inner rotor design and integrated Hall sensors provide precise speed and position control, making it well-suited for high-end industrial tasks.



• Key Features:

- Slotless stator architecture for minimal cogging and exceptional smoothness
- Integrated Hall-effect sensors for reliable commutation and feedback
- High energy efficiency and compact 22mm outer diameter
- Robust design supports demanding industrial environments

• Applications:

- Industrial automation systems requiring responsive motion control
- Medical equipment demanding smooth, vibration-free performance
- Robotics for precise actuation and repeatable movement
- Electric tools needing power-dense, reliable drive solutions

• Customization & Options:

- Available with various shaft lengths, gear heads, and bearing types
- Special coils for application-specific performance
- Optional encoder and integrated Hall-sensor feedback
- Integrated driver options for streamlined system integration

BH2260NH2B motors deliver the blend of compact size, precision, and flexibility industrial engineers require for modern motion control applications.

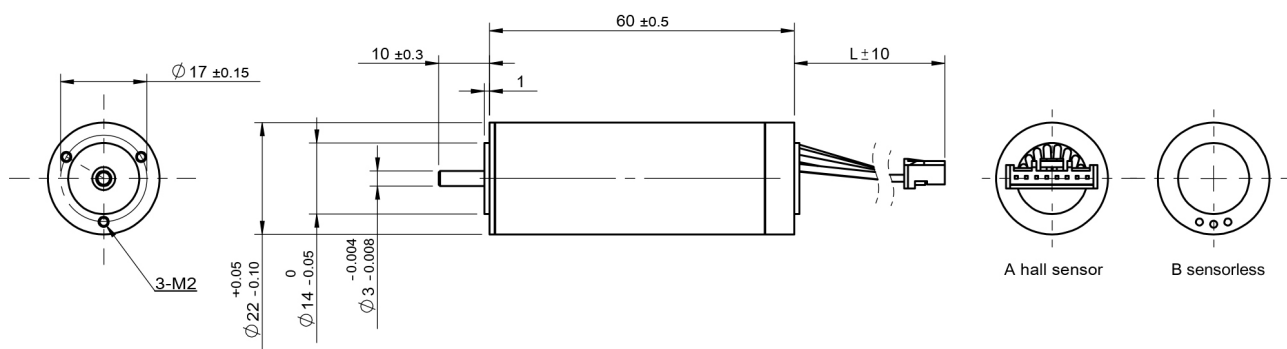


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Motor Specifications	Unit	BH2260NH2B01-500- 24.0	BH2260NH2B02-500- 36.0	BH2260NH2B03-500- 48.0
Rated voltage	V	24.0	36.0	48.0
Max. output power	W	752	748	752
Max. efficiency	%	89	89	89
Back-EMF constant	mV/rpm	0.478	0.718	0.957
Torque constant	mNm/A	4.569	6.854	9.137
KV Value	rpm/V	2083	1388	1040
Speed/torque gradient	rpm/mNm	87	87	87
Rotor inertia	gcm ²	2.53	2.53	2.53
Weight	g	107	107	107
Thermal resistance housing-ambient	K/W	5.28	5.28	5.28
Thermal resistance winding-housing	K/W	0.57	0.57	0.57
Terminal resistance	Ω	0.19	0.43	0.76
Thermal time constant motor	s	900	900	900
Thermal time constant winding	s	850	850	850
Operating temperature	°C	-40~+120	-40~+120	-40~+120
Thermal class of winding	°C	155	155	155
Axial play	mm	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	1.5	1.5	1.5
Axial load static	N	60	60	60
Radial load at 3 mm from mounting face	N	10	10	10
No. of pole pairs		1	1	1
No-load speed	rpm	50000	50000	50000
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Hall Sensor	Hall Sensor	Hall Sensor
Protection class	IP	40	40	40
Outer diameter	mm	22 + 0.05 - 0.10	22 + 0.05 - 0.10	22 + 0.05 - 0.10
Motor length	mm	60 +/- 0.5	60 +/- 0.5	60 +/- 0.5
No-load current	A	0.4	0.26	0.21

Motor Specifications	Unit	BH2260NH2B01-500- 24.0	BH2260NH2B02-500- 36.0	BH2260NH2B03-500- 48.0
Stall torque	mNm	575	572	575
Stall current	A	126.32	83.72	42.48
Nominal torque	mNm	14	14	14
Nominal speed	rpm	48750	48750	48750
Nominal current	A	3.55	2.35	1.78

Drawings



16mm BLDC Sensorless Inner Rotor Motor

BS1630NH2B

BS1630NH2B Series - 16mm Sensorless BLDC Motors

The BS1630NH2B family delivers advanced motion solutions with a 16mm diameter, inner rotor, slotted brushless DC motor design. Engineered for sensorless operation, these motors ensure silent, efficient, and maintenance-free performance—ideal for applications where reliability and precision are crucial.



• Core Features:

- 16mm outer diameter for compact installations
- Sensorless design reduces complexity and boosts reliability
- Inner rotor, slotted configuration for outstanding thermal management and power density
- Multiple winding options for tailored speed and torque requirements

• Options & Customization:

- Shaft length variations
- Special coil windings
- Gear heads for increased torque or speed reduction
- Choice of bearing types (e.g., ball or sleeve)
- Optional hall-sensor or encoder feedback
- Driver integration for simplified control

• Typical Applications:

- Precision drives in medical equipment
- High-reliability motion in industrial automation systems

With versatile configuration options, the BS1630NH2B series delivers superior adaptability, efficient operation, and easy integration for OEMs seeking compact, high-performance motor solutions in demanding environments.

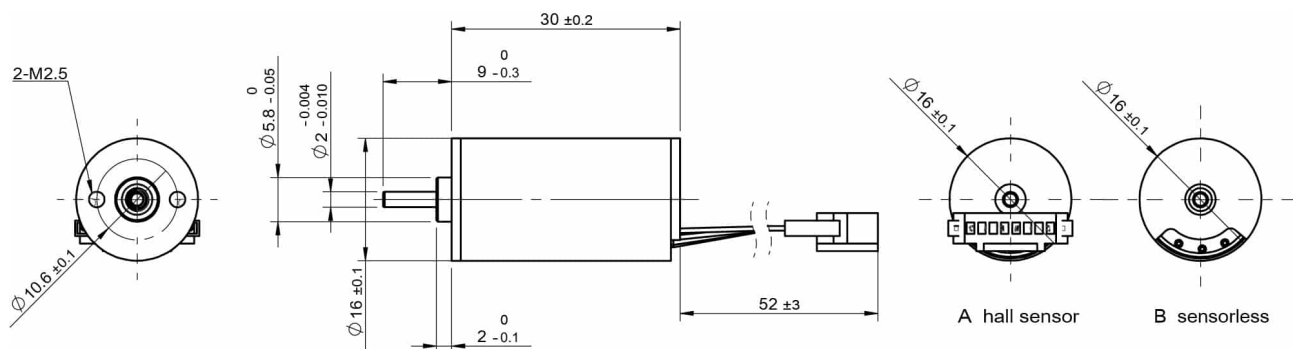


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Motor Specifications	Unit	BS1630NH2B03-200-24.0	BS1630NH2B01-160-24.0	BS1630NH2B02-100-24.0
Rated voltage	V	24.0	24.0	24.0
Max. output power	W	16	12	7.4
Max. efficiency	%	66	62	54
Back-EMF constant	mV/rpm	1.15	1.43	2.2
Torque constant	mNm/A	11	13.6	21.3
KV Value	rpm/V	833	667	416
Speed/torque gradient	rpm/mNm	656	534	353
Rotor inertia	gcm ²	0.36	0.36	0.36
Weight	g	30	30	30
Thermal resistance housing-ambient	K/W	17.3	17.3	17.3
Thermal resistance winding-housing	K/W	4	4	4
Terminal resistance	Ω	8.4	10.5	16.8
Thermal time constant motor	s	600	600	600
Thermal time constant winding	s	3	3	3
Operating temperature	°C	-40~+100	-40~+100	-40~+100
Thermal class of winding	°C	155	155	155
Axial play	mm	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	5	5	5
Axial load static	N	80	80	80
Radial load at 3 mm from mounting face	N	29	29	29
No. of pole pairs		2	2	2
No-load speed	rpm	20000	16000	10000
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Hall-sensor	Hall-sensor	Hall-sensor
Protection class	IP	30	30	30
Outer diameter	mm	16 +/- 0.1	16 +/- 0.1	16 +/- 0.1
No-load current	A	0.1	0.1	0.1
Stall torque	mNm	30.5	29.9	28

Motor Specifications	Unit	BS1630NH2B03-200- 24.0	BS1630NH2B01-160- 24.0	BS1630NH2B02-100- 24.0
Stall current	A	2.9	2.3	1.5
Nominal torque	mNm	7	7	7
Nominal speed	rpm	15300	12000	7500
Nominal current	A	0.8	0.6	0.5

Drawings



24mm BLDC Motor with Integrated Driver

BS2430NBIEH2B

BS2430NBIEH2B is a high-performance 24mm brushless DC (BLDC) motor with an inner rotor and integrated driver, designed for advanced motion control in space-constrained environments. The slotted configuration ensures robust torque density and smooth operation, making it suitable for demanding tasks across diverse sectors.



- **Integrated Driver:** Minimizes external circuitry, simplifying system integration while ensuring efficient motor control.
- **Compact 24mm Slotted Inner Rotor:** Delivers precise, reliable motion in limited spaces with enhanced thermal management and torque consistency.
- **Flexible Customization:** Extensive options such as shaft length, gear heads, special winding configurations, various bearing types, hall-sensors, encoders, and external driver interfaces enable optimized performance for specific application needs.
- **Typical Applications:** Automotive actuators, precision medical devices, and industrial automation systems—anywhere consistent speed, quiet operation, and robust service life are essential.

Benefits:

- High energy efficiency and control accuracy
- Low maintenance requirements due to brushless construction
- Seamless adaptation into electronics-driven environments
- Minimized footprint with broad installation flexibility

Choose the BS2430NBIEH2B family for demanding projects that require compact motor solutions with integrated electronics, advanced configurability, and consistent performance in critical applications.

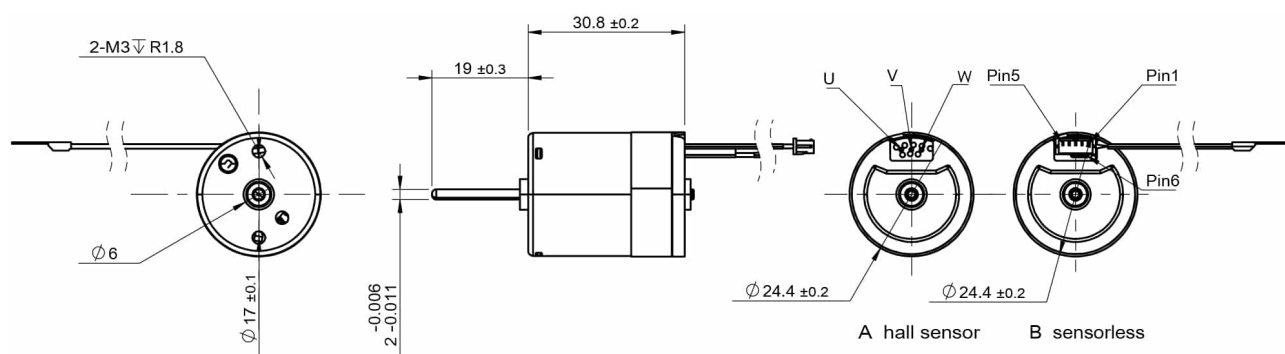


<https://www.kocomotion.de/produkt/bs2430nbieh2b/>

Motor Specifications	Unit	BS2430NBIEH2B03-50-12.0	BS2430NBIEH2B04-53-12.0
Rated voltage	V	12.0	12.0
Max. output power	W	4.2	9.8
Max. efficiency	%	56	65
Back-EMF constant	mV/rpm	2.34	2.22
Torque constant	mNm/A	22.38	21.23
KV Value	rpm/V	400	433
Speed/torque gradient	rpm/mNm	200	133
Rotor inertia	gcm ²	9	9
Weight	g	62	62
Thermal resistance housing-ambient	K/W	16.7	16.7
Thermal resistance winding-housing	K/W	7.48	7.48
Terminal resistance	Ω	7.5	3.4
Thermal time constant motor	s	336	336
Thermal time constant winding	s	250	250
Operating temperature	°C	-40~+70	-40~+70
Thermal class of winding	°C	155	155
Axial play	mm	0.008	0.008
Radial play	mm	0.006	0.006
Axial load dynamic	N	5	5
Axial load static	N	80	80
Radial load at 3 mm from mounting face	N	29	29
No. of pole pairs		6	6
No-load speed	rpm	4800	5200
Bearings		2 ball bearings	2 ball bearings
Commutation		hall sensor	hall sensor
Protection class	IP	30	30
Outer diameter	mm	24.4 +/- 0.2	24.4 +/- 0.2
Motor length	mm	30.8 +/- 0.2	30.8 +/- 0.2
No-load current	A	0.1	0.13
Stall torque	mNm	24	72.2
Stall current	A	1.6	3.53
Nominal torque	mNm	4.9	8.3

Motor Specifications	Unit	BS2430NBIEH2B03-50-12.0	BS2430NBIEH2B04-53-12.0
Nominal speed	rpm	3800	4100
Nominal current	A	0.35	0.55

Drawings



28mm Sensorless BLDC Motors

BS2838NB2B

BS2838NB2B Series is a high-performance family of 28mm brushless DC motors featuring an inner rotor, slotted core, and sensorless operation. Designed for compact yet demanding environments, these motors provide reliable, maintenance-free operation and high efficiency, making them a preferred choice for precision tasks.



- **Key Technical Specifications:** Sensorless operation, inner rotor construction, 28mm diameter, slotted design for optimized torque density.
- **Customization Options:** Shaft length, special coils for tailored speed/torque characteristics, gear heads for increased torque, choice of bearing types, hall-sensors, encoders, and integrated drivers to fit specific project requirements.
- **Applications:** Well-suited for **precision drives in medical equipment** such as pumps, surgical tools, or diagnostic devices, as well as **industrial automation** systems, including robotics, conveyors, and actuator modules.

Benefits include smooth sensorless commutation, extended operational lifetime due to absence of brushes, and flexible integration with a wide range of ancillary components. The BS2838NB2B family enables compact, efficient designs where precise motion control is critical to system performance and reliability.

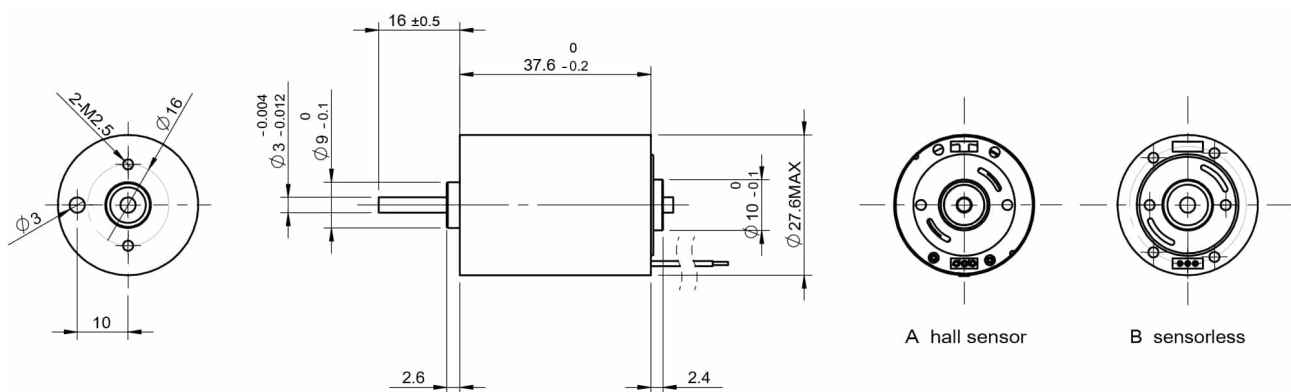


<https://www.kocomotion.de/produkt/bs2838nb2b/>

Characteristics	Unit	BS2838NB2B01-66-12.0	BS2838NB2B02-66-24.0	BS2838NB2B03-45-16.0
Rated voltage	V	12.0	24.0	16.0
Max. output power	W	14	10	3.8
Max. efficiency	%	61	59	50
Back-EMF constant	mV/rpm	1.7	3.4	3
Torque constant	mNm/A	16.5	32.8	30.9
KV Value	rpm/V	550	275	281
Speed/torque gradient	rpm/mNm	80	112	139
Rotor inertia	gcm ²	13	13	13
Weight	g	80	80	80
Thermal resistance housing-ambient	K/W	17.3	17.3	17.3
Thermal resistance winding-housing	K/W	4	4	4
Terminal resistance	Ω	2.3	12.7	14
Thermal time constant motor	s	600	600	600
Thermal time constant winding	s	3	3	3
Operating temperature	°C	-40~+100	-40~+100	-40~+100
Thermal class of winding	°C	155	155	155
Axial play	mm	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	5	5	5
Axial load static	N	80	80	80
Radial load at 3 mm from mounting face	N	29	29	29
No. of pole pairs		2	2	2
No-load speed	rpm	6600	6600	4500
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Sensorless	Sensorless	Sensorless
Protection class	IP	30	30	30
Outer diameter	mm	27.6	27.6	27.6
Motor length	mm	37.6 - 0.2	37.6 - 0.2	37.6 - 0.2
No-load current	A	0.25	0.1	0.1
Stall torque	mNm	83	58	32
Stall current	A	5	1.9	1.1

Characteristics	Unit	BS2838NB2B01-66-12.0	BS2838NB2B02-66-24.0	BS2838NB2B03-45-16.0
Nominal torque	mNm	10	10	10
Nominal speed	rpm	5550	5400	3000
Nominal current	A	0.9	0.4	0.5

Drawings



32mm BLDC, Inner Rotor, Hall Sensor

BS3246NBH2B

BS3246NBH2B Series - 32mm BLDC Inner Rotor Motors with Hall Sensor

- **Motor Type:** 32mm brushless DC (BLDC), inner rotor, slotted design
- **Feedback:** Built-in Hall sensor for precise commutation and speed regulation
- **Modularity:** Wide range of options including shaft length variations, gear heads, special coils, encoder integration, and compatible drivers
- **Customization:** Configurable bearing types and lead wire lengths to suit specific installation requirements



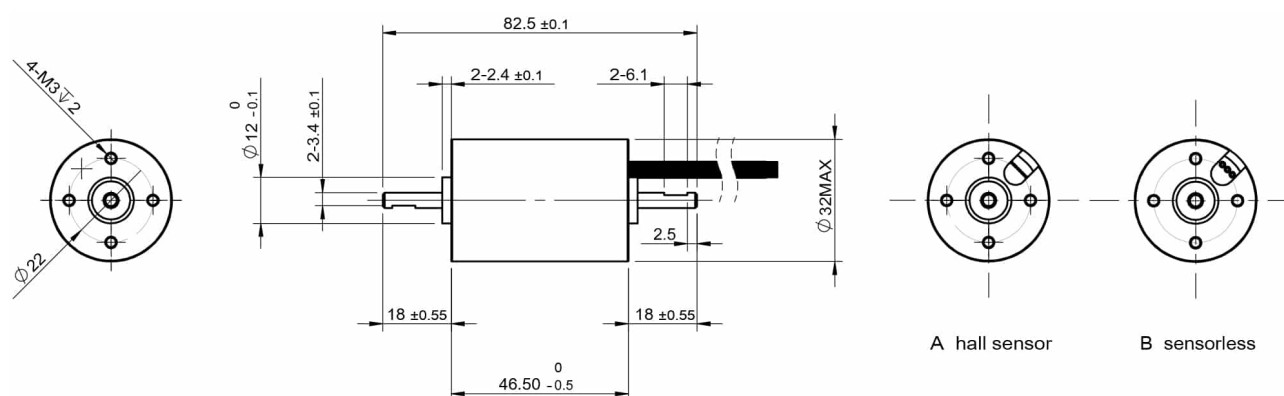
This compact, high-efficiency BLDC motor series is engineered for **precision drives in medical equipment** and **industrial automation**. The inner rotor architecture ensures minimal inertia and fast dynamic response, while the slotted stator design delivers optimum torque density in a space-saving form factor. Hall sensor feedback facilitates precise closed-loop speed and position control, crucial for demanding automated processes. Users can further tailor the motor's performance to their unique application through a robust selection of options, including gear heads for torque multiplication and encoder modules for advanced positioning capability. The modular design supports seamless integration into a wide range of OEM systems, providing reliability, longevity, and peak operational efficiency in critical environments.


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

Characteristics	Unit	BS3246NBH2B01-51-12.0	BS3246NBH2B02-80-12.0	BS3246NBH2B03-40-12.0
Rated voltage	V	12.0	12.0	12.0
Max. output power	W	14	22.8	10.8
Max. efficiency	%	64	70.8	60
Back-EMF constant	mV/rpm	2.2	1.5	2.8
Torque constant	mNm/A	21.5	14	27.0
KV Value	rpm/V	420	666	333
Speed/torque gradient	rpm/mNm	48	73	38
Rotor inertia	gcm ²	26	26	26
Weight	g	130	130	130
Thermal resistance housing-ambient	K/W	16	16	16
Thermal resistance winding-housing	K/W	3.5	3.5	3.5
Terminal resistance	Ω	2.4	1.5	3
Thermal time constant motor	s	620	620	620
Thermal time constant winding	s	4	4	4
Operating temperature	°C	-40~+100	-40~+100	-40~+100
Thermal class of winding	°C	155	155	155
Axial play	mm	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	5	5	5
Axial load static	N	80	80	80
Radial load at 3 mm from mounting face	N	29	29	29
No. of pole pairs		2	2	2
No-load speed	rpm	5100	8000	4000
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Hall Sensor	Hall Sensor	Hall Sensor
Protection class	IP	30	30	30
Outer diameter	mm	32	32	32
Motor length	mm	46.5 - 0.5	46.5 - 0.5	46.5 - 0.5
No-load current	A	0.2	0.2	0.2

Characteristics	Unit	BS3246NBH2B01-51-12.0	BS3246NBH2B02-80-12.0	BS3246NBH2B03-40-12.0
Stall torque	mNm	103.5	108	103
Stall current	A	5.0	8.0	4.0
Nominal torque	mNm	24.0	24.0	24.0
Nominal speed	rpm	4000	6000	2800
Nominal current	A	1.3	2	1

Drawings



54mm Sensorless BLDC Motor

BS5470N2B

BS5470N2B Family - 54mm Sensorless BLDC Motor

- **Design:** 54mm outer diameter, inner rotor, slotted stator, sensorless operation for maintenance-free performance.
- **Configuration Options:** Selectable shaft lengths, special coil windings, gear heads, bearing types, and interface options such as Hall-sensors, encoders, and integrated drivers.
- **Precision Applications:** Optimized for use in precision drives within medical devices and industrial automation requiring high efficiency, low noise, and precise speed control.



The BS5470N2B brushless DC motor family delivers robust and reliable motion control, eliminating the need for external sensors thanks to advanced sensorless technology. Engineers can tailor performance with numerous modular options, including custom electrical and mechanical characteristics. This flexibility ensures seamless integration into automation systems, laboratory equipment, and critical healthcare technology, enhancing both process reliability and operational efficiency. The BS5470N2B provides a future-ready, adaptable solution for advanced motion control in the most demanding industrial environments.

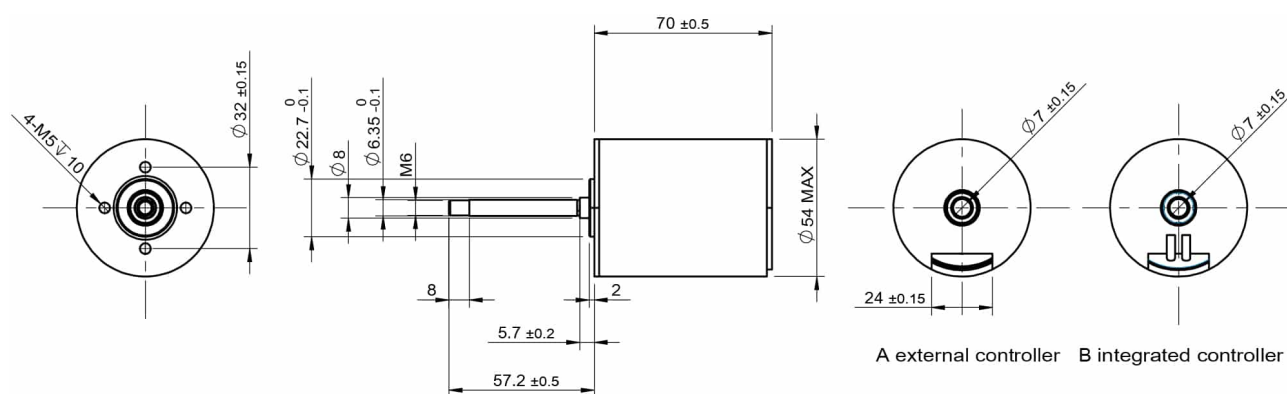


<https://www.kocomotion.de/produkt/bs5470n2b/>

Motor Specifications	Unit	BS5470N2B01-74-24.0	BS5470N2B02-55-24.0
Rated voltage	V	24.0	24.0
Max. output power	W	40.3	235
Max. efficiency	%	59.9	81.8
Back-EMF constant	mV/rpm	3.1	3.1
Torque constant	mNm/A	29	29
KV Value	rpm/V	30.8	31.6
Speed/torque gradient	rpm/mNm	36	6.4
Rotor inertia	gcm ²	120	120
Weight	g	500	500
Thermal resistance housing-ambient	K/W	20	20
Thermal resistance winding-housing	K/W	3	3
Terminal resistance	Ω	3.2	0.6
Thermal time constant motor	s	600	600
Thermal time constant winding	s	4	4
Operating temperature	°C	-40~+100	-40~+100
Thermal class of winding	°C	180	180
Axial play	mm	0.012	0.012
Radial play	mm	0.008	0.008
Axial load dynamic	N	5	5
Axial load static	N	80	80
Radial load at 3 mm from mounting face	N	29	29
No. of pole pairs		2	2
No-load speed	rpm	7400	7600
Bearings		2 ball bearings	2 ball bearings
Commutation		hall sensor	hall sensor
Protection class	IP	30	30
Outer diameter	mm	54	54
Motor length	mm	70 +/- 0.5	70 +/- 0.5
No-load current	mA	400	360
Stall torque	mNm	208	1184
Stall current	mA	7500	40000
Nominal torque	mNm	84	84

Motor Specifications	Unit	BS5470N2B01-74-24.0	BS5470N2B02-55-24.0
Nominal speed	rpm	4300	6100
Nominal current	mA	2.3	3.6

Drawings



14mm Sensorless BLDC Outer Rotor Motor

BO1410NBH2B

The **BO1410NBH2B** family delivers precision motion in a miniature 14mm BLDC outer rotor format, engineered for advanced sensorless operation. This motor is optimized for demanding applications where compact size, efficiency, and smooth rotation are critical.



• Key Features:

- Sensorless commutation for reduced wiring complexity and increased reliability
- 14mm outer rotor design offers high torque density in a compact profile
- Low vibration and noise, suitable for precision stabilization systems
- Highly customizable with options for shaft length, special coils, gear heads, and bearing types
- Support for hall-sensors, encoders, and dedicated drivers to meet diverse control requirements

• Typical Applications:

- UAV and handheld gimbals requiring rapid, stable positioning
- LiDAR systems and laser scanners demanding smooth, continuous rotation

• Benefits:

- Increased system reliability with robust construction and sensorless technology
- Flexible integration with a wide range of mechanical and electrical options
- Excellent choice for designers seeking miniaturized motion control solutions with premium performance

The BO1410NBH2B family is engineered to support innovation in next-generation precision platforms, providing both high performance and adaptability in a compact, service-friendly form factor.

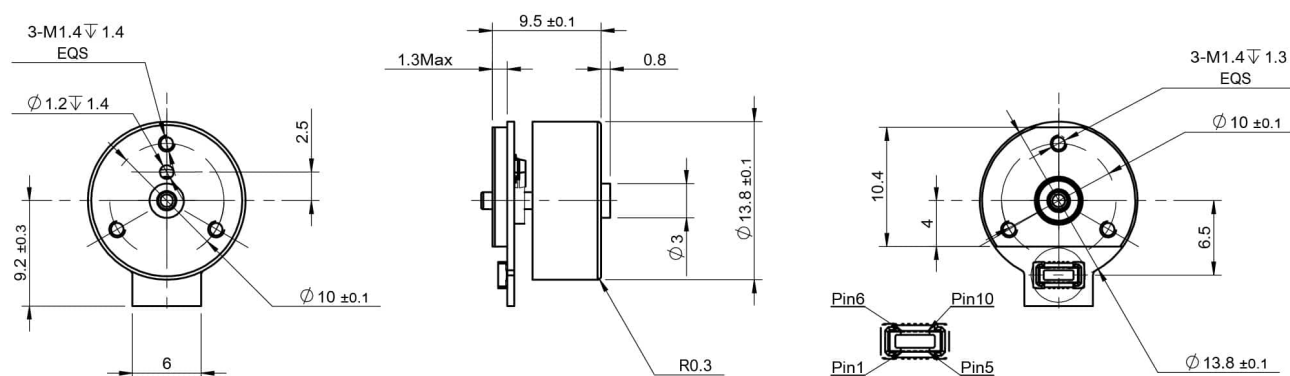


<https://www.kocomotion.de/produkt/bo1410nbh2b/>

Motor Specifications	Unit	B01410NBH2B01-142-9.0	B01410NBH2B02-142-7.6
Rated voltage	V	9.0	7.6
Max. output power	W	1.7	1.7
Max. efficiency	%	49.2	50.7
Back-EMF constant	mV/rpm	0.57	0.49
Torque constant	mNm/A	5.5	4.7
Terminal inductance	mH	0.65	0.46
Speed/torque gradient	rpm/mNm	3140	3020
Rotor inertia		1	1
Weight	g	5.4	5.4
Thermal resistance housing-ambient	K/W	28.4	28.4
Thermal resistance winding-housing	K/W	23.6	23.6
Terminal resistance	Ω	10	7
Thermal time constant motor	s	65	65
Thermal time constant winding	s	105	105
Operating temperature	°C	-40~+120	-40~+120
Thermal class of winding	°C	155	155
Axial play	mm	0.012	0.012
Radial play	mm	0.008	0.008
Axial load dynamic	N	1	1
Axial load static	N	25	25
Radial load at 3 mm from mounting face	N	6.3	6.3
No. of pole pairs		5	5
No-load speed	rpm	14200	14200
Bearings		2 ball bearings	2 ball bearings
Commutation		Hall Sensor	Hall Sensor
Protection class	IP	40	40
Outer diameter	mm	13.8 +/- 0.1	13.8 +/- 0.1
Motor length	mm	9.5 +/- 0.1	9.5 +/- 0.1
No-load current	A	0.08	0.09
Stall torque	mNm	4.5	4.6
Stall current	A	0.9	1.08
Nominal torque	mNm	1.3	1.5

Motor Specifications	Unit	BO1410NBH2B01-142-9.0	BO1410NBH2B02-142-7.6
Nominal speed	rpm	7950	7650
Nominal current	A	0.35	0.43

Drawings



14mm Sensorless BLDC Outer Rotor Motor

BO1412N2B

BO1412N2B 14mm Sensorless BLDC Outer Rotor Motor Series delivers high-performance motion solutions in a remarkably compact form factor. Designed for applications where efficiency, low weight, and reliability are paramount, this family is particularly well-suited to **UAVs** and **aeromodelling** platforms.



- **Size & Design:** 14mm diameter outer rotor configuration ensures a high torque-to-size ratio for space-constrained environments.
- **Sensorless Operation:** Robust sensorless technology eliminates the need for position sensors, minimizing weight, simplifying assembly, and enhancing durability.
- **Customizability:** Extensive options include adjustable lead wire length, shaft extension, special coil windings, gearheads, bearing types, Hall-sensors, encoders, and drivers. This flexibility enables tailored solutions for unique engineering needs.
- **Application Focus:** Optimized for UAV propulsion, model aircraft, and precision-driven projects requiring lightweight, responsive motors.
- **Performance Benefits:** Low maintenance, smooth and quiet operation, and outstanding efficiency in demanding environments.

The BO1412N2B series is the premium choice for engineers seeking adaptable, high-performing sensorless BLDC motors in compact applications. Configure the ideal motor solution with our broad range of factory options.

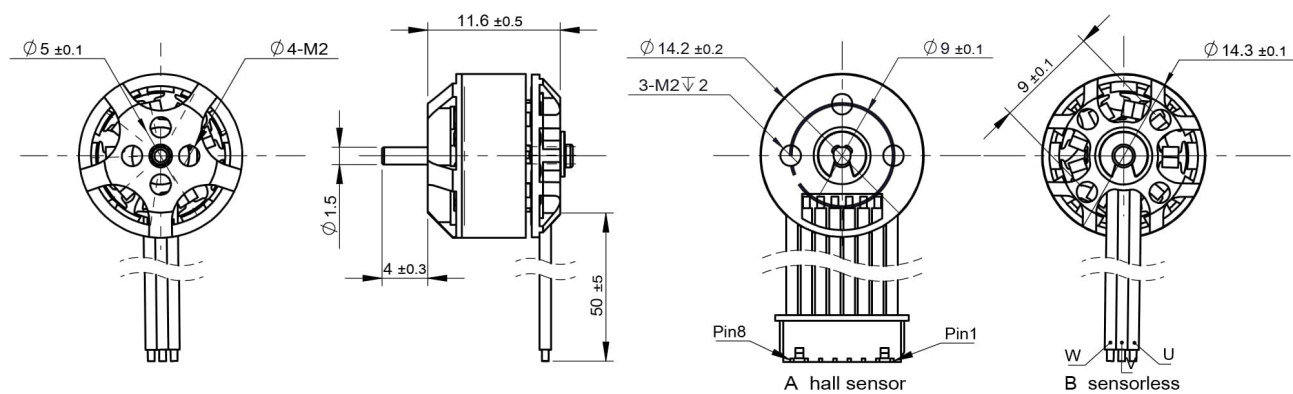


<https://www.kocomotion.de/produkt/bo1412n2b/>

Motor Characteristics	Unit	B01412N2B04-308-5.0	B01412N2B05-309-7.4	B01412N2B06-330-12.0
Rated voltage	V	5.0	7.4	12.0
Max. output power	W	33	33	42
Max. efficiency	%	74	76	77
Back-EMF constant	mV/rpm	0.16	0.23	0.35
Torque constant	mNm/A	1.5	2.25	3.42
KV Value	rpm/V	6160	4180	2750
Speed/torque gradient	rpm/mNm	751	753	673
Rotor inertia	gcm ²	0.98	0.98	0.98
Weight	g	6	6	6
Thermal resistance housing-ambient	K/W	26.8	26.8	26.8
Thermal resistance winding-housing	K/W	0.52	0.52	0.52
Terminal resistance	Ω	0.18	0.4	0.82
Thermal time constant motor	s	226	226	226
Thermal time constant winding	s	200	200	200
Operating temperature	°C	-40~+100	-40~+100	-40~+100
Thermal class of winding	°C	180	180	180
Axial play	mm	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	1.5	1.5	1.5
Axial load static	N	37	37	37
Radial load at 3 mm from mounting face	N	12	12	12
No. of pole pairs		6	6	6
No-load speed	rpm	30800	30900	33000
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Sensorless	Sensorless	Sensorless
Protection class	IP	20	20	20
Outer diameter A hall sensor	mm	14.2 +/- 0.2	14.2 +/- 0.2	14.2 +/- 0.2
Outer diameter B sensorless	mm	14.3 +/- 0.1	14.3 +/- 0.1	14.3 +/- 0.1
Motor length	mm	11.6 +/- 0.5	11.6 +/- 0.5	11.6 +/- 0.5
No-load current	A	0.5	0.28	0.2
Stall torque	mNm	41	41	49

Motor Characteristics	Unit	B01412N2B04-308- 5.0	B01412N2B05-309- 7.4	B01412N2B06-330- 12.0
Stall current	A	27	18	15
Nominal torque	mNm	5	8	9
Nominal speed	rpm	22600	21200	24200
Nominal current	A	3.4	3.4	2.5

Drawings



16mm Sensorless BLDC Outer Rotor Motor

BO1615N

The **BO1615N** is a precision-engineered 16mm brushless DC (BLDC) outer rotor motor optimized for sensorless operation. This miniature motor is specifically designed for applications requiring high efficiency, compact size, and reliable performance in demanding environments.



- **Advanced Outer Rotor Design:** Enhances torque density and thermal performance in a 16mm diameter footprint.
- **Sensorless Operation:** Reduces mechanical complexity and increases reliability for maintenance-free operation.
- **Versatile Customization:** Options include various shaft lengths, tailor-made coils, gear heads, bearing types, encoders, and driver compatibility to match exact application needs.

This motor family is particularly well-suited for **UAV propulsion, aeromodelling**, and other precision motion applications where weight-to-power ratio and reliability are critical. The BO1615N's compact profile makes it ideal for integration into tight spaces without compromising on dynamic performance.

- **Key Applications:** UAVs, aeromodelling, robotics, light automation devices.
- **Benefits:** High torque-to-size ratio, smooth sensorless control, and a wide range of configuration options.

Choose the BO1615N motor series to ensure high precision and adaptability in your motion control systems.

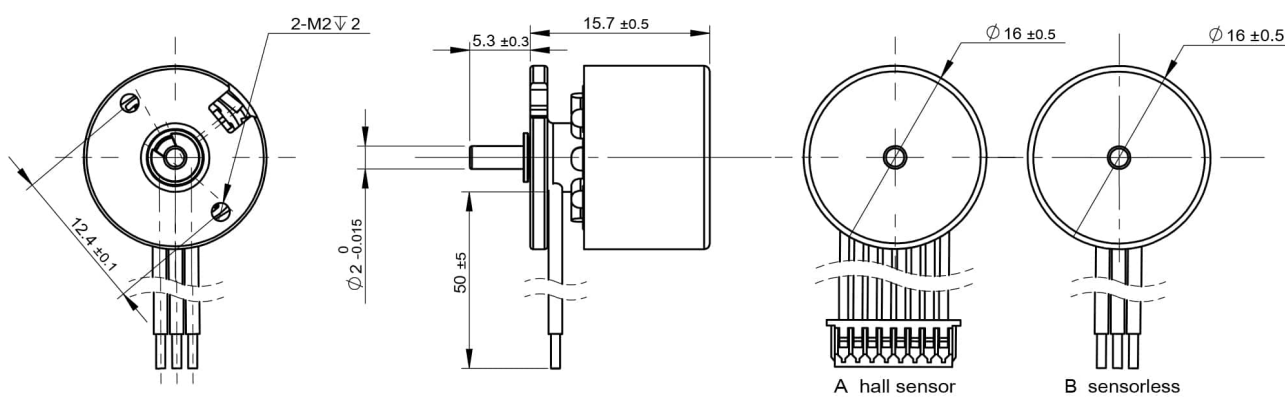


<https://www.kocomotion.de/produkt/bo1615n/>

Motor Specifications	Unit	B01615N01-73-3.7
Rated voltage	V	3.7
Max. output power	W	4.5
Max. efficiency	%	69
Back-EMF constant	mV/rpm	0.5
Torque constant	mNm/A	4.7
KV Value	rpm/V	1970
Speed/torque gradient	rpm/mNm	304
Rotor inertia	gcm ²	1.7
Weight	g	13
Thermal resistance housing-ambient	K/W	7.9
Thermal resistance winding-housing	K/W	6.4
Terminal resistance	Ω	0.68
Thermal time constant motor	s	123
Thermal time constant winding	s	100
Operating temperature	°C	-40~+120
Thermal class of winding	°C	155
Axial play	mm	0.012
Radial play	mm	0.008
Axial load dynamic	N	1
Axial load static	N	25
Radial load at 3 mm from mounting face	N	6.3
No. of pole pairs		5
No-load speed	rpm	7300
Bearings		N/A
Commutation		Sensorless
Protection class	IP	20
Outer diameter	mm	16 +/- 0.5
Motor length	mm	15.7 +/- 0.5
No-load current	A	0.15
Stall torque	mNm	24.9
Stall current	A	5.5
Nominal torque	mNm	4

Motor Specifications	Unit	B01615N01-73-3.7
Nominal speed	rpm	5930
Nominal current	A	0.105

Drawings



17mm Outer Rotor Sensorless BLDC Motor

BO1709NB2B

The BO1709NB2B is a high-performance 17mm outer rotor brushless DC (BLDC) motor, featuring a sensorless drive design to ensure reliable, maintenance-free operation in precision motion systems.

- **Compact and efficient:** 17mm diameter outer rotor delivers high torque density and smooth rotation at low noise levels.
- **Sensorless technology:** Reduces complexity and increases reliability by eliminating the need for external rotor position sensors.
- **Versatile customization options:** Available shaft lengths, special coil windings, gear head adaptations, bearing types, hall-sensor, encoder, and integrated driver options for tailored system integration.

Applications:

- UAV gimbal stabilization systems
- Handheld gimbals for professional video and imaging
- LiDAR rotational drives
- Precision laser scanning mechanisms

Key Benefits:

- Sensorless operation minimizes maintenance and extends service life
- Customizable features support a wide range of application-specific requirements
- High dynamic response and positioning accuracy suitable for advanced automation and robotics

The BO1709NB2B family is engineered to meet the rigorous demands of modern motion control in compact, high-precision environments.



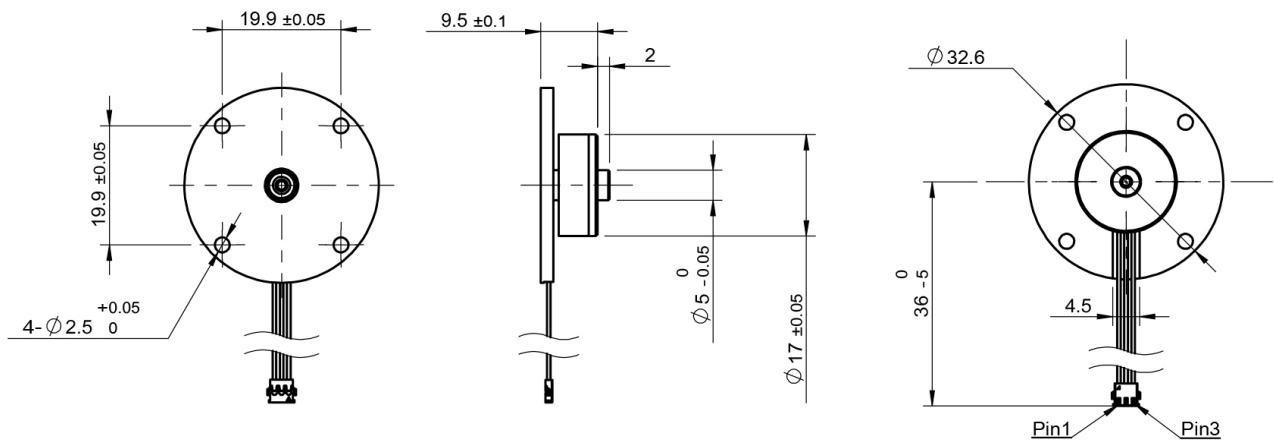
<https://www.kocomotion.de/produkt/bo1709nb2b/>



Motor Specifications	Unit	BO1709NB2B02-260-5.0	BO1709NB2B01-260-10.0	BO1709NB2B03-260-15.0
Rated voltage	V	5.0	10.0	15.0
Max. output power	W	5.1	5.2	5.0
Max. efficiency	%	59	59	59
Back-EMF constant	mV/rpm	0.182	0.365	0.546
Torque constant	mNm/A	1.7	3.4	5.2
KV Value	rpm/V	5200	2600	1700
Speed/torque gradient	rpm/mNm	3460	3384	3540
Rotor inertia	gcm ²	1.2	1.2	1.2
Weight	g	8.8	8.8	8.8
Thermal resistance housing-ambient	K/W	15.4	15.4	15.4
Terminal resistance	Ω	1.1	4.3	10
Thermal resistance winding-housing	K/W	13.6	13.6	13.6
Thermal time constant motor	s	128	128	128
Thermal time constant winding	s	43	43	43
Operating temperature	°C	-40~+120	-40~+120	-40~+120
Thermal class of winding	°C	155	155	155
Axial play	mm	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	1.5	1.5	1.5
Axial load static	N	3.7	3.7	3.7
Radial load at 3 mm from mounting face	N	12	12	12
No-load speed	rpm	26000	26000	26000
No. of pole pairs		4	4	4
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Sensorless	Sensorless	Sensorless
Protection class	IP	20	20	20
Outer diameter	mm	17 +/- 0.5	17 +/- 0.5	17 +/- 0.5
Motor length	mm	9.5 +/- 0.1	9.5 +/- 0.1	9.5 +/- 0.1
No-load current	A	0.24	0.12	0.08

Motor Specifications	Unit	B01709NB2B02-260-5.0	B01709NB2B01-260-10.0	B01709NB2B03-260-15.0
Stall torque	mNm	7.5	7.6	7.3
Stall current	A	4.55	2.3	1.48
Nominal torque	mNm	1.9	1.9	1.9
Nominal speed	rpm	16250	16400	16120
Nominal current	A	1.37	0.68	0.45

Drawings

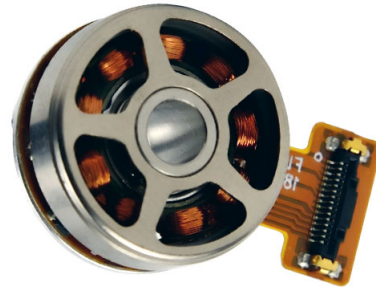


18mm Sensorless BLDC Outer Rotor Motor

BO1808NBH2B

BO1808NBH2B - 18mm Sensorless BLDC Outer Rotor Motor

The BO1808NBH2B family features high-performance 18mm brushless DC outer rotor motors specifically designed for precise, sensorless operation in space-constrained environments. Its robust design and efficient architecture make it the ideal choice for applications demanding low noise, smooth motion, and long operational life.



• Key Features:

- Compact 18mm outer rotor construction for enhanced torque in limited spaces
- Sensorless drive technology for simplified integration and reduced component count
- Quiet and highly efficient design suited for precision motion tasks
- Configurable options including shaft length, special winding/coils, gear heads, and bearing types
- Available with Hall sensors, encoders, or integrated drivers for advanced feedback or control

• Applications:

- UAV and handheld gimbals demanding stable, accurate movement
- LiDAR and laser scanners requiring precise, reliable rotational performance

• Benefits:

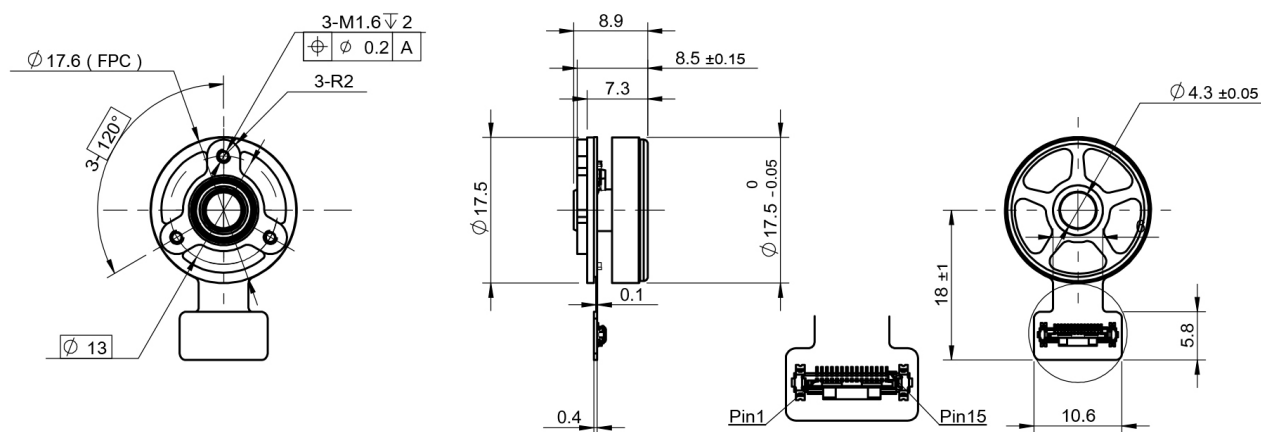
- Flexible customization for seamless integration into various mechatronics solutions
- Reliable sensorless operation minimizes maintenance and increases system uptime
- Optimized for high-precision, low-vibration motion control in advanced automation systems


<https://www.kocomotion.de/produkt/bo1808nbh2b/>

Motor Specifications	Unit	B01808NBH2B01-144-11.4	B01808NBH2B03-144-7.6
Rated voltage	V	11.4	7.6
Max. efficiency	%	37.1	37.2
Back-EMF constant	mV/rpm	0.67	0.44
Torque constant	mNm/A	6.4	4.2
Terminal inductance	mH	0.74	0.33
Speed/torque gradient	rpm/mNm	3320	3350
Rotor inertia	gcm ²	1.4	1.4
Weight	g	6.5	6.5
Thermal resistance housing-ambient	K/W	36.8	36.8
Thermal resistance winding-housing	K/W	2.4	2.4
Thermal time constant motor	s	65	65
Terminal resistance	Ω	14.4	6.4
Thermal time constant winding	s	105	105
Operating temperature	°C	-40~+120	-40~+120
Thermal class of winding	°C	155	155
Axial play	mm	0.012	0.012
Radial play	mm	0.008	0.008
Axial load dynamic	N	1	1
Axial load static	N	25	25
Radial load at 3 mm from mounting face	N	6.3	6.3
No. of pole pairs		4	4
Bearings		2 ball bearings	2 ball bearings
No-load speed	rpm	14300	14300
Commutation		Hall-sensor	Hall-sensor
Protection class	IP	20	20
Outer diameter	mm	17.5	17.5
Motor length	mm	8.5 +/- 0.15	8.5 +/- 0.15
No-load current	A	0.12	0.18
Stall torque	mNm	4.3	4.28
Stall current	A	0.8	1.19
Nominal torque	mNm	1.2	1.2
Nominal speed	rpm	7790	7830

Motor Specifications	Unit	BO1808NBH2B01-144-11.4	BO1808NBH2B03-144-7.6
Max. output power	W	1.61	1.6

Drawings



18mm Sensorless BLDC Outer Rotor Motor

B01812N2B

B01812N2B Series — 18mm Sensorless BLDC Outer Rotor Motors

- **Form Factor:** Compact 18mm outer rotor design supports applications where size and weight are critical.
- **Sensorless Technology:** Eliminates the need for Hall sensors, reducing complexity and enhancing durability in challenging environments.
- **Application Flexibility:** Widely deployed in UAVs, drones, and aeromodelling, offering high torque density and precise performance for airborne and lightweight systems.
- **Customization:** Multiple options including lead wires length, shaft length, special coil configurations, gear heads, encoder, driver integration, and bearing type adaptation ensure seamless system integration and address unique customer requirements.



With robust engineering and attention to precision, the B01812N2B series delivers consistent, high-efficiency motion control for demanding industrial and hobbyist applications. The modular design facilitates easy customization to match project-specific needs, whether optimizing for minimal weight, improved control, or extended operating life. Proven in high-performance UAVs and precision aeromodels, these motors are the professionalism standard for reliable, compact actuation in dynamic environments.

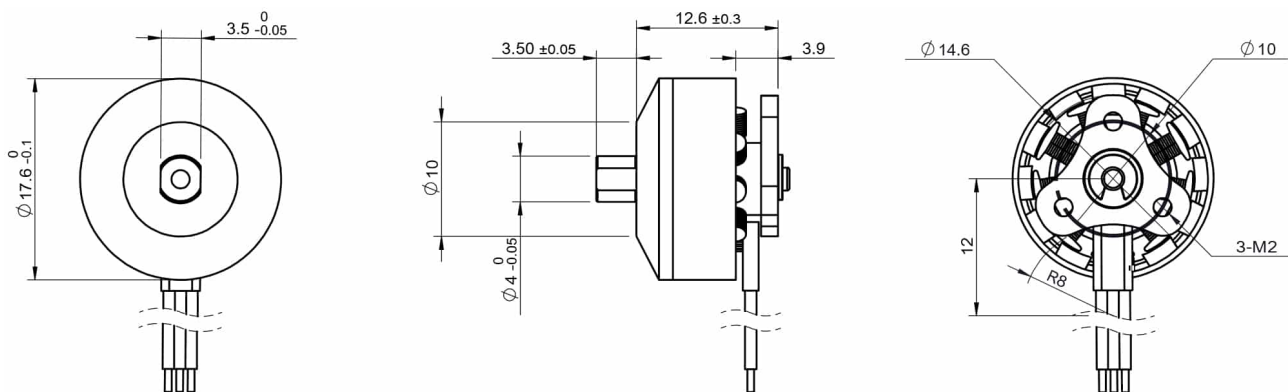


<https://www.kocomotion.de/produkt/bo1812n2b/>

Characteristics	Unit	BO1812N2B01-158-6.0	BO1812N2B02-158-9.0	BO1812N2B03-158-12.0
Rated voltage	V	6.0	9.0	12.0
Max. output power	W	20.6	20.7	20.7
Max. efficiency	%	81.2	80.0	80.2
Back-EMF constant	mV/rpm	0.38	0.56	0.75
Torque constant	mNm/A	3.6	5.4	7.2
KV Value	rpm/V	2630	1750	1320
Speed/torque gradient	rpm/mNm	318.4	316.8	315.5
Rotor inertia	gcm ²	2.1	2.1	2.1
Weight	g	11	11	11
Thermal resistance housing-ambient	K/W	10.6	10.6	10.6
Thermal resistance winding-housing	K/W	14.6	14.6	14.6
Terminal resistance	Ω	0.43	0.96	1.70
Thermal time constant motor	s	142	142	142
Thermal time constant winding	s	99	99	99
Operating temperature	°C	-40~+120	-40~+120	-40~+120
Thermal class of winding	°C	180	180	180
Axial play	mm	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	1.5	1.5	1.5
Axial load static	N	37	37	37
Radial load at 3 mm from mounting face	N	12	12	12
No. of pole pairs		6	6	6
No-load speed	rpm	15800	15800	15800
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Sensorless	Sensorless	Sensorless
Protection class	IP	20	20	20
Outer diameter	mm	17.6 - 0.1	17.6 - 0.1	17.6 - 0.1
Motor length	mm	12.6 +/- 0.3	12.6 +/- 0.3	12.6 +/- 0.3
No-load current	A	0.14	0.10	0.08
Stall torque	mNm	49.6	49.9	50.1
Stall current	A	14.0	9.4	7.1
Nominal torque	mNm	9.4	10	10

Characteristics	Unit	B01812N2B01-158-6.0	B01812N2B02-158-9.0	B01812N2B03-158-12.0
Nominal speed	rpm	9690	9580	10200
Nominal current	A	2.1	2.1	1.5

Drawings



20mm BLDC Outer Rotor Motor w/ Hall Sensor

BO2008NBH2B

BO2008NBH2B Series: Precision 20mm BLDC Outer Rotor Motors with Hall Sensor

- **Compact & Lightweight:** 20mm outer rotor design enables high torque density in a minimal footprint, ideal for applications with strict space and weight constraints.
- **Hall Sensor Integration:** Built-in Hall sensors provide accurate position feedback for smooth commutation, enabling closed-loop speed and position control.
- **Flexible Customization:** User-selectable options include shaft length, special coil winding, various gear heads, bearing types, encoders, Hall sensor configuration, and compatible drivers. These options allow adaptation to diverse system requirements.



Applications

- UAV gimbals: Achieve precise and stable camera positioning in aerial platforms.
- Handheld gimbals: Ensure smooth, reliable stabilization for compact mobile imaging devices.
- LiDAR and laser scanners: Support high-resolution, dynamic scanning tasks where smooth, controlled motion is critical.

Key Benefits

- Efficient, low-vibration operation for sensitive optical systems.
- Consistent performance in continuous or intermittent duty cycles.
- Versatile integration, supporting a range of advanced automation and motion control solutions.

Choose the BO2008NBH2B family when precision, reliability, and customization are paramount in compact motion axis solutions.

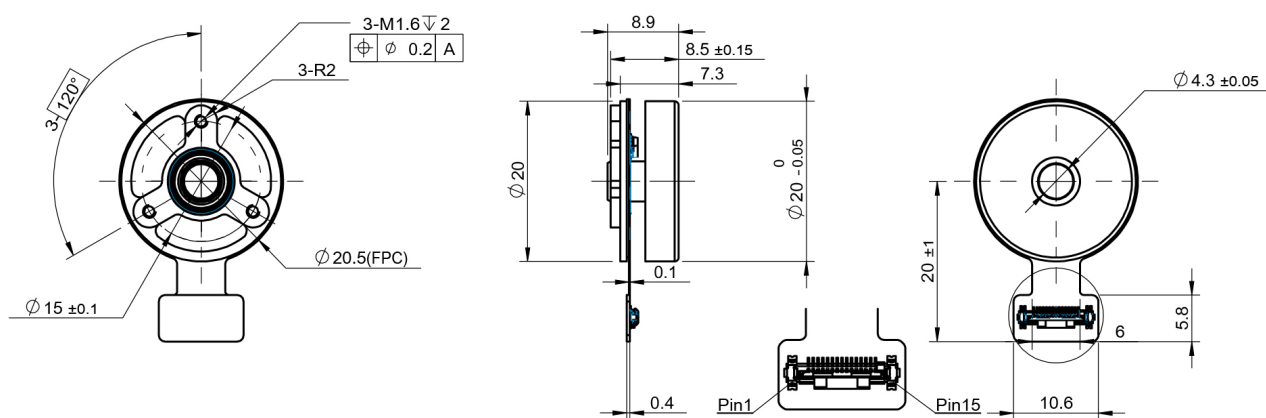


<https://www.kocomotion.de/produkt/bo2008nbh2b/>

Motor Specifications	Unit	B02008NBH2B01-72-11.4	B02008NBH2B02-72-7.6
Rated voltage	V	11.4	7.6
Max. output power	W	1	1
Max. efficiency	%	43.8	43.8
Back-EMF constant	mV/rpm	1.4	0.93
Torque constant	mNm/A	13.4	8.9
Terminal inductance	mH	2.6	1
Speed/torque gradient	rpm/mNm	1384	2951
Rotor inertia	gcm ²	2	2
Weight	g	6.8	6.8
Thermal resistance housing-ambient	K/W	28.9	28.9
Thermal resistance winding-housing	K/W	8.6	8.6
Terminal resistance	Ω	26	11.5
Thermal time constant motor	s	135	135
Thermal time constant winding	s	165	165
Operating temperature	°C	-40~+120	-40~+120
Thermal class of winding	°C	155	155
Axial play	mm	0.012	0.012
Radial play	mm	0.008	0.008
Axial load dynamic	N	1.5	1.5
Axial load static	N	37	37
Radial load at 3 mm from mounting face	N	12	12
No. of pole pairs		4	4
No-load speed	rpm	7200	7200
Bearings		2 ball bearings	2 ball bearings
Commutation		hall sensor	hall sensor
Protection class	IP	20	20
Outer diameter	mm	20 +/- 1	20 +/- 1
Motor length	mm	8.5 +/- 0.15	8.5 +/- 0.15
No-load current	A	0.05	0.075
Stall torque	mNm	5.2	5.2
Stall current	A	0.438	0.657
Nominal torque	mNm	2.8	2.8

Motor Specifications	Unit	BO2008NBH2B01-72-11.4	BO2008NBH2B02-72-7.6
Nominal speed	rpm	1080	1080
Nominal current	A	0.3	0.409

Drawings



20mm BLDC Outer Rotor Motor, Sensorless

BO2010NB2B

The **BO2010NB2B** family encompasses high-performance 20mm BLDC outer rotor motors with sensorless operation, designed for precision and efficiency in space-constrained environments. Its advanced outer rotor architecture delivers superior torque density and smooth, quiet motion—ideal for sophisticated motion control demands.



- **Key Features:**

- 20mm diameter compact outer rotor design
- Sensorless drive for reduced wiring complexity and reliable feedback
- Customizable shaft length and special coil windings to match specific application needs
- Support for optional gear heads, hall-sensors, encoders, driver integration, and bearings

- **Typical Applications:**

- UAV gimbals
- Handheld gimbals
- LiDAR systems
- Laser scanners

- **Benefits:**

- Exceptional weight-to-performance ratio for mobile and portable devices
- Flexible configuration enables rapid adaptation to diverse engineering requirements
- Optimized motion precision enhances data accuracy for scanning and stabilization

This motor family is engineered for OEM integration where compactness, low inertia, and smooth, vibration-free operation are paramount. Multiple customization options and robust performance make it the choice for advanced automation and sensing systems seeking reliable, efficient rotor solutions.

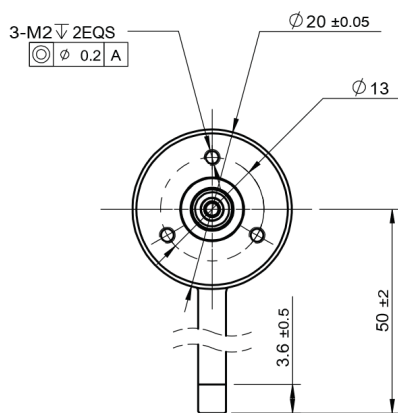


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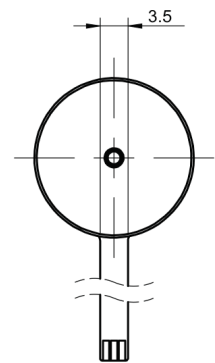
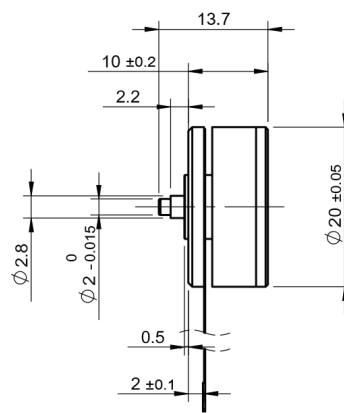
Characteristics	Unit	BO2010NB2B14-280-6.0	BO2010NB2B13-277-9.0	BO2010NB2B11-280-12.0
Rated voltage	V	6.0	9.0	12.0
Nominal current	A	2.2	1.5	1.0
Max. output power	W	15.0	13.8	15
Max. efficiency	%	65	63	65
Back-EMF constant	mV/rpm	0.2	0.31	0.4
Torque constant	mNm/A	1.97	2.97	3.9
Speed/torque gradient	rpm/mNm	1351	1456	1311
Rotor inertia	g·cm ²	2.8	2.8	2.8
Weight	g	11	11	11
Thermal resistance housing-ambient	K/W	12.5	12.5	12.5
Thermal resistance winding-housing	K/W	12	12	12
Terminal resistance	Ω	0.55	1.35	2.2
Thermal time constant motor	s	354	354	354
Thermal time constant winding	s	15	15	15
Operating temperature	°C	-40~+120	-40~+120	-40~+120
Thermal class of winding	°C	155	155	155
Axial play	mm	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	1.5	1.5	1.5
Axial load static	N	37	37	37
Radial load at 3 mm from mounting face	N	12	12	12
No. of pole pairs		4	4	4
Terminal inductance	mH	0.07	0.16	0.29
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Sensorless	Sensorless	Sensorless
Protection class	IP	20	20	20
Outer diameter	mm	20 +/- 0.5	20 +/- 0.5	20 +/- 0.5
Motor length	mm	10 +/- 0.2	10 +/- 0.2	10 +/- 0.2
No-load speed	rpm	28000	27750	28000
No-load current	A	0.4	0.27	0.2
Stall torque	mNm	20.7	19	20.7

Characteristics	Unit	BO2010NB2B14-280- 6.0	BO2010NB2B13-277- 9.0	BO2010NB2B11-280- 12.0
Stall current	A	10.9	6.6	5.5
Nominal torque	mNm	3.5	3.5	3.5
Nominal speed	rpm	23240	22820	21420

Drawings



2D drawing BO2010NB2B



20mm Sensorless BLDC Outer Rotor Motors

BO2015NB2B

The **BO2015NB2B** family comprises 20mm brushless DC outer rotor motors utilizing advanced sensorless technology for efficient and reliable performance. Engineered for applications requiring compact footprints and precise, smooth rotation, these motors deliver optimal motion control where space and weight are critical.



• Key Features:

- Compact 20mm outer rotor design for superior torque-to-size ratio
- Sensorless operation for reduced wiring and simplified integration
- Rugged construction for consistent, low-vibration performance
- Available with customizable options: lead wires length, shaft length, special coil windings, gear head compatibility, bearing types, as well as optional Hall sensors, encoders, and driver modules

• Typical Applications:

- UAV and handheld gimbals for stabilized camera platforms
- LiDAR and laser scanner systems demanding precise and quiet motion

• Benefits:

- Enhances system reliability and minimizes downtime
- Flexible configuration supports a wide range of technical requirements
- Optimized for integration into tight spaces and lightweight designs

The BO2015NB2B series is the preferred solution for engineers seeking compact, high-performance motion control in advanced imaging and scanning systems.

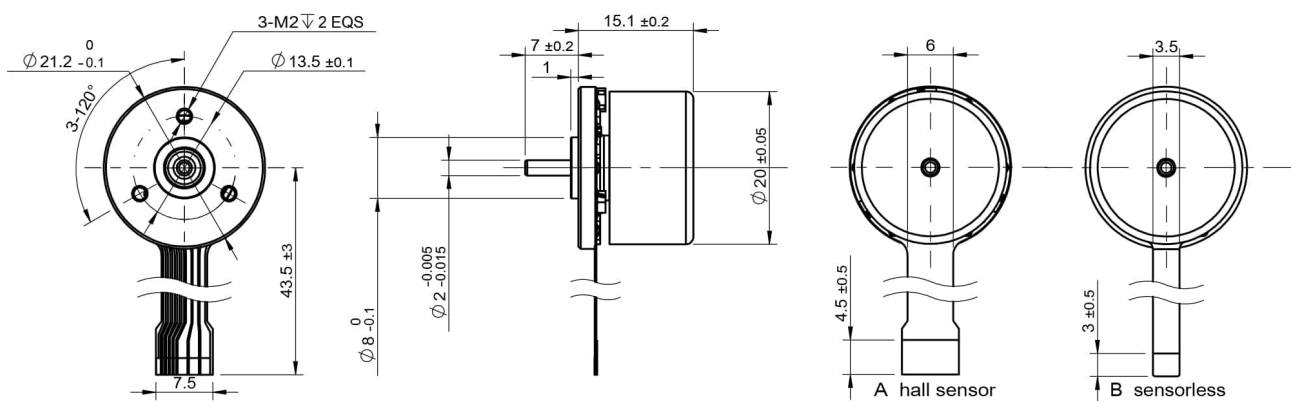


<https://www.kocomotion.de/produkt/bo2015nb2b/>

Motor Characteristics	Unit	B02015NBH2B22-113- 6.0	B02015NBH2B03-113- 12.0	B02015NBH2B19-113- 24.0
Rated voltage	V	6.0	12.0	24.0
Nominal current	A	2	1	0.5
Max. output power	W	8.7	9	7.9
Max. efficiency	%	70	71	69
Back-EMF constant	mV/rpm	0.5	1	2
Torque constant	mNm/A	4.9	9.9	17.7
Speed/torque gradient	rpm/mNm	385	370	420
Rotor inertia	gcm ²	6.7	6.7	6.7
Weight	g	21	21	21
Thermal resistance housing-ambient	K/W	9.5	9.5	9.5
Thermal resistance winding-housing	K/W	8	8	8
Terminal resistance	Ω	0.98	3.8	17.1
Thermal time constant motor	s	354	354	354
Thermal time constant winding	s	23	23	23
Operating temperature	°C	-40~+120	-40~+120	-40~+120
Thermal class of winding	°C	155	155	155
Axial play	mm	0.012	0.012	0.012
Radial play	mm	0.08	0.08	0.08
Axial load dynamic	N	1.5	1.5	1.5
Axial load static	N	37	37	37
Radial load at 3 mm from mounting face	N	12	12	12
No. of pole pairs		4	4	4
Terminal inductance	mH	0.15	0.63	2.52
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Sensorless	Sensorless	Sensorless
Protection class	IP	20	20	20
Outer diameter	mm	20 +/- 0.05	20 +/- 0.05	20 +/- 0.05
Motor length	mm	15.1 +/- 0.2	15.1 +/- 0.2	15.1 +/- 0.2
No-load speed	rpm	11300	11300	11300

Motor Characteristics	Unit	BO2015NBH2B22-113- 6.0	BO2015NBH2B03-113- 12.0	BO2015NBH2B19-113- 24.0
No-load current	mA	0.16	0.08	0.04
Stall torque	mNm	29.2	30.4	26.8
Stall current	A	6	3.2	1.4
Nominal torque	mNm	9.1	9.1	9.1
Nominal speed	rpm	7790	6440	7450

Drawings



23mm Sensorless BLDC Outer Rotor Motor

B02316N2B

B02316N2B is a robust 23mm BLDC outer rotor motor engineered for precision and high performance in compact motion control systems. Incorporating sensorless technology, this motor eliminates the need for external position sensors, simplifying installation and reducing overall system complexity.



- **Key Features:**

- Outer rotor, sensorless design for high efficiency and reduced mechanical wear
- Compact 23mm diameter for space-limited applications
- Options for customizable lead wire length and shaft length
- Availability of special coil configurations and gear heads
- Selectable bearing types, encoder integration, and driver compatibility

- **Typical Applications:**

- UAV propulsion systems requiring lightweight, reliable motors
- Aeromodelling, where compact size and efficiency are essential

- **Benefits:**

- High reliability and long service life due to sensorless operation
- Exceptional flexibility for OEM customization
- Consistent performance ideal for demanding environments and precision tasks

The B02316N2B family is a versatile solution for professionals seeking precision, efficiency, and adaptability in advanced motion control applications.

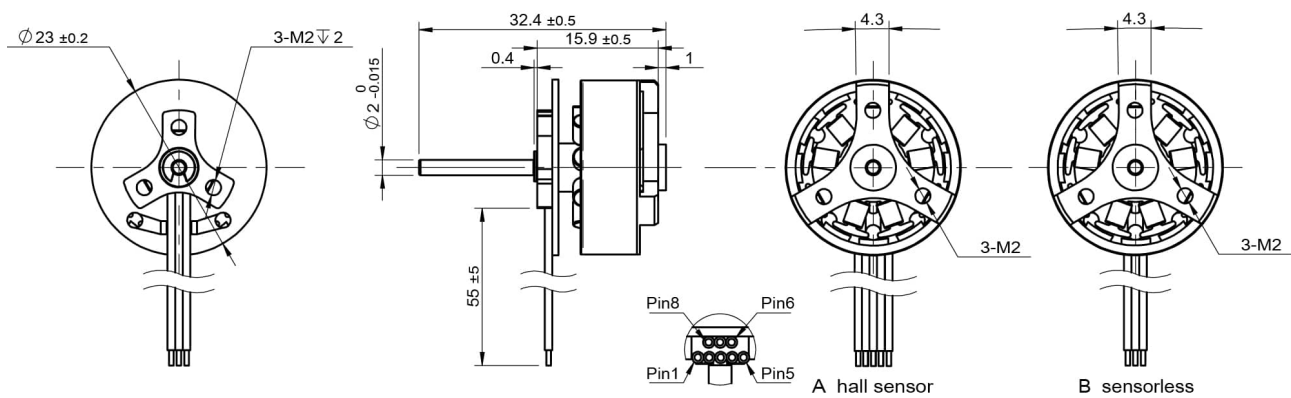


<https://www.kocomotion.de/produkt/bo2316n2b/>

Motor Characteristics	Unit	BO2316N2B01-170-6.0	BO2316N2B02-170-9.0	BO2316N2B03-170-12.0
Rated voltage	V	6.0	9.0	12.0
Max. output power	W	70	71	79
Max. efficiency	%	83.6	83.5	83.6
Back-EMF constant	mV/rpm	0.4	0.5	0.7
Torque constant	mNm/A	3.4	5.0	6.7
KV Value	rpm/V	2810	1887	1420
Speed/torque gradient	rpm/mNm	106.6	105.9	96.4
Rotor inertia	gcm ²	6.3	6.3	6.3
Weight	g	15	15	15
Thermal resistance housing-ambient	K/W	3	3	3
Thermal resistance winding-housing	K/W	2.5	2.5	2.5
Terminal resistance	Ω	0.13	0.28	0.45
Thermal time constant motor	s	160	160	160
Thermal time constant winding	s	26	26	26
Operating temperature	°C	-40~+120	-40~+120	-40~+120
Thermal class of winding	°C	180	180	180
Axial play	mm	0.014	0.014	0.014
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	5	5	5
Axial load static	N	80	80	80
Radial load at 3 mm from mounting face	N	29	29	29
No. of pole pairs		6	6	6
No-load speed	rpm	17000	17000	17000
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Sensorless	Sensorless	Sensorless
Protection class	IP	20	20	20
Outer diameter	mm	23 +/- 0.2	23 +/- 0.2	23 +/- 0.2
Motor length	mm	15.9 +/- 0.5	15.9 +/- 0.5	15.9 +/- 0.5
No-load current	A	0.34	0.24	0.19
Stall torque	mNm	158	160	177
Stall current	A	47.2	32.1	26.7

Motor Characteristics	Unit	B02316N2B01-170- 6.0	B02316N2B02-170- 9.0	B02316N2B03-170- 12.0
Nominal torque	mNm	30.4	30.0	30.0
Nominal speed	rpm	7310	9920	10560
Nominal current	A	8.1	6.3	4.9

Drawings



24mm Outer Rotor BLDC Motor, Sensorless

BO2414NBH2B

BO2414NBH2B sensorless BLDC outer rotor motors are engineered for high-performance motion control in compact devices requiring low noise and excellent torque density. With a 24mm diameter and outer rotor design, these motors deliver precise, stable rotation—making them perfect for applications where accuracy and efficiency are critical.



• Key Features:

- Sensorless drive for reduced wiring and increased reliability
- Outer rotor architecture for smoother motion and higher torque in a compact form factor
- Multiple shaft lengths and special coils available to match unique mechanical and electrical requirements
- Optional integration of gear heads, bearing types, Hall-sensors, encoders, and compatible drivers

• Typical Applications:

- UAV gimbals
- Handheld gimbals
- LiDAR systems
- Laser scanning instruments

• Benefits:

- High reliability in demanding environments
- Optimized for low vibration and noise, essential for sensitive optics and imaging
- Flexible customization to suit design and performance criteria

This motor family is the ideal choice for integrating high-precision motion in today's lightweight, high-performance automation platforms.

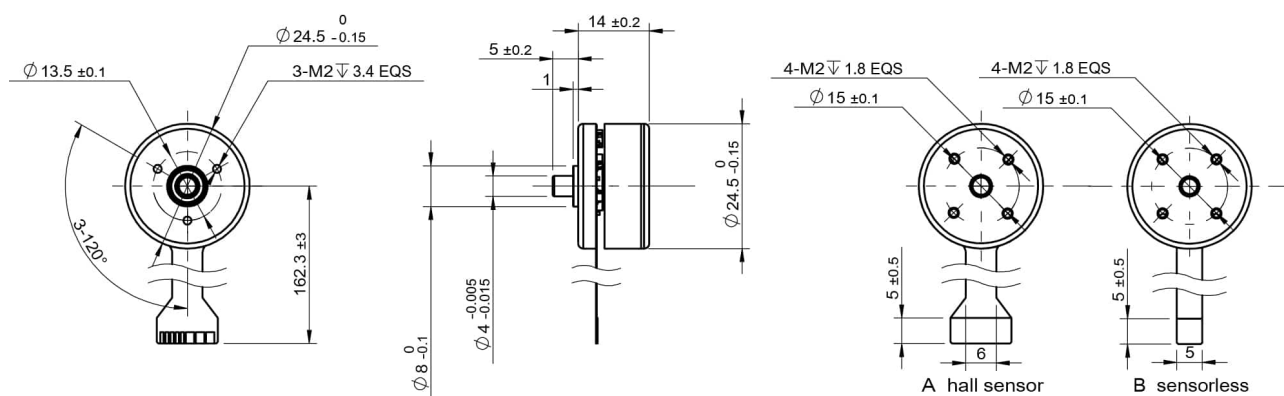


<https://www.kocomotion.de/produkt/bo2414nbh2b/>

Motor Specifications	Unit	B02414NBH2B05-80-12.0	B02414NBH2B11-81-18.0	B02414NBH2B10-81-24.0
Rated voltage	V	12.0	18.0	24.0
Max. output power	W	7.8	8.6	8.5
Max. efficiency	%	67.3	68	67
Back-EMF constant	mV/rpm	1.45	2.13	2.84
Torque constant	mNm/A	13.9	20.3	27.1
Terminal inductance	mH	1.3	2.81	4.99
Speed/torque gradient	rpm/mNm	214	204	204
Rotor inertia	gcm ²	7.2	7.2	7.2
Weight	g	21.5	21.5	21.5
Thermal resistance housing-ambient	K/W	13.7	13.7	13.7
Thermal resistance winding-housing	K/W	7.6	7.6	7.6
Terminal resistance	Ω	4.2	8.8	15.7
Thermal time constant motor	s	120	120	120
Thermal time constant winding	s	12	12	12
Operating temperature	°C	-40~+120	-40~+120	-40~+120
Thermal class of winding	°C	155	155	155
Axial play	mm	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	1.5	1.5	1.5
Axial load static	N	37	37	37
Radial load at 3 mm from mounting face	N	12	12	12
No. of pole pairs		6	6	6
No-load speed	rpm	8000	8160	8160
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Hall-sensor	Hall-sensor	Hall-sensor
Protection class	IP	20	20	20
Outer diameter	mm	24.5 - 0.15	24.5 - 0.15	24.5 - 0.15
Motor length	mm	14 +/- 0.2	14 +/- 0.2	14 +/- 0.2
No-load current	A	0.1	0.06	0.05

Motor Specifications	Unit	BO2414NBH2B05-80-12.0	BO2414NBH2B11-81-18.0	BO2414NBH2B10-81-24.0
Stall torque	mNm	37.4	39.8	39.9
Stall current	A	2.8	2	1.5
Nominal torque	mNm	12.3	12.3	12.3
Nominal speed	rpm	4480	5700	5670
Nominal current	A	0.9	0.65	0.5

Drawings



28mm Sensorless BLDC Outer Rotor Motor

B02814N2B

B02814N2B - 28mm Sensorless BLDC Outer Rotor Motor Family

- **Outer Rotor Design:** Maximizes torque density and cooling efficiency within a compact 28mm footprint, suitable for applications with strict size and weight constraints.
- **Sensorless Operation:** Advanced control algorithms enable reliable, maintenance-free use without external sensors, reducing complexity and increasing durability.
- **Versatile Customization:** Available with a range of options including variable lead wire and shaft lengths, special coil configurations, gear heads, encoders, and compatible drivers for system integration.



Applications

- Unmanned Aerial Vehicles (UAV)
- Aeromodelling and RC aircraft
- Other precision motion systems requiring high power-to-weight ratio

Key Benefits

- High efficiency and consistent performance in dynamic, lightweight environments
- Reduced wear and long-life operation due to the sensorless architecture
- Tailorable features to fit a variety of demanding use cases

This motor family is an optimal choice for engineers and OEMs seeking a reliable, compact, and efficient solution for aerospace and specialty automation applications.

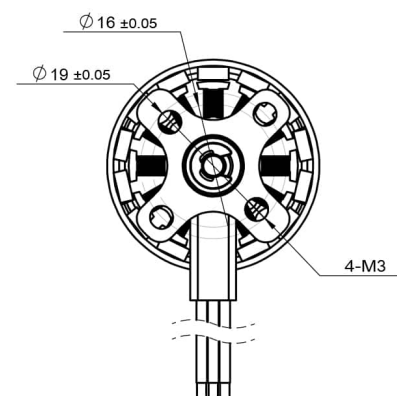
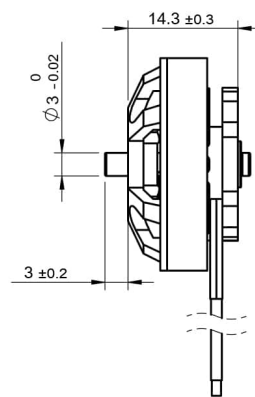
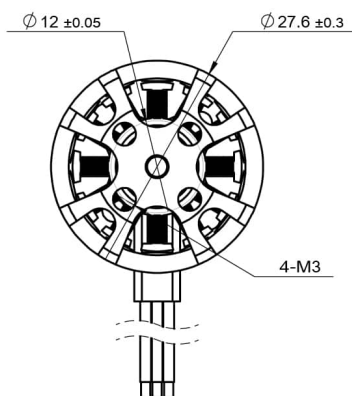


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Characteristics	Unit	B02814N2B01-153-12.0	B02814N2B02-153-24.0	B02814N2B03-153-36.0
Rated voltage	V	12.0	24.0	36.0
Max. output power	W	71	83	84
Max. efficiency	%	80.4	82	78.8
Back-EMF constant	mV/rpm	0.8	1.5	2.3
Torque constant	mNm/A	7.5	14.8	22.2
KV Value	rpm/V	1268	642	425
Speed/torque gradient	rpm/mNm	85.2	74.5	73.0
Rotor inertia	gcm ²	12	12	12
Weight	g	21	21	21
Thermal resistance housing-ambient	K/W	2.5	2.5	2.5
Thermal resistance winding-housing	K/W	2	2	2
Terminal resistance	Ω	0.50	1.70	3.77
Thermal time constant motor	s	180	180	180
Thermal time constant winding	s	25	25	25
Operating temperature	°C	-40~+120	-40~+120	-40~+120
Thermal class of winding	°C	180	180	180
Axial play	mm	0.014	0.014	0.014
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	5	5	5
Axial load static	N	80	80	80
Radial load at 3 mm from mounting face	N	29	29	29
No. of pole pairs		7	7	7
No-load speed	rpm	15300	15300	15300
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Sensorless	Sensorless	Sensorless
Protection class	IP	20	20	20
Outer diameter	mm	27.6 +/- 0.3	27.6 +/- 0.3	27.6 +/- 0.3
Motor length	mm	14.3 +/- 0.3	14.3 +/- 0.3	14.3 +/- 0.3
No-load current	A	0.26	0.12	0.12
Stall torque	mNm	179	207	209
Stall current	A	24.2	14.1	9.6

Characteristics	Unit	B02814N2B01-153- 12.0	B02814N2B02-153- 24.0	B02814N2B03-153- 36.0
Nominal torque	mNm	34.1	35.0	31
Nominal speed	rpm	9330	10390	10980
Nominal current	A	4.8	2.4	1.5

Drawings



28mm Sensorless BLDC Outer Rotor Motor

BO2820N2B

BO2820N2B 28mm BLDC Outer Rotor Motor - Sensorless

The BO2820N2B series represents a high-performance lineup of 28mm brushless DC outer rotor motors optimized for sensorless applications. With a compact form factor and advanced design, these motors deliver efficient, consistent torque and superior dynamic response, making them especially suitable for space- and weight-sensitive projects.



• Key Features:

- Sensorless BLDC operation for enhanced reliability and minimal maintenance
- Outer rotor construction for increased torque density and lower cogging
- Available in multiple voltages: 12V, 24V, and 36V
- Customizable options: lead wire and shaft length, specialized coil winding, gearheads, encoders, and integrated drivers

• Applications:

- Unmanned Aerial Vehicles (UAVs)
- Aeromodelling
- Precision robotics and lightweight automation solutions

• Benefits:

- Lightweight, compact, and highly efficient design
- Flexible configuration to suit diverse performance requirements
- Rugged, maintenance-free operation—ideal for demanding environments

With excellent adaptability and robust engineering, the BO2820N2B motor family is a preferred choice for OEMs and system integrators seeking high-performance motion solutions in aerial and compact automation platforms.

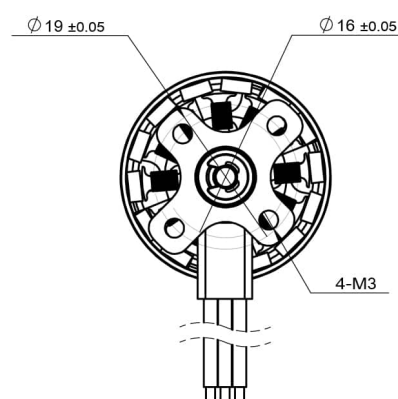
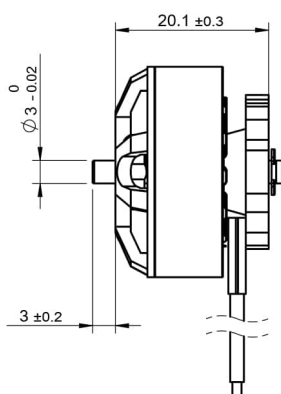
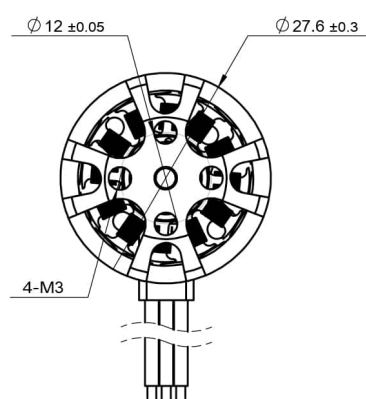


<https://www.kocomotion.de/produkt/bo2820n2b/>

Characteristics	Unit	B02820N2B01-140-12.0	B02820N2B02-140-24.0	B02820N2B03-140-36.0
Rated voltage	V	12.0	24.0	36.0
Max. output power	W	256	244	263
Max. efficiency	%	85.6	85.1	85.9
Back-EMF constant	mV/rpm	0.9	1.7	2.6
Torque constant	mNm/A	8.1	16.2	24.4
KV Value	rpm/V	1168	585	389
Speed/torque gradient	rpm/mNm	20.1	21.2	19.5
Rotor inertia	gcm ²	19	19	19
Weight	g	41	41	41
Thermal resistance housing-ambient	K/W	2.3	2.3	2.3
Thermal resistance winding-housing	K/W	2	2	2
Terminal resistance	Ω	0.14	0.58	1.22
Thermal time constant motor	s	280	280	280
Thermal time constant winding	s	37	37	37
Operating temperature	°C	-40~+120	-40~+120	-40~+120
Thermal class of winding	°C	180	180	180
Axial play	mm	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	5	5	5
Axial load static	N	80	80	80
Radial load at 3 mm from mounting face	N	29	29	29
No. of pole pairs		7	7	7
No-load speed	rpm	14000	14000	14000
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Sensorless	Sensorless	Sensorless
Protection class	IP	20	20	20
Outer diameter	mm	27.6 +/- 0.3	27.6 +/- 0.3	27.6 +/- 0.3
Motor length	mm	20.1 +/- 0.3	20.1 +/- 0.3	20.1 +/- 0.3
No-load current	A	0.48	0.24	0.16
Stall torque	mNm	698	664	718
Stall current	A	86.3	41.2	29.6

Characteristics	Unit	B02820N2B01-140- 12.0	B02820N2B02-140- 24.0	B02820N2B03-140- 36.0
Nominal torque	mNm	68.5	75	73
Nominal speed	rpm	10350	10680	11310
Nominal current	A	9.1	4.7	3.0

Drawings



28mm Sensorless BLDC Outer Rotor Motor

B02824N2B

The **B02824N2B** series is a high-performance family of 28mm brushless DC (BLDC) outer rotor motors featuring sensorless control for precise, maintenance-free operation. Engineered for demanding industrial and consumer applications, these motors deliver impressive efficiency and torque density within a compact footprint, ideal for integration into modern mechatronic systems.

- **Sensorless Operation:** Reliable electronic commutation eliminates the need for physical sensors, reducing wear and extending product lifespan.
- **High Integration Flexibility:** Available with a range of customizable options including shaft length, special coil configurations, gear heads, bearing types, hall-sensor feedback, encoders, and integrated drivers.
- **Precision Engineering:** Optimized for smooth and quiet performance, making it suitable for both industrial automation environments and high-end consumer products.

Typical Applications:

- Unmanned Aerial Vehicles (UAV)
- Automation equipment
- Electrical tools
- Smart home and IoT devices

Benefits: The B02824N2B series stands out for its versatility, robust construction, and adaptable design, accommodating a wide array of application requirements with optional advanced feedback and motion control features.



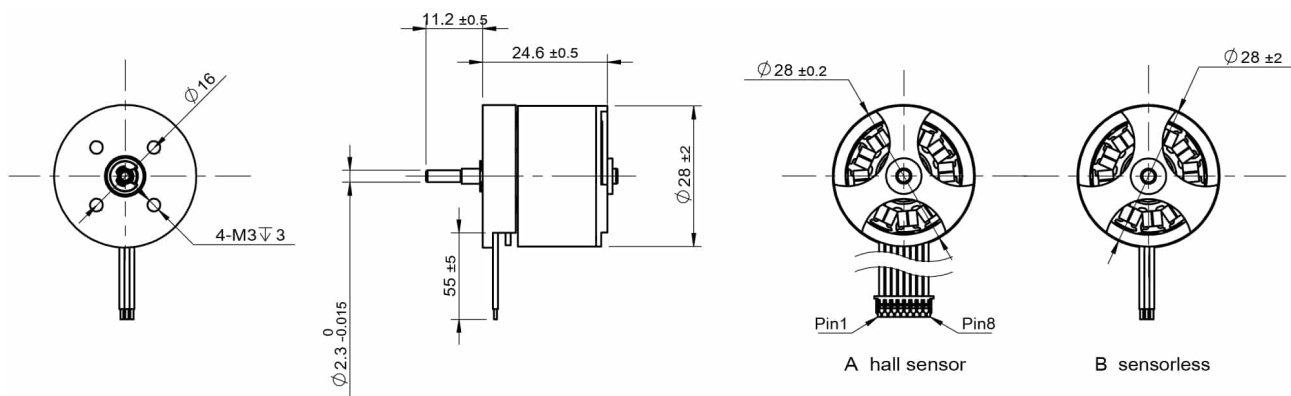
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Characteristics	Unit	B02824N2B01-98-12.0	B02824N2B02-98-24.0	B02824N2B03-98-36.0
Rated voltage	V	12.0	24.0	36.0
Max. output power	W	193	194	198
Max. efficiency	%	85.5	85.3	86.1
Back-EMF constant	mV/rpm	1.2	2.4	3.6
Torque constant	mNm/A	11.6	23.1	34.8
KV Value	rpm/mNm	819	412	273
Speed/torque gradient	rpm/mNm	13.1	13.2	12.8
Rotor inertia	gcm ²	27	27	27
Weight	g	47	47	47
Thermal resistance housing-ambient	K/W	2	2	2
Thermal resistance winding-housing	K/W	2	2	2
Terminal resistance	Ω	0.18	0.74	1.62
Thermal time constant motor	s	290	290	290
Thermal time constant winding	s	41	41	41
Operating temperature	°C	-40~+120	-40~+120	-40~+120
Thermal class of winding	°C	180	180	180
Axial play	mm	0.014	0.014	0.014
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	5	5	5
Axial load static	N	80	80	80
Radial load at 3 mm from mounting face	N	29	29	29
No. of pole pairs		7	7	7
No-load speed	rpm	9800	9800	9800
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Sensorless	Sensorless	Sensorless
Protection class	IP	20	20	20
Outer diameter	mm	28 +/- 0.2	28 +/- 0.2	28 +/- 0.2
Motor length	mm	24.6 +/- 0.5	24.6 +/- 0.5	24.6 +/- 0.5
No-load current	A	0.37	0.19	0.12
Stall torque	mNm	752	749	769
Stall current	A	65.2	32.7	22.2

Characteristics	Unit	B02824N2B01-98- 12.0	B02824N2B02-98- 24.0	B02824N2B03-98- 36.0
Nominal torque	mNm	79.9	75.5	73.2
Nominal speed	rpm	7430	8040	8040
Nominal current	A	6.9	3.3	2.2

Drawings



28mm Sensorless BLDC Outer Rotor Motor

B02826N2B

B02826N2B Series is a robust family of 28mm diameter sensorless brushless DC (BLDC) outer rotor motors engineered for advanced motion control applications. Built for compactness and efficiency, these motors offer highly reliable, maintenance-free operation, making them ideal for integration into space-constrained systems.



- **Sensorless Design:** Reduces wiring complexity and improves reliability, eliminating the need for position sensors.
- **Modular Configuration:** Customizable with options such as various shaft lengths, special windings, gear heads, bearing types, hall-sensor, encoder, and driver integration for precise application adaptation.
- **Versatile Voltage Range:** Multiple variants available to support 12V, 24V, and 36V operation, enabling optimal performance across different environments.

Typical Applications:

- Unmanned Aerial Vehicles (UAVs)
- Electrical tools
- Automation and robotics equipment
- Smart home systems

Key Benefits: Outer rotor design enhances torque density and smoothness, while the sensorless control reduces maintenance and improves durability. Flexible options enable easy customization to meet specific project requirements, providing engineers and OEMs with a high-performance solution for demanding precision motion applications.

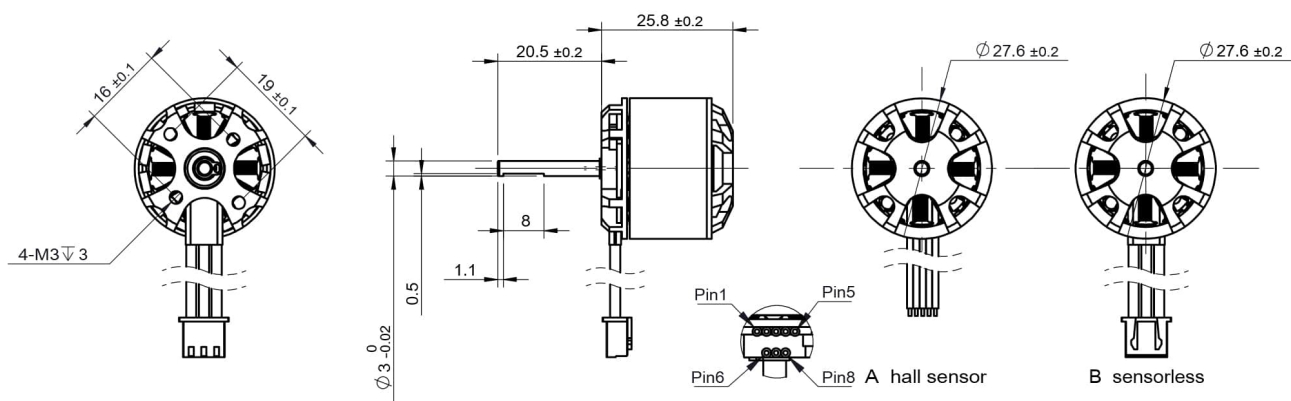


<https://www.kocomotion.de/produkt/bo2826n2b/>

Characteristics	Unit	B02826N2B01-104-12.0	B02826N2B02-104-24.0	B02826N2B03-104-36.0
Rated voltage	V	12.0	24.0	36.0
Max. output power	W	247	248	254
Max. efficiency	%	86.0	85.7	86.2
Back-EMF constant	mV/rpm	1.1	2.3	3.4
Torque constant	mNm/A	10.9	22.0	32.8
KV Value	rpm/V	871	433	290
Speed/torque gradient	rpm/mNm	11.6	11.4	11.2
Rotor inertia	gcm ²	31	31	31
Weight	g	53	53	53
Thermal resistance housing-ambient	K/W	1.7	1.7	1.7
Thermal resistance winding-housing	K/W	1.8	1.8	1.8
Terminal resistance	Ω	0.14	0.58	1.26
Thermal time constant motor	s	300	300	300
Thermal time constant winding	s	43	43	43
Operating temperature	°C	-40~+120	-40~+120	-40~+120
Thermal class of winding	°C	180	180	180
Axial play	mm	0.014	0.014	0.014
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	5	5	5
Axial load static	N	80	80	80
Radial load at 3 mm from mounting face	N	29	29	29
No. of pole pairs		7	7	7
No-load speed	rpm	10400	10400	10400
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Sensorless	Sensorless	Sensorless
Protection class	IP	20	20	20
Outer diameter	mm	27.6 +/- 0.2	27.6 +/- 0.2	27.6 +/- 0.2
Motor length	mm	25.8 +/- 0.2	25.8 +/- 0.2	25.8 +/- 0.2
No-load current	A	0.44	0.23	0.15
Stall torque	mNm	930	912	931
Stall current	A	83.3	41.7	28.6

Characteristics	Unit	B02826N2B01-104- 12.0	B02826N2B02-104- 24.0	B02826N2B03-104- 36.0
Nominal torque	mNm	86.7	89.5	89.6
Nominal speed	rpm	7820	8040	8500
Nominal current	A	8.1	4.1	2.7

Drawings



28mm Sensorless BLDC Outer Rotor Motor

B02828N2B

B02828N2B Series: High-Performance Sensorless BLDC Motor

- **Design:** 28mm outer rotor, brushless DC (BLDC), engineered for compact integration and optimal cooling efficiency.
- **Sensorless Drive:** Delivers reliable control, reducing complexity and increasing durability by eliminating mechanical sensors.
- **Key Applications:** Perfect for *UAVs*, *electrical tools*, *automation equipment*, and *smart home devices* —offering high torque-to-size ratio and low noise performance.
- **Customization Options:** Wide range of configurable features, including shaft length, special coil designs, gear heads, bearing types, and options for hall sensors, encoders, and integrated driver units to suit custom automation needs.

The B02828N2B family provides a robust, efficient solution for motion control tasks where space constraints and precision are critical. Its sensorless architecture enhances lifespan and reduces maintenance, while advanced customization ensures seamless integration into diverse industrial and consumer applications. Choose the B02828N2B for energy-efficient, reliable, and versatile BLDC motor performance.



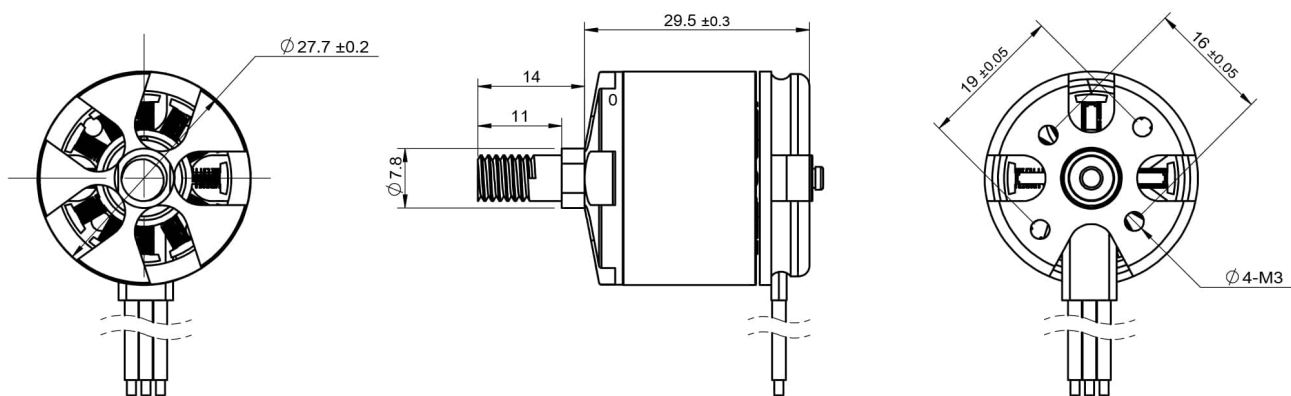
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Characteristics	Unit	B02828N2B01-112-12.0	B02828N2B02-112-24.0	B02828N2B03-112-36.0
Rated voltage	V	12.0	24.0	36.0
Max. output power	W	379	380	395
Max. efficiency	%	86.4	86.3	87.1
Back-EMF constant	mV/rpm	1.1	2.1	3.2
Torque constant	mNm/A	10.2	20.2	30.8
KV Value	rpm/V	928	470	309
Speed/torque gradient	rpm/mNm	8.6	8.7	8.2
Rotor inertia	gcm ²	35	35	35
Weight	g	61	61	61
Thermal resistance housing-ambient	K/W	1.6	1.6	1.6
Thermal resistance winding-housing	K/W	1.4	1.4	1.4
Terminal resistance	Ω	0.09	0.38	0.81
Thermal time constant motor	s	315	315	315
Thermal time constant winding	s	45	45	45
Operating temperature	°C	-40~+120	-40~+120	-40~+120
Thermal class of winding	°C	180	180	180
Axial play	mm	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	8	8	8
Axial load static	N	85	85	85
Radial load at 3 mm from mounting face	N	26	26	26
No. of pole pairs		7	7	7
No-load speed	rpm	11200	11200	11200
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Sensorless	Sensorless	Sensorless
Protection class	IP	20	20	20
Outer diameter	mm	27.7 +/- 0.2	27.2 +/- 0.2	27.2 +/- 0.2
Motor length	mm	28	28	28
No-load current	A	0.63	0.32	0.20
Stall torque	mNm	1301	1289	1357
Stall current	A	127.7	64.0	44.3

Characteristics	Unit	B02828N2B01-112-12.0	B02828N2B02-112-24.0	B02828N2B03-112-36.0
Nominal torque	mNm	122.7	120	157
Nominal speed	rpm	7320	8750	8540
Nominal current	A	11.3	5.9	4.8

Drawings



32mm Sensorless BLDC Outer Rotor Motor

BO3216NBH2B

BO3216NBH2B series represents a high-performance 32mm BLDC outer rotor motor, engineered specifically for sensorless control in compact, precision-driven applications. With its brushless design and outer rotor configuration, this motor delivers superior torque stability, low vibration, and efficient, maintenance-free operation.



• Key Features:

- 32mm diameter outer rotor design for high torque density
- Sensorless operation simplifies system integration and increases reliability
- Fully customizable options: shaft length, special coil windings, gear heads, bearing types, encoder, Hall sensor, and dedicated driver support

• Applications:

- UAV gimbal stabilization systems
- Handheld gimbals for image and sensor stabilization
- LiDAR scanning modules
- High-precision laser scanners

• Benefits:

- Compact form factor facilitates integration in space-constrained assemblies
- Enhanced dynamic performance and quiet operation for demanding environments
- Wide selection of customization options enables tailored solutions

Whether deployed in advanced sensing platforms or robust stabilization systems, the BO3216NBH2B is engineered to meet the needs of modern motion control applications requiring compactness, accuracy, and adaptability.

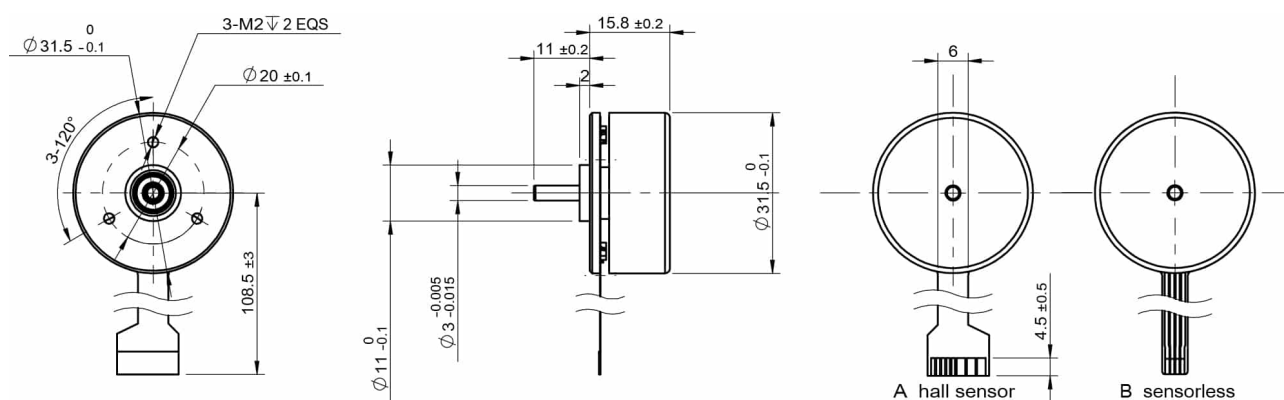


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Motor Specifications	Unit	B03216NBH2B15-56-9.0	B03216NBH2B14-56-12.0	B03216NBH2B02-56-24.0
Rated voltage	V	9.0	12.0	24.0
Max. output power	W	32.4	31.9	31.9
Max. efficiency	%	80	80	79
Back-EMF constant	mV/rpm	1.5	2.1	4.2
Torque constant	mNm/A	14.9	20.2	40.4
Terminal inductance	mH	0.23	0.42	1.7
Speed/torque gradient	rpm/mNm	26	25	25
Rotor inertia	gcm ²	32	32	32
Weight	g	48	48	48
Thermal resistance housing-ambient	K/W	3.8	3.8	3.8
Thermal resistance winding-housing	K/W	4	4	4
Terminal resistance	Ω	0.6	1.1	4.4
Thermal time constant motor	s	110	110	110
Thermal time constant winding	s	6.9	6.9	6.9
Operating temperature	°C	-40~+120	-40~+120	-40~+120
Thermal class of winding	°C	155	155	155
Axial play	mm	0.08	0.08	0.08
Radial play	mm	0.006	0.006	0.006
Axial load dynamic	N	5	5	5
Axial load static	N	80	80	80
Radial load at 3 mm from mounting face	N	29	29	29
No. of pole pairs		7	7	7
No-load speed	rpm	5670	5600	5600
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Hall-sensor	Hall-sensor	Hall-sensor
Protection class	IP	20	20	20
Outer diameter	mm	31.5 - 0.1	31.5 - 0.1	31.5 - 0.1
Motor length	mm	15.8 +/- 0.2	15.8 +/- 0.2	15.8 +/- 0.2
No-load current	A	0.16	0.12	0.06

Motor Specifications	Unit	B03216NBH2B15-56-9.0	B03216NBH2B14-56-12.0	B03216NBH2B02-56-24.0
Stall torque	mNm	216	219	218
Stall current	A	14.5	10.9	5.4
Nominal torque	mNm	41.5	41.5	41.5
Nominal speed	rpm	4590	4540	4530
Nominal current	A	2.9	2.1	1

Drawings



35mm Sensorless BLDC Outer Rotor Motor

B03518NB2B

B03518NB2B – 35mm Sensorless BLDC Outer Rotor Motor



- **High-Performance Design:** Featuring a robust outer rotor architecture in a compact 35mm frame, the B03518NB2B delivers efficient sensorless brushless DC operation with smooth torque characteristics and minimal cogging.
- **Versatile Applications:** Ideally suited for precision-critical environments, including UAV gimbals, handheld gimbals, LiDAR units, and laser scanning systems, where size-to-torque ratio and reliability are paramount.
- **Wide Customization:** Flexible configuration options support a range of engineering needs with choices such as different shaft lengths, specialized windings, gear head compatibility, bearing type variations, integrated hall sensors, encoders, and driver modules.
- **Key Benefits:** Sensorless control ensures minimal maintenance and silent operation, enhancing product longevity. Its modular options empower seamless integration into various motion-control and stabilization platforms.

Engineered for industrial and automation sectors demanding compact yet powerful actuation, the B03518NB2B family provides outstanding performance and adaptability. It is an excellent solution for OEMs and system integrators seeking reliable, efficient, and highly configurable BLDC motors for next-generation motion applications.

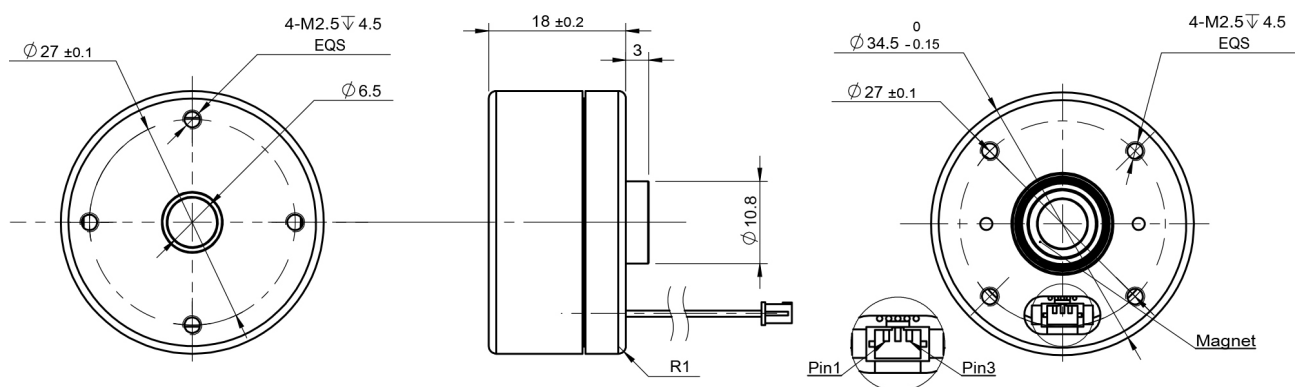


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Motor Specifications	Unit	B03518NB2B10-24-5.0	B03518NB2B02-24-12.0	B03518NB2B11-24-24.0
Rated voltage	V	5.0	12.0	24.0
Max. output power	W	3	3.3	3.4
Max. efficiency	%	62	63	64
Back-EMF constant	mV/rpm	2	4.8	9.6
Torque constant	mNm/A	19.1	45.7	91.6
KV Value	rpm/V	476	200	100
Speed/torque gradient	rpm/mNm	48.6	45.6	43.5
Rotor inertia	gcm ²	68	68	68
Weight	g	64	64	64
Thermal resistance housing-ambient	K/W	7.3	7.3	7.3
Thermal resistance winding-housing	K/W	5.7	5.7	5.7
Terminal resistance	Ω	1.9	10	38.3
Thermal time constant motor	s	120	120	120
Thermal time constant winding	s	9	9	9
Operating temperature	°C	-40~+120	-40~+120	-40~+120
Thermal class of winding	°C	155	155	155
Axial play	mm	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	1.5	1.5	1.5
Axial load static	N	37	37	37
Radial load at 3 mm from mounting face	N	12	12	12
No. of pole pairs		7	7	7
No-load speed	rpm	2400	2400	2400
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Hall-sensor	Hall-sensor	Hall-sensor
Protection class	IP	20	20	20
Outer diameter	mm	34.5 - 0.15	34.5 - 0.15	34.5 - 0.15
Motor length	mm	18 +/- 0.2	18 +/- 0.2	18 +/- 0.2
No-load current	A	0.12	0.05	0.025
Stall torque	mNm	49	52.6	55
Stall current	A	2.68	1.2	0.626

Motor Specifications	Unit	B03518NB2B10-24- 5.0	B03518NB2B02-24- 12.0	B03518NB2B11-24- 24.0
Nominal torque	mNm	31	32	32
Nominal speed	rpm	210	300	348
Nominal current	A	1.75	0.755	0.384

Drawings



38mm Sensorless BLDC Motor Family

B03823N2B

B03823N2B is a family of 38mm sensorless brushless DC outer rotor motors engineered to deliver high performance in demanding applications. These motors provide smooth, efficient operation with high power density in a compact footprint, making them ideal for space-constrained or lightweight systems.



- **Configuration:** 38mm outer rotor BLDC, sensorless operation for simplified wiring and reduced maintenance
- **Versatility:** Available with a range of voltage specifications, supporting diverse application demands
- **Flexible Options:** Shaft length, special coil configurations, gear heads, and bearing types can be customized to project requirements
- **Feedback and Control:** Optional hall sensors or encoders for closed-loop systems, plus compatible driver electronics for easy integration

Typical Applications:

- Unmanned Aerial Vehicles (UAVs)
- Electrical tools and equipment
- Automation systems
- Smart home and IoT devices

Benefit from robust build quality, efficient sensorless technology, and wide customization capabilities, making the B03823N2B an excellent choice where reliability, performance, and design flexibility are critical.

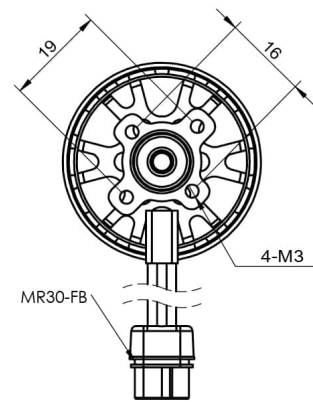
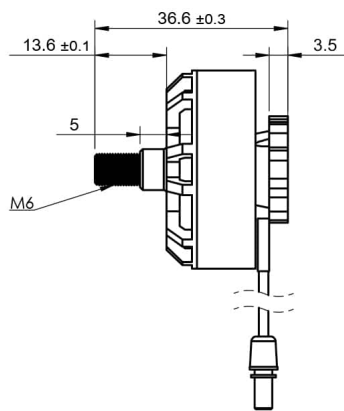
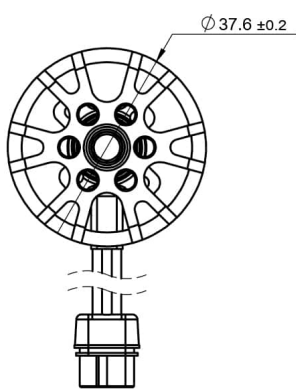


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Characteristics	Unit	B03823N2B01-79- 12.0	B03823N2B02-79- 24.0	B03823N2B03-79- 36.0
Rated voltage	V	12.0	24.0	36.0
Max. output power	W	318	301	317
Max. efficiency	%	86.9	86.2	86.4
Back-EMF constant	mV/rpm	1.5	3.0	4.5
Torque constant	mNm/A	14.4	28.6	43.2
Terminal inductance	mH	661	333	220
Speed/torque gradient	rpm/mNm	5.2	5.5	5.2
Rotor inertia	gcm ²	42	42	42
Weight	g	73	73	73
Thermal resistance housing-ambient	K/W	1.3	1.3	1.3
Thermal resistance winding-housing	K/W	1.2	1.2	1.2
Terminal resistance	Ω	0.11	0.47	1.01
Thermal time constant motor	s	300	300	300
Thermal time constant winding	s	69	69	69
Operating temperature	°C	-40~+120	-40~+120	-40~+120
Thermal class of winding	°C	180	180	180
Axial play	mm	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	8	8	8
Axial load static	N	110	110	110
Radial load at 3 mm from mounting face	N	31	31	31
No. of pole pairs		7	7	7
No-load speed	rpm	7900	7900	7900
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Sensorless	Sensorless	Sensorless
Protection class	IP	20	20	20
Outer diameter	mm	37.6 +/- 0.2	37.6 +/- 0.2	37.6 +/- 0.2
Motor length	mm	23	23	23
No-load current	A	0.49	0.26	0.18
Stall torque	mNm	1534	1439	1529
Stall current	A	107.1	50.6	35.6

Characteristics	Unit	B03823N2B01-79- 12.0	B03823N2B02-79- 24.0	B03823N2B03-79- 36.0
Nominal torque	mNm	173.5	163	164
Nominal speed	rpm	5690	6210	6300
Nominal current	A	12.3	5.8	3.8

Drawings

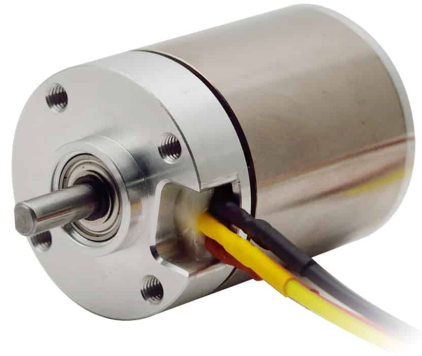


38mm Sensorless BLDC Outer Rotor Motor

B03850NH3B

B03850NH3B: 38mm Sensorless BLDC Outer Rotor Motor

- **Type:** 38mm diameter brushless DC motor with outer rotor construction
- **Operation:** Sensorless for simplified control and higher reliability
- **Customization:** Options include shaft length, special coils, gear heads, bearing types, hall-sensor, encoder, and driver integration for tailored solutions



This high-performance motor is engineered for consistent and efficient motion control in space-constrained and weight-sensitive environments, making it an excellent choice for **UAVs, robotics, automation equipment, and electrical tools**. Its compact outer rotor design delivers high torque density and smooth rotation, optimized for both dynamic and continuous duty cycles. Sensorless control eliminates the need for commutation hardware, reducing failure points in mobile or industrial platforms.

- **Key Benefits:**
 - High efficiency and torque in a compact 38mm form factor
 - Flexible configurations to meet unique application requirements
 - Suitable for both precision and high-speed operation

The B03850NH3B series addresses the rigorous demands of automation and mechatronics. With practical options such as encoders, gear heads, and driver compatibility, it provides an ideal foundation for advanced motion solutions in industrial and commercial sectors.

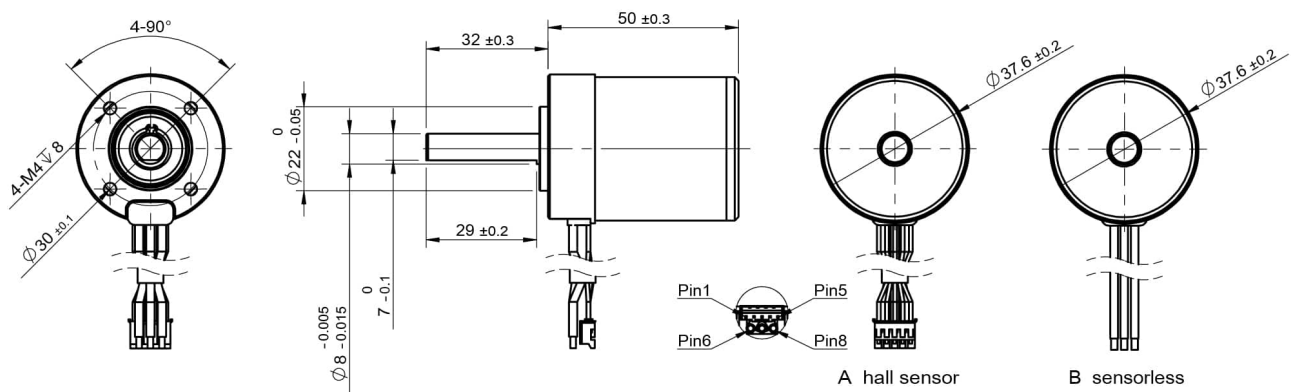


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Characteristics	Unit	BO3850NH3B01-88-24.0	BO3850NH3B01-88-36.0	BO3850NH3B01-88-48.0
Rated voltage	V	24.0	36.0	48.0
Max. output power	W	1427	1395	1464
Max. efficiency	%	87.5	87.0	87.6
Back-EMF constant	mV/rpm	2.7	4.1	5.4
Torque constant	mNm/A	25.9	38.9	51.9
KV Value	rpm/V	367	244	183
Speed/torque gradient	rpm/mNm	1.42	1.45	1.38
Rotor inertia	gcm ²	228	228	228
Weight	g	198	198	198
Thermal resistance housing-ambient	K/W	1.1	1.1	1.1
Thermal resistance winding-housing	K/W	1.2	1.2	1.2
Terminal resistance	Ω	0.1	0.23	0.39
Thermal time constant motor	s	350	350	350
Thermal time constant winding	s	63	63	63
Operating temperature	°C	-40~+100	-40~+100	-40~+100
Thermal class of winding	°C	180	180	180
Axial play	mm	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	8	8	8
Axial load static	N	110	110	110
Radial load at 3 mm from mounting face	N	31	31	31
No. of pole pairs		7	7	7
No-load speed	rpm	8800	8800	8800
Bearings		3 ball bearings	3 ball bearings	3 ball bearings
Commutation		Hall sensor	Hall sensor	Hall sensor
Protection class	IP	20	20	20
Outer diameter	mm	37.6 +/- 0.2	37.6 +/- 0.2	37.6 +/- 0.2
Motor length	mm	50 +/- 0.3	50 +/- 0.3	50 +/- 0.3
No-load current	A	1	0.7	0.5

Characteristics	Unit	B03850NH3B01-88- 24.0	B03850NH3B01-88- 36.0	B03850NH3B01-88- 48.0
Stall torque	mNm	6198	6060	6358
Stall current	A	240	156.5	123.1
Nominal torque	mNm	346	345	347
Nominal speed	rpm	7650	7480	7850
Nominal current	A	13.1	8.5	6.7

Drawings



43mm Outer Rotor Sensorless BLDC Motors

BO4316NB2B

BO4316NB2B Series - 43mm Sensorless BLDC Outer Rotor Motors

- **Form Factor:** 43mm outer rotor design for optimized torque density and compact installations.
- **Sensorless Operation:** Delivers reliable, maintenance-free performance with minimal wiring complexity, suitable for dynamic motion environments.
- **Flexible Customization:** Multiple shaft lengths, gear heads, special coils, bearing types, and feedback devices (hall-sensors and encoders) to match precise application needs.
- **Integrated Options:** Encoder and driver units available to streamline system integration and enhance feedback control.

Applications:

- UAV gimbals
- Handheld gimbals
- LiDAR positioning systems
- Laser scanners

Designed for high precision and stability, the BO4316NB2B family provides a reliable solution for advanced automation, imaging, and scanning tasks. Its robust construction ensures long service life even in challenging environments, while sensorless control simplifies system design. Advanced customization options allow seamless integration into specialized equipment, making these motors a smart choice for OEMs and automation engineers seeking performance and adaptability.



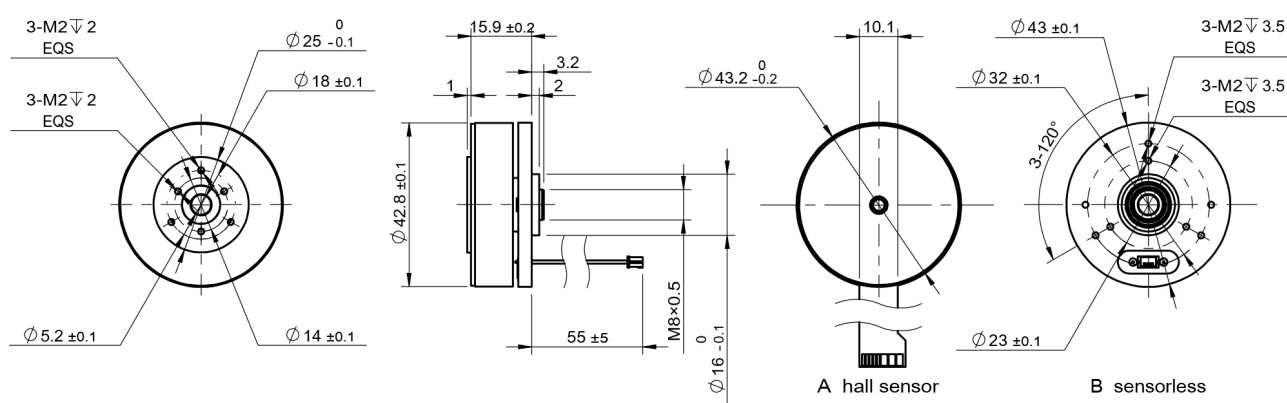
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Motor Specifications	Unit	B04316NB2B27-38-9.0	B04316NB2B26-39-12.0	B04316NB2B05-38-24.0
Rated voltage	V	9.0	12.0	24.0
Max. output power	W	35	39	37
Max. efficiency	%	78	79	78
Back-EMF constant	mV/rpm	2.38	3.02	6.24
Torque constant	mNm/A	22.7	28.9	59.5
Terminal inductance	mH	0.4	0.65	2.8
Speed/torque gradient	rpm/mNm	10	10	10
Rotor inertia	gcm ²	97	97	97
Weight	g	72	72	72
Thermal resistance housing-ambient	K/W	5.8	5.8	5.8
Thermal resistance winding-housing	K/W	2.8	2.8	2.8
Terminal resistance	Ω	0.56	0.9	3.8
Thermal time constant motor	s	400	400	400
Thermal time constant winding	s	13	13	13
Operating temperature	°C	-40~+120	-40~+120	-40~+120
Thermal class of winding	°C	155	155	155
Axial play	mm	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	8	8	8
Axial load static	N	85	85	85
Radial load at 3 mm from mounting face	N	26	26	26
No. of pole pairs		8	8	8
No-load speed	rpm	3730	3910	3800
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Hall-sensor	Hall-sensor	Hall-sensor
Protection class	IP	20	20	20
Outer diameter	mm	43.2 - 0.2	43.2 - 0.2	43.2 - 0.2
Motor length	mm	15.9 +/- 0.2	15.9 +/- 0.2	15.9 +/- 0.2
No-load current	A	0.21	0.16	0.08
Stall torque	mNm	359	379	371
Stall current	A	15.9	13.2	6.3

Motor Specifications	Unit	BO4316NB2B27-38-9.0	BO4316NB2B26-39-12.0	BO4316NB2B05-38-24.0
Nominal torque	mNm	79.7	79.7	79.7
Nominal speed	rpm	2910	3080	2640
Nominal current	A	3.69	2.92	1.43

Drawings



43mm Sensorless BLDC Outer Rotor Motor

B04326NB2B

B04326NB2B Series - 43mm Sensorless BLDC Outer Rotor Motors

- **Design:** Compact 43mm diameter outer rotor, optimized for sensorless operation
- **Efficiency:** High torque-to-size ratio for demanding motion control tasks
- **Modularity:** Options include various shaft lengths, special coil designs, different bearing types, gearheads, and integration of hall-sensors, encoders, or drivers

Applications:

- UAV and handheld gimbals
- LiDAR positioning systems
- Laser scanners

This motor series is engineered for precise and stable rotation, making it an excellent choice for motion-sensitive platforms where space, weight, and performance are critical. Sensorless drive technology extends reliability and minimizes maintenance. Extensive customization options allow system integrators to match the B04326NB2B to application-specific requirements, enhancing performance in advanced automation, imaging, and sensing systems.



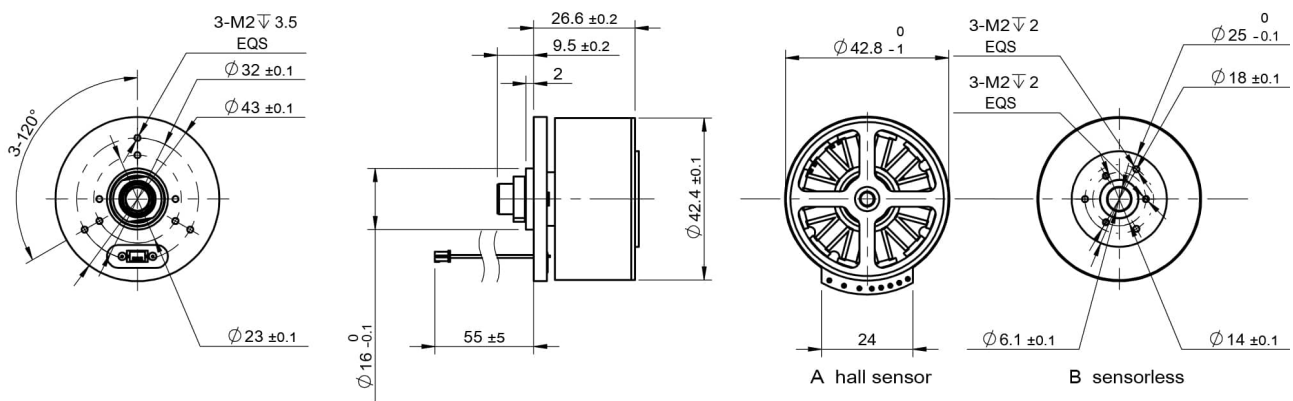
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Motor Specifications	Unit	BO4326NB2B03-92-24.0	BO4326NB2B02-92-36.0	BO4326NB2B01-92-48.0
Rated voltage	V	24.0	36.0	48.0
Max. output power	W	678	711	569
Max. efficiency	%	86	84.8	84.8
Back-EMF constant	mV/rpm	2.6	3.89	5.18
Torque constant	mNm/A	24.8	37.1	48.5
KV Value	rpm/V	383	256	192
Speed/torque gradient	rpm/mNm	3.3	3.1	3.9
Rotor inertia	gcm ²	153	153	153
Weight	g	132	132	132
Thermal resistance housing-ambient	K/W	2.19	2.19	2.19
Thermal resistance winding-housing	K/W	0.73	0.73	0.73
Terminal resistance	Ω	0.21	0.45	1
Thermal time constant motor	s	360	360	360
Thermal time constant winding	s	69	69	69
Operating temperature	°C	-40~+120	-40~+120	-40~+120
Thermal class of winding	°C	155	155	155
Axial play	mm	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	8	8	8
Axial load static	N	110	110	110
Radial load at 3 mm from mounting face	N	31	31	31
No. of pole pairs		8	8	8
No-load speed	rpm	9200	9200	9200
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Hall-sensor	Hall-sensor	Hall-sensor
Protection class	IP	20	20	20
Outer diameter	mm	42.8 -1	42.8 -1	42.8 -1
Motor length	mm	26.6 +/- 0.2	26.6 +/- 0.2	26.6 +/- 0.2
No-load current	A	0.6	0.5	0.3

Motor Specifications	Unit	B04326NB2B03-92- 24.0	B04326NB2B02-92- 36.0	B04326NB2B01-92- 48.0
Stall torque	mNm	2817	2952	2361
Stall current	A	114	80	48
Nominal torque	mNm	194	190	192
Nominal speed	rpm	7000	7000	7000
Nominal current	A	7.2	4.8	3.6

Drawings



44mm Sensorless BLDC Outer Rotor Motors

BO4416N2B

BO4416N2B Series - 44mm Sensorless BLDC Outer Rotor Motors

- **Design:** Compact 44mm outer rotor form factor optimized for high power density and efficient thermal management.
- **Operation:** Sensorless commutation for maintenance-free, reliable performance; supports silent, smooth motion ideal for precision environments.
- **Flexibility:** Multiple customization options including shaft lengths, special winding configurations, gearhead compatibility, various bearing types, encoder and hall-sensor integration, as well as dedicated drivers.



Applications

- Unmanned aerial vehicles (UAVs)
- Electrical tools requiring high torque and dynamic response
- Industrial automation equipment
- Smart home actuators and appliances

Benefits

- High torque-to-size ratio enables use in compact, space-constrained designs
- Sensorless design reduces wiring complexity and increases reliability
- Extensive configuration possibilities for tailored application fit and performance optimization
- Ideal for OEMs seeking scalable, efficient, low-maintenance motion solutions

With broad application versatility and modular integration options, the BO4416N2B family is a robust choice for advanced motion control systems in next-generation technologies.

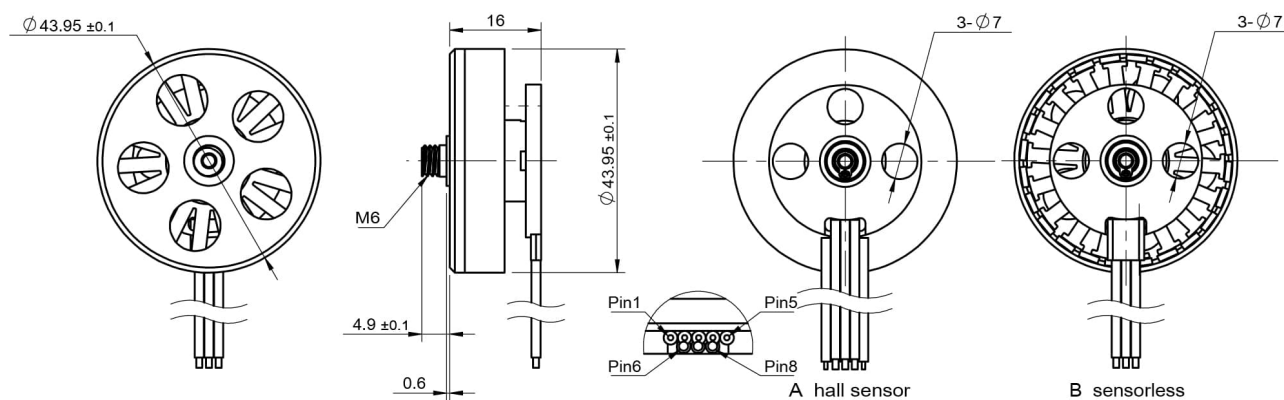


<https://www.kocomotion.de/produkt/bo4416n2b/>

Motor Characteristics	Unit	B04416N2B02-34-12.0	B04416N2B03-34-18.0	B04416N2B04-24-24.0
Rated voltage	V	12.0	18.0	24.0
Max. output power	W	95	106	46
Max. efficiency	%	81	83	79
Back-EMF constant	mV/rpm	3.4	5.2	10.0
Torque constant	mNm/A	33	49.5	96
KV Value	rpm/V	290	190	98
Speed/torque gradient	rpm/mNm	3.3	2.9	3.1
Rotor inertia	gcm ²	70	70	70
Weight	g	66	66	66
Thermal resistance housing-ambient	K/W	8.9	8.9	8.9
Thermal resistance winding-housing	K/W	2.7	2.7	2.7
Terminal resistance	Ω	0.37	0.75	3.00
Thermal time constant motor	s	325	325	325
Thermal time constant winding	s	252	252	252
Operating temperature	°C	-40~+120	-40~+120	-40~+120
Thermal class of winding	°C	180	180	180
Axial play	mm	0.014	0.014	0.014
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	5	5	5
Axial load static	N	80	80	80
Radial load at 3 mm from mounting face	N	29	29	29
No. of pole pairs		12	12	12
No-load speed	rpm	3450	3450	2360
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Sensorless	Sensorless	Sensorless
Protection class	IP	20	20	20
Outer diameter	mm	43.95 +/- 0.1	43.95 +/- 0.1	43.95 +/- 0.1
Motor length	mm	16	16	16
No-load current	A	0.30	0.17	0.09
Stall torque	mNm	1057	1178	759
Stall current	A	32.0	24.0	8.0

Motor Characteristics	Unit	BO4416N2B02-34-12.0	BO4416N2B03-34-18.0	BO4416N2B04-24-24.0
Nominal torque	mNm	95	150	80
Nominal speed	rpm	3100	2800	2060
Nominal current	A	3.2	2.4	0.7

Drawings

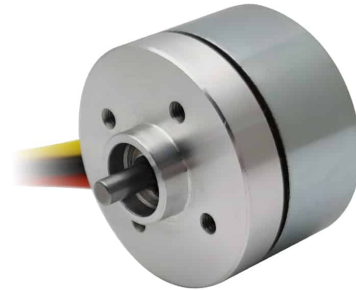


48mm BLDC Outer Rotor Motor with Hall Sensor

BO4831NH2B

BO4831NH2B Series - 48mm BLDC Outer Rotor Motor with Hall Sensor

- **Type:** 48mm diameter BLDC outer rotor with built-in Hall effect sensors
- **Precision Control:** Integrated Hall sensors ensure reliable feedback for accurate speed and position management
- **Robust Construction:** Engineered for consistent performance in demanding environments
- **Customization:** Supports a range of options, including various shaft lengths, special coils, gear heads, bearing types, encoders, and integrated drivers



The BO4831NH2B motor series is engineered for high-efficiency operation and compact installations. The outer rotor design delivers high torque density, making it a powerful choice for applications with limited space and strict weight requirements. Typical use cases include UAV propulsion systems, advanced automation equipment, precision electrical tools, and smart home devices requiring smooth and quiet movement.

- **Versatile Applications:** Suited for unmanned aerial vehicles, manufacturing automation, home automation, and power tools
- **Flexible Integration:** Multiple configuration and accessory options to match application-specific demands
- **Performance Advantages:** High reliability, excellent thermal management, and precision positioning make it ideal for critical motion tasks

The BO4831NH2B is an ideal choice for system integrators and OEMs seeking a compact, customizable BLDC solution that can be tailored for advanced motion control needs.

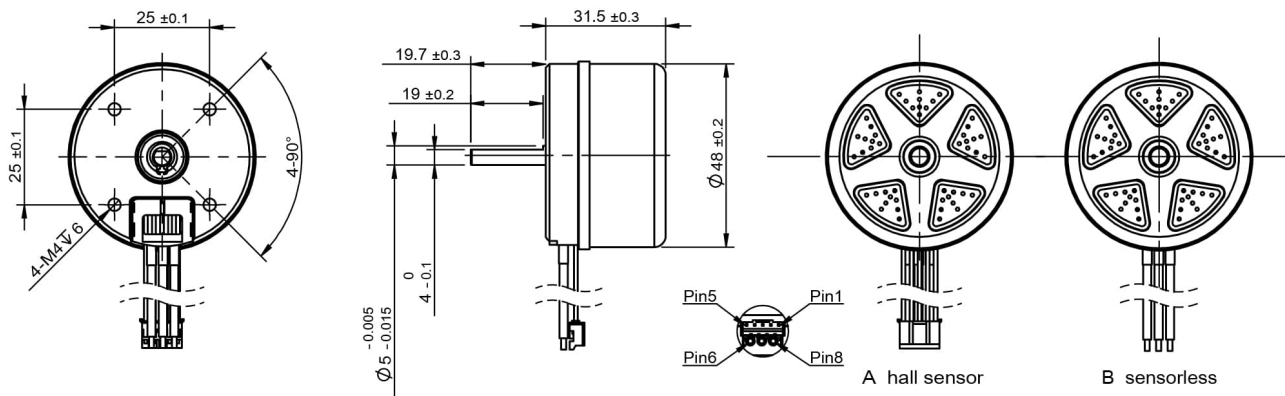


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Characteristics	Unit	BO4831NH2B01-101-18.0	BO4831NH2B02-101-24.0	BO4831NH2B03-101-36.0
Rated voltage	V	18.0	24.0	36.0
Max. output power	W	1609	1788	1788
Max. efficiency	%	89.2	89.3	89.3
Back-EMF constant	mV/rpm	1.8	2.4	3.5
Torque constant	mNm/A	16.9	22.5	33.7
KV Value	rpm/V	564	423	282
Speed/torque gradient	rpm/mNm	1.68	1.51	1.51
Rotor inertia	gcm ²	306	306	306
Weight	g	211	211	211
Thermal resistance housing-ambient	K/W	1.14	1.14	1.14
Thermal resistance winding-housing	K/W	0.38	0.38	0.38
Terminal resistance	Ω	0.05	0.08	0.18
Thermal time constant motor	s	350	350	350
Thermal time constant winding	s	60	60	60
Operating temperature	°C	-40~+120	-40~+120	-40~+120
Thermal class of winding	°C	180	180	180
Axial play	mm	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	10	10	10
Axial load static	N	110	110	110
Radial load at 3 mm from mounting face	N	42	42	42
No. of pole pairs		7	7	7
No-load speed	rpm	10160	10160	10160
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Hall Sensor	Hall Sensor	Hall Sensor
Protection class	IP	20	20	20
Outer diameter	mm	48 +/- 0.2	48 +/- 0.2	48 +/- 0.2
Motor length	mm	31.5 +/- 0.3	31.5 +/- 0.3	31.5 +/- 0.3
No-load current	A	1.1	0.9	0.6
Stall torque	mNm	6053	6726	6727

Characteristics	Unit	B04831NH2B01-101- 18.0	B04831NH2B02-101- 24.0	B04831NH2B03-101- 36.0
Stall current	A	360.0	300.0	200.0
Nominal torque	mNm	449	447	457
Nominal speed	rpm	7600	7700	7700
Nominal current	A	23.5	17.6	12

Drawings



61mm Sensorless BLDC Outer Rotor Motors

BO6133N2B

BO6133N2B Series: 61mm Sensorless BLDC Outer Rotor Motors

- **Design:** 61mm diameter BLDC outer rotor, engineered for space- and weight-critical applications
- **Sensorless operation** delivers maintenance-free reliability and reduces system complexity
- **Versatile customization:** multiple shaft lengths, special coil configurations, gear head integration, and optional encoder, hall-sensor, or driver modules
- **High efficiency** and smooth torque characteristics support precise motion control



Optimized for performance, the BO6133N2B series is ideal for integration into unmanned aerial vehicles (UAVs), electrical tools, automation systems, and smart home technologies. Robust adaptability is achieved through a broad range of configurable options, meeting diverse operational requirements and supporting advanced feedback and control schemes. The compact and lightweight construction allows for efficient thermal management and integration in confined spaces, while sensorless technology ensures reduced maintenance needs. This series is engineered for reliability and versatility, making it a preferred choice for OEMs seeking scalable, high-performance motion solutions.

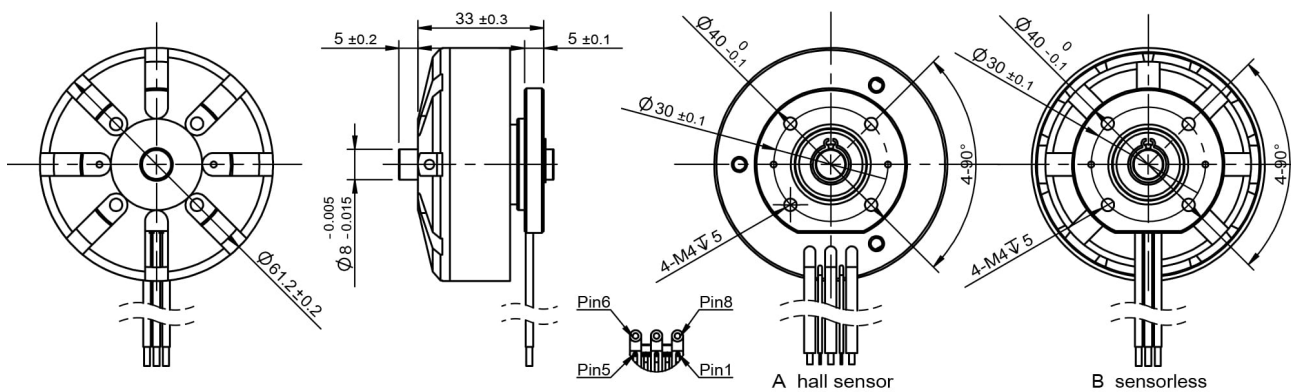


<https://www.kocomotion.de/produkt/bo6133n2b/>

Characteristics	Unit	B06133N2B01-50- 48.0	B06133N2B02-50- 36.0	B06133N2B03-50- 24.0
Rated voltage	V	48.0	36.0	24.0
Max. output power	W	730	744	749
Max. efficiency	%	85.4	85.1	85.6
Back-EMF constant	mV/rpm	9.5	7.2	4.8
Torque constant	mNm/A	91.2	68.3	45.6
KV Value	rpm/V	104	139	208
Speed/torque gradient	rpm/mNm	0.9	0.9	0.9
Rotor inertia	gcm ²	599	599	599
Weight	g	230	230	230
Thermal resistance housing-ambient	K/W	1.47	1.47	1.47
Thermal resistance winding-housing	K/W	0.49	0.49	0.49
Terminal resistance	Ω	0.78	0.43	0.19
Thermal time constant motor	s	300	300	300
Thermal time constant winding	s	80	80	80
Operating temperature	°C	-40~+120	-40~+120	-40~+120
Thermal class of winding	°C	180	180	180
Axial play	mm	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	12	12	12
Axial load static	N	235	235	235
Radial load at 3 mm from mounting face	N	146	146	146
No. of pole pairs		7	7	7
No-load speed	rpm	5000	5000	5000
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Sensorless	Sensorless	Sensorless
Protection class	IP	20	20	20
Outer diameter	mm	61.2 +/- 0.2	61.2 +/- 0.2	61.2 +/- 0.2
Motor length	mm	33 +/- 0.3	33 +/- 0.3	33 +/- 0.3
No-load current	A	0.35	0.5	0.7
Stall torque	mNm	5577	5687	5725
Stall current	A	61.5	83.7	126.3

Characteristics	Unit	B06133N2B01-50- 48.0	B06133N2B02-50- 36.0	B06133N2B03-50- 24.0
Nominal torque	mNm	558	553	558
Nominal speed	rpm	3700	3700	3700
Nominal current	A	5.5	7.3	11

Drawings



64mm Sensorless BLDC Outer Rotor Motor

B06452N3B

The **B06452N3B** family features a 64mm sensorless brushless DC (BLDC) outer rotor motor, engineered for demanding automation and motion control applications. This sensorless design minimizes component count, improving reliability and delivering smooth, maintenance-free operation. The outer rotor configuration ensures high torque density in a compact form factor, making it optimal for space-constrained integrations.



- **Sensorless BLDC Technology:** Delivers precise speed and torque control without mechanical sensors.
- **High Torque Density:** 64mm outer rotor enables compact yet powerful performance.
- **Application Flexibility:** Widely used in UAVs, automation equipment, smart home devices, and electrical tools.
- **Customizable Options:** Shaft length, special windings, gear heads, bearing types, Hall sensors, encoders, and dedicated drivers available to meet specific system requirements.
- **Low Maintenance:** Fewer moving parts reduce wear and servicing needs, increasing lifecycle and operational uptime.

This series supports applications requiring precise, efficient, and durable motion solutions, including advanced robotics, gimbal systems, precision actuators, and compact industrial drives. The B06452N3B family offers a balanced solution for OEMs seeking adaptable, reliable motors tailored to advanced automation and mechatronic systems.

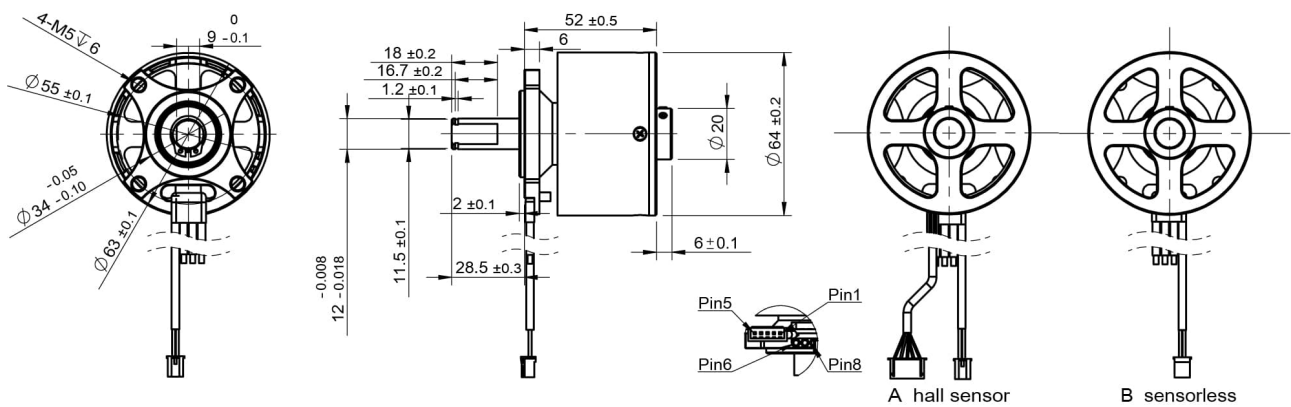


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Characteristics	Unit	B06452N3B01-95- 48.0	B06452N3B02-95- 36.0	B06452N3B03-95- 24.0
Rated voltage	V	48.0	36.0	24.0
Max. output power	W	7165	7163	7165
Max. efficiency	%	90.9	90.7	90.9
Back-EMF constant	mV/rpm	5.0	3.8	2.5
Torque constant	mNm/A	48.1	36.1	24.1
KV Value	rpm/V	198	264	396
Speed/torque gradient	rpm/mNm	0.33	0.33	0.33
Rotor inertia	gcm ²	1750	1750	1750
Weight	g	625	625	625
Thermal resistance housing-ambient	K/W	0.58	0.58	0.58
Thermal resistance winding-housing	K/W	0.19	0.19	0.19
Terminal resistance	Ω	0.08	0.045	0.02
Thermal time constant motor	s	180	180	180
Thermal time constant winding	s	60	60	60
Operating temperature	°C	-40~+120	-40~+120	-40~+120
Thermal class of winding	°C	180	180	180
Axial play	mm	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	12	12	12
Axial load static	N	235	235	235
Radial load at 3 mm from mounting face	N	146	146	146
No. of pole pairs		4	4	4
No-load speed	rpm	9500	9500	9500
Bearings		3 ball bearings	3 ball bearings	3 ball bearings
Commutation		Sensorless	Sensorless	Sensorless
Protection class	IP	20	20	20
Outer diameter	mm	64 +/- 0.2	64 +/- 0.2	64 +/- 0.2
Motor length	mm	52 +/- 0.5	52 +/- 0.5	52 +/- 0.5
No-load current	A	1.3	1.8	2.6
Stall torque	mNm	28824	28819	28824
Stall current	A	600	800	1200

Characteristics	Unit	B06452N3B01-95- 48.0	B06452N3B02-95- 36.0	B06452N3B03-95- 24.0
Nominal torque	mNm	985	983	985
Nominal speed	rpm	7400	7400	7400
Nominal current	A	18.5	24.7	37.0

Drawings

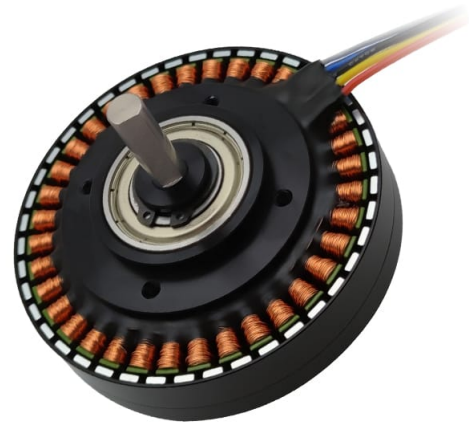


87mm BLDC Outer Rotor Motor

B08724N2B

B08724N2B Series | 87mm BLDC Outer Rotor, Sensorless

The B08724N2B series offers high-performance, sensorless brushless DC motors with a compact 87mm outer rotor design. Engineered for industrial and commercial automation, these motors deliver reliable, maintenance-free operation and superior torque density. Typical applications include UAV propulsion, electrical tools, precision automation equipment, and smart home solutions.



- **Outer Rotor Architecture:** Maximizes torque output and thermal efficiency, making it ideal for dynamic and space-sensitive installations.
- **Sensorless Control:** Reduces system complexity and cost while maintaining precise motor performance.
- **Application Versatility:** Suitable for UAVs, power tools, robotics, smart appliances, and various automation platforms.
- **Customization Options:** Available with multiple shaft lengths, special coils, a range of gear heads, different bearing types, and optional feedback accessories such as hall-sensors and encoders.
- **Drive Compatibility:** Can be paired with custom or standard drivers for optimal system integration.

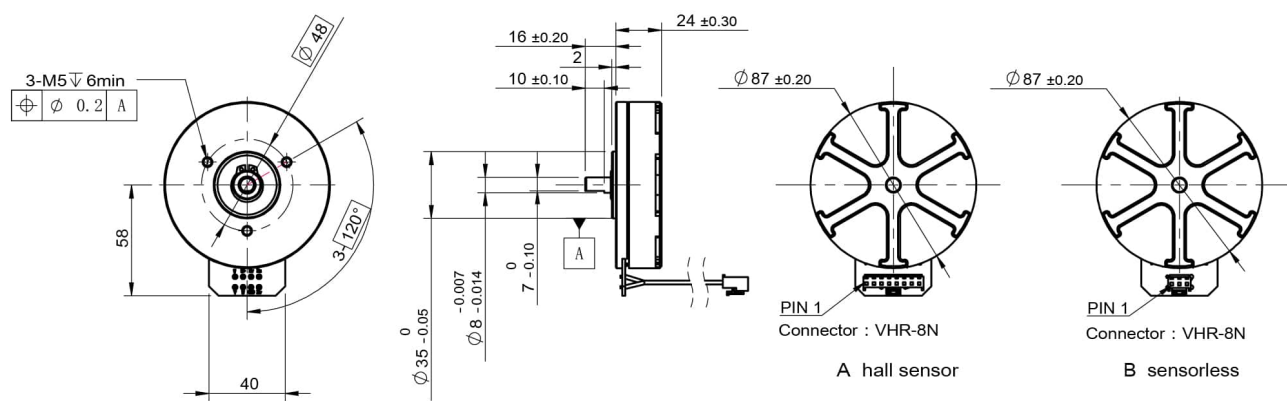
The B08724N2B series is engineered for engineers and integrators seeking robust, scalable motor solutions. Customizable to meet unique mechanical or electronic requirements, this series ensures long-term reliability and high efficiency for demanding B2B industrial applications.


<https://www.kocomotion.de/produkt/bo8724n2b/>

Characteristics	Unit	B08724N2B01-36-48.0	B08724N2B02-36-36.0	B08724N2B03-36-24.0
Rated voltage	V	48.0	36.0	24.0
Max. output power	W	1890	1890	1890
Max. efficiency	%	88.5	88.5	88.5
Back-EMF constant	mV/rpm	13.3	10	6.64
Torque constant	mNm/A	126.9	95.2	64.3
KV Value	rpm/V	75	100	150
Speed/torque gradient	rpm/mNm	0.18	0.18	0.18
Rotor inertia	gcm ²	510	510	510
Weight	g	270	270	270
Thermal resistance housing-ambient	K/W	1.18	1.18	1.18
Thermal resistance winding-housing	K/W	0.51	0.51	0.51
Terminal resistance	Ω	0.3	0.17	0.08
Thermal time constant motor	s	600	600	600
Thermal time constant winding	s	50	50	50
Operating temperature	°C	-40~+100	-40~+100	-40~+100
Thermal class of winding	°C	155	155	155
Axial play	mm	0.012	0.012	0.012
Radial play	mm	0.008	0.008	0.008
Axial load dynamic	N	10	10	10
Axial load static	N	140	140	140
Radial load at 3 mm from mounting face	N	145	145	145
No. of pole pairs		21	21	21
No-load speed	rpm	3600	3600	3600
Bearings		2 ball bearings	2 ball bearings	2 ball bearings
Commutation		Sensorless	Sensorless	Sensorless
Protection class	IP	20	20	20
Outer diameter	mm	87 +/- 0.2	87 +/- 0.2	87 +/- 0.2
Motor length	mm	24 +/- 0.3	24 +/- 0.3	24 +/- 0.3
No-load current	A	0.5	0.7	1.1
Stall torque	mNm	20000	20000	20000
Stall current	A	159.5	211.8	315.8

Characteristics	Unit	B08724N2B01-36- 48.0	B08724N2B02-36- 36.0	B08724N2B03-36- 24.0
Nominal torque	mNm	1210	1210	1210
Nominal speed	rpm	3200	3200	3200
Nominal current	A	9.8	13	19.5

Drawings



50mm Inner Rotor Frameless Torque Motor

BS5016NFL

BS5016NFL Series - 50mm Sensorless BLDC Inner Rotor Motors



- **Type:** 50mm BLDC inner rotor, slotted, sensorless commutation
- **Voltage:** 48.0 V nominal across all models
- **Power & Performance:** Max. output power up to 914 W
Stall torque options: 1.5, 3, or 6.1 Nm
Nominal speed range: 835 - 4857 rpm
Max. efficiency: 85%
- Max. output power up to 914 W
- Stall torque options: 1.5, 3, or 6.1 Nm
- Nominal speed range: 835 - 4857 rpm
- Max. efficiency: 85%
- **Construction:** 10 pole pairs, 18 slots
Sensorless operation for high reliability and reduced components
Class B insulation, IP-rated designs on request
- 10 pole pairs, 18 slots
- Sensorless operation for high reliability and reduced components
- Class B insulation, IP-rated designs on request
- **Thermal Performance:** Operating range -40°C to +100°C, 180°C winding class
- **Options:** Custom shaft lengths, special coils, gear heads, bearing types, hall sensors, encoders, drivers

Applications: Optimized for cooperative robotics, robotic joints, and industrial automation requiring compact motors with high dynamic response, reliability, and flexibility.

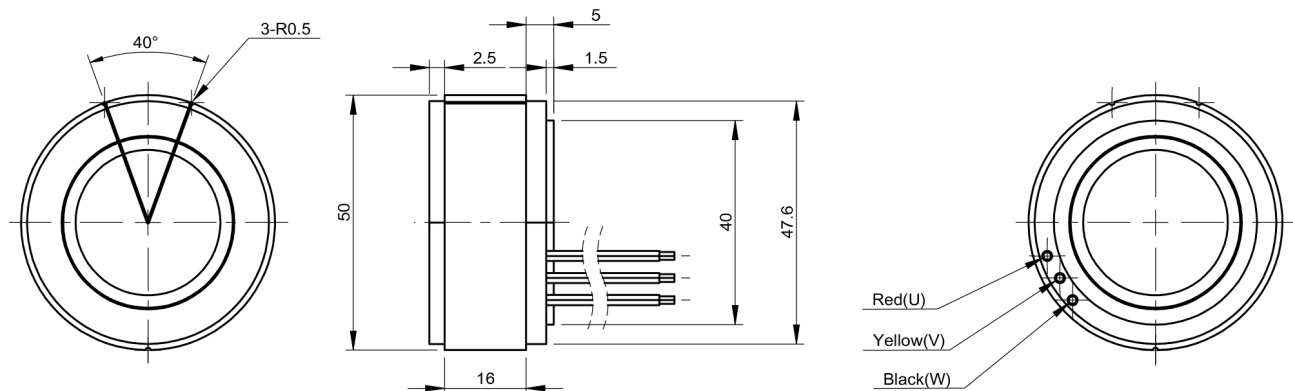
Benefits: The BS5016NFL series delivers precise motion control in demanding environments, with scalable torque/speed variants and customization for project-specific requirements. Sensorless technology ensures longer life and simplifies integration in compact drive systems.



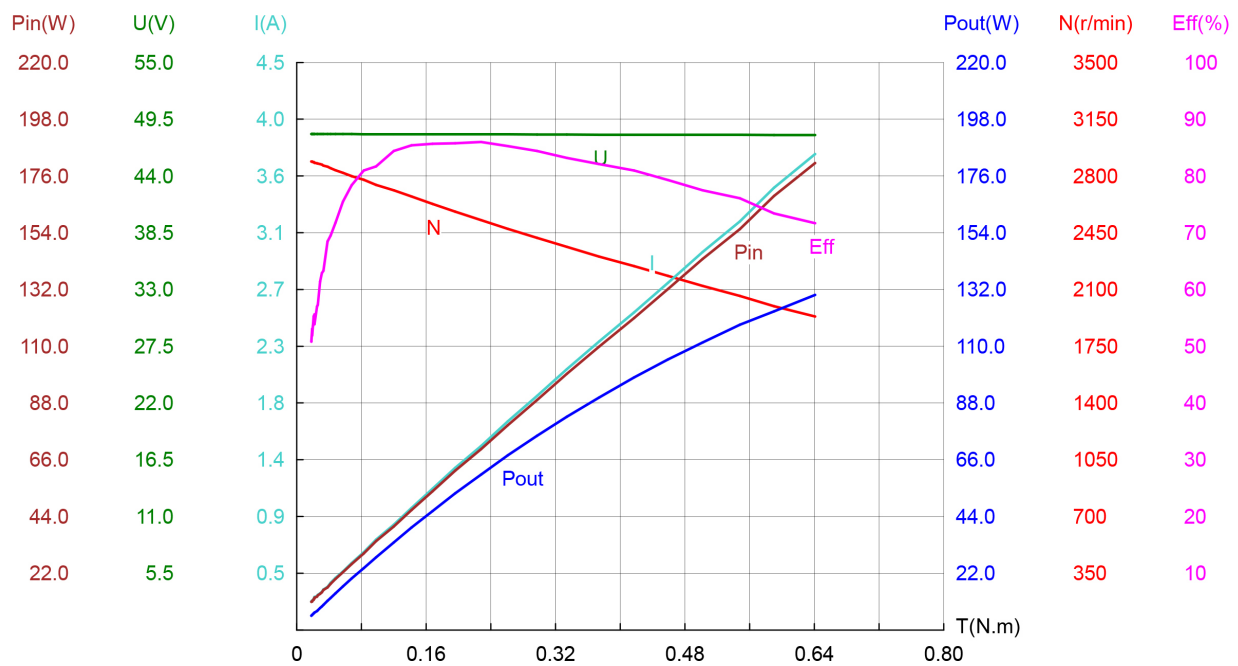
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Motor Specifications	Unit	BS5016NFL-14-48.0	BS5016NFL-29-48.0	BS5016NFL-58-48.0
Rated voltage	V	48.0	48.0	48.0
Rated current	A	1.8	3.1	5.1
Max.output power	W	56	227	914
Max.efficiency	%	85	85	85
Back-EMF constant	mV/rpm	32.8	1.65	8.3
Torque constant	Nm/A	0.31	0.16	0.08
KV Value	rpm/V	30	60	120
Speed/torque gradient	rpm/Nm	973	957	950
Rotor inertia	gcm ²	61	61	61
Weight	g	138	138	138
Thermal resistance winding-ambient	K/W	3.3	3.3	3.3
Line resistance	Ω	10	2.5	0.63
Thermal time constant winding	s	120	120	120
Insulation class		B	B	B
Operating temperature	°C	-40~+100	-40~+100	-40~+100
Thermal class of winding	°C	180	180	180
Circuit type		Y	Y	Y
Puncture		500VAC / 5mA /1s	500VAC / 5mA /1s	500VAC / 5mA /1s
Insulation resistance	MΩ/500VDC	100	100	100
No. of pole pairs		10	10	10
No. of slots		18	18	18
Commutation structure		sensorless	sensorless	sensorless
Line inductance	mH	5.2	1.3	0.33
Outer diameter	mm	50	50	50
Motor length	mm	16	16	16
No-load speed	rpm	1440	2880	5760
No-load current	A	0.1	0.2	0.3
Stall torque	N.m	1.5	3	6.1
Stall current	A	4.8	19.2	76.8
Rated torque	N.m	0.53	0.46	0.38
Rated speed	rpm	835	2194	4857

Drawings



Speed/Thrust Curves



60mm Inner Rotor Frameless Torque Motor

BS6008NFL

BS6008NFL Family - High-Performance 60mm Sensorless BLDC Motors

- **Design & Construction:** 60mm diameter inner rotor, slotted architecture; sensorless commutation for simplified control and enhanced reliability.
- **Electrical Characteristics:** Operates at 48V with wide torque (up to 5.4 Nm stall) and speed range (up to 6560 rpm no-load). Peak output power up to 922 W, max. efficiency at 86%. Line resistance options (0.6–9.92 Ω) and inductance (0.26–4.16 mH) accommodate application-specific requirements.
- **Thermal & Environmental Robustness:** Designed for -40°C to +100°C operations; insulation class B and 180°C winding thermal class ensure stability in demanding environments. Thermal resistance of 1.6 K/W and rugged IP20 protection for industrial reliability.
- **Customizability:** Tailor to application needs with options for shaft length, special coils, gearheads, bearing types, hall sensors, encoders, and compatible drivers.
- **Applications:** Perfect for collaborative robotic systems, robotic joint actuation, and high-precision industrial automation requiring compactness, dynamic response, and efficiency.



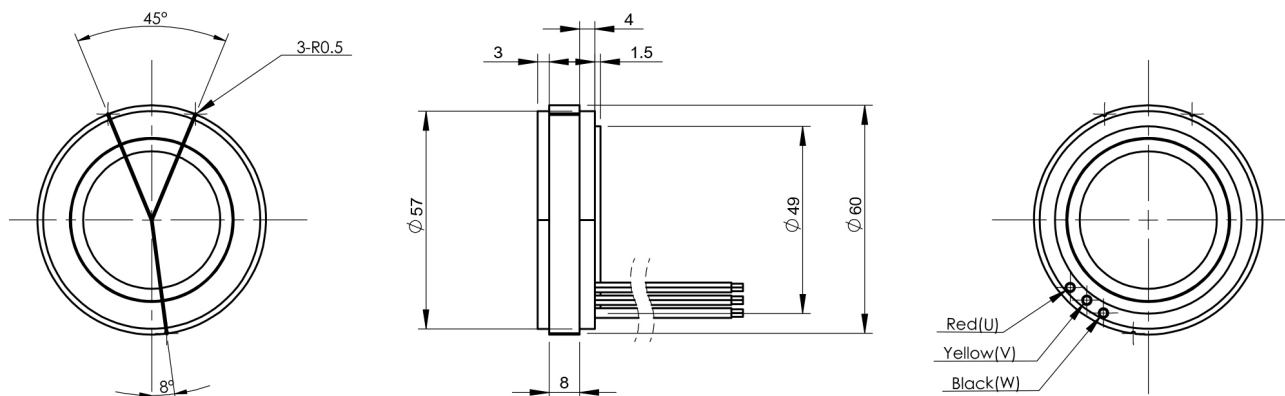
With stable rotor inertia, consistent 119g weight, and smart Y-circuit topology, the BS6008NFL family delivers both flexibility and robust performance for next-generation automated machinery.



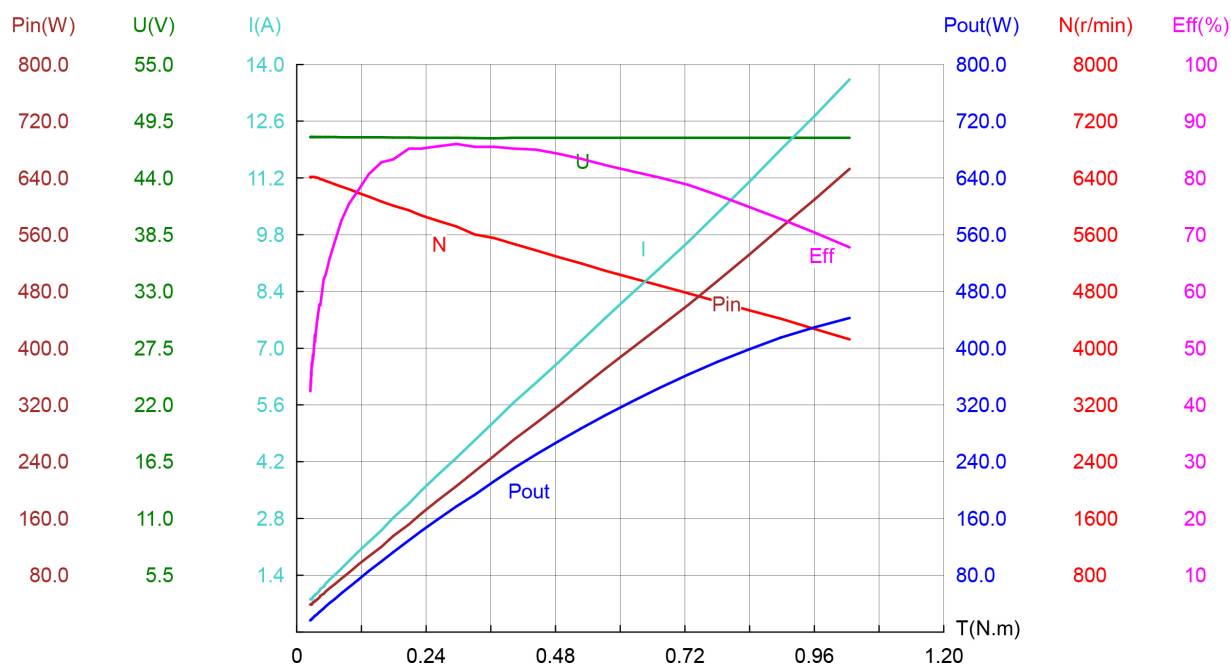
<https://www.kocomotion.de/produkt/bs6008nfl/>

Motor Specifications	Unit	BS6008NFL-16-48.0	BS6008NFL-33-48.0	BS6008NFL-29-48.0
Rated voltage	V	48.0	48.0	48.0
Rated current	A	2.1	3.9	6.1
Max.output power	W	56	229	922
Max.efficiency	%	86	86	86
Back-EMF constant	mV/rpm	28.8	14.5	7.3
Torque constant	Nm/A	0.28	0.14	0.07
KV Value	rpm/V	34.2	68.3	136.7
Speed/torque gradient	rpm/Nm	1251	1232	1222
Rotor inertia	gcm ²	81	81	81
Weight	g	119	119	119
Thermal resistance winding-ambient	K/W	1.6	1.6	1.6
Line resistance	Ω	9.92	2.48	0.6
Thermal time constant winding	s	120	120	120
Insulation class		B	B	B
Operating temperature	°C	-40~+100	-40~+100	-40~+100
Thermal class of winding	°C	180	180	180
Circuit type		Y	Y	Y
Puncture		500VAC / 5mA /1s	500VAC / 5mA /1s	500VAC / 5mA /1s
Insulation resistance	MΩ/500VDC	100	100	100
No. of pole pairs		10	10	10
No. of slots		24	24	24
Commutation structure		sensorless	sensorless	sensorless
Line inductance	mH	4.16	1.04	0.26
Protection class	IP	20	20	20
Outer diameter	mm	60	60	60
Motor length	mm	8	8	8
No-load speed	rpm	1640	3280	6560
No-load current	A	0.08	0.15	0.3
Stall torque	N.m	1.3	2.7	5.4
Stall current	A	4.8	19.4	77.4
Rated torque	N.m	0.56	0.52	0.4
Rated speed	rpm	841	2377	5459

Drawings



Speed/Thrust Curves



84mm Inner Rotor Frameless Torque Motor

BS8413NFL

BS8413NFL is a family of 84mm brushless DC (BLDC) motors featuring inner rotor, slotted stator construction and advanced sensorless commutation. Engineered for precision applications, these motors deliver optimal performance, superior reliability, and high power density in compact form factors.



- **Key Technical Specifications:** Voltage: 48 V (nominal) Speed range: 565 rpm to 2979 rpm (nominal), up to 3460 rpm (no-load) Torque: Up to 23 N·m (stall), with options from 1.0 to 1.5 N·m nominal torque Max output power: Up to 2082 W Efficiency: Up to 86% Commutation: Sensorless architecture for reduced wiring complexity Protection class: IP20 Operating temperature: -40°C to +100°C Insulation class: Class B (with 180°C winding thermal class)
- Voltage: 48 V (nominal)
- Speed range: 565 rpm to 2979 rpm (nominal), up to 3460 rpm (no-load)
- Torque: Up to 23 N·m (stall), with options from 1.0 to 1.5 N·m nominal torque
- Max output power: Up to 2082 W
- Efficiency: Up to 86%
- Commutation: Sensorless architecture for reduced wiring complexity
- Protection class: IP20
- Operating temperature: -40°C to +100°C
- Insulation class: Class B (with 180°C winding thermal class)
- **Typical Applications:** Collaborative and industrial robots Robotic joint actuators Industrial automation and precision motion control
- Collaborative and industrial robots
- Robotic joint actuators
- Industrial automation and precision motion control
- **Options & Customization:** Custom shaft lengths, special coils, and gearheads Selectable bearing types, Hall sensors, encoders Driver integration available
- Custom shaft lengths, special coils, and gearheads
- Selectable bearing types, Hall sensors, encoders
- Driver integration available

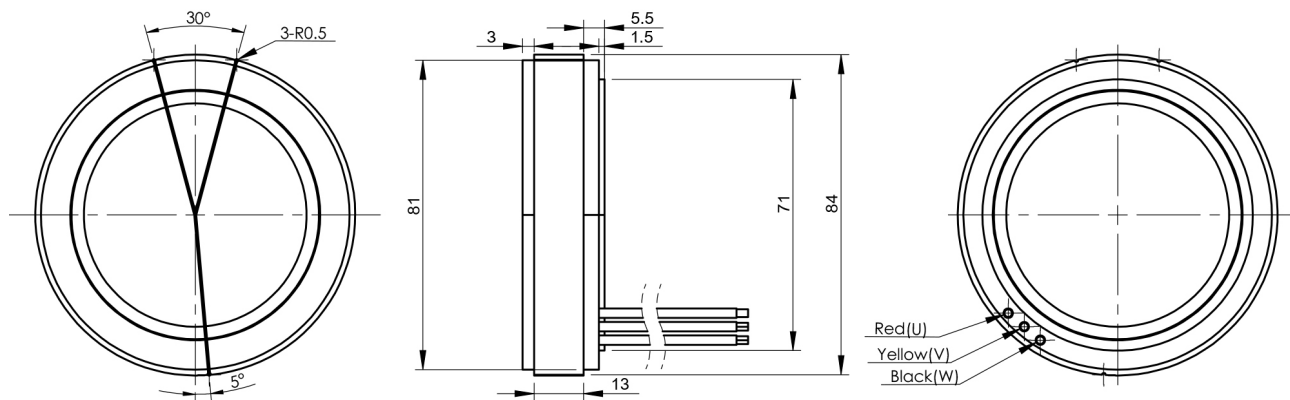
With a robust construction, low cogging, and flexible configuration, the BS8413NFL family is an ideal choice for engineers requiring efficiency, torque stability, and adaptable system integration in advanced automation environments.



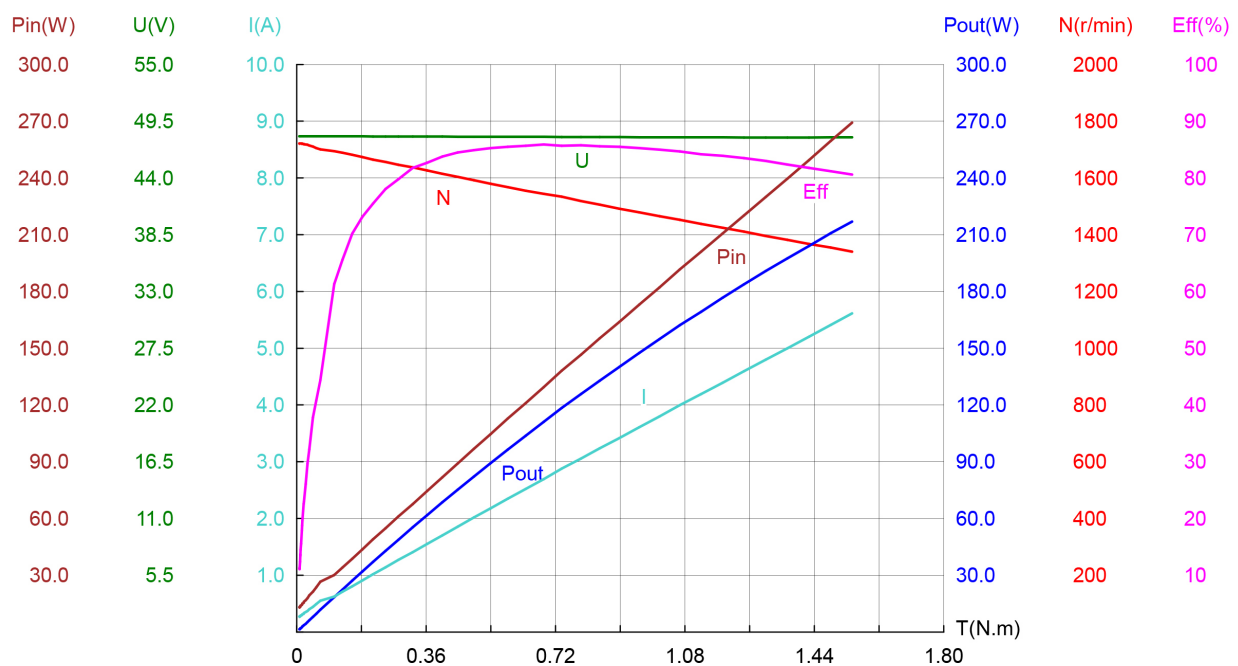
<https://www.kocomotion.de/produkt/bs8413nfl/>

Motor Specifications	Unit	BS8413NFL-9-48.0	BS8413NFL-17-48.0	BS8413NFL-35-48.0
Rated voltage	V	48.0	48.0	48.0
Rated current	A	3.1	5.2	8.0
Max.output power	W	128	518	2082
Max.efficiency	%	86	86	86
Back-EMF constant	mV/rpm	54.9	27.6	13.8
Torque constant	Nm/A	0.52	0.26	0.13
KV Value	rpm/V	18	36	72.1
Speed/torque gradient	rpm/Nm	153	151	150
Rotor inertia	gcm ²	535	535	535
Weight	g	255	255	255
Thermal resistance winding-ambient	K/W	1.9	1.9	1.9
Line resistance	Ω	4.4	1.1	0.28
Thermal time constant winding	s	120	120	120
Insulation class		B	B	B
Operating temperature	°C	-40~+100	-40~+100	-40~+100
Thermal class of winding	°C	180	180	180
Circuit type		Y	Y	Y
Puncture		500VAC / 5mA /1s	500VAC / 5mA /1s	500VAC / 5mA /1s
Insulation resistance	MΩ/500VDC	100	100	100
No. of pole pairs		16	16	16
No. of slots		36	36	36
Commutation structure		sensorless	sensorless	sensorless
Line inductance	mH	2.36	0.59	0.15
Protection class	IP	20	20	20
Outer diameter	mm	84	84	84
Motor length	mm	13	13	13
No-load speed	rpm	865	1730	3460
No-load current	A	0.13	0.25	0.5
Stall torque	N.m	5.6	11.4	23
Stall current	A	10.9	43.6	174.5
Rated torque	N.m	1.5	1.3	1
Rated speed	rpm	565	1379	2979

Drawings



Speed/Thrust Curves



104mm Inner Rotor Frameless Torque Motor

BS10413NFL

BS10413NFL – High-Performance 104mm Sensorless BLDC Motors



- **Construction:** 104 mm diameter, slotted inner rotor design, sensorless commutation
- **Specifications (across models):** Voltage: 48 VDC Nominal torque: up to 2.2 Nm Nominal speed: 646–2985 rpm Maximum output power: 315–5100 W Peak stall torque: up to 57.3 Nm High efficiency: up to 86% Protection class: IP20 Operating temperature: -40 to +100 °C
- Voltage: 48 VDC
- Nominal torque: up to 2.2 Nm
- Nominal speed: 646–2985 rpm
- Maximum output power: 315–5100 W
- Peak stall torque: up to 57.3 Nm
- High efficiency: up to 86%
- Protection class: IP20
- Operating temperature: -40 to +100 °C
- **Features & Benefits:** Sensorless operation for minimal wiring and greater reliability Low rotor inertia (1256 gcm²) ensures rapid dynamic response High-torque output in a compact package reduces system footprint Thermal class up to 180°C and insulation class B for demanding environments
- Sensorless operation for minimal wiring and greater reliability
- Low rotor inertia (1256 gcm²) ensures rapid dynamic response
- High-torque output in a compact package reduces system footprint
- Thermal class up to 180°C and insulation class B for demanding environments
- **Application Focus:** Cooperative robotics and robotic joint actuation Precision industrial automation requiring high dynamic control Customizable for OEM requirements in advanced motion systems
- Cooperative robotics and robotic joint actuation
- Precision industrial automation requiring high dynamic control
- Customizable for OEM requirements in advanced motion systems
- **Available Options:** Shaft length and bearing type customization Special coil windings for torque/speed tuning Gear heads, encoders, hall sensors, or integrated drivers
- Shaft length and bearing type customization
- Special coil windings for torque/speed tuning
- Gear heads, encoders, hall sensors, or integrated drivers

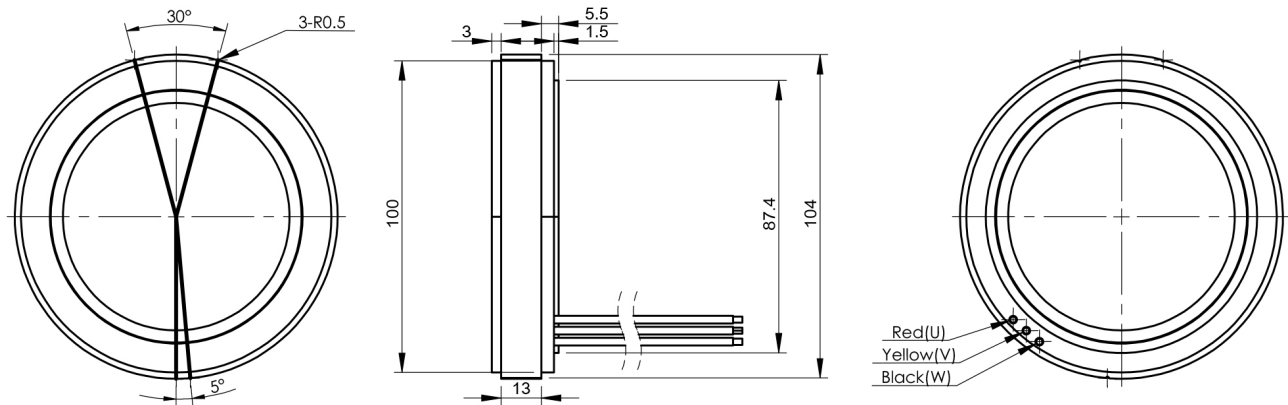
BS10413NFL motors deliver robust, flexible solutions for modern automation and robotics.



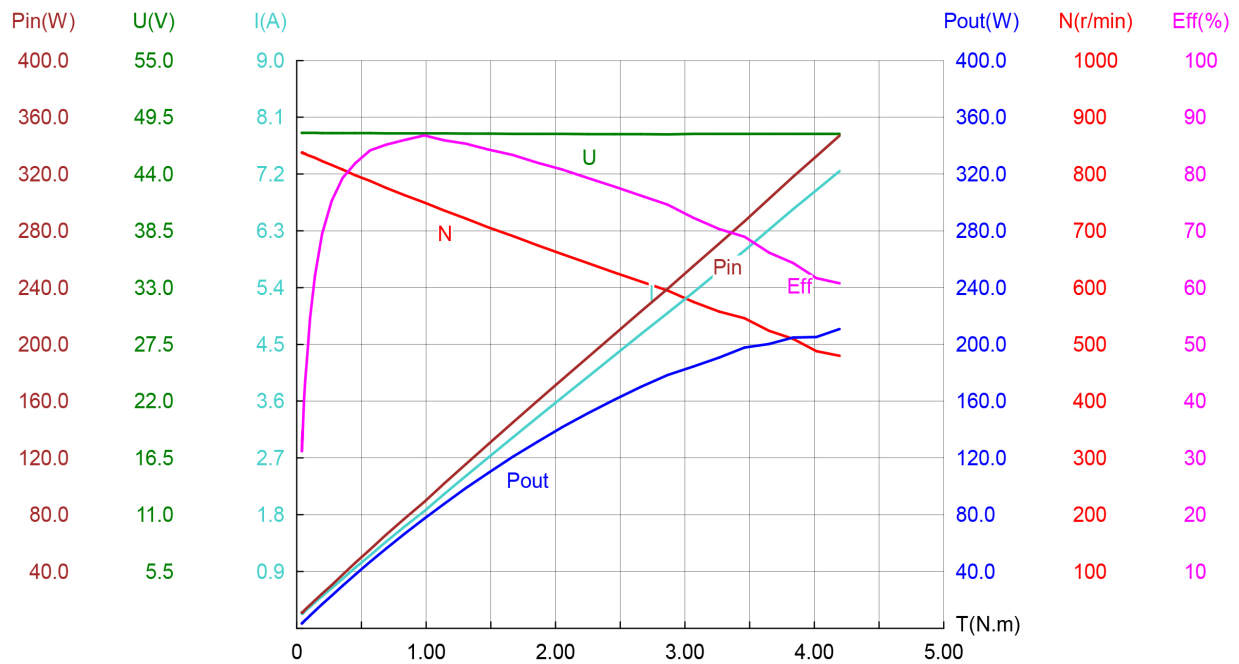
<https://www.kocomotion.de/produkt/bs10413nfl/>

Motor Specifications	Unit	BS10413NFL-9-48.0	BS10413NFL-17-48.0	BS10413NFL-34-48.0
Rated voltage	V	48.0	48.0	48.0
Rated current	A	4.3	7.3	11.2
Max.output power	W	315	1270	5100
Max.efficiency	%	86	86	86
Back-EMF constant	mV/rpm	56	28.1	14.1
Torque constant	Nm/A	0.54	0.27	0.13
KV Value	rpm/V	17.7	35.4	70.8
Speed/torque gradient	rpm/Nm	60	60	59
Rotor inertia	gcm ²	1256	1256	1256
Weight	g	405	405	405
Thermal resistance winding-ambient	K/W	2.3	2.3	2.3
Line resistance	Ω	1.8	0.45	0.11
Thermal time constant winding	s	120	120	120
Insulation class		B	B	B
Operating temperature	°C	-40~+100	-40~+100	-40~+100
Thermal class of winding	°C	180	180	180
Circuit type		Y	Y	Y
Puncture		500VAC / 5mA /1s	500VAC / 5mA /1s	500VAC / 5mA /1s
Insulation resistance	MΩ/500VDC	100	100	100
No. of pole pairs		16	16	16
No. of slots		36	36	36
Commutation structure		sensorless	sensorless	sensorless
Line inductance	mH	1.7	0.43	0.11
Protection class	IP	20	20	20
Outer diameter	mm	104	104	104
Motor length	mm	13	13	13
No-load speed	rpm	850	1700	3400
No-load current	A	0.2	0.4	0.8
Stall torque	N.m	14.2	28.5	57.3
Stall current	A	27	107	427
Rated torque	N.m	2.2	1.8	1.4
Rated speed	rpm	646	1431	2985

Drawings



Speed/Thrust Curves



64mm 24V DC BLDC Blower, Hall Sensor

6443ZWF

6443ZWF Series - 64mm 24V BLDC Blower with Hall Sensor

- **Voltage:** 24V DC operation for compatibility with industrial and medical power systems
- **Form Factor:** Compact 64mm size for integration into space-sensitive assemblies
- **Motor Technology:** Reliable brushless DC (BLDC) design with integrated Hall sensor for accurate speed, position, and operational feedback
- **Customization:** Available with special coil configurations and driver options to suit specific electrical and control interface requirements



This blower series is engineered for precision airflow management in high-demand environments. Its robust BLDC motor ensures long service life and reduced maintenance compared to conventional brushed designs. Hall sensor feedback provides precise control critical for dynamic systems, improving process reliability.

- **Applications:**
 - Precision drives in medical equipment
 - Other industrial uses requiring stable and efficient airflow

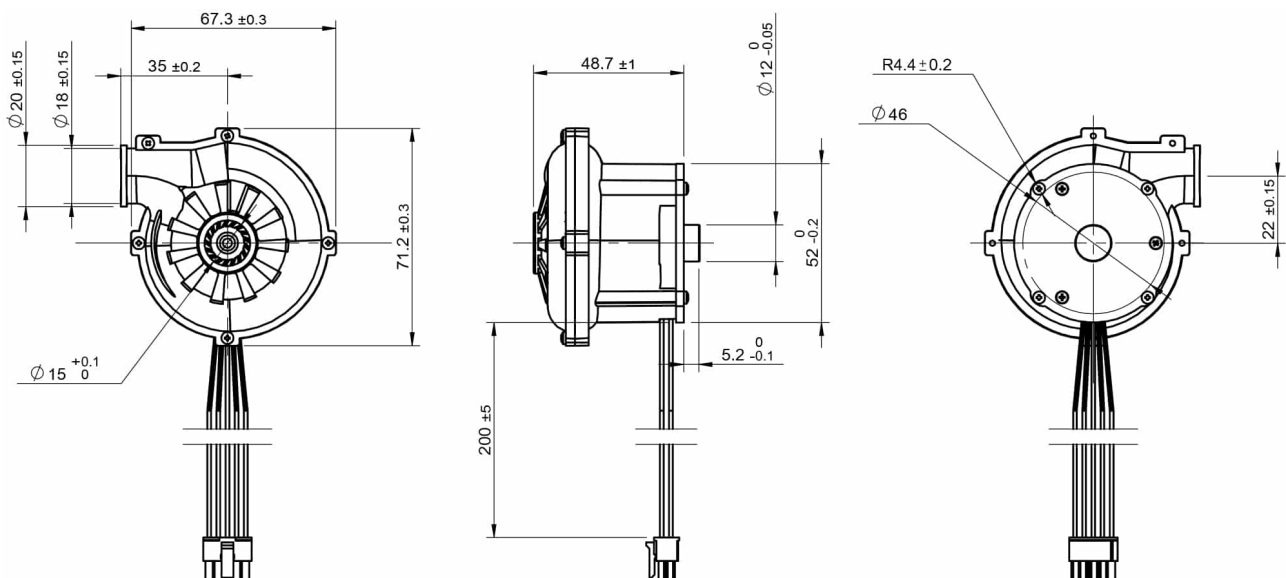
With options for custom lead wire lengths, special coils, and dedicated drivers, the 6443ZWF series can be tailored to meet unique installation or performance requirements. This makes it an excellent choice for system integrators and OEMs seeking dependable, high-performance blowers for mission-critical applications.



<https://www.kocomotion.de/produkt/6443zwf/>

Motor Specifications	Unit	6443ZWF-2-24.0	6443ZWF-3-24.0	6443ZWF-4-24.0
Rated voltage	V	24.0	24.0	24.0
Noise	dB	≤45	≤45	≤45
Weight	g	190	190	190
Operating temperature	°C	10~70	10~70	10~70
Outer diameter	mm	67.3 +/- 0.3	67.3 +/- 0.3	67.3 +/- 0.3
Motor length	mm	48.7 +/- 1	48.7 +/- 1	48.7 +/- 1
Terminal resistance	Ω	0.83	0.24	1.33
No. of phase		3	3	3
Input power	W	81	112	48
Rated Load		Blades(blow hole: 4mm)	Blades(blow hole: 4mm)	Blades(blow hole: 4mm)
Load speed	rpm	37400	43700	33000
Load current	A	3.4	4.7	2
Air pressure	Pa	8160	10190	6200
Air flow	L/min	430	425	360

Drawings



65mm 24V BLDC Blower, Hall Sensor

6548ZWF

6548ZWF 65mm 24V BLDC Blower with Hall Sensor

- **Advanced Brushless DC Design:** The 6548ZWF features a 65mm brushless DC (BLDC) architecture operating at 24V, ensuring reliable, low-maintenance performance with minimal wear and extended service life.
- **Integrated Hall Sensor:** Precise speed and position control are enabled by the built-in Hall sensor, supporting sophisticated feedback for demanding applications.
- **Quiet and Efficient Operation:** Engineered for reduced noise and energy consumption, making it suitable for noise-sensitive and power-critical environments.
- **Customization Options:** Available with special coils and driver integration for tailored solutions. Adjustable lead wire lengths can further match unique installation requirements.

Applications:

- Ideal for use in precision drives for medical equipment, where reliability and control accuracy are paramount.
- Suited for other industrial systems requiring compact, efficient, and durable air-moving solutions.

Benefits: The 6548ZWF BLDC blower delivers robust airflow performance in a compact footprint, offers flexibility for system integrators, and meets stringent medical and industrial demands for reliability and efficiency.

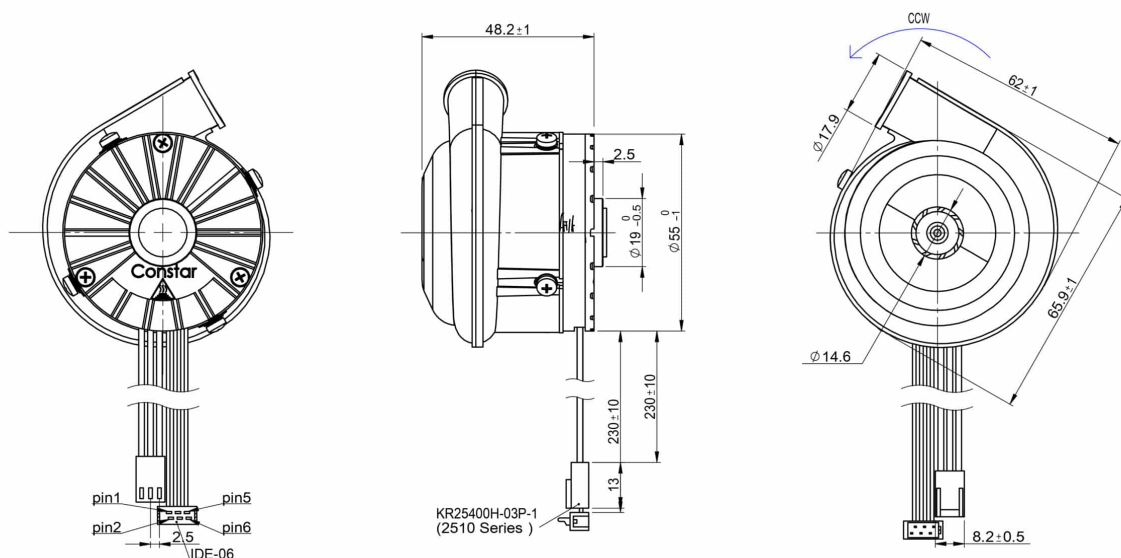


<https://www.kocomotion.de/produkt/6548zwf/>



Motor Specifications	Unit	6548ZWF-2-24.0
Rated voltage	V	24.0
Noise	dB	≤39
Weight	g	272
Operating temperature	°C	10~70
Outer diameter	mm	65.9 +/- 0.1
Motor length	mm	48.2 +/- 1
Terminal resistance	Ω	0.19
No. of phase		3
Input power	W	100
Rated Load		Blades(blow hole: 4mm)
Load speed	rpm	50000
Load current	A	4.4
Air pressure	Pa	10000
Air flow	L/min	300

Drawings



65mm 24V BLDC Blower, Hall Sensor

6568ZWF

The **6568ZWF** is a high-performance 65mm 24V brushless DC (BLDC) blower, featuring an integrated Hall sensor for precise rotational feedback and enhanced control. Engineered for reliability, it is ideally suited for demanding precision drive requirements, such as those found in advanced medical equipment.



- **Compact 65mm form factor:** Fits tight installation spaces, supporting space-constrained designs.
- **24V BLDC motor:** Ensures energy-efficient, long-lasting operation with reduced maintenance over traditional brushed motors.
- **Hall sensor integration:** Provides real-time rotor position feedback for superior speed regulation and system diagnostics.
- **Custom options:** Available with special coil windings to optimize performance for specific applications, and optional driver integration for simplified electrical design.

Application Areas:

- Precision airflow and cooling in medical equipment
- System environments requiring stable, low-noise operation
- Environments with strict reliability and controllability standards

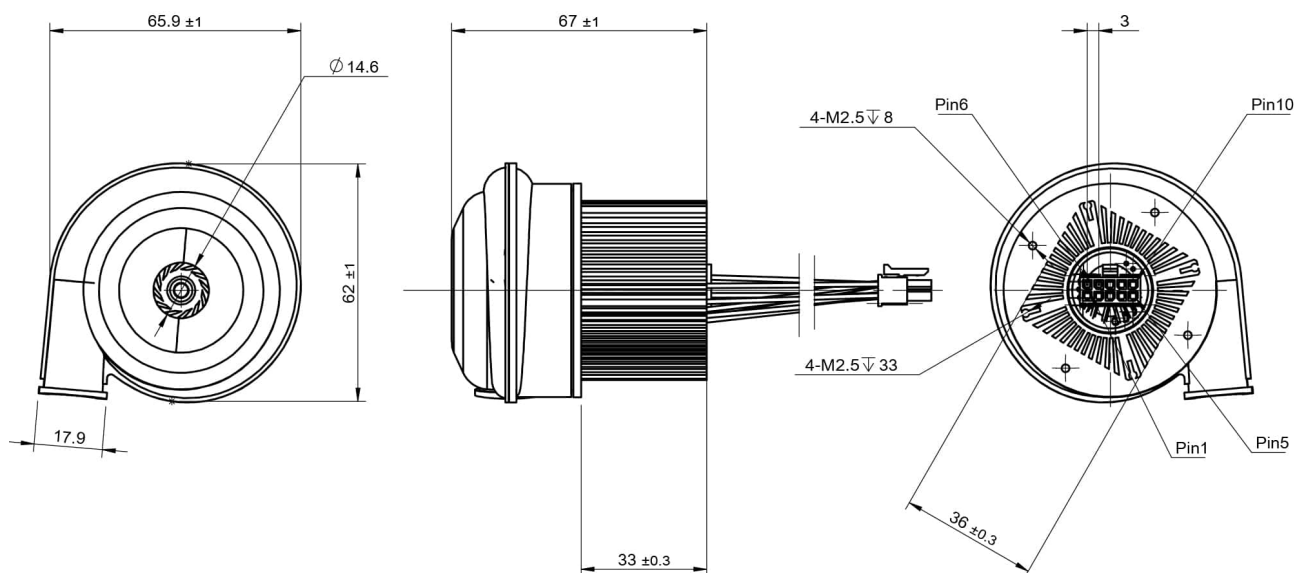
The 6568ZWF BLDC blower is distinguished by its robust performance, flexibility in customization, and suitability for integration into complex OEM assemblies. It provides a dependable solution wherever efficient, controlled air movement is critical, helping OEMs and system integrators meet the stringent demands of industrial and medical applications.



<https://www.kocomotion.de/produkt/6568zwf/>

Motor Specifications	Unit	6568ZWF-3-24.0
Rated voltage	V	24.0
Noise	dB	≤40
Weight	g	237
Operating temperature	°C	10~70
Outer diameter	mm	65.9 +/- 1
Motor length	mm	67 +/- 1
Terminal resistance	Ω	0.2
No. of phase		3
Input power	W	200
Rated Load		Blades(blow hole: 4mm)
Load speed	rpm	66000
Load current	A	9.0
Air pressure	Pa	13000
Air flow	L/min	600

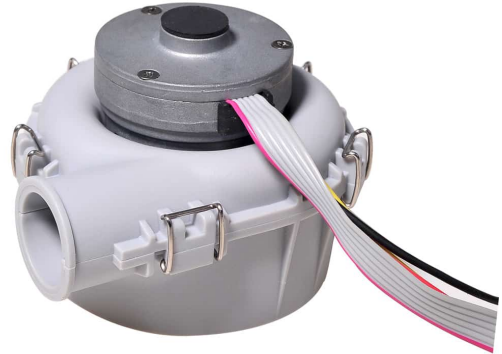
Drawings



70mm 24V BLDC Blower with Hall Sensor

7054ZWF

The **7054ZWF** family features a high-performance 70mm 24V brushless DC (BLDC) blower equipped with a Hall sensor for accurate operational feedback. Its advanced design supports superior control over airflow and motor performance, making it ideally suited for critical medical equipment.



- **Key Specifications:**

- Diameter: 70mm
- Operating Voltage: 24V DC
- BLDC motor with integrated Hall sensor for speed and position feedback

- **Applications:**

- Non-invasive ventilators
- Sleep ventilators

- **Options & Customization:**

- Customizable lead wire lengths
- Special coil configurations for application-specific requirements
- Driver integration available upon request

This blower series delivers consistent, high-performance airflow needed in medical ventilatory support, contributing to patient safety and device reliability. Its modularity enables easy integration into a wide range of OEM devices, while the Hall sensor enhances closed-loop control for demanding healthcare environments. The 7054ZWF is the preferred solution for engineers and medical device manufacturers seeking a robust, configurable, and maintenance-friendly BLDC blower platform.



<https://www.kocomotion.de/produkt/7054zwf/>

Characteristics	Unit	7054ZWF-22P-250A-24.0
Rated voltage	V	24.0
Noise	dB	≤40
Weight	g	237
Operating temperature	°C	10~70
Outer diameter	mm	68.5 +/- 1
Motor length	mm	52.5 +/- 1
Terminal resistance	Ω	2.0
No. of phase		3
Input power	W	29
Rated Load		Blades(blow hole: 4mm)
Load speed	rpm	33000
Load current	A	1.4
Air pressure	Pa	4000
Air flow	L/min	220



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